Australian Government
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Aboriginal and Torres Strait Islander

Health Performance Framework 2012

Detailed analyses

Australian Government
Australian Institute of
Health and Welfare

*Authoritative information and statistics
to promote better health and wellbeing*

Aboriginal and Torres Strait Islander Health Performance Framework 2012

Detailed Analyses

Australian Institute of Health and Welfare
Canberra

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Contents

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Executive Summary

The *Aboriginal and Torres Strait Islander Health Performance Framework 2012 Detailed analyses* report finds areas of improvement in the health of Aboriginal and Torres Strait Islander people, including:

- a 33% decline in overall mortality for Indigenous Australians from 1991 to 2010 and a 24% decline in avoidable mortality from 1997 to 2010
- a 41% decline in deaths due to circulatory disease, the leading cause of death for Indigenous Australians from 1997 to 2010
- a significant decrease (39%) in deaths due to respiratory disease from 1997 to 2010
- a 62% decline in infant mortality rates from 1991 to 2010, and a significant narrowing of the gap between Indigenous and other Australians
- a significant increase in health assessments recorded through Medicare since the introduction of the National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes in July 2009, and corresponding increases in allied health care services claimed by Indigenous Australians through Medicare since 1 July 2009.
- immunisation coverage rates for Indigenous children are close to those for other Australian children by age 2
- an increase in episodes of care provided by Indigenous primary health care services between 1999–00 and 2010–11 (from 1.2 million to 2.5 million)

Areas of concern include:

- high rates of smoking during pregnancy (52%)
- lower rates of access to antenatal care in the first trimester of pregnancy (56% for Indigenous mothers compared to 75% for non-Indigenous mothers).
- half of Indigenous Australians aged 15 years and over had a disability or long-term health condition in 2008 and about 8% had a profound or severe core activity limitation
- mortality rates for chronic diseases are much higher for Indigenous Australians (almost 7 times the rate of non-Indigenous Australians for diabetes and twice the rate for circulatory diseases)
- a large increase (96%) in incidence rates of treated end-stage renal disease since 1991 (currently 7 times the rate for non-Indigenous Australians)
- high rates of hospitalisations and deaths due to injury (particularly assault, suicide and transport accidents)
- about one-quarter (25%) of Indigenous Australians aged 15 years and over live in overcrowded housing
- barriers to accessing appropriate health care, such as cultural competency, continue to remain a problem
- lower access to procedures in hospitals.

Key findings

A summary of the key findings from this report against the Aboriginal and Torres Strait Islander Health Performance Framework is outlined below. The main areas of improvement and areas of continuing concern are discussed for each Tier of the Framework (Health status and outcomes; Determinants of health; and Health system performance). A table of key statistics from the report is presented in Table S1.

Health status and outcomes

Areas of improvement

Overall mortality

- Between 1991 and 2010, there was a 33% decline in the mortality rate for Indigenous Australians living in Western Australia, South and Australia and the Northern Territory combined.

Avoidable mortality

- Deaths from avoidable causes declined by 24% for Indigenous Australians between 1997 and 2010 in Western Australia, South Australia and the Northern Territory combined.

Circulatory diseases

- Deaths from circulatory diseases declined by 41% for Indigenous Australians between 1997 and 2010.

Respiratory diseases

- Deaths from respiratory diseases declined by 39% for Indigenous Australians between 1997 and 2010.

Infant and child mortality

- The Indigenous infant mortality rate declined by 62% between 1991 and 2010, and the gap between Indigenous and other Australians narrowed by 67%.
- Significant declines were also evident for child mortality, with a 47% decline in the rate for Indigenous children and a 48% narrowing of the gap between Indigenous and other Australian children between 1991 and 2010.

Areas needing further work

Chronic disease

- The majority (68%) of Indigenous deaths in 2006–2010 were due to chronic diseases (for example, circulatory disease, cancer, diabetes, respiratory disease, kidney disease). Indigenous Australians died at almost 7 times the rate of non-Indigenous Australians from diabetes and at twice the rate from circulatory diseases.

- Diabetes is 3 times more prevalent among Indigenous Australians than non-Indigenous Australians based on data from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

Cancer

- Between 1997 and 2010 there was a significant increase (53%) in the gap between mortality rates for Indigenous and other Australians from cancer in Western Australia, South Australia and the Northern Territory combined.

Kidney disease

- The incidence rate of treated end-stage renal disease (ESRD) for Indigenous Australians increased by 96% between 1991 and 2010, and is currently 7 times the rate for non-Indigenous Australians.

Injury

- Hospitalisation rates for assault for Indigenous Australians were 12 times the rate for non-Indigenous Australians during the period July 2008 to June 2010. Indigenous Australians were twice as likely to be hospitalised for injury and poisoning as non-Indigenous Australians.

Disability

- In 2008, half (50%) of Indigenous Australians aged 15 years and over had a disability or long-term health condition. Approximately 8% had a profound or severe core activity limitation. Indigenous Australians aged 15 years and over living in non-remote areas were twice as likely as non-Indigenous Australians to have a profound or severe core activity limitation.

Low birthweight

- Over the period 2007 to 2009, babies of Indigenous mothers were twice as likely to be of low birthweight as babies born to non-Indigenous mothers (12% compared with 6%).

Eye Health

- In 2008, about 9% of Indigenous adults had low vision and 2% were blind. Of those adults with vision impairment, the most common causes were refractive error (54%), cataract (27%), diabetic retinopathy (12%) and trachoma (2%).

Determinants of health

Areas of improvement

Access to functional housing

- In 2008, 99% of Indigenous households reported that they had working facilities for washing people, 94% reported working facilities for washing clothes/bedding, 94% reported working facilities for storing/preparing food and 98% reported working sewerage systems.

Education

- There have been some increases in the proportion of Indigenous Years 3, 5, 7 and 9 students achieving literacy benchmarks between 2008 and 2011, and the gap has narrowed. For example, the proportion of Indigenous students achieving the Year 3 reading benchmark increased from 68% to 76%; the proportion reaching the Year 3 grammar/punctuation benchmark increased from 65% to 71%; the proportion reaching the Year 7 reading benchmark increased from 72% to 77%; and the proportion reaching the Year 7 grammar/punctuation benchmark increased from 63% to 67%.

Employment

- The employment rate for Indigenous Australians increased from 44% to 54% between 2001 and 2008.

Areas needing further work

Smoking

- In 2008, 47% of Indigenous Australians aged 15 years and over were current daily smokers, which was more than twice the rate of non-Indigenous Australians.
- In 2009, 52% of Indigenous mothers smoked during pregnancy which was 3.7 times the rate of non-Indigenous mothers.
- In 2008, 65% of all Indigenous children aged 0–14 years lived in households with a current daily smoker compared with 32% of non-Indigenous children.

Physical activity

- In 2004–05, after adjusting for differences in age structure, 51% of Indigenous Australians aged 15 years and over living in non-remote area reported their physical activity level as sedentary, compared with 33% of non-Indigenous Australians of the same age.

Nutrition

- Compared with non-Indigenous Australians, in 2004–05, Indigenous Australians aged 12 and over were 7 times as likely to report no usual daily vegetable intake, and twice as likely to report no usual daily fruit intake.

Overweight and obesity

- In 2004–05, Indigenous adults were almost twice as likely as non-Indigenous adults to be obese (34% compared with 18%).
- For Indigenous Australians aged 18 years and over living in non-remote areas, rates of overweight and obesity increased between 1995 (51%) and 2004–05 (60%).

Risky/high risk alcohol consumption

- In 2008, 46% of Indigenous Australians aged 15 years and over reported drinking at low risk levels and 35% had abstained from drinking alcohol in the 12 months prior to the National Aboriginal and Torres Islander Social Survey (NATSISS).

Overcrowding

- In 2008, about 25% of Indigenous Australians aged 15 years and over lived in overcrowded households, compared with 4% of non-Indigenous Australians.

Education

- Despite some improvements in literacy and numeracy, the proportion of Indigenous students achieving the reading, writing and numeracy benchmarks in Years 3, 5, 7 and 9 remain below the corresponding proportions for all students.

Unemployment

- Unemployment rates continue to remain higher for Indigenous Australians than corresponding rates for non-Indigenous Australians (11% compared with 3% in 2008).

Income

- In 2008, 49% of Indigenous Australians aged 18 years and over were in the bottom 20% of mean equivalised household incomes. This compared with 20% of non-Indigenous Australians.

Community safety

- Indigenous Australians are more likely to experience exposure to violence, child abuse and neglect, and contact with the criminal justice system (including imprisonment) than other Australians.

Transport

- In 2008, 50% of Indigenous households in non-remote areas reported that they did not have access to motor vehicles, compared with 15% of other Australian households.
- In 2008, about 11% of Indigenous Australians aged 18 years and over reported that they often had difficulty, or could not get to, places when needed, compared with 4% of non-Indigenous Australians.

Health system performance

Areas of improvement

Chronic disease detection and management

- There has been a significant increase in the number of health assessments provided to Indigenous Australians since the introduction of the National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes in July 2009.
- There has been an increase in the total number of other allied healthcare services claimed through Medicare by Indigenous Australians between 2009–10 and 2010–11 from 25,961 to 35,731 services.
- Rates of general practitioner management plan claims (GPMPs) and team care arrangements (TCAs) were nearly twice as high for Indigenous Australians compared with non-Indigenous Australians in 2010–11.

Increased availability of Indigenous-specific services

- There has been a 96% increase in episodes of care provided by Indigenous primary health care services between 1999-2000 and 2010–11 (from 1.2 million to 2.5 million).

Antenatal care

- The proportion of Indigenous women accessing antenatal care at least once during pregnancy has increased in New South Wales, Queensland and South Australia combined between 1998 and 2009. In 2009, 97% of Indigenous women accessed antenatal care at least once during their pregnancy.

Immunisation

- Immunisation coverage rates for Indigenous children are similar to those for other children by the age of 2 (92.3% compared with 92.6%).

Areas needing further work

Barriers to accessing health care

- In 2008, 26% of Indigenous Australians aged 15 years and over reported having problems accessing health services. Of those who had problems accessing health services, about 20% had problem with accessing dentists, 10% reported problems accessing doctors, and 7% reported problems accessing hospitals.
- Selected potentially preventable hospitalisation rates for Indigenous Australians were 5 times the non-Indigenous rate during the period July 2008 and June 2010.
- Indigenous Australians had lower rates of hospitalisations with a procedure recorded compared with non-Indigenous Australians, and they also had lower rates of elective surgery.
- Indigenous Australians were discharged from hospital against medical advice at 5 times the rate of non-Indigenous Australians between July 2008 and June 2010.

Screening

- Breast cancer screening rates for Indigenous women aged 50–69 are lower than for other women of this age (37% compared with 56% in 2008–09).

Antenatal care

- In 2009, in New South Wales, Queensland, South Australia and the Northern Territory combined, 56% of Indigenous mothers had their first antenatal visit in the first trimester of pregnancy, compared with 75% of non-Indigenous mothers.

Health workforce

- In 2006, 1.2% of the Indigenous population was employed in health-related occupations, compared with 3% of the non-Indigenous population.
- Indigenous Australians are under-represented in training for various health professions. In 2010, 1.8% of undergraduate students enrolled in, and 1% of undergraduate students who had completed, health-related courses were Indigenous.

Resources

- In non-remote areas, 15% of Indigenous Australians were covered by private health insurance compared with 51% for the rest of the population. The most common reason that Indigenous Australians did not have private health insurance was that they could not afford it (65%).

Table S1: Key measures of Aboriginal and Torres Strait Islander health

		Current period			Trends		
Topic	**Measure—Indigenous population**	**Indig**	**Non-Indig**	**Gap(a)**	**Indig**	**Non-Indig**	**Gap(a)**
Health status and outcomes							
Low birthweight	Proportion of low-birthweight liveborn babies per 100 live births (2007–2009)	12.3*	5.9*	6.4	↓	—	↓
Hospitalisations	Age-standardised hospitalisation rate for total hospitalisations (excluding dialysis) per 1,000 population (2008–09 to 2009–10)	408.5*	310.2*	98.3	↓	↓	—
Disease incidence and prevalence	Proportion (age-standardised) of persons reporting circulatory disease as a long-term condition (2004–05)	23*	20*	3	—	n.a.	n.a.
	Proportion (age-standardised) of persons reporting diabetes as a long-term condition (2004–05)	12.0*	4.0*	8.0	—	n.a.	n.a.
	Age-standardised incidence rate of cancer per 100,000 population (2004–2008)	458.8*	432.4*	26.4	n.a.	n.a.	n.a.
	Age-standardised incidence rate of end-stage renal disease per 100,000 population (2008–2010)	68.3*	9.5*	58.7	↑	↑	↑
Self-assessed health status	Proportion (age-standardised) of persons aged 15 and over reporting very good/excellent health (2007–08)	37.9*	56.6*	–18.7	—	n.a.	n.a.
Community functioning	Recognises homeland (2008)	72	. .	. .	—	. .	. .
	Speaks an Indigenous language (2008)	19	. .	. .	—	. .	. .
	Lived in only 1 dwelling in last 12 months (2008)	78	. .	. .	↑	. .	. .
	Not a victim of physical or threatened violence in the last 12 months (2008)	75	. .	. .	—	. .	. .
	Adult participated in sport/social/community activities in last 3 months (2008)	89	. .	. .	n.a.	. .	. .
Social & emotional wellbeing	Proportion of persons reporting high/very high levels of psychological distress (2008)	32	. .	. .	n.a.	. .	. .
Disability	Age-standardised proportion of persons aged 18 and over with a profound or severe core activity limitation, non-remote (2008)	10.3*	4.7*	5.6	n.a.	n.a.	n.a.

(continued)

Table S1 (continued): Key measures of Aboriginal and Torres Strait Islander health

		Current period			Trends		
Topic	**Measure—Indigenous population**	**Indig**	**Non-Indig**	**Gap[(a)]**	**Indig**	**Non-Indig**	**Gap[(a)]**
Oral, ear and eye health	Age-standardised hospitalisation rate per 1,000 population for hospitalisations for dental problems (2008–09 to 2009–10)	2.0*	1.6*	0.4	n.a.	n.a.	n.a.
	Proportion of children aged 0–14 with ear/hearing problems (2008)	8.6	. .	. .	↓	. .	. .
	Prevalence of low vision in eligible Indigenous adults (2008)	9	. .	. .	n.a.	. .	. .
	Prevalence of blindness in eligible Indigenous adults (2008)	2	. .	. .	n.a.	. .	. .
Mortality	Life expectancy at birth, males 2005–2007	67.2*	78.7*	–11.5	n.a.	n.a.	n.a.
	Life expectancy at birth, females 2005–2007	72.9*	82.6*	–9.7	n.a.	n.a.	n.a.
	Infant mortality rate per 1,000 liveborn infants (2006–2010)	8.1*	4.1*	4.0	↓	↓	↓
	Child 0–4 mortality rate per 100,000 population (2006–2010)	217.5*	100.4*	117.1	↓	↓	↓
	Perinatal mortality rate per 1,000 births (2006–2010)	12.0*	8.1*	3.9	↓	↓	↓
	Age-standardised mortality rate per 100,000 population (2006–2010)	1,115.1*	597.0*	554.0	↓	↓	↓
	Age-standardised mortality rate for circulatory diseases per 100,000 population (2006–2010)	351.0*	201.0*	150.0	↓	↓	↓
	Age-standardised mortality rate for avoidable and preventable deaths (0–74) per 100,000 population (2006–2010)	519.4*	149.2*	370.2	↓	↓	↓
Determinants of health							
Housing	Proportion of people aged 15 and over living in overcrowded households (2008)	25.1*	4.2*	20.9	n.a.	n.a.	n.a.
Environmental tobacco smoke	Proportion of children aged 0–14 living in households with daily smokers who smoke at home indoors (2008 and 2007–08)	21.6*	6.6*	15.0	n.a.	n.a.	n.a.

(continued)

Table S1 (continued): Key measures of Aboriginal and Torres Strait Islander health

		Current period			Trends		
Topic	**Measure—Indigenous population**	**Indig**	**Non-Indig**	**Gap(a)**	**Indig**	**Non-Indig**	**Gap(a)**
Education	Apparent retention rate for year 7/8 to Year 12 (2011)	48.7*	80.7*	32.0	↑	↑	n.a.
	Apparent retention rate for year 11 to Year 12 (2011)	67.5*	86.7*	19.2	—	—	n.a.
	Proportion of persons aged 25–64 who had a post-school qualification (2008)	40.2*	61.4*	21.2	↑	—	n.a.
Literacy & numeracy	Proportion of Year 3 students achieving reading benchmark (2011)	76.3*	94.9*	18.6	↑	—	↓
	Proportion of Year 3 students achieving writing benchmark (2011)	79.9*	96.2*	16.3	n.a.	n.a.	n.a.
	Proportion of Year 3 students achieving numeracy benchmark (2011)	83.6*	96.4*	12.8	—	—	—
	Proportion of Year 3 students achieving grammar/punctuation benchmark (2011)	70.9*	94.4*	23.5	—	—	—
Employment	Labour force participation rate (2008)	53.8*	76.0*	22.2	n.a.	n.a.	n.a.
	Unemployment rate (2008)	10.7*	2.9*	7.8	n.a.	n.a.	n.a.
Income	Proportion of persons aged 18 and over in the bottom 20% of equivalised gross weekly household income (2008)	49.2*	19.8*	29.4	n.a.	n.a.	n.a.
Transport	Proportion of households in non-remote areas with access to motor vehicles (2008)	49.8*(b)	84.7*(b)	34.9	n.a.	n.a.	n.a.
Community safety and criminal justice	Proportion of persons aged 18 and over who reported they were a victim of physical or threatened violence in last 12 months (2008)	20.5	10.8	9.7	n.a.	n.a.	n.a.
	Age-standardised imprisonment rate per 100,000 adults (2011)	1,867.6*	130.2*	1,737.4	↑	↑	↑
	Rate of children aged 0–16 on child protection substantiations per 1,000 children (2010–11)	34.9*	4.7*	30.2	—	n.a.	n.a.

(continued)

Table S1 (continued): Key measures of Aboriginal and Torres Strait Islander health

		Current period			Trends		
Topic	**Measure—Indigenous population**	**Indig**	**Non-Indig**	**Gap(a)**	**Indig**	**Non-Indig**	**Gap(a)**
Health behaviours	Proportion (age-standardised) of persons aged 15 and over who are current daily smokers (2008 and 2007–08)	43.3*	18.3*	25.0	n.a.	n.a.	n.a.
	Proportion of persons aged 15 and over who drank at chronic risky/high risk levels in last 12 months (2008)	17	. .	. .	n.a.	. .	. .
	Proportion of persons aged 15 and over who used illicit drugs in last 12 months (2008)	22.6	. .	. .	—	. .	. .
	Proportion (age-standardised) of persons aged 15 and over reporting sedentary levels of physical activity, non-remote areas (2004–05)	51*	33*	18	↑	—	n.a.
	Age- standardised proportion of mothers who smoked during pregnancy (2009)	50.0*	13.5*	36.5	n.a.	n.a.	n.a.
	Proportion of infants (0–3) currently being breastfed (2008)	20.7	. .	. .	n.a.	. .	. .
Overweight & obesity	Proportion (age-standardised) of persons aged 18 and over who are obese (2004–05)	33.6*	17.9*	15.7	n.a.	n.a.	n.a.
Health System Performance							
Early detection and prevention, health promotion	Proportion of mothers who attended at least one antenatal care session during pregnancy (2009)	97.0	98.7	–1.7	↑	↑	↑
	Proportion of 2 year olds fully vaccinated (2011)	92.3(b)	92.6(b)	–0.3	—	↑	n.a.
	Proportion of discrete Indigenous communities with at least one health promotion program (2006)	67.4	. .	. .	n.a.	. .	. .
	Age-standardised participation rates for women aged 50–69 in BreastScreen Australia programs (2008–09)	36.5*(b)	55.5*(b)	–19.0	—	—	n.a.
	Rate per 1,000 of child 0–14 health checks (2010–11)	112.5	. .	. .	↑	. .	. .
	Rate per 1,000 of adult 15–54 health assessments (2010–11)	120.0	. .	. .	↑	. .	. .
	Rate per 1,000 of adult 55+ health assessments (2010–11)	209.3	. .	. .	↑	. .	. .

(continued)

Table S1 (continued): Key measures of Aboriginal and Torres Strait Islander health

		Current period			Trends		
Topic	**Measure—Indigenous population**	**Indig**	**Non-Indig**	**Gap(a)**	**Indig**	**Non-Indig**	**Gap(a)**
Chronic disease management/care planning	Age-standardised rate per 1,000 of General Practice Management Plans (GPMP)s (2010–11)	102.0*	55.0*	47.0	↑	—	↑
	Age-standardised rate per 1,000 of Team Care Arrangements (TCAs) (2010–11)	83.0*	45.0*	38.2	↑	—	↑
	Age-standardised rate per 1,000 of allied health items claimed (2010–11)	599*	547*	52	↑	↑	↑
	Age-standardised proportions of whether person in non-remote areas have a written asthma action plan (2004–05)	24.7	22.4	2.3	n.a.	n.a.	n.a.
Access to hospital procedures	Age-standardised proportions of hospitalisations with a procedure recorded (2008–09 to 2009–10)	60.0*	81.4*	–21.4	n.a.	n.a.	n.a.
Potentially preventable hospital admissions	Age standardised hospitalisations rates for potentially preventable hospital admissions (2008–09 to 2009–10)	137.3*	28.6*	108.8	n.a.	n.a.	n.a.
Governance and cultural competency	Age standardised per cent for discharge from hospital against medical advice (excluding mental and behavioural disorders) (2008–09 to 2009–10)	2.0*	0.4*	1.6	n.a.	n.a.	n.a.
	Proportion of Aboriginal and Torres Strait Islander primary health care services that have representatives on external boards (2010–11)	39.3	. .	. .	n.a.	. .	. .
	Proportion of Indigenous persons experiencing discrimination (2008)	27.3	. .	. .	n.a.	. .	. .
	Proportion of Indigenous persons aged 15 and over experiencing problems accessing health services (2008)	26.4	. .	. .	n.a.	. .	. .
Access to health services	Age-standardised rate per 1,000 population of MBS non-GP referred services claimed (2010–11)	6,376*	5,462*	914	n.a.	n.a.	n.a.
	Proportion aged 15 and over who had problems accessing a dentist (2008)	19.5	. .	. .	n.a.	. .	. .
	Proportion aged 15 and over who had problems accessing a doctor (2008)	9.5	. .	. .	n.a.	. .	. .
	Proportion aged 15 and over who had problems accessing a hospital (2008)	6.6	. .	. .	n.a.	. .	. .
	Episodes of health care provided by Indigenous primary health care services (2010–11)	2,498,067	. .	. .	↑	. .	. .

(continued)

Table S1 (continued): Key measures of Aboriginal and Torres Strait Islander health

		Current period			Trends		
Topic	**Measure—Indigenous population**	**Indig**	**Non-Indig**	**Gap[(a)]**	**Indig**	**Non-Indig**	**Gap[(a)]**
Access to health services	Elective surgery waiting times in public hospitals—50th percentile (days) (2010–11)	39	36	3	n.a.	n.a.	n.a.
	Emergency department waiting times—proportion meeting national benchmark (2010–11)	66	69	3	n.a.	n.a.	n.a.
	Age-standardised community mental health-care service contacts per 1,000 population (2009–10)	841.8*	262.0*	579.8	n.a.	n.a.	n.a.
	Proportion of presentations to emergency departments which were after hours (2008–09 to 2009–10)	57.6	55.8	1.8	n.a.	n.a.	n.a.
	Whether usually goes to the same GP/health service (2004–05)	91.0	. .	. .	n.a.	. .	. .
Accreditation	Per cent of hospital admitted patient care episodes in accredited hospitals (2008–09 to 2009–10)	95.8	97.1	1.3	↑	↑	↑
	Proportion of Indigenous primary health care services accredited (2010–11)	71.1	. .	. .	n.a.	. .	. .
Workforce, training and resources	Indigenous health workforce as a proportion of the Indigenous population aged 15+ (2006)	2.0	. .	. .	n.a.	. .	. .
	Per cent of undergraduates enrolled in health related courses who were Indigenous (2010)	1.8	. .	. .	n.a.	. .	. .
	Per cent of VET students enrolled in health related courses who were Indigenous (2010)	4.7	. .	. .	n.a.	. .	. .
	Estimated health expenditure per person (2008–09)	$6,787*	$4,876*	1,911	n.a.	n.a.	n.a.

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Gap is the rate difference (Indigenous rate minus non-Indigenous rate).

(b) Comparison is Indigenous and Other Australians (where Other includes Indigenous status not stated).

↑ Statistically significant increase in long-term trends presented (see relevant measure in body of report for time period).

↓ Statistically significant decrease in long-term trends presented (see relevant measure in body of report for time period).

– No significant change in long-term trends presented (see relevant measure in body of report for time period).

n.a. Time trends data not available or not reported.

. . Not applicable

Note: Figures reported in the current period column should not be compared as many of the measures are based on different denominators.

Introduction

This report presents the detailed analyses undertaken by the Australian Institute of Health and Welfare that were used to prepare the AHMAC policy report – the Aboriginal and Torres Strait Islander Health Performance Framework, 2012 report. This is the fourth report against the Aboriginal and Torres Strait Islander Health Performance Framework (HPF) and the first report based on the revised framework (see Figure 1).

The Health Performance Framework monitors progress of the health system and social determinants of health in improving health outcomes for Aboriginal and Torres Strait Islander people. The HPF comprises three tiers of performance as follows:

Tier 1—Health status and outcomes. This Tier covers prevalence of health conditions (for example, circulatory disease, diabetes), human function (for example, disability), life expectancy and well-being and deaths. It aims to provide an overall indication of current health status and recent trends on a range of issues, including child and maternal health, chronic diseases, injury, communicable diseases, and social and emotional wellbeing.

Tier 2—Determinants of health. This Tier covers determinants of health that focus on factors outside the health system that affect the health of Aboriginal and Torres Strait Islander people. This includes socioeconomic status (for example, income and education), environmental factors (for example, overcrowding), community capacity (for example, child protection), health behaviours (for example, risky alcohol consumption and dietary behaviours) and person-related factors (for example, prevalence of overweight and obesity). Such factors have been shown to have a strong association with both disease and ill health.

Tier 3— Health system performance. This covers the performance of the health system including population health, primary health care and secondary/tertiary care services. Six domains are covered: effectiveness of health services, responsiveness of health services to Aboriginal and Torres Strait Islander communities and individuals, accessibility of services, continuity, capability and sustainability. This tier includes measures that deal with a range of programs and service types including child and maternal health, early detection and chronic disease management, continuous care, assess to secondary/tertiary care, the health workforce and expenditure.

The tiers and domains of the HPF are shown in Figure 1. There are currently 68 measures that can be reported against at national level. Information on why these measures were selected is in the Aboriginal and Torres Strait Islander Health Performance Framework 2012 policy report (AHMAC 2012).

Tier 1 - Health status and outcomes

Health conditions
1.01 Low birthweight infants
1.02 Top reasons for hospitalisation
1.03 Injury and poisoning
1.04 Respiratory disease
1.05 Circulatory disease
1.06 Acute rheumatic fever & rheumatic heart disease
1.07 High blood pressure
1.08 Cancer
1.09 Diabetes
1.10 Kidney disease
1.11 Oral health
1.12 HIV/AIDS, hepatitis C and sexually transmissible infections

Human function
1.13 Community functioning
1.14 Disability
1.15 Ear health
1.16 Eye health

Life expectancy and wellbeing
1.17 Perceived health status
1.18 Social and emotional wellbeing
1.19 Life expectancy at birth

Deaths
1.20 Infant and child mortality
1.21 Perinatal mortality
1.22 All causes age standardised deaths rates
1.23 Leading causes of mortality
1.24 Avoidable and preventable deaths

Tier 2 - Determinants of health

Environmental factors
2.01 Housing
2.02 Access to functional housing with utilities
2.03 Environmental tobacco smoke

Socioeconomic factors
2.04 Literacy and numeracy
2.05 Education Outcomes for young people
2.06 Educational participation and attainment of adults
2.07 Employment
2.08 Income
2.9 Index of disparity

Community capacity
2.10 Community safety
2.11 Contact with the criminal justice system
2.12 Child protection
2.13 Transport
2.14 Indigenous people with access to their traditional lands

Health behaviours
2.15 Tobacco use
2.16 Risky alcohol consumption
2.17 Drug and other substance use including inhalants
2.18 Physical activity
2.19 Dietary behaviours
2.20 Breastfeeding practices
2.25 Health behaviours during pregnancy

Person-related factors
2.22 Overweight and obesity

Tier 3 - Health system performance

Effective/appropriate/efficient
3.01 Antenatal care
3.02 Immunisation
3.03 Health promotion
3.04 Early detection and early treatment
3.05 Chronic disease management
3.06 Access to hospital procedures
3.07 Selected potentially preventable hospital admissions
3.08 Cultural competency

Responsive
3.09 Discharge against medical advice
3.10 Access to mental health services
3.11 Access to alcohol and drug services
3.12 Aboriginal and Torres Strait Islander Australians in the health workforce
3.13 Competent governance

Accessible
3.14 Access to services compared with need
3.15 Access to prescription medicines
3.16 Access to after-hours primary health care

Continuous
3.17 Regular GP or health service
3.18 Care planning for chronic diseases

Capable
3.19 Accreditation
3.20 Aboriginal and Torres Strait Islander people training for health related disciplines

Sustainable
3.21 Expenditure on Aboriginal and Torres Strait Islander health compared to need
3.22 Recruitment and retention of staff

Figure 1: Aboriginal and Torres Strait Islander Health Performance Framework Measures

Note: The Safe domain of Tier 3 is measured within the National Health Performance Framework.

Demographic information

The preliminary estimated resident Aboriginal and Torres Strait Islander population of Australia as at 30 June 2011 was 669,736 people (ABS 2012). Indigenous people represent 3% of the Australian population (Table 1).

Table 1: Estimated resident population by state/territory and Indigenous status, 2011

	Indigenous		Non-Indigenous		Total			
	No.	Per cent	No.	Per cent	No.	Per cent	Per cent Indig.	Per cent Non-Indig.
New South Wales	208,364	31.1	7,003,104	32.3	7,211,468	32.3	2.9	97.1
Victoria	47,327	7.1	5,487,199	25.3	5,534,526	24.8	0.9	99.1
Queensland	188,892	28.2	4,285,206	19.8	4,474,098	20.0	4.2	95.8
South Australia	37,392	5.6	1,600,840	7.4	1,638,232	7.3	2.3	97.7
Western Australia	88,277	13.2	2,263,938	10.5	2,352,215	10.5	3.8	96.2
Tasmania	24,155	3.6	487,040	2.2	511,195	2.3	4.7	95.3
Northern Territory	68,901	10.3	162,430	0.8	231,331	1.0	29.8	70.2
Australian Capital Territory	6,167	0.9	361,585	1.7	367,752	1.6	1.7	98.3
Australia[(a)]	**669,736**	**100.0**	**21,654,197**	**100.0**	**22,323,933**	**100.0**	**3.0**	**97.0**

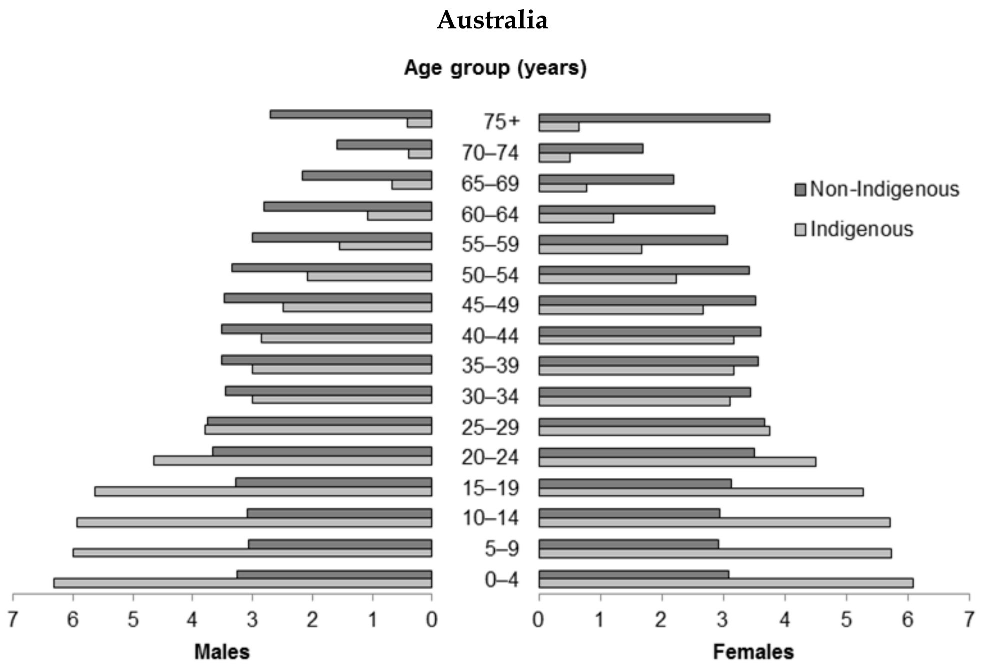
(a) Includes territories other than New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory.

Source: AIHW analysis of ABS preliminary population estimates based on 2011 Census.

The Aboriginal and Torres Strait Islander population has an age structure that is significantly younger than that of other Australians. For example, in 2011, Aboriginal and Torres Strait Islander people aged under 15 constitute 35.8% of the Indigenous population, whereas this age group represents about 18.9% of the total Australian population. Conversely, those aged 65 and over comprise only 3.4% of the Indigenous population, compared with 13.8% of the total Australian population (Figure 2).

In 2006, about three-quarters of the total Indigenous population in Australia live in *Major cities* (32.1%), *Inner regional* (21.4%) and *Outer regional* areas (21.9%), with just under one-quarter in *Remote* (9.3%) and *Very remote* (15.4%) areas (Table 2).

Note that Indigenous population estimates from the 2011 Census are not yet available by remoteness, therefore the latest available data by remoteness is for 2006 sourced from the 2006 Census which is reported in Table 2 below.



Source: AIHW analysis of ABS preliminary population estimates based on 2011 Census.

Figure 2: Population profile, by Indigenous status, age and sex, Australia, 2011

Table 2: Estimated resident population by remoteness area and Indigenous status, Australia, 2006

	Indigenous		Non-Indigenous		Total			
	No.	Per cent	No.	Per cent	No.	Per cent	Per cent Indig.	Per cent Non-Indig.
Major cities	165,804	32.1	13,996,454	69.4	14,162,258	68.4	1.2	98.8
Inner regional	110,643	21.4	3,975,150	19.7	4,085,793	19.7	2.7	97.3
Outer regional	113,280	21.9	1,854,024	9.2	1,967,304	9.5	5.8	94.2
Remote	47,852	9.3	267,199	1.3	315,051	1.5	15.2	84.8
Very remote	79,464	15.4	88,010	0.4	167,474	0.8	47.4	52.6
Australia	**517,043**	**100.0**	**20,180,837**	**100**	**20,697,880**	**100**	**2.5**	**97.5**

Note: 2011 Census estimates are not yet available by remoteness.

Source: AIHW analysis of ABS population estimates based on 2006 Census.

Structure of this report

Part 1 presents analyses for Tier 1—Health status and outcomes; Part 2 presents analyses for Tier 2—Determinants of health, and Chapter 3 presents analyses for Tier 3—Health system performance. The layout for each measure is constant and includes a definition according to the technical specifications, a section on the data sources used, analyses undertaken, additional information and data quality issues. Where possible, analyses are presented by age, sex and Indigenous status. Time trends are also presented where data are available. For some measures, data are also presented by selected health and population characteristics to examine the relationships between health and socioeconomic factors. International comparisons with New Zealand, the United States and Canada are presented for some measures. This report presents the most recent data available at the time of writing, which varies by data source (see Table S1 for the most recent year/period for which key statistics are reported).

Data sources and methodology

Data in this report come from a number of different administrative data sets and surveys. For each measure there is both a data quality statement and a brief description of the data sets used in analyses, a table of all data sources used for each measure of the Framework is presented at Appendix 1.

Health-related administrative data sets include the Australian Institute of Health and Welfare's (AIHW) National Hospital Morbidity Database, the AIHW National Mortality Database, the AIHW Community Mental Health Care Database, the AIHW National Perinatal Data Collection, the Australia and New Zealand Dialysis and Transplant Registry, the National Notifiable Diseases Surveillance System, the Service Activity Reporting Database and Medicare databases. Administrative data related to education include the Australian Bureau of Statistics (ABS) National Schools Statistics Collection, Department of Education, Employment and Workplace Relations (DEEWR) Higher Educations Statistics Collection and the National Centre for Vocational Education Research database. Community services related data include the AIHW National Child Protection Data collections.

Surveys that were used to obtain data include Indigenous specific surveys such as the National Aboriginal and Torres Strait Islander Health Survey, the National Aboriginal and Torres Strait Islander Social Survey, and the Community Housing Infrastructure Needs Survey. Data from the Census of Population and Housing have also been used.

Age-standardised rates, rate differences and rate ratios have been used in many of the measures to show how the Indigenous population fares relative to other Australians. All age-standardised rates and rate ratios have been calculated using the direct standardisation method and the 2001 Australian population as the standard population.

Time series analyses have used linear regression analysis to determine whether there have been significant increases or decreases in the observed rates. Many of the tables also include an asterisk (*) to indicate that rates for the Indigenous and non-Indigenous populations are statistically different from each other at the $p < 0.05$ level.

Data limitations

There are a number of limitations of data in this report that should be noted. The main issue in most administrative data collections is the under-identification of Aboriginal and Torres Strait Islander people. Under-identification is a major problem in mortality, hospital morbidity and communicable disease data, particularly in some states and territories. Data analysis has therefore been limited to jurisdictions with adequate identification of Indigenous people. At the introduction of each measure there is a brief description of each data source. At the end of each measure there is a comprehensive data quality statement covering the data sources and specific issues that need to be noted when reading the measure and interpreting the findings.

For recent hospitalisations, New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are considered as having data of sufficient quality to be included in the analyses. For longer-term hospital morbidity, data from only Queensland, Western Australia, South Australia and the Northern Territory are used. Longer-term mortality trend data are limited to three jurisdictions—Western Australia, South Australia and the Northern Territory, which have more than 10 years of adequate identification of Indigenous deaths in their recording systems. Queensland data from 1998 and NSW data from 2001 onwards are considered to be of adequate quality for mortality analyses.

Data on communicable diseases from the National Notifiable Disease Surveillance System have been assessed and found to have varying levels of completeness across diseases and jurisdictions.

The incompleteness of Indigenous identification means the number of hospital separations, deaths and disease notifications recorded as Indigenous result in underestimates of the true levels of hospitalisation and mortality.

Surveys are also subject to a number of data limitations due to sampling and non-sampling errors, such as bias in responses. In most tables in this report, estimates with large relative standard errors, which is a measure of the sampling variability, have been footnoted to indicate that they should be used with caution or are considered too unreliable for general use.

There are also data limitations surrounding international comparisons for some of the measures. These include the lack of an accurate denominator for the Indigenous population (mainly due to undercounting) and the lack of agreement over which is the best population denominator to use when they exist (for example, whether to use single ethnic response groups or multiple ethnic response groups). There are differences in how Indigenous status is defined in the different countries. There have also been frequent modifications to the ethnicity question recorded in the censuses in some of these countries.

Volatility due to small numbers and impact on Interpretation of changes over time

Both small numbers and volatility in the data from year to year make it difficult to detect significant changes over time, and can greatly impact on any conclusions reached from a trend analysis. This is a particular problem when analysing trends for small populations such as the Indigenous population in the smaller jurisdictions.

Statistical methods can be used to model trend data in various ways and to determine whether there is a statistically significant trend. Time series analyses presented throughout this report have used linear regression analysis to determine whether there have been significant increases or decreases in the observed rates over the period. Regression analysis has several advantages over other techniques for assessing trends. In general, regression modelling has the advantage of jointly considering the information contained in the series of rates (i.e. taking into account volatility from year to year), rather than considering each time point separately.

In this report, the average annual change in rates, rate ratios and rate differences are calculated using linear regression which uses the least squares method to calculate a straight line that best fits the data and returns an array that best describes the line. The simple linear regression line, $Y = a + bX$, or 'slope' estimate is used to determine the average annual change in the data over the period. The 95% confidence intervals (CIs) for the standard error of the slope estimate (average annual change) are used to determine whether the apparent increases or decreases in the data are statistically significant at the $p<0.05$ level.

The per cent change estimates presented in this report use the slope estimate to derive an end point in the time series, rather than the actual end point. This overcomes the problem of being reliant on the end data point to determine the significance of the trend. However the first data point in the time series is still used in the per cent change calculation and therefore care must be taken in selecting a sensible starting point.

Great care should be taken when assessing apparent changes over time, particularly those involving small numbers and a small number of data points.

Data improvement activities

All jurisdictions are working towards improving the quality of Indigenous status in health data collections.

States and territories have agreed to improve Aboriginal and Torres Strait Islander data collection procedures in key data collections including implementation of the *National best practice guidelines for collecting Indigenous status in health data sets* published by the AIHW in 2010.

The AIHW is working with the states and territories in the development of an enhanced Perinatal National Minimum Data Set (NMDS) to include nationally consistent data items on antenatal care, smoking and alcohol use during pregnancy, and Indigenous status of the baby. Nationally consistent data items on smoking during pregnancy, gestational age at first antenatal visit, and Indigenous status of the baby have been added to the Perinatal NMDS (from 1 July 2009, 1 July 2010, and 1 July 2012, respectively). A data item on number of antenatal visits will be included in the Perinatal NMDS from 1 July 2013. Work is under way to progress data elements related to alcohol use in pregnancy.

The ABS and the AIHW work in partnership with jurisdictions to lead analysis of the level of Indigenous identification in key data sets. As part of this work, the AIHW conducted a study in 2011–12 to assess the level of under-identification in public hospitals data, which was a repeat of a study conducted in 2007. All states and territories have participated in the study to assess improvements in data quality. The report on the findings, *Indigenous identification in hospitals separations data,* was published in May 2013, including new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

As part of the data development work funded under the National Indigenous Reform Agreement (NIRA), the ABS will link Census records with death registration records to assess the level of identification in relation to the 2011 Census (this was undertaken for data from the 2006 Census and will be repeated).

The AIHW is also undertaking a project to develop an Enhanced Mortality Database by linking death registration records to several additional data sources that contain information on Aboriginal and Torres Strait Islander deaths (hospital, perinatal and residential aged care data). The enhanced data are expected to enable more accurate estimates of Aboriginal and Torres Strait Islander mortality, including life expectancy, to be made. Results from phase 1 of the project, which linked data for 2001 to 2006, produced national estimates of Aboriginal and Torres Strait Islander life expectancy at birth of 66.6 years for males and 72.7 for females, which was similar to the estimates produced by the ABS (AIHW 2012).

Population data

Indigenous population data are required when computing rates from administrative data collections. While the 2011 preliminary estimated resident population is the latest available data that gives an estimate of the number of Aboriginal and Torres Strait Islander people in the population, estimates are not yet available from the 2011 Census by remoteness or for years pre or post 2011. Denominators used to calculate proportions and rates in this report are therefore based on Indigenous population estimates and projections from the 2006 Census (ABS 2009).

The Census enumerated the Indigenous population from responses to a question on a person's Indigenous status. The Indigenous ERP for 2006 is computed using this enumerated figure, and adjusted for undercount based on results from the Post-Enumeration Survey (PES) as well as for non-response to the Indigenous status question (ABS 2009). Population numbers for other years are projected based on assumed future levels of fertility, mortality and migration (ABS 2009).

The use of Indigenous ERP based on the 2006 Census showed vastly different results in mortality time series to those published in previous national reports, which used 2001 census-based ERP. The implications of using 2006 census-based compared with 2001 census-based ERP were discussed in the 2010 state and territory reports on the Aboriginal and Torres Strait Islander Health Performance Framework.

Statistical definitions

A number of statistic terms are used in this report. The definitions are:

Incidence is the number of new cases (of an illness or event, and so on) occurring during a given period.

Prevalence is the number or proportion (of cases, instances, and so forth) in a population at a given time.

Crude rate in this report refers to the number or proportion (of cases, instances, and so forth) in a population at a given time, unadjusted for age differences across the Indigenous and non-Indigenous populations.

Age-standardised rate in this report refers to a directly age-standardised rate in which the age-specific rates are multiplied by a constant population. This effectively removes the influence of the age structure on the summary rate to enable comparisons to be made between populations that have different age structures such as the Indigenous and non-Indigenous populations.

Rate ratio is calculated by dividing the rate for Indigenous Australians with a particular characteristic by the rate for non-Indigenous Australians with the same characteristic.

Rate difference is calculated by subtracting the rate for Indigenous Australians from the rate for non-Indigenous Australians for the characteristic of interest.

Statistically significant difference, for example between Indigenous and non-Indigenous or over time, is denoted as 'significant' in the text and denoted with a * against relevant statistics in tables. The word 'significant' is not used outside its statistical context.

Average annual change is used for rates, rate ratios and rate differences to reflect the average annual change in these statistics over the specified period.

Percentage change is used for rates, rate ratios and rate differences and is the difference between the first year and the last year of the specified period based on the average annual change over the period.

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Tier 1 Health Status and Outcomes

1.01 Low birthweight

The incidence of low birthweight among liveborn babies of Aboriginal and Torres Strait Islander mothers

Data sources

Data for this measure come from the National Perinatal Data Collection, the 2008 National Aboriginal and Torres Strait Islander Social Survey and the Healthy for Life data collection.

National Perinatal Data Collection

Perinatal data included in this report come from the Australian Institute of Health and Welfare (AIHW) National Perinatal Epidemiology and Statistics Unit National Perinatal Data Collection (NPDC).

Each state and territory has a perinatal collection based on birth notifications completed by midwives and other staff, using information obtained from mothers and from hospital and other records. Perinatal notification forms are completed in Australia for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more.

The Perinatal National Minimum Data Set (NMDS) includes all births in Australia in hospitals, birth centres and the community. State-level data are based on place of mother's usual residence rather than place where birth occurred. Since 2005, all jurisdictions collect information on Indigenous status of the mother in accordance with the Perinatal NMDS. A data item on Indigenous status of the baby was added to the Perinatal National Minimum Data Set from 1 July 2012.

Data on Indigenous status are not reported for Tasmania prior to 2005 as the not stated category for Indigenous status was included with the non-Indigenous category. Data for Tasmania and the ACT are not deemed of sufficient stability to support trends analysis (AIHW: Leeds KL et al. 2007).

Data on mothers for whom Indigenous status was 'not stated' have been excluded from analysis.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including

family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Healthy for Life

The Healthy for Life (HfL) program is an ongoing program funded by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) of the Australian Government Department of Health and Ageing (DoHA). The program aims to improve the capacity and performance of primary health-care services to deliver high-quality maternal, children's and chronic disease care to Aboriginal and Torres Strait Islander people. This is carried out through population health approaches using best-practice and quality improvement principles.

Services participating in the HfL program are required to submit de-identified, aggregate service data for 11 essential indicators. These indicators cover maternal health, child health and chronic disease care on a regular basis (6 and 12 months), as well as information about the characteristics of their service and organisational infrastructure.

The Commonwealth and the AIHW are working with the States and Territories to develop a national Key Performance Indicator (KPI) framework for Indigenous primary health care services. The new National KPIs will replace the *Healthy for Life* program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services. The national KPI data collection will be implemented in three stages, with rollout in 2012 and 2013.

Analyses

A baby's birthweight is a key indicator of health status. Babies are defined as low birthweight if their weight at birth is less than 2,500 grams. Those weighing less than 1,500 grams are defined as very low birthweight and those less than 1,000 grams as extremely low birthweight (WHO 1992).

Birthweight is a key indicator of infant health and a principal determinant of a baby's chance of survival and good health. For newborns, low birthweight (defined as less than 2,500 grams) poses a greater risk of lengthy hospitalisation after birth, the need for resuscitation and death. Low birthweight is a risk factor for neurological and physical disabilities and for ill health in childhood, with the risk of adverse outcomes increasing with decreasing birthweight (Ford et al. 2003).

Data are presented on the proportion of low birthweight among babies born to Aboriginal and Torres Strait Islander mothers using data from the National Perinatal Data Collection.

Births

Between 2007 and 2009, there were 880,282 births (Indigenous and non-Indigenous) recorded in the Perinatal National Minimum Data Set of which 33,324 (3.8%) were to Aboriginal and Torres Strait Islander mothers.

Low birthweight

Table 1.01.1 presents the number and proportion of liveborn low birthweight babies by Indigenous status of the mother and state/territory for the periods 2007–2009.

- Over the period 2007–2009, there were 4,093 liveborn babies weighing less than 2,500 grams birthweight born to Indigenous mothers in Australia. Babies of Indigenous mothers were twice as likely to be of low birthweight as babies born to non-Indigenous mothers (12.3% compared with 5.9%).
- When multiple births are excluded, approximately 11% of liveborn babies born to Indigenous mothers were of low birthweight compared with around 4% of babies born to non-Indigenous mothers.
- Tasmania and Queensland had the lowest proportion of liveborn low birthweight babies born to Indigenous mothers in 2007–2009 (10.0% and 10.7%, respectively). The Northern Territory and Western Australia had the highest proportion of low birthweight babies (13.8% and 15.0%, respectively). Australian Capital Territory data should be interpreted with caution because of the small number of Indigenous babies born there each year and the likelihood that some women from surrounding areas of New South Wales (especially those with pregnancy complications) are referred to hospitals in the Australian Capital Territory.

Table 1.01.1: Low birthweight babies, by Indigenous status of mother and usual state of residence, 2007–2009[(a)(b)(c)(d)(e)]

	2007–2009				
	Number of live births	Number of low birthweight live-born babies	Per cent	Number of singleton low birthweight liveborn babies	Per cent
NSW					
Indigenous	9,065	1,040	11.5	906	10.3
Non-Indigenous	281,951	15,858	5.6	11,648	4.3
Rate difference	. .	. .	*5.8*	. .	*6.0*
Rate ratio	. .	. .	*2.0*	. .	*2.4*
Vic					
Indigenous	2,057	275	13.4	241	12.0
Non-Indigenous	209,175	12,939	6.2	9,290	4.6
Rate difference	. .	. .	*7.2*	. .	*7.4*
Rate ratio	. .	. .	*2.2*	. .	*2.6*
Qld					
Indigenous	9,867	1,053	10.7	922	9.6
Non-Indigenous	173,165	10,468	6.0	7,473	4.5
Rate difference	. .	. .	*4.6*	. .	*5.1*
Rate ratio	. .	. .	*1.8*	. .	*2.1*
WA					
Indigenous	5,237	784	15.0	705	13.8
Non-Indigenous	86,180	4,921	5.7	3,648	4.4
Rate difference	. .	. .	*9.3*	. .	*9.4*
Rate ratio	. .	. .	*2.6*	. .	*3.2*
SA					
Indigenous	1,857	252	13.6	219	12.2
Non-Indigenous	57,150	3,521	6.2	2,631	4.7
Rate difference	. .	. .	*7.4*	. .	*7.4*
Rate ratio	. .	. .	*2.2*	. .	*2.6*
Tas					
Indigenous	818	82	10.0	61	7.8
Non-Indigenous	18,153	1,182	6.5	902	5.1
Rate difference	. .	. .	*3.5*	. .	*2.7*
Rate ratio	. .	. .	*1.5*	. .	*1.5*

(continued)

Table 1.01.1 (continued): Low birthweight babies, by Indigenous status of mother and usual state of residence, 2007–2009(a)(b)(c)(d)(e)

	2007–2009				
	Number of live births	Number of low birthweight live-born babies	Per cent	Number of singleton low birthweight liveborn babies	Per cent
ACT					
Indigenous	222	29	13.1	22	10.3
Non-Indigenous	14,109	731	5.2	534	3.9
Rate difference	. .	. .	*7.9*	. .	*6.4*
Rate ratio	. .	. .	*2.5*	. .	*2.6*
NT					
Indigenous	4,201	578	13.8	528	12.9
Non-Indigenous	7,075	389	5.5	304	4.4
Rate difference	. .	. .	*8.3*	. .	*8.4*
Rate ratio	. .	. .	*2.5*	. .	*2.9*
Total					
Indigenous	**33,324**	**4,093**	**12.3**	**3,604**	**10.8**
Non-Indigenous	**846,958**	**50,009**	**5.9**	**36,430**	**4.3**
Rate difference	. .	. .	***6.4***	. .	***6.5***
Rate ratio	. .	. .	***2.1***	. .	***2.5***

(a) Table includes live births of 20 weeks gestation or more or of 400 grams or more birthweight. Low birthweight is defined as less than 2,500 grams.

(b) Data are presented in three year groupings because of small numbers each year. These groupings represent three calendar years.

(c) Data relate to the Indigenous status of the mother only and therefore underestimate Indigenous births.

(d) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.

(e) Data are by place of usual residence of the mother. Table excludes non-residents, external territories and not stated State/Territory of residence.

Source: AIHW (unpublished) National Perinatal Data Collection.

Time series analysis

Longer term perinatal trend data are limited to six states and territories—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These have been assessed by the AIHW as having adequate identification of Indigenous mothers in their perinatal data collections from 1991 onwards (AIHW: Leeds et al. 2007).

Owing to the late inclusion of a 'not stated' category of Indigenous status in 2000 in the National Perinatal Data Collection (before which 'not stated' responses were included in the number of births to non-Indigenous mothers), the rate of low birthweight babies born to Indigenous mothers has been compared with rates of 'other' Australians (which includes births to both non-Indigenous mothers and births to mothers for whom Indigenous status was not stated).

Fluctuations in the number/proportion of low birthweight babies of Indigenous mothers over time partly reflect changing levels of coverage of babies of Indigenous mothers in the perinatal data. Caution should be exercised in assessing trends in low birthweight babies of Indigenous mothers over time and comparisons with the non-Indigenous population.

The rate (proportion) of low birthweight babies per 100 live births, rate ratios and rate differences between Indigenous and non-Indigenous low birthweight babies over the period 1991–2009 are presented in Table 1.01.2 and Figure 1.01.1. Data are presented for all live births from 1991–2009 and for live singleton births from 1991–2009. Analyses of live singleton births are presented because low birthweight is associated with multiple births and there has been an increasing trend in multiple births over time. Inclusion of multiple births may therefore confound the results of trends analyses on low birthweight.

- Over the period 1991–2009, there was a significant increase in the proportion of low birthweight babies born to Indigenous mothers. The fitted trend implies an average yearly increase in low birthweight babies born to Indigenous mothers of around 0.08 per 100 live births, which is equivalent to an increase of 11.3% over the period (Table 1.01.2). Around a 10% increase was evident for singleton babies born to Indigenous mothers over the period 1991–2009.
- Over the period 1991–2009, there was a significant increase in the proportion of low birthweight babies born to other mothers. There was an average yearly increase in low-birthweight babies of around 0.02 per 100 live births, which is equivalent to a 6.5% increase over the period. Over the same period, there was a non-significant increase in the proportion of singleton babies born to other mothers, a per cent change of 0.7% increase over the period.
- Between 1991 and 2009 there was a significant increase in the rate difference between low birthweight babies born to Indigenous and non-Indigenous mothers. The fitted trend implies an average yearly increase in the rate difference of around 0.05 (increase of 15.7% over the period). Over the same period there was no significant change in the rate ratio between low birthweight babies born to Indigenous and other mothers (Table 1.01.2).
- Between 1991 and 2009 there were significant increases in the rate ratio and rate differences for low birthweight singleton liveborn babies (per cent increases of 9.1% and 16.1% respectively).
- More recent trends between 2000 and 2009 show there was a significant decline in the proportion of babies of low birthweight born to Indigenous mothers (a decline of 7%). Over the same period, there was a small narrowing of the gap between babies of low birthweight of Indigenous and non-Indigenous mothers (a decline of 10%) (Table 1.01.3).

Table 1.01.2: Rate (proportion), rate ratio and rate difference between liveborn low birthweight babies of Indigenous and other mothers, 1991–2009

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Annual change(a)	Per cent change(b)
Low birthweight liveborn babies																					
Indigenous	11.9	11.8	10.8	11.9	10.9	11.6	12.1	11.0	12.2	12.7	12.8	12.9	12.9	13.1	13.3	12.4	12.6	12.2	11.9	0.08*	11.3*
Other(c)	5.7	5.7	5.7	5.7	5.8	5.8	5.9	5.9	6.0	6.1	6.0	6.1	6.0	6.1	6.1	6.2	5.9	5.9	5.9	0.02*	6.5*
Rate ratio	2.1	2.1	1.9	2.1	1.9	2.0	2.1	1.9	2.0	2.1	2.1	2.1	2.1	2.2	2.2	2.0	2.1	2.1	2.0	0.01	4.8
Rate difference	6.2	6.1	5.1	6.3	5.2	5.9	6.3	5.1	6.2	6.6	6.8	6.8	6.9	7.0	7.2	6.3	6.7	6.4	6.0	0.05*	15.7*
Low birthweight singleton liveborn babies																					
Indigenous	11.1	10.8	9.7	11.0	10.2	10.7	11.3	10.0	10.9	11.7	11.5	11.8	11.9	12.1	12.1	11.4	11.3	11.1	10.8	0.06*	9.9*
Other(c)	4.5	4.4	4.5	4.4	4.5	4.5	4.5	4.6	4.6	4.5	4.5	4.6	4.5	4.6	4.5	4.6	4.4	4.4	4.5	0	0.7
Rate ratio	2.5	2.4	2.2	2.5	2.3	2.4	2.5	2.2	2.4	2.6	2.6	2.6	2.6	2.6	2.7	2.5	2.6	2.5	2.4	0.01*	9.1*
Rate difference	6.6	6.3	5.3	6.7	5.7	6.2	6.8	5.4	6.3	7.2	7.0	7.3	7.4	7.5	7.5	6.8	6.9	6.7	6.4	0.06*	16.1*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991 to 2009.

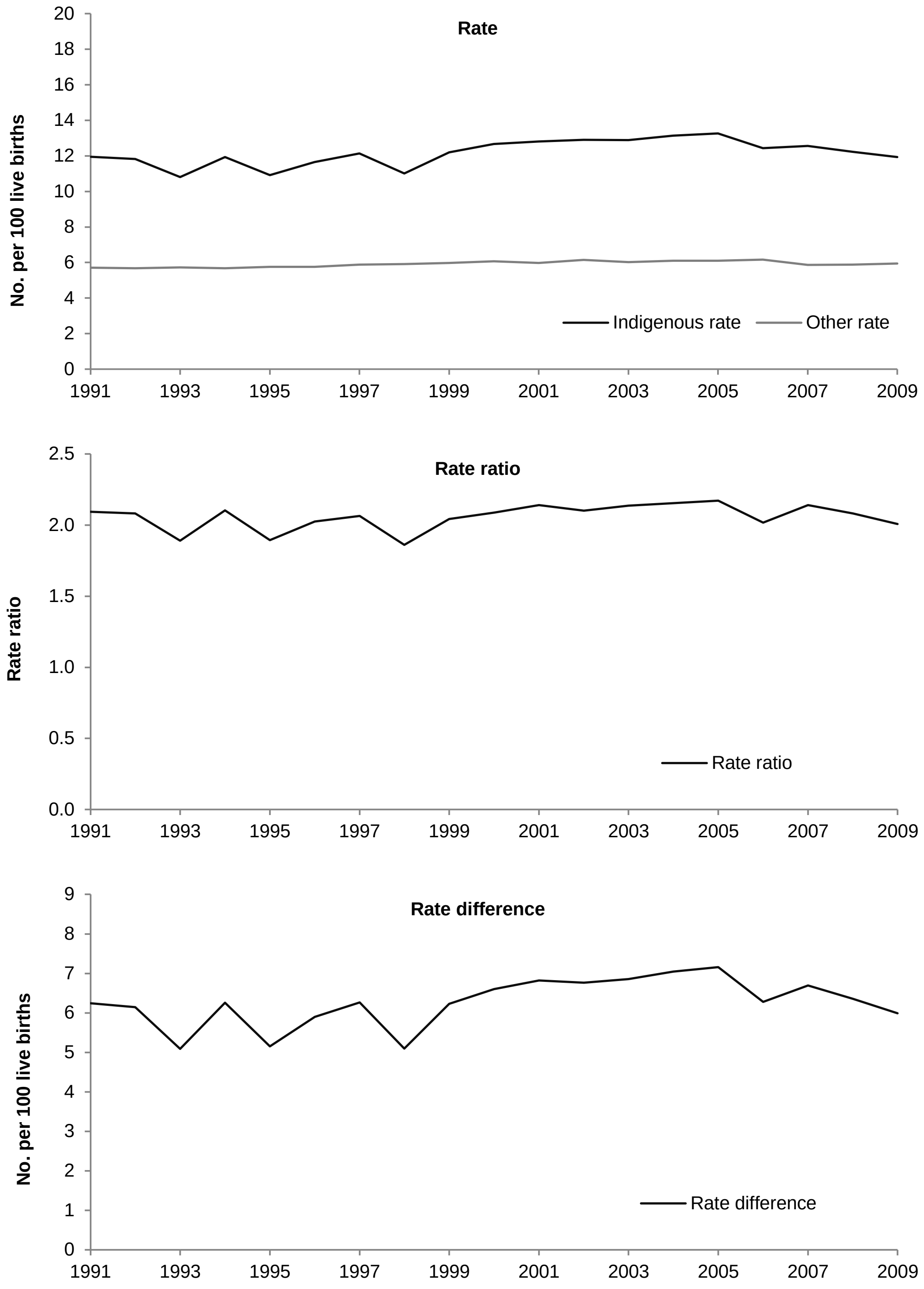
(a) Average annual change in number and proportion of low birthweight babies determined using linear regression analysis.

(b) Per cent change between 1991 and 2009 based on the average annual change over the period.

(c) Includes non-Indigenous mothers and mothers for whom Indigenous status was not stated.

Note: Excludes Tasmania and the Australian Capital Territory as data from these jurisdictions are not considered stable enough to be included in trend analyses mainly because of small population size and some issues with data quality over the reporting period (AIHW: Leeds et al. 2007).

Source: AIHW (unpublished) National Perinatal Data Collection.



Note: Excludes Tasmania and the Australian Capital Territory because data from these jurisdictions are not considered stable enough to be included in trend analyses mainly because of small population size and some issues with data quality over the reporting period (AIHW: Leeds et al. 2007).

Source: AIHW analysis of NPESU National Perinatal Data Collection.

Figure 1.01.1: Rates, rate ratios and rate differences between low birthweight babies (per 1,000 live births) of Indigenous and other mothers, 1991–2009

Table 1.01.3: Incidence of low birthweight among liveborn singleton babies, by Indigenous status of the mother and state/territory, NSW, Vic, Qld, WA, SA and NT, 2000 to 2009[(a)(b)(c)(d)]

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Annual change(e)	Per cent change(f)
Indigenous												
Number	977	965	1,011	1,017	1,048	1,127	1,093	1,165	1,172	1,153	24.9*	22.9*
Per cent	11.7	11.5	11.9	11.9	12.1	12.1	11.4	11.3	11.1	10.8	–0.1*	–7.2*
Non-Indigenous												
Number	10,349	10,139	10,296	10,224	10,450	10,927	11,372	11,506	11,545	11,703	193.9*	16.9*
Per cent	4.5	4.5	4.6	4.5	4.6	4.5	4.6	4.4	4.4	4.4	0.0	–2.9
Rate ratio(g)	**2.6**	**2.6**	**2.6**	**2.6**	**2.6**	**2.7**	**2.5**	**2.6**	**2.5**	**2.4**	**–0.02***	**–5.7***
Rate difference(h)	**7.2**	**7**	**7.3**	**7.4**	**7.5**	**7.5**	**6.8**	**6.9**	**6.7**	**6.4**	**–0.1***	**–9.9***

* Represents results with a statistically significant change at the p < 0.05 level over the period.

(a) Low birthweight is defined as less than 2500grams. Data excludes babies with unknown birthweight.

(b) Data relate to live births. Data exclude stillbirths; births less than 20 weeks gestation and less than 400 grams birthweight; and multiple births.

(c) Data are by place of usual residence of the mother. Table excludes non-residents, external territories and not stated state/territory of residence.

(d) Data on Indigenous births relate to babies born to Indigenous mothers only, and excludes babies born to non-Indigenous mothers and Indigenous fathers. Therefore the information may not be based on the total count of Indigenous babies.

(e) Average annual change in number and proportion of low birthweight babies determined using linear regression analysis.

(f) Per cent change based on the average annual change over the period.

(g) Rate ratio is the proportion of low birthweight babies born to Indigenous mothers divided by the proportion of low birthweight babies born to non-Indigenous mothers.

(h) Rate difference is the proportion of low birthweight babies born to Indigenous mothers less the proportion of low birthweight babies born to non-Indigenous mothers.

Source: AIHW (unpublished) National Perinatal Data Collection.

Low birthweight babies by birth characteristics

Table 1.01.4 presents the number and proportion of low birthweight babies born to Indigenous and non-Indigenous mothers in 2008–2009 by selected birth characteristics.

- The proportion of neonatal deaths among low birthweight babies born to Indigenous mothers was similar to low birthweight babies born to non-Indigenous mothers, 80% and 81% respectively.
- Approximately 66% of pre-term babies born to Indigenous mothers were of low birthweight, compared with 71% of pre-term babies born to non-Indigenous mothers.
- Approximately 60% of multiple births of Indigenous mothers resulted in low birthweight babies, compared with 11% of singleton births.
- Nearly half (42%) of liveborn low birthweight babies born to Indigenous mothers had an Apgar score of less than 7.
- Although the proportion of pre-term and multiple births resulting in low birthweight babies was similar for babies born to Indigenous and non-Indigenous mothers (rate ratio 1.2), low birthweight among full-term births and singleton births was more than twice as high among babies born to Indigenous mothers as among babies born to non-Indigenous mothers (rate ratio 2.6 for full-term births, 2.5 for singleton births).

Table 1.01.4: Liveborn low birthweight babies by birth characteristics and maternal Indigenous status, 2008–2009

	Indigenous[(a)]			Non-Indigenous[(a)]				
	Number	Per cent of live births[(b)]	Per cent of LBW births[(c)]	Number	Per cent of live births[(b)]	Per cent of LBW births[(c)]	Rate ratio (live births)[(d)]	Rate difference
Pre-term	1,796	64.8	65.7	23,787	56.3	70.9	1.2	8.5
Full-term	938	4.8	34.3	9,755	1.9	29.1	2.6	2.9
Multiple birth	318	59.8	11.6	9,161	51.6	27.3	1.2	8.2
Singleton birth	2,418	11.0	88.4	24,397	4.4	72.7	2.5	6.6
APGAR score 0–6	231	41.9	8.5	2,689	33.0	8.0	1.3	9.0
APGAR score 7–10	2,478	11.3	91.5	30,732	5.5	92.0	2.1	5.8
Neonatal deaths[(e)]	109	80.1	4.2	1,070	81.2	3.7	1.0	–0.9
Total	**2,736**	**12.2**	**. .**	**33,558**	**5.9**	**. .**	**2.1**	**6.3**

(a) Excludes not stated response from denominator.

(b) Per cent of live births: No. of liveborn low birthweight in stratum category divided by total number of all stratum category live births.

(c) Per cent of LBW births: No. of stratum category liveborn low birthweight divided by total combined liveborn low birthweight stratum categories.

(d) Rate ratio: Indigenous per cent of live births divided by non-Indigenous per cent of live births.

(e) 2009 Victorian data not received at the time of publication.

Notes

1. Excludes mothers for whom Indigenous status was not stated.
2. Apgar score is a measure used to assess the health of newborn babies immediately after birth. Values range from zero to 10, with a value of seven to 10 considered normal. Lower values indicate that medical attention is necessary.

Source: AIHW (unpublished) National Perinatal Data Collection.

Low birthweight babies by maternal characteristics

Table 1.01.5 presents the number and proportion of liveborn low birthweight babies born to Indigenous and non-Indigenous mothers in 2008–2009 by selected characteristics of the mother.

- In 2008–2009, the highest rate of low birthweight babies born to Indigenous mothers occurred in mothers aged 35 years and over (15.1%) followed by mothers aged less than 20 years and aged 25–29 years (12.4%). Indigenous mothers in all age groups were around twice as likely to have low birthweight babies as non-Indigenous mothers (rate ratios from 1.7 to 2.3).
- Indigenous mothers in the lowest quintile and 2nd quintile of socioeconomic status were most likely to have low birthweight babies (12.7%). Rates of low birthweight babies among Indigenous mothers were around twice those among non-Indigenous mothers across all quintiles of socioeconomic status (rate ratios form 1.9 to 2.1).
- Low birthweight babies were most common among Indigenous mothers who had a parity (number of times a woman has previously given birth) of four or more (14.6%), followed by Indigenous mothers who had a parity of three or none (12.8% and 12%).
- The proportion of low birthweight babies born to Indigenous mothers was highest among mothers living in Remote and Very remote areas (13.3% and 13.6%, respectively). In Very remote areas, babies born to Indigenous mothers were nearly three times (rate ratio 2.7) as likely as babies born to non-Indigenous mothers to be of low birthweight.

Multivariate analyses

- During the period 2006–08, 33% of all low birthweight babies born to Indigenous mothers were attributable to smoking during pregnancy, compared with 13% for other Australian mothers. If the smoking rate during pregnancy among Indigenous mothers was the same as it was for other Australian mothers, the proportion of babies with low birthweight among the Indigenous population could be reduced by 24% (Table 1.01.6A).
- After adjusting for age differences and all other factors, including pre-term delivery, socioeconomic status, remoteness areas and multiple births, 26% of all low birthweight babies born to Indigenous mothers were attributable to smoking during pregnancy, compared with 9% for other Australian mothers. If the smoking rate during pregnancy among Indigenous mothers was the same as it was for other Australian mothers, after accounting for other factors, the proportion of babies with low birthweight among the Indigenous population could be reduced by 19% (Table 1.01.6B).

Table 1.01.5: Liveborn low birthweight babies by maternal characteristics and Indigenous status, 2008–2009

	Indigenous		Non-Indigenous			
	Number	Per cent	Number	Per cent	Rate ratio	Rate difference
Age of mother						
Less than 20	555	12.4	1,410	7.3	1.7	5.0
20–24	813	11.4	4,785	6.2	1.8	5.1
25–29	662	12.4	8,620	5.6	2.2	6.8
30–34	389	11.5	10,029	5.5	2.1	6.0
35+	316	15.1	8,706	6.5	2.3	8.6
Quintile of socioeconomic disadvantage [(a)]						
1st quintile (lowest)	1,178	12.7	6,430	6.4	2.0	6.2
2nd quintile	598	12.7	6,779	6.2	2.0	6.5
3rd quintile	371	11.3	6,337	5.8	2.0	5.5
4th quintile	197	10.6	6,570	5.7	1.9	4.9
5th quintile (highest)	392	11.8	7,397	5.5	2.1	6.3
Parity[(b)]						
None	818	12.0	14,630	7.0	1.7	5.0
One	579	11.2	7,510	4.5	2.5	6.7
Two	408	11.0	3,827	5.1	2.1	5.9
Three	316	12.8	1,711	6.3	2.0	6.5
Four or more	498	14.6	1,503	8.5	1.7	6.1
Remoteness						
Major Cities	735	11.8	23,836	5.9	2.0	5.9
Inner Regional	491	10.8	6,107	6.0	1.8	4.8
Outer Regional	706	12.3	2,968	6.0	2.0	6.3
Remote	318	13.3	407	5.1	2.6	8.2
Very Remote	483	13.6	137	5.0	2.7	8.6
Total	**2,736**	**12.2**	**33,558**	**5.9**	**2.1**	**6.3**

(a) Based on SEIFA Index of Relative Socioeconomic Advantage and Disadvantage 2006, population-based, using Australian cut-offs.

(b) 2009 Victorian data not received at the time of publication.

Note: Excludes mothers for whom Indigenous status was not stated.

Source: AIHW (unpublished) National Perinatal Data Collection.

Table 1.01.06A: Unadjusted burden and gap analysis of low birthweight among live born babies by selected maternal characteristics and Indigenous status, 2006–2008

	Unadjusted RR (95% CI)		Unadjusted PAF[(a)]		Unadjusted PIF[(b)]
	Indigenous	Other[(c)]	Indigenous	Other[(c)]	
Age of mother					
<20	1.01(0.92,1.10)	1.29(1.24,1.34)*	1.2	5.7	n.a
20–24	0.96(0.88,1.05)	1.10(1.07,1.14)*			
25–29	REF	REF			
30–34	1.01(0.91,1.12)	0.99(0.96,1.01)			
35+	1.22(1.08,1.36)*	1.16(1.13,1.19)*			
Smoking during pregnancy[(d)]					
Yes	1.94(1.81,2.08)*	1.98(1.93,2.02)*	33.2	12.8	23.8
No	REF	REF			
Pre-term delivery					
Yes	13.56(12.70,14.48)*	29.99(29.42,30.58)*	61.5	68.3	25.5
No	REF	REF			
Parity					
Primiparas	0.99(0.93,1.06)	1.38(1.36,1.41)*	–0.2	13.8	0.1
Multiparas	REF	REF			
Multiple births					
Singletons	REF		9.6	25.1	–2.7
Multiple births	5.21(4.73,5.73)*	11.47(11.24,11.69)*			
Socioeconomic status[(e)]					
Quintile 1 (least disadvantaged)	REF	REF	2.9	10.7	n.a
Quintile 2	0.92(0.75,1.14)	1.06(1.03,1.09)*			
Quintile 3	1.02(0.83,1.24)	1.11(1.08,1.15)*			
Quintile 4	1.01(0.83,1.22)	1.19(1.15,1.22)*			
Quintile 5 (most disadvantaged)	1.07(0.89,1.28)	1.23(1.2,1.27)*			
Remoteness					
Major cities and inner/outer regions	REF	REF	3.8	–0.2	n.a
Remote and very remote regions	1.14(1.07,1.22)*	0.88(0.82,0.94)*			

(continued)

Table 1.01.06A (continued): Unadjusted burden and gap analysis of low birthweight among live born babies by selected maternal characteristics and Indigenous status, 2006–2008

	Unadjusted RR (95% CI)		Unadjusted PAF[(a)]		Unadjusted PIF[(b)]
	Indigenous	Other[(c)]	Indigenous	Other[(c)]	
State[(f)]					
NSW	REF	REF	3.7	3.8	n.a
Vic	1.08(0.94,1.25)	1.09(1.06,1.11)*			
Qld	0.89(0.82,0.97)*	1.07(1.04,1.09)*			
WA	1.27(1.16,1.39)*	1.00(0.97,1.03)			
SA	1.17(1.02,1.34)*	1.04(1.00,1.08)*			
Tas	0.78(0.61,1.00)*	1.14(1.07,1.21)*			
ACT	1.03(0.70,1.51)	0.97(0.90,1.04)			
NT	1.15(1.04,1.28)*	0.99(0.90,1.09)			
Baby Gender					
Male	REF	REF	7.0	8.0	n.a
Female	1.15(1.08,1.23)*	1.18(1.16,1.20)*			

* significant at $p < 0.05$ level.

(a) Population Attributable Fraction (PAF) = Burden (%).

(b) Potential Impact Fraction (PIF) = Gap (%).

(c) Include non-Indigenous mothers and mothers for whom Indigenous status was not stated.

(d) Smoking during pregnancy data were not available in Victoria.

(e) Based on SEIFA Index of Relative Socioeconomic Advantage and Disadvantage 2006, population-based, using Australian cut-offs.

(f) Data are by place of usual residence of the mother. Table excludes Australian non-residents, residents of external territories and not stated State/Territory of residence.

Source: NPESU analysis of National Perinatal Data Collection.

Table 1.01.06B: Adjusted burden and gap analysis of low birthweight among live born babies by selected maternal characteristics and Indigenous status, 2006–2008

	Adjusted RR (95% CI)		Adjusted PAF(a)(b)		Adjusted PIF(a)(c)
	Indigenous	Other(d)	Indigenous	Other(d)	
Age of mother					
<20	0.98(0.89,1.08)	1.06(1.02,1.11)*	–0.8	2.3	n.a
20–24	0.98(0.89,1.07)	1.05(1.02,1.08)*			
25–29	REF	REF			
30–34	0.97(0.87,1.07)	0.99(0.97,1.02)			
35+	1.09(0.97,1.23)	1.07(1.05,1.10)*			
Smoking during pregnancy(d)					
Yes	1.66(1.54,1.78)*	1.67(1.63,1.71)*	25.9	9.1	18.5
No	REF	REF			
Pre-term delivery					
Yes	12.17(11.36,13.03)*	24.01(23.51,24.51)*	58.7	63.1	24.3
No	REF	REF			
Parity					
Primiparas	1.15(1.06,1.24)*	1.26(1.23,1.28)*	4.4	9.9	–1.6
Multiparas	REF	REF			
Multiple births					
Singletons	REF	REF	1.5	3.0	–0.4
Multiple births	1.62(1.46,1.79)*	1.97(1.93,2.01)*			
Socioeconomic status(e)					
Quintile 1 (least disadvantaged)	REF	REF	5.9	6.6	n.a
Quintile 2	1.03(0.83,1.27)	1.03(1.00,1.06)*			
Quintile 3	1.05(0.86,1.29)	1.07(1.04,1.11)*			
Quintile 4	1.07(0.88,1.30)	1.11(1.08,1.15)*			
Quintile 5 (most disadvantaged)	1.07(0.89,1.30)	1.13(1.10,1.17)*			
Remoteness					
Major cities and inner/outer regions	REF	REF	2.2	0.2	n.a
Remote and very remote regions	1.08(0.99,1.18)	1.09(1.02,1.17)*			

(continued)

Table 1.01.06B: Adjusted burden and gap analysis of low birthweight among live born babies by selected maternal characteristics and Indigenous status, 2006–2008

	Adjusted RR (95% CI)		Adjusted PAF(a)(b)		Adjusted PIF(a)(c)
	Indigenous	**Other(d)**	**Indigenous**	**Other(d)**	
State(f)					
NSW	REF	REF	–1.4	–6.2	n.a
Vic	1.06(0.87,1.30)	0.87(0.81,0.93)*			
Qld	0.91(0.83,0.99)*	0.93(0.91,0.96)*			
WA	1.10(1.00,1.22)	0.94(0.91,0.97)*			
SA	0.99(0.86,1.14)	0.93(0.90,0.97)*			
Tas	0.88(0.69,1.12)	0.94(0.88,1.00)*			
ACT	0.92(0.62,1.37)	1.02(0.94,1.10)			
NT	0.99(0.87,1.12)	0.95(0.86,1.06)			
Baby Gender					
Male	REF	REF	8.5	10.4	n.a
Female	1.19(1.12,1.27)*	1.24(1.22,1.26)*			

* significant at $p < 0.05$ level.

(a) Adjusted for age and all other factors in table.

(b) Population Attributable Fraction (PAF) = Burden (%).

(c) Potential Impact Fraction (PIF) = Gap (%).

(d) Include non-Indigenous mothers and mothers for whom Indigenous status was not stated.

(e) Smoking during pregnancy data were not available in Victoria.

(f) Based on SEIFA Index of Relative Socioeconomic Advantage and Disadvantage 2006, population-based, using Australian cut-offs.

(g) Data are by place of usual residence of the mother. Table excludes Australian non-residents, residents of external territories and not stated State/Territory of residence.

Source: NPESU analysis of National Perinatal Data Collection.

Mean birthweight

- In 2009, the average birthweight of liveborn babies of Indigenous mothers was 3,183 grams (Table 1.01.7). This was 298 grams lighter than the average of 3,381 grams for liveborn babies of non-Indigenous mothers in 2009.
- Note that male liveborn babies were proportionally less likely to be of low birthweight than were female babies (the average birthweight of male babies was 118 grams higher than that of female babies in 2009) (Li et al. 2011).

Time series analysis

- Over the period 1991–2009, there was no significant change in the mean birthweight of babies of Indigenous mothers. Over the same period there was a significant increase in the mean birthweight of babies of other mothers, equivalent to an increase of 0.3% over the period (Table 1.01.7).
- There was no significant change in the ratio or difference between the mean birthweight of babies born to Indigenous and other mothers over the period 1991–2009.

Table 1.01.7: Mean birthweight, ratio and difference between mean birthweight of liveborn babies of Indigenous and other mothers, 1991–2009

	Mean birthweight (grams)			
Year	Indigenous	Other[(b)]	Ratio	Difference (grams)
1991	3,158	3,367	0.9	–209.3
1992	3,177	3,373	0.9	–196.1
1993	3,180	3,374	0.9	–194.9
1994	3,170	3,375	0.9	–204.8
1995	3,181	3,376	0.9	–194.2
1996	3,163	3,378	0.9	–215.6
1997	3,168	3,375	0.9	–206.3
1998	3,187	3,382	0.9	–195.1
1999	3,169	3,380	0.9	–211.3
2000	3,176	3,384	0.9	–207.4
2001	3,168	3,382	0.9	–214.6
2002	3,165	3,378	0.9	–212.9
2003	3,160	3,380	0.9	–219.7
2004	3,159	3,381	0.9	–222.5
2005	3,155	3,376	0.9	–221.7
2006	3,168	3,377	0.9	–209.4
2007	3,178	3,382	0.9	–203.6
2008	3,196	3,384	0.9	–188.1
2009	3,183	3,381	0.9	–197.7
Annual change[(a)]	0.23	0.52*	0.00	–0.29
Per cent change	0.1	0.3	–0.1	2.5

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 1991–2009.

(a) Average annual change in number and proportion of low birthweight babies determined using linear regression analysis.

(b) Includes non-Indigenous mothers and mothers for whom Indigenous status was not stated.

Note: Excludes Tasmania and the Australian Capital Territory as data from these jurisdictions are not considered stable enough to be included in trend analyses mainly because of small population size and some issues with data quality over the reporting period (AIHW: Leeds et al. 2007).

Source: AIHW (unpublished) National Perinatal Data Collection.

Indigenous children born weighing less than 2500 grams

- According to the NATISS, in 2008 6,029 Indigenous children aged 0–3 years were born weighing less than 2,500 grams. New South Wales had the lowest proportion (10%), while South Australia had the highest proportion (18%) (Table 1.01.8).
- In 2008, the proportion of Indigenous children aged 0–3 years who were born weighing less than 2500 grams was similar in non-remote and remote areas (both 13%) (Table 1.01.9).

Table 1.01.8: Number and proportion of Indigenous children aged 0–3 years born weighing less than 2500 grams, by state/territory, 2008

	Number	Proportion
NSW	1,509[(a)]	10.0[(a)]
Vic	495	15.1
Qld	1,826[(a)]	11.5[(a)]
WA	848	15.6
SA	470	18.4
Tas	282[(a)]	15.6[(a)]
ACT	61[(a)]	15.4[(a)]
NT	538	16.2
Total	**6,029**	**12.6**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Note: Proportions exclude not known and not collected responses.

Source: 2008 NATSISS.

Table 1.01.9: Number and proportion of Indigenous children aged 0–3 years born weighing less than 2500 grams, by Remoteness Area, 2008

	Number	Proportion
Major cities	2,560	15.8
Inner regional	973[(a)]	7.9[(a)]
Outer regional	1,441	13.2
Total non-remote	*4,975*	*12.6*
Remote	529[(a)]	14.5[(a)]
Very remote	525	11.5
Total remote	*1,055*	*12.8*
Total	**6,029**	**12.6**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Note: Proportions exclude not known and not collected responses

Source: 2008 NATSISS.

High birthweight

High birthweight is defined here as babies born weighing 4,000 grams or more.

National Perinatal Data Collection

- In 2007–2009 the proportion of high birthweight liveborn babies born to Indigenous mothers in Australia was 8.6%. This compared with 12.2% of babies born of high birthweight to non-Indigenous mothers (AIHW: NPESU unpublished data).

Healthy for Life data collection

- In 2009–2010 the proportion of high birthweight liveborn babies born to Indigenous mothers living in remote areas of Australia was 1.9%. This compared with 3.5% of babies born of high birthweight to Indigenous mothers living in non-remote areas (Table 1.01.10).

Table 1.01.10: Number and proportion of Indigenous babies[(a)] who had a low, normal and high birthweight, by remoteness, 1 July 2009–30 June 2010

Birth weight	Non-remote[(b)] %	Remote[(c)] %	Total %
Low birth weight[(d)]	12.0*	15.5*	13.3
Normal Birth weight[(e)]	84.5*	82.6*	83.8
High Birth weight[(f)]	3.5*	1.9*	2.9
Total number of Indigenous babies	**1,177**	**701**	**1,878**

* Represents results with statistically significant differences between non remote and remote categories in low birth weight, normal birth weight or high birth weight percentages.

(a) Indigenous babies born in the current reporting period to women who were regular clients of the HfL service.
(b) Includes Major cities, Inner Regional and Outer Regional areas.
(c) Includes remote and very remote areas.
(d) Low birth weight is <2,500g.
(e) Normal birth weight is 2,500–4,499g.
(f) High birth weight is 4,500g and over.

Notes

1. Valid data for this indicator were provided by 65 services (5 in Major Cities of Australia, 13 in Inner Regional Australia, 23 in Outer Regional Australia, 13 in Remote Australia and 11 in Very Remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

International comparisons

International Indigenous data are available for Indigenous persons from New Zealand, the United States and Canada using the WHO definition of low birthweight.

International statistics on liveborn low birthweight show that Indigenous mothers in Canada and the United States have lower rates of low birthweight babies than the general population, and Indigenous mothers in New Zealand have slightly higher rates of low birthweight babies than the general population, but the gap is not as great as for Aboriginal and Torres Strait Islander Australians. In Australia over the period 2007–2009, babies of Aboriginal or Torres Strait Islander mothers are more than twice as likely to be of low birthweight as babies born to non-Indigenous Australian mothers (12% compared with 6%).

The latest available data from the United States, Canada and New Zealand are outlined below. Note that the Canadian data exclude births less than 500 grams because of changes over time in the quality of reporting babies' birthweight less than 500 grams. This definition is different from Australia's criteria—including all live births and stillbirths of at least 400 grams birthweight or at least 20 weeks gestation.

- For the period 2005–2007, 7.4% of liveborn babies born to American Indian or Alaskan native mothers on reserves were of low birthweight, compared with 8.2% of babies born to non-Indigenous mothers in the United States (National Center for Health Statistics, unpublished data).
- For the period 2001–2002, 5.7% of Canadian First Nation liveborn babies were of low birthweight which was the same as the 2001 total Canadian rate of 5.5% (Health Canada unpublished data; Health Canada 2005).
- For the period 2008–2010, 6.7% of liveborn babies born to Maori mothers were of low birthweight, compared with 5.5% of babies born to non-Indigenous mothers in New Zealand (Statistics New Zealand unpublished data).

Additional information

Risk factors for low birthweight

There are a range of factors that can affect a baby's birthweight. Low birthweight babies may also be the result of pre-term birth, fetal growth restriction, or a combination of the two, or other factors such as socioeconomic status, the size and age of the mother, the number of babies previously born to the mother, the mother's nutritional status, smoking and other risk factors such as the use of alcohol, illness during pregnancy, multiple births and the duration of pregnancy (Horta et al. 1997; Kramer 1998). Data on some of these risk factors for low birthweight are presented below for Indigenous and non-Indigenous mothers.

- Aboriginal and Torres Strait Islander mothers smoke during pregnancy at around three times the rate of non-Indigenous mothers (see Indicator 2.19 for more information on smoking during pregnancy).
- Indigenous females are more likely to have babies at younger ages than non-Indigenous females. In 2009, 19.6% of Aboriginal and Torres Strait Islander mothers were aged less than 20 years compared with 3.4% of non-Indigenous mothers (Li et al. 2011). Teenage pregnancies are associated with a number of adverse reproductive outcomes, including low birthweight (Chen et. al. 2007).
- Indigenous mothers have a higher rate of pre-term birth (gestational age of less than 37 weeks) compared with non-Indigenous mothers (13.1% compared with 8.0% in 2009) (Li et al. 2011).
- Indigenous mothers are more likely to have had a higher number of previous pregnancies. In 2009, 27.2% of Aboriginal and Torres Strait Islander mothers had given birth three or more times previously. This compared with 9.8% of total Australian mothers (Li et al. 2011).

Data quality issues

National Perinatal Data Collection

Births

Birth notification forms are completed for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more. The Perinatal National Minimum Data Set includes all births in Australia in hospitals, birth centres and the community.

Indigenous status question

A standard data item for Indigenous status is specified in the Perinatal National Minimum Data Set. While each jurisdiction has a unique perinatal form for collecting data on which the format of the Indigenous status question and recording categories varies slightly, all systems include the NMDS item on Indigenous status.

Since 2005, all jurisdictions collect information on Indigenous status of the mother in accordance with the NMDS. A data item on Indigenous status of the baby was added to the Perinatal National Minimum Data Set from 1 July 2012.

Under-identification

Data presented by Indigenous status are influenced by the quality and completeness of Indigenous identification of mothers which is likely to differ among jurisdictions and comparisons between states and territories should be interpreted with caution. No formal national assessment has been undertaken to determine completeness of the coverage of Indigenous mothers in the Perinatal NMDS. However, the proportion of Indigenous mothers for the period 2001–2010 has been consistent, at 3.6–3.9% of women who gave birth. Approximately 0.3% of mothers who gave birth in 2009 had missing Indigenous status information. Mothers for whom Indigenous status was not stated have been excluded from analyses. No adjustments have been made for under-identification or missing information.

In 2007, the NPESU, in collaboration with the AIHW’s Aboriginal and Torres Strait Islander Health and Welfare Unit, released a report on Indigenous mothers and their babies in each state and territory. This report was based on a survey which was sent to the midwifery managers across Australia to determine how many hospitals in each jurisdiction obtain Indigenous status information of mothers giving birth from admission records and how many collect this information independently. The assessment also involved analysis of the variability in the number and proportion of mothers recorded as Indigenous in the perinatal data collection over time and across jurisdictions for the period 1991–2004. The outcomes of this assessment showed that Indigenous status data from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are suitable for trends analysis. Perinatal data from the ACT and Tasmania, although improving, were deemed to be of insufficient quality. This project included an assessment of Indigenous status data quality (AIHW: Leeds et al. 2007).

All jurisdictions are working towards improving the quality of Indigenous status data in their perinatal data collections.

State/territory data

Analysis by state/territory is based on the usual residence of the mother unless otherwise stated. Data excludes Australian non-residents of external territories and where the state/territory of residence was not stated.

Data on Indigenous status are not reported for Tasmania before 2005 because the ‘not stated’ category for Indigenous status was included with the non-Indigenous category.

International comparisons

International Indigenous data are available for New Zealand, the United States and Canada using the WHO definition of low birthweight. These data are subject to similar data quality issues experienced in Australia around the accuracy of identification. The Canadian data exclude births less than 500 grams because of changes over time in the quality of reporting babies' birthweight less than 500 grams. This definition is different from Australia's criteria—including all live births and stillbirths of at least 400 grams birthweight or at least 20 weeks gestation.

The scope of data collections in Canada and the United States is often limited to the registered or reserve Indigenous populations and therefore does not cover the whole Indigenous population. International comparisons need to take into account that the definition of Indigenous status is specific to each country.

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

Healthy for Life data

For the July 2009 to June 2010 reporting period, 79 services submitted data as part of the Healthy for Life (HfL) Program.

Services started submitting their data through an electronic interface (OSCAR) for the February 2008 reporting period. This has improved the quality of data submitted.

Not all of the services were able to provide data for all of the essential indicators and service profile questions included in the HfL data collection. The number of services that were able to provide data varies across the qualitative and quantitative indicators.

There has been an upward trend in the proportion of services that reported on each of the indicators over time, particularly compared with the first reporting period ending June 2007. All of the services reporting provided data for all of the EIs in the period ending December 2009. This proportion decreased slightly in the current reporting period ending June 2010. This may be because services need to report against fewer EIs and do not need to provide most qualitative data in periods ending in December, unlike in annual reporting periods ending in June. The current period had higher proportions of services that reported against most EIs than the previous annual collection period ending June 2009.

In general, the data quality improved noticeably between the period ending June 2008 and the period ending June 2009. The overall level of data quality remained similar in the current period, though there was a different pattern of data quality issues.

The current period ending June 2010 had a different distribution of data quality issues than the previous period. No services had inconsistencies between related indicators, however the number of services with missing data and data out of the expected range increased. The latter might be due to more stringent data checking procedures employed by the AIHW during the current period.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.02 Top reasons for hospitalisation

Hospital admissions for the leading ICD-10-AM (International Classification of Diseases) categories for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and rate ratio

Data sources

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).

- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Analyses

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Hospitalisations

- In the 2-year period July 2008 to June 2010 there were a total of 15,666,685 hospitalisations in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined. Of these, 589,936 or 3.8% were hospitalisations of Indigenous Australians (Table 1.02.5).
- Excluding hospitalisations for dialysis, there were 13,598,803 hospitalisations in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, and 331,384 (2.4%) of these were for Indigenous Australians (Table 1.02.2).
- After adjusting for Indigenous under-identification, there were 370,147 hospitalisations excluding dialysis in Australia for Indigenous persons. Indigenous Australians represented 2.7% of all hospitalisations excluding dialysis in Australia.

Hospitalisations by age and sex

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, when hospitalisations for dialysis are excluded, Indigenous males and females had higher hospitalisation rates than non-Indigenous males across all age groups with the exception of those aged 65 years and over (Table 1.02.1).
- The greatest rate ratios between Indigenous and non-Indigenous hospitalisations occurred in the 35–44 year age group for males and in the 15–24 year age group for females, at 2.0 times and 1.8 times respectively. The greatest rate differences between Indigenous and non-Indigenous hospitalisations occurred in the 35–44 and 45–54 year age groups for males (190 and 199 per 1,000), and in the 15–24 year age group for females (163 per 1,000).

Table 1.02.1: Age-specific hospitalisation rates (excluding dialysis) (per 1,000 population), by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)]

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+	All ages Crude	All ages Age std.[(d)]
Males										
Indigenous	362.0	113.4	145.9	232.6	374.2	464.6	555.5	824.8	271.7	378.3
Non-Indigenous	253.9	92.8	122.9	133.1	183.8	265.7	454.4	923.6	294.7	291.4
Rate ratio[(e)]	1.4	1.2	1.2	1.7	2.0	1.7	1.2	0.9	0.9	1.3
Rate difference[(f)]	108.2	20.6	22.9	99.4	190.4	198.9	101.1	–98.7	–23.0	86.9
Females										
Indigenous	288.7	93.3	376.5	490.6	436.1	460.7	556.9	770.2	357.2	440.4
Non-Indigenous	193.5	74.0	213.2	349.1	319.9	310.4	426.1	779.0	350.7	331.6
Rate ratio[(e)]	1.5	1.3	1.8	1.4	1.4	1.5	1.3	1.0	1.0	1.3
Rate difference[(f)]	95.2	19.3	163.3	141.5	116.2	150.3	130.8	–8.8	6.4	108.8
Persons										
Indigenous	326.2	103.6	258.3	362.0	406.4	462.6	556.3	793.7	314.6	408.5
Non-Indigenous	224.5	83.7	166.7	240.2	252.3	288.2	440.2	844.9	322.8	310.2
Rate ratio[(e)]	1.5	1.2	1.5	1.5	1.6	1.6	1.3	0.9	1.0	1.3
Rate difference[(f)]	101.7	19.9	91.6	121.8	154.2	174.3	116.1	–51.3	–8.2	98.3

(a) Data excludes private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(d) Directly age-standardised using the Australian 2001 standard population.

(e) Rate ratio Indigenous: non-Indigenous Australians.

(f) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 1.02.2 presents hospitalisations excluding dialysis for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Data for Tasmania and the Australian Capital Territory are also included with caveats, along with national level data. Table 1.02.3 presents national level data that is unadjusted and adjusted for Indigenous under-identification, data are adjusted by applying a weighted correction factor of 1.09, which suggests that the 'true' number of records for Indigenous persons was about 9% higher than indicated in the hospital separations data, for further information see *Indigenous identification in hospitals separations data* (AIHW 2013).

- Over the period July 2008 to June 2010, excluding hospitalisations for dialysis, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised at 1.3 times the rate of non-Indigenous Australians.

- In the jurisdictions with adequate data quality (New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory), the highest hospitalisation rates for Indigenous Australians were in Western Australia and South Australia (481 and 478 per 1,000 population respectively), followed by the Northern Territory (457 per 1,000). The lowest rate was in Victoria (342 per 1,000).
- Indigenous Australians were hospitalised (excluding dialysis) at a similar rate to non-Indigenous Australians in Victoria, and between 1.1 and 1.4 times the rate of non-Indigenous Australians in Tasmania, New South Wales, Queensland and the Australian Capital Territory. In Western Australia and South Australia, Indigenous Australians were hospitalised at 1.5 and 1.6 times the rate of non-Indigenous Australians respectively; and in the Northern Territory, Indigenous Australians were hospitalised at more than twice the rate of non-Indigenous Australians (Tables 1.02.2). These differences may partly reflect jurisdictional differences in the level of Indigenous under-identification and therefore should be interpreted with caution.
- When hospitalisation rates are adjusted at the national level for Indigenous under-identification, Indigenous persons were hospitalised at 1.4 times the rate of Other Australians (Table 1.02.3).

Table 1.02.2: Hospitalisations (excluding dialysis), by Indigenous status, sex and jurisdiction, July 2008–June 2010[a][b][c][d]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[e]	Number	Rate per 1,000[e]	Ratio[f]	Difference[g]
NSW						
Males	39,098	325.9	1,925,382	272.7	1.2*	53.2*
Females	49,662	377.9	2,296,119	304.8	1.2*	73.1*
Persons	88,760	351.6	4,221,521	287.8	1.2*	63.8*
Vic						
Males	7,825	307.9	1,709,785	316.3	1.0	-8.4
Females	10,908	377.7	2,112,171	365.1	1.0*	12.5*
Persons	18,733	341.7	3,822,026	339.2	1.0	2.5
Qld						
Males	39,165	392.5	1,267,345	298.1	1.3*	94.4*
Females	53,455	446.4	1,500,474	340.7	1.3*	105.7*
Persons	92,620	417.7	2,767,819	318.3	1.3*	99.4*
WA						
Males	24,840	437.9	635,379	296.0	1.5*	142.0*
Females	32,391	525.0	744,146	338.5	1.6*	186.5*
Persons	57,232	480.8	1,379,526	315.2	1.5*	165.6*
SA						
Males	9,478	441.9	463,355	275.5	1.6*	166.4*
Females	12,662	516.1	555,644	314.2	1.6*	201.8*
Persons	22,141	478.2	1,019,026	293.3	1.6*	184.9*
NT						
Males	22,084	426.1	29,193	206.2	2.1*	212.0*
Females	29,814	491.0	28,308	206.8	2.4*	284.2*
Persons	51,898	457.1	57,501	207.3	2.2*	249.8*
NSW, Vic, Qld, WA, SA and NT[h]						
Males	142,490	378.3	6,030,439	291.4	1.3*	86.9*
Females	188,892	440.4	7,236,862	331.6	1.3*	108.8*
Persons	331,384	408.5	13,267,419	310.2	1.3*	98.3*
Tas						
Males	2,041	161.0	76,968	150.6	1.1*	10.5*
Females	3,022	183.2	86,392	167.5	1.1*	15.7*
Persons	5,063	172.2	163,363	158.8	1.1*	13.4*
ACT						
Males	718	192.9	48,656	152.6	1.3*	40.2*
Females	970	262.7	59,347	170.9	1.5*	91.8*
Persons	1,688	227.0	108,003	161.5	1.4*	65.5*

(continued)

Table 1.02.2 (continued): Hospitalisations (excluding dialysis), by Indigenous status, sex and jurisdiction, July 2008–June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
Australia[(i)]						
Males	**146,077**	**369.4**	**6,181,883**	**286.8**	**1.3***	**82.6***
Females	**193,505**	**430.7**	**7,406,410**	**326.3**	**1.3***	**104.4***
Persons	**339,584**	**399.3**	**13,588,414**	**305.3**	**1.3***	**94.0***

* Represents results with statistically significant differences in the Indigenous/Non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: Non-Indigenous.

(g) Rate difference Indigenous minus Non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions

(i) Includes all separations in all eight states and territories, including the Australian Capital Territory and Tasmania; Other Territories and Residence State not applicable (e.g. overseas, at sea, no fixed address).

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 1.02.3: Adjusted hospitalisations (excluding dialysis), by Indigenous status and sex, Australia, July 2008–June 2010(a)(b)(c)(d)(e)

	Indigenous		Other Australians			
	Number	**Rate per 1,000(f)**	**Number**	**Rate per 1,000(f)**	**Ratio(g)**	**Difference(h)**
Australia						
Males	146,077	369.4	6,346,497	294.7	1.3*	74.7*
Females	193,505	430.7	7,587,173	334.1	1.3*	96.6*
Persons	**339,584**	**399.3**	13,933,798	313.1	1.3*	86.2*
Adjusted Australia(i)						
Males	159,224	403.9	6,333,350	294.1	1.4*	109.8*
Females	210,920	470.1	7,569,758	333.3	1.4*	136.8*
Persons	**370,147**	**436.2**	**13,903,235**	**312.4**	**1.4***	**123.8***

* Represents results with statistically significant differences in the Indigenous/Other Australian comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised by 5 year age groups to 75+.

(e) Includes all separations in all eight states and territories, including the Australian Capital Territory and Tasmania; Other Territories and Residence State not applicable (e.g. overseas, at sea, no fixed address).

(f) Directly age-standardised using the Australian 2001 standard population.

(g) Rate ratio Indigenous: Other.

(h) Rate difference Indigenous minus Other.

(i) These jurisdictions hospitalisation numbers and rates have been adjusted for Indigenous under-identification using a national adjustment factor of 1.09. This factor was derived from a study undertaken by the AIHW in 2011 & 2012 which assessed the level of Indigenous under-identification in hospital data in all states and territories by comparing information gathered from face-to face interviews in public hospitals with results from hospital records. By applying this factor, the number of Indigenous hospitalisations was increased by 9% and these additional hospitalisations then subtracted from the number of hospitalisations for Other Australians. For further information see *Indigenous identification in hospitals separations data* (AIHW 2013).

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness area

Hospitalisation rates for all conditions excluding dialysis in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 1.02.4, covering the period July 2008 to June 2010.

- Across all remoteness areas, Indigenous Australians were more likely to be hospitalised for all conditions excluding dialysis than non-Indigenous Australians. The greatest disparity was for persons living in remote areas, in which Indigenous Australians were hospitalised at twice the rate of non-Indigenous Australians. In major cities there was only a very minor difference in rates between the two population groups (ratio of 1.02) although statistically significant.
- Rates of hospitalisations per 1,000 population were highest for Indigenous people living in remote areas, at 596.5 per 1,000, and were lowest for Indigenous people living in in major cities (318. 6 per 1,000). This may partly reflect differences in Indigenous identification across the remoteness areas.

Table 1.02.4: Hospitalisations (excluding dialysis) by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)(e)(f)

	Indigenous				Non-Indigenous					
	Number	**No. per 1,000**	**LCL 95%(g)**	**UCL 95%(h)**	**Number**	**No. per 1,000**	**LCL 95%(g)**	**UCL 95%(h)**	**Ratio(i)**	**Difference(j)**
Major cities	81,860	318.6	315.9	321.3	9,256,937	311.4	311.2	311.6	1.02*	7.2*
Inner regional	61,388	384.4	380.7	388.2	2,658,353	316.2	315.8	316.6	1.2*	68.2*
Outer regional(k)	75,878	436.7	433.0	440.4	1,141,938	299.4	298.8	299.9	1.5*	137.3*
Remote(l)	49,063	596.5	590.2	602.7	153,660	291.9	290.4	293.4	2.0*	304.6*
Very remote	62,515	434.7	430.7	438.7	48,962	297.4	294.7	300.2	1.5*	137.3*
Total(m)	**331,384**	**404.0**	**402.3**	**405.6**	**13,267,419**	**310.3**	**310.1**	**310.5**	**1.3***	**93.7***

* Represents results with statistically significant differences in the Indigenous/Non-Indigenous comparisons at the p < 0.05 level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010)

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria

(l) Excludes remote Victoria

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008-10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by principal diagnosis

Table 1.02.5 presents data on the most common principal diagnoses for hospitalisations involving Aboriginal and Torres Strait Islander people for the 2-year period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- In absolute terms, the most common principal diagnosis among Indigenous Australians was care involving dialysis (43.8%), followed by injury and poisoning (7.5%), pregnancy and child birth (6.7%), diseases of the respiratory system (6%) and diseases of the digestive system (4.8%). However, when the younger age structure of the Indigenous population is taken into account, circulatory disease becomes a significant cause of hospitalisation among Indigenous people.
- Indigenous Australians were hospitalised at 11 times the rate of non-Indigenous Australians for dialysis and almost 3 times the rate of non-Indigenous Australians for respiratory diseases and endocrine, nutritional and metabolic diseases (mainly diabetes).
- The greatest difference in hospitalisation rates between Indigenous and non-Indigenous Australians was for care involving dialysis (406 per 1,000), diseases of the respiratory system (27 per 1,000), injury and poisoning (23 per 1,000) and diseases of the circulatory system (14 per 1,000).

Table 1.02.5: Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d]

	Number		Per cent		Indigenous			Non-Indigenous				
Principal diagnosis	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**No. per 1,000**[e]	**95% LCL**[f]	**95% UCL**[g]	**No. per 1,000**[e]	**95% LCL**[f]	**95% UCL**[g]	**Ratio**[h]	**Difference**[i]
Injury & poisoning & certain other consequences of external causes	44,067	986,474	7.5	6.5	46.9	46.3	47.4	23.5	23.5	23.5	2.0*	23.4*
Pregnancy, childbirth and the puerperium[j]	39,408	873,827	6.7	5.8	33.0	32.6	33.3	21.8	21.8	21.9	1.5*	11.1*
Diseases of the respiratory system	35,343	668,657	6.0	4.4	43.2	42.6	43.8	16.0	15.9	16.0	2.7*	27.3*
Diseases of the digestive system	28,494	1,582,973	4.8	10.5	36.1	35.5	36.6	37.1	37.0	37.1	0.97*	-1.0*
Symptoms, signs and abnormal clinical and laboratory findings	26,195	1,034,990	4.4	6.9	36.0	35.5	36.6	24.0	24.0	24.1	1.5*	12.0*
Mental and behavioural disorders	23,438	594,910	4.0	3.9	25.8	25.4	26.1	14.2	14.2	14.2	1.8*	11.6*
Diseases of the circulatory system	17,928	880,612	3.0	5.8	33.9	33.3	34.4	19.8	19.8	19.9	1.7*	14.0*
Diseases of the genitourinary system	14,361	717,000	2.4	4.8	20.0	19.6	20.4	16.9	16.8	16.9	1.2*	3.1*
Diseases of the skin & subcutaneous tissue	12,648	241,332	2.1	1.6	13.2	13.0	13.5	5.7	5.7	5.7	2.3*	7.5*
Certain infectious and parasitic diseases	10,842	223,030	1.8	1.5	11.3	11.0	11.6	5.3	5.3	5.3	2.1*	5.9*
Endocrine, nutritional and metabolic diseases	12,088	299,089	2.0	2.0	20.0	19.6	20.5	6.9	6.9	6.9	2.9*	13.1*
Other[k]	66,541	5,155,949	11.3	34.2	89.2	88.3	90.0	118.8	118.7	118.9	0.8*	-29.6*
Subtotal	*331,353*	*13,258,843*	*56.2*	*87.9*	*408.5*	*406.7*	*410.2*	*310.0*	*309.9*	*310.2*	*1.3**	*98.5**
Care involving dialysis	258,552	1,809,330	43.8	12.0	446.8	444.9	448.7	40.9	40.8	40.9	10.9*	405.9*
Total[l]	**589,936**	**15,076,749**	**100.0**	**100.0**	**855.3**	**852.8**	**857.9**	**351.1**	**350.9**	**351.3**	**2.4***	**504.2***

(continued)

Table 1.02.5 (continued): Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

* Represents results with statistically significant differences in the Indigenous/Non-Indigenous Australian comparisons at the $p < 0.05$ level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions

(e) Directly age-standardised using the Australian 2001 standard population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio Indigenous: Non-Indigenous Australians.

(i) Rate difference Indigenous minus non-Indigenous Australians.

(j) Rates and rate ratios are for females only.

(k) Includes: diseases of the musculoskeletal system and connective tissue; neoplasms; diseases of the nervous system; certain conditions originating in the perinatal period; diseases of the ear and mastoid process; diseases of the eye and adnexa; diseases of the blood and blood-forming organs and certain disorders involving the immune system; congenital malformations, deformations and chromosomal abnormalities; and factors influencing health status and contact with health services (except dialysis).

(l) Includes hospitalisations for which no principal diagnosis was recorded.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by additional diagnosis

Table 1.02.6 presents hospitalisations for selected principal diagnoses by additional diagnoses, for Aboriginal and Torres Strait Islander people in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- For the 2-year period July 2008 to June 2010, the majority of hospitalisations with a principal diagnosis of care involving dialysis were reported with an additional diagnosis of diseases of the genitourinary system (40%) or endocrine, nutritional and metabolic disorders (11%).
- Of hospitalisations with a principal diagnosis of injury and poisoning, 23% were reported with an additional diagnosis of mental and behavioural disorders.
- Hospitalisations with a principal diagnosis of circulatory diseases were most commonly reported with an additional diagnosis of endocrine, nutritional and metabolic diseases (37%). Similarly, hospitalisations with a principal diagnosis of endocrine, nutritional and metabolic diseases were commonly reported with an additional diagnosis of diseases of the circulatory system (50.1%).

Table 1.02.6: Hospitalisations of Indigenous persons: principal diagnosis chapter by additional diagnosis chapter of hospitalisation, NSW, Vic, Qld, WA, SA, and NT, July 2008 to June 2010(a)(b)(c)(d)

	Principal diagnosis														
Additional diagnosis of hospitalisation	**Dialysis (Z49)**	**Injury & poisoning (S00-T98)**	**Pregnancy (O00-O99)**	**Respiratory (J00-J99)**	**Digestive (K00-K93)**	**Abnormal findings (R00-R99)**	**Mental disorders (F00-F99)**	**Circulatory (I00-I99)**	**Genito-urinary (N00-N99)**	**Skin (L00-L99)**	**Infectious (A00-B99)**	**Endocrine (E00-E90)**	**Other(e)**	***Total (excl. dialysis)***	**Total**
	Per cent														
Genitourinary diseases (N00–N99)	39.7	5.8	4.1	7.9	5.9	7.5	2.2	17.7	24.3	5.5	18.3	44.9	6.4	9.1	22.5
Endocrine, nutritional & metabolic (E00–E90)	11.2	7.6	3.2	16.5	12.0	13.4	5.6	37.0	14.6	12.2	36.9	61.7	9.3	14.1	12.8
Diseases of the circulatory system (I00–I99)	3.2	7.2	1.6	12.9	10.8	13.6	3.1	60.7	11.2	8.7	12.9	50.1	9.2	12.9	8.7
Mental and behavioural disorders (F00–F99)	0.0	22.5	3.6	10.3	16.3	14.4	50.8	10.0	5.1	6.4	6.4	10.0	7.0	13.6	7.7
Infectious and parasitic diseases (A00–B99)	0.0	9.6	5.8	13.8	7.5	5.8	3.0	7.9	23.8	47.5	20.3	18.3	7.1	10.8	6.1
Symptoms, signs and abnormal findings (R00–R99)	0.0	8.4	6.0	10.6	9.1	16.7	16.8	14.6	9.3	6.7	16.1	15.6	9.5	10.7	6.0
Injury & poisoning (S00-Y98)	0.1	42.1	0.6	2.2	2.8	2.7	6.4	4.6	3.2	14.8	4.0	6.8	6.3	9.4	5.3
Pregnancy, childbirth (O00-O99)	0.0	0.2	54.7	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.3	6.7	3.7
Digestive diseases (K00-K93)	0.0	3.4	2.2	3.9	25.0	7.9	3.8	6.3	5.2	2.7	7.4	9.6	5.2	6.5	3.6

(continued)

Table 1.02.6 (continued): Hospitalisations of Indigenous persons: principal diagnosis chapter by additional diagnosis chapter of hospitalisation, NSW, Vic, Qld, WA, SA, and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Principal diagnosis														
Additional diagnosis of hospitalisation	**Dialysis (Z49)**	**Injury & poisoning (S00-T98)**	**Pregnancy (O00-O99)**	**Respiratory (J00-J99)**	**Digestive (K00-K93)**	**Abnormal findings (R00-R99)**	**Mental disorders (F00-F99)**	**Circulatory (I00-I99)**	**Genito-urinary (N00-N99)**	**Skin (L00-L99)**	**Infectious (A00-B99)**	**Endocrine (E00-E90)**	**Other[(e)]**	***Total (excl. dialysis)***	**Total**
	Per cent														
Respiratory diseases (J00-J99)	0.0	2.8	2.0	20.1	3.7	4.5	2.6	11.6	4.0	2.7	11.4	8.7	4.7	6.1	3.5
Skin diseases (L00-L99)	0.0	4.4	0.6	3.2	1.9	1.6	1.5	3.4	2.8	18.5	9.5	13.6	3.3	3.9	2.2
Care involving dialysis (Z49)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2	1.3	0.1	0.1	0.4	0.0	0.1	0.1
Other[(e)]	3.2	40.6	75.0	45.3	47.0	48.6	58.2	70.3	49.1	47.6	40.5	74.3	57.8	54.5	32.1
No additional diagnosis	59.5	25.9	7.2	31.6	32.2	28.4	18.7	12.0	25.5	21.3	26.5	9.0	30.3	23.9	39.5
Total number[(f)]	**258,552**	**44,067**	**39,408**	**35,343**	**28,494**	**26,195**	**23,438**	**17,928**	**14,361**	**12,648**	**10,842**	**12,088**	**66,541**	**331,353**	**589,905**

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Indigenous data are reported by state/territory and remoteness of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Includes: diseases of the musculoskeletal system and connective tissue; neoplasms; diseases of the nervous system; certain conditions originating in the perinatal period; diseases of the ear and mastoid process; diseases of the eye and adnexa; diseases of the blood and blood-forming organs and certain disorders involving the immune system; congenital malformations, deformations and chromosomal abnormalities; and factors influencing health status and contact with health services (except dialysis).

(f) Hospitalisations with specified additional diagnosis as a proportion of total number of hospitalisations with stated principal diagnosis.

(g) Total number of hospitalisations for each principal diagnosis.

Notes

1. Sum of components may exceed 100% as more than one additional diagnosis can be reported for each hospitalisation.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 1998–99 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2007–08 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

All hospitalisations excluding dialysis from 1998-99 to 2009-10

Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and non-Indigenous Australians over the period 1998-99 to 2009-10 for Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 1.02.7 and Figure 1.02.1.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous persons during the 12-year period 1998-99 to 2009-10. The fitted trend implies an average yearly increase in the rate of 2 per 1,000. This is equivalent to a 6% increase in the rate over the period.
- There were also significant increases in hospitalisation rates among non-Indigenous Australians during the same period, with an average yearly increase in the rate of 3 per 1,000, which is equivalent to a 14% increase in the rate over the period.
- Over the same period, there were significant decreases in the hospitalisation rate ratios between Indigenous and non-Indigenous females (8%) and persons overall (7%).
- There was a significant decrease in the hospitalisation rate differences between Indigenous and non-Indigenous females only over this period (11% decrease).

Table 1.02.7: Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), Qld, WA, SA and NT, 1998–99 to 2009–10(a)(b)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(c)	Per cent change over period(d)
Indigenous separations														
Males	36,714	36,972	37,275	38,530	38,356	39,829	39,723	42,033	41,999	45,514	46,504	49,063	1,075.4*	32.2*
Females	49,043	49,402	50,873	51,893	52,010	53,449	54,428	56,933	58,958	61,209	62,760	65,562	1,487.3*	33.4*
Persons	85,757	86,376	88,150	90,430	90,369	93,278	94,152	98,966	100,957	106,723	109,266	114,625	2,562.5*	32.9*
Non-Indigenous separations														
Males	815,928	859,751	894,213	922,313	930,191	946,446	970,422	1,040,136	1,084,362	1,131,795	1,178,224	1,217,048	35,334.6*	47.6*
Females	970,127	1,016,070	1,057,377	1,092,742	1,111,105	1,126,666	1,148,726	1,232,581	1,279,115	1,319,816	1,391,305	1,437,267	40,808*	46.3*
Persons	1,786,068	1,875,839	1,951,602	2,015,076	2,041,318	2,073,113	2,119,152	2,272,720	2,363,485	2,451,624	2,569,541	2,654,331	76,142*	46.9*
Indigenous rate per 1,000														
Males	393.0	392.3	384.6	387.6	384.4	401.5	384.9	403.0	385.8	415.3	408.2	421.6	2.5*	6.9*
Females	459.4	456.5	454.0	457.4	453.1	456.8	448.4	461.5	465.6	478.1	474.7	483.1	2.3*	5.4*
Persons	426.1	424.1	419.1	422.4	418.4	427.6	415.5	430.8	425.3	445.4	440.3	450.6	2.2*	5.8*
Non-Indigenous rate per 1,000														
Males	258.4	267.2	272.0	273.9	269.6	267.7	267.4	278.9	282.7	286.6	290.3	291.9	2.6*	11.2*
Females	284.8	293.3	299.6	303.8	302.7	300.8	300.5	315.6	320.1	322.2	331.0	333.5	4.0*	15.6*
Persons	269.8	278.5	284.3	287.4	284.7	282.8	282.6	295.8	299.9	302.9	309.2	311.2	3.3*	13.7*
Rate ratio(e)														
Males	1.5	1.5	1.4	1.4	1.4	1.5	1.4	1.4	1.4	1.4	1.4	1.4	0.00	–3.6
Females	1.6	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.4	–0.01*	–8.4*
Persons	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.4	–0.01*	–6.6*

(continued)

Table 1.02.7 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), Qld, WA, SA and NT, 1998–99 to 2009–10(a)(b)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(c)	Per cent change over period(d)
Rate difference(f)														
Males	134.6	125.1	112.6	113.7	114.8	133.8	117.4	124.1	103.1	128.7	117.8	129.7	–0.2	–1.4
Females	174.6	163.2	154.4	153.6	150.4	156.0	147.9	145.9	145.5	155.9	143.7	149.6	–1.8*	–11.1*
Persons	156.3	145.6	134.8	135.1	133.7	144.8	132.9	135.0	125.4	142.5	131.2	139.4	–1.1	–7.8

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

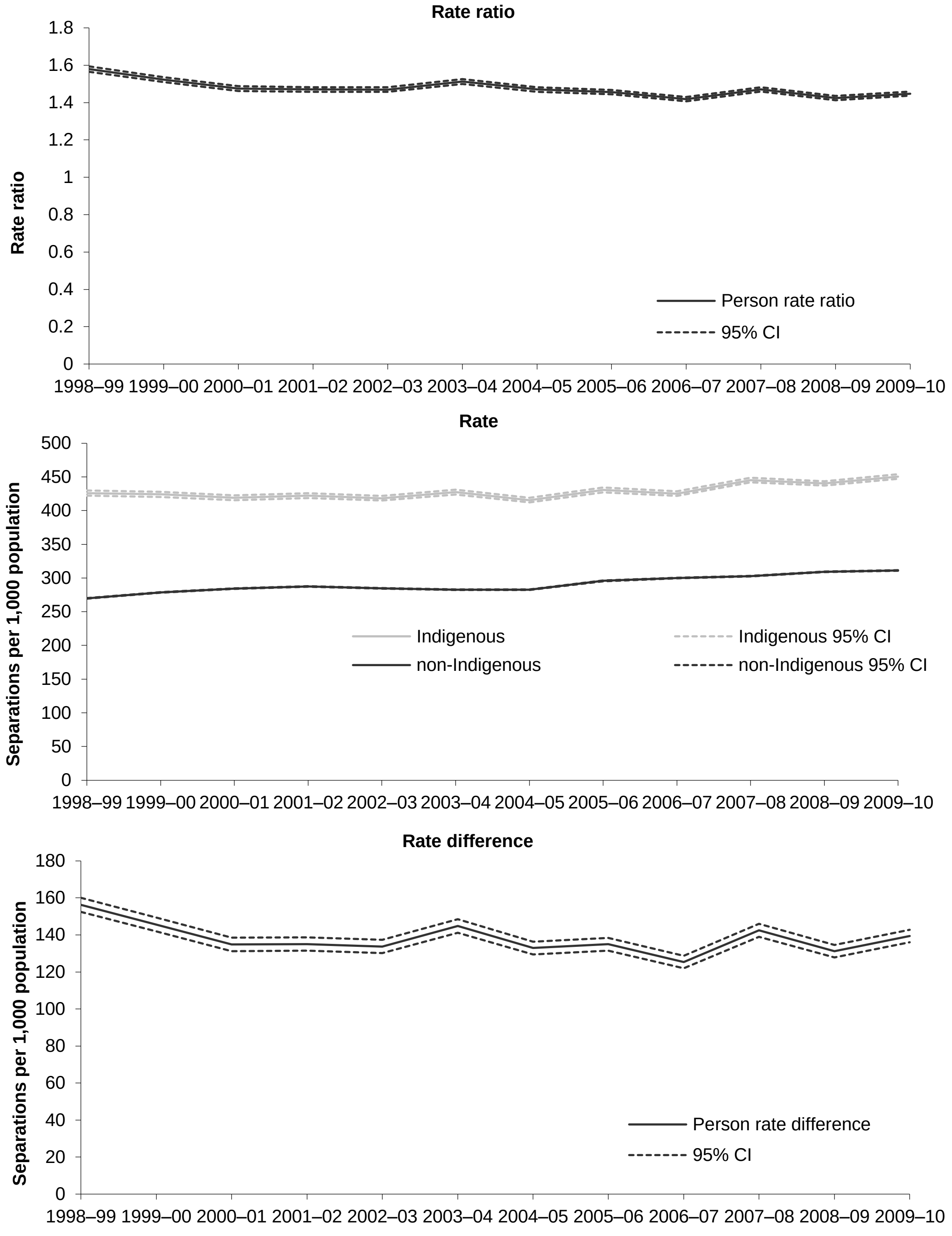
(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.
(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
(d) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.
(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Separations with a principal diagnosis of dialysis excluded.

Source: AIHW analysis of National Hospital Morbidity Database.



So: AIHW analysis of National Hospital Morbidity Database.

Figure 1.02.1: Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and non-Indigenous Australians, Qld, WA, SA and NT, 1998-99 to 2009-10

All hospitalisations excluding dialysis 2004-05 to 2009-10

Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and non-Indigenous Australians over the period 2004–05 to 2009–10 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 1.02.8 and Figure 1.02.2.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous persons during the 7-year period 2004–05 to 2009–10. The fitted trend implies an average yearly increase in the rate of over 9 per 1,000 which is equivalent to a 12.5% increase in the rate over the period. Significant increases were also observed for Indigenous males and females
- There were also significant increases in hospitalisation rates among non-Indigenous Australian persons during the same period, with an average yearly increase in the rate of over 4 per 1,000, which is equivalent to a 7% increase in the rate over the period.
- There was a significant increase in both the hospitalisation rate ratio and rate difference between Indigenous and non-Indigenous persons. The fitted trend implies an average yearly increase of over 5 per 1,000 in the rate difference, which is equivalent to a 33.5% increase over the 7-year period.

Table 1.02.8: Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10(a)(b)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(c)	Per cent change over period(d)
Indigenous separations								
Males	57,153	61,418	62,301	66,717	69,170	73,320	3,100.2*	27.1*
Females	77,192	81,530	85,570	89,105	92,253	96,639	3,798.3*	24.6*
Persons	134,350	142,949	147,871	155,822	161,425	169,959	6,897.8*	25.7*
Non-Indigenous Australian separations								
Males	2,556,298	2,672,252	2,770,756	2,866,304	2,956,249	3,074,190	101,057.1*	19.8*
Females	3,077,705	3,223,025	3,333,349	3,427,676	3,545,646	3,691,216	117,992.7*	19.2*
Persons	5,634,060	5,895,304	6,104,131	6,294,015	6,501,931	6,765,488	219,054.4*	19.4*
Indigenous rate (separations per 1,000)								
Males	337.1	355.1	347.5	368.3	370.8	385.5	8.9*	13.1*
Females	395.8	409.5	420.9	433.2	435.7	444.9	9.6*	12.1*
Persons	365.9	381.4	384.2	400.3	402.8	414.1	9.2*	12.5*
Non-Indigenous Australian rate (separations per 1,000)								
Males	274.5	281.0	284.6	287.3	289.3	293.5	3.5*	6.4*
Females	308.5	317.9	322.8	324.9	328.7	334.6	4.7*	7.6*
Persons	290.2	298.1	302.4	304.8	307.6	312.8	4.1*	7.1*
Rate ratio(e)								
Males	1.2	1.3	1.2	1.3	1.3	1.3	0.02*	6.3*
Females	1.3	1.3	1.3	1.3	1.3	1.3	0.01*	4.2*
Persons	1.3	1.3	1.3	1.3	1.3	1.3	0.01*	5.1*
Rate difference(f)								
Males	62.6	74.1	62.9	81.0	81.5	92.0	5.3*	42.7*
Females	87.3	91.6	98.2	108.3	107.0	110.4	4.9*	28.1*
Persons	75.7	83.3	81.8	95.5	95.2	101.3	5.1*	33.5*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

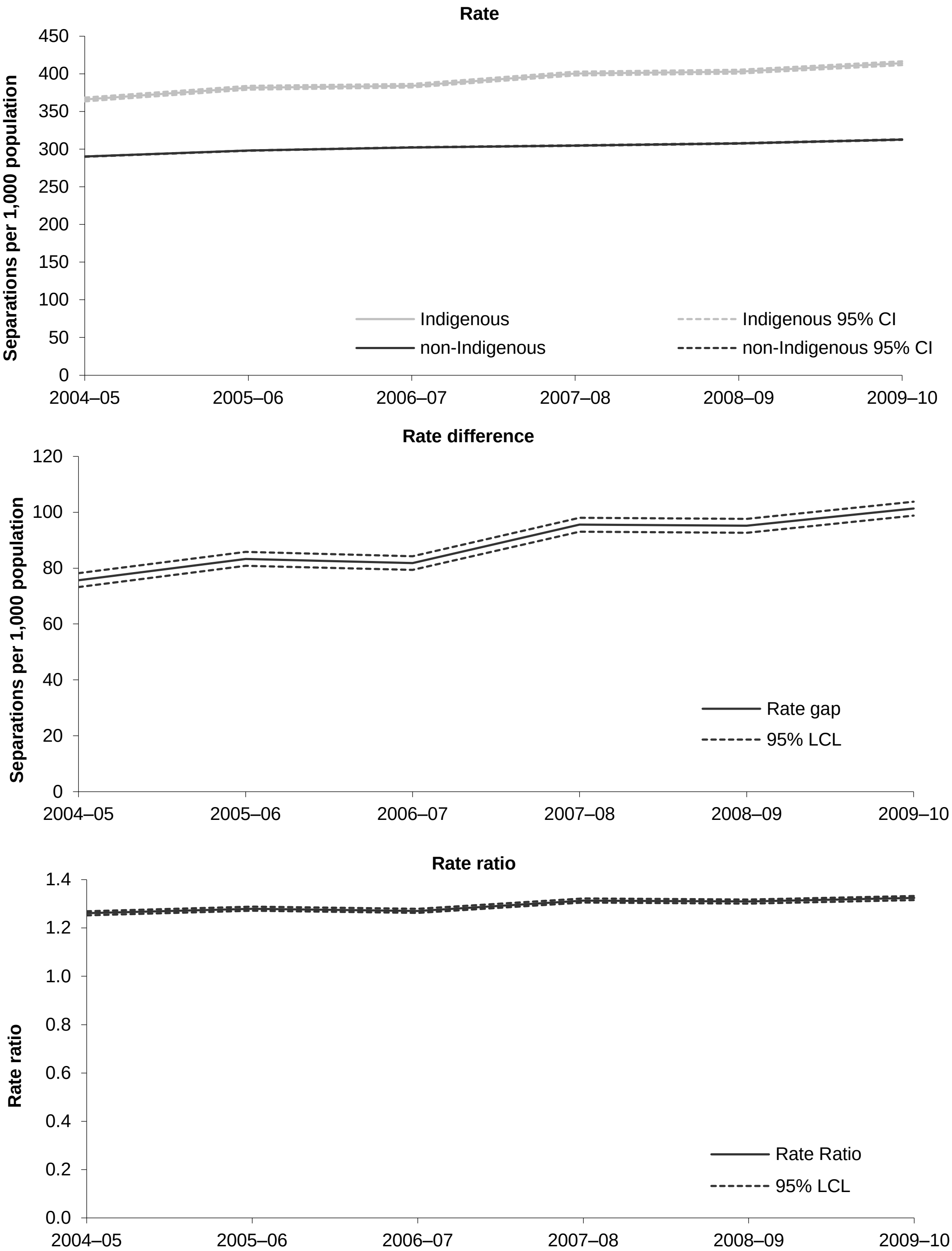
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for Non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for Non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source*:* AIHW analysis of National Hospital Morbidity Database.

Figure 1.02.2: Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and non-Indigenous Australians, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009-2010

Sensitivity of hospitalisation trends to changes in identification for Qld, WA, SA and NT

- The fitted trends described above have been examined for their sensitivity to changes in Indigenous identification. Three scenarios for identification were posted—constant identification, increasing identification and decreasing identification:
  - Under the constant identification scenario, the number of hospitalisations for the period under study was adjusted using the following identification factors from 2007 AIHW hospital data quality study:

Queensland	93%
Western Australia	99%
South Australia	92%
Northern Territory	100%

  - Under the increasing identification scenario, hospitalisations were adjusted by linearly increasing the identification through the period under study—from 85% in 1998–99 to 93% in 2009–10 for Queensland, from 93% to 99% for Western Australia, from 80% to 92% for South Australia, and from 96% to 100% for the Northern Territory.
  - Under the decreasing identification scenario, hospitalisations were adjusted by linearly decreasing the identification from 96% in 1998–99 to 93% in 2009–10 for Queensland, from 100% to 99% for Western Australia, from 98% to 92% for South Australia, and left at 100% for the Northern Territory.
- The adjustments in the latter two scenarios were based on judgments about the largest plausible shifts in identification during the period; of course, if any actual shift in identification was more extreme than has been assumed under these scenarios, then the observed trends in hospitalisations might not persist.
- For all hospitalisations excluding dialysis, all the observed significant changes in hospitalisation rates, rate ratios and rate differences during the period 1998–99 to 2009–10 remained statistically significant under the constant identification scenario. Under the increasing identification scenario the increases in hospitalisation rates for Indigenous males, females and persons were no longer significant, however the decreases in the rate ratios and differences remained significant. Under the decreasing identification scenario, the majority of the reported significant changes continued to be observed, the exception was the female rate difference.

Sensitivity of hospitalisation trends to changes in identification for NSW, Vic, Qld, WA, SA and NT

- The fitted trends described above have been examined for their sensitivity to changes in Indigenous identification. Three scenarios for identification were posted—constant identification, increasing identification and decreasing identification:

  - Under the constant identification scenario, the number of hospitalisations for the period under study was adjusted using the following identification factors from the most recent AIHW hospital data quality study:

New South Wales	83%
Victoria	81%
Queensland	93%
Western Australia	99%
South Australia	92%
Northern Territory	100%

  - Under the increasing identification scenario, hospitalisations were adjusted by linearly increasing the identification through the period under study—from 79% in 2004–05 to 83% in 2009–10 for New South Wales, from 79% to 81% in Victoria, from 89% to 93% in Queensland, from 96% to 99% for Western Australia, from 86% to 92% for South Australia, and from 98% to 100% for the Northern Territory.
  - Under the decreasing identification scenario, hospitalisations were adjusted by linearly decreasing the identification from 87% in 2004–05 to 83% in 2009–10 for New South Wales, from 83% to 81% in Victoria, from 94% to 93% in Queensland, from 99.5% to 99% for Western Australia, from 95% to 92% for South Australia, and left at 100% for the Northern Territory.
- The adjustments in the latter two scenarios were based on judgments about the largest plausible shifts in identification during the period; of course, if any actual shift in identification was more extreme than has been posted under these scenarios, then the observed trends in hospitalisations might not persist.
- For all hospitalisations excluding dialysis, all the observed significant increases in hospitalisation rates, rate ratios and rate differences during the period 2004–05 to 2009–10 remained statistically significant under the constant and decreasing identification scenarios. Under the increasing identification scenario the increases in hospitalisation rates for Indigenous males, females and persons were no longer significant.

Time series by principal diagnosis

Hospitalisation rates by principal diagnosis were compared for the six jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations for all years from 2004–05 to 2009–10—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- Hospitalisation rates among Indigenous Australians significantly increased between 2004-05 and 2009-10 for most principal diagnoses, with the largest increase observed for certain infectious and parasitic diseases (increase of 34%) (Table 1.02.9).
- Hospitalisation rates among non-Indigenous Australians also significantly increased for several principal diagnoses over the period 2004-05 and 2009-10, with the largest increase also observed for certain infectious and parasitic diseases (increase of 29%).
- Hospitalisation rates for diseases of the circulatory system significantly decreased for non-Indigenous Australians, leading to a significant widening of the gap between Indigenous and non-Indigenous Australians.

Table 1.02.9: Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)(b)(c)(d)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(e)]	Per cent change[(f)]
Principal diagnosis				**Indig. No. per 1,000[(g)]**				
Injury & poisoning & certain other consequences of external causes	41.5	43.2	43.7	43.5	46.0	47.7	1.1**	13.5**
Pregnancy, childbirth and the puerperium	31.3	32.7	33.7	33.6	33.2	32.8	0.2	4.0
Diseases of the respiratory system	41.5	42.6	39.1	42.8	42.8	43.7	0.4	5.2
Diseases of the digestive system	34.4	35.9	36.0	38.2	35.6	36.5	0.3	4.9
Symptoms, signs and abnormal clinical and laboratory findings	29.8	31.1	31.9	33.7	34.7	37.4	1.4**	24.1**
Mental and behavioural disorders	23.9	24.1	24.6	25.6	25.5	26.1	0.5**	9.5**
Diseases of the circulatory system	32.2	33.4	32.5	34.3	34.5	33.3	0.3	4.6
Diseases of the genitourinary system	18.6	19.0	18.6	18.5	19.5	20.5	0.3**	8.1**
Diseases of the skin & subcutaneous tissue	12.6	12.9	12.8	13.8	13.0	13.5	0.2	6.6
Certain infectious and parasitic diseases	8.5	9.8	9.0	10.0	10.6	11.9	0.6**	34.4**
Endocrine, nutritional and metabolic diseases	16.4	18.5	19.1	19.6	20.2	19.9	0.7**	20.2**
Other[(h)]	74.9	78.2	82.8	86.7	87.4	90.8	3.2**	21.2**
Subtotal	*365.6*	*381.2*	*384.0*	*400.3*	*402.8*	*414.0*	*9.2***	*12.6***
Dialysis	363.7	396.9	411.2	431.1	440.8	452.6	17.0**	23.4**
Total (includes not stated)[(i)]	**729.6**	**778.3**	**795.4**	**831.4**	**843.6**	**866.7**	**26.2****	**18.0****

(continued)

Table 1.02.9 (continued): Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10(a)(b)(c)(d)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(e)	Per cent change(f)
Principal diagnosis	**Non-Indig. No. per 1,000(g)**							
Injury & poisoning & certain other consequences of external causes	21.6	22.3	22.8	22.9	23.4	23.6	0.4**	8.7**
Pregnancy, childbirth and the puerperium	22.0	22.8	23.2	22.8	22.1	21.5	–0.1	–3.0
Diseases of the respiratory system	15.3	15.5	15.0	16.1	16.0	15.9	0.2	5.2
Diseases of the digestive system	37.6	38.3	38.8	38.5	36.9	37.3	–0.2	–2.4
Symptoms, signs and abnormal clinical and laboratory findings	20.1	21.1	22.4	22.7	23.5	24.5	0.8**	21.0**
Mental and behavioural disorders	13.6	13.6	13.6	13.6	13.9	14.5	0.2**	5.6**
Diseases of the circulatory system	20.5	20.8	20.7	20.5	19.9	19.8	–0.2**	–4.5**
Diseases of the genitourinary system	16.8	17.1	16.8	16.6	16.7	17.0	0.0	–0.1
Diseases of the skin & subcutaneous tissue	5.5	5.6	5.5	5.6	5.6	5.7	0.04**	3.8**
Certain infectious and parasitic diseases	4.1	4.5	4.5	4.1	5.2	5.5	0.2**	29.3**
Endocrine, nutritional and metabolic diseases	5.5	5.9	6.2	6.6	6.9	6.9	0.3**	27.1**
Other(h)	107.2	110.4	112.6	114.8	117.2	120.3	2.5**	11.7**
Subtotal	*290.0*	*298.0*	*302.1*	*304.6*	*307.5*	*312.5*	*4.1***	*7.1***
Dialysis	34.6	37.2	38.1	39.0	39.9	41.8	1.3**	18.6**
Total (includes not stated)(i)	**324.8**	**335.3**	**340.5**	**343.7**	**347.6**	**354.6**	**5.4****	**8.3****

(continued)

Table 1.02.9 (continued): Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)(b)(c)(d)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(e)]	Per cent change[(f)]
Principal diagnosis				**Ratio[(j)]**				
Injury & poisoning & certain other consequences of external causes	1.9*	1.9*	1.9*	1.9*	2.0*	2.0*	0.0	4.3
Pregnancy, childbirth and the puerperium	1.4*	1.4*	1.5*	1.5*	1.5*	1.5*	0.02**	7.1**
Diseases of the respiratory system	2.7*	2.7*	2.6*	2.7*	2.7*	2.7*	0.0	0.0
Diseases of the digestive system	0.9	0.9	0.9	1.0	1.0	1.0	0.01**	7.4**
Symptoms, signs and abnormal clinical and laboratory findings	1.5*	1.5*	1.4*	1.5*	1.5*	1.5*	0.0	2.7
Mental and behavioural disorders	1.8*	1.8*	1.8*	1.9*	1.8*	1.8*	0.0	3.8
Diseases of the circulatory system	1.6*	1.6*	1.6*	1.7*	1.7*	1.7*	0.03**	9.5**
Diseases of the genitourinary system	1.1*	1.1*	1.1*	1.1*	1.2*	1.2*	0.02**	8.1**
Diseases of the skin & subcutaneous tissue	2.3*	2.3*	2.3*	2.5*	2.3*	2.4*	0.0	2.7
Certain infectious and parasitic diseases	2.1*	2.2*	2.0*	2.5*	2.0*	2.2*	0.0	4.2
Endocrine, nutritional and metabolic diseases	3.0*	3.1*	3.1*	3.0*	2.9*	2.9*	0.0	–5.8
Other[(h)]	0.7	0.7	0.7	0.8	0.7	0.8	0.01**	8.5**
Subtotal	*1.3**	*1.3**	*1.3**	*1.3**	*1.3**	*1.3**	*0.01***	*5.2***
Dialysis	10.5*	10.7*	10.8*	11.1*	11.0*	10.8*	0.1**	4.0**
Total (includes not stated)[(i)]	**2.2***	**2.3***	**2.3***	**2.4***	**2.4***	**2.4***	**0.04****	**8.8****

(continued)

Table 1.02.9 (continued): Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10(a)(b)(c)(d)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(e)	Per cent change(f)
Principal diagnosis				**Difference**(k)				
Injury & poisoning & certain other consequences of external causes	19.8*	20.9*	20.9*	20.6*	22.6*	24.1*	0.7**	18.6**
Pregnancy, childbirth and the puerperium	9.3*	9.9*	10.5*	10.8*	11.0*	11.3*	0.4**	20.6**
Diseases of the respiratory system	26.2*	27.1*	24.2*	26.7*	26.8*	27.8*	0.3	5.2
Diseases of the digestive system	–3.2	–2.5	–2.8	–0.3	–1.3	–0.8	0.5**	–80.8**
Symptoms, signs and abnormal clinical and laboratory findings	9.7*	10.0*	9.5*	11.0*	11.2*	12.9*	0.6**	30.7**
Mental and behavioural disorders	10.3*	10.5*	11.0*	12.0*	11.6*	11.6*	0.3**	14.8**
Diseases of the circulatory system	11.7*	12.6*	11.8*	13.9*	14.5*	13.5*	0.5**	20.7**
Diseases of the genitourinary system	1.8*	2.0*	1.8*	1.9*	2.7*	3.4*	0.3**	84.5**
Diseases of the skin & subcutaneous tissue	7.1*	7.3*	7.3*	8.2*	7.3*	7.8*	0.1	8.7
Certain infectious and parasitic diseases	4.4*	5.3*	4.6*	5.9*	5.4*	6.5*	0.3**	39.1**
Endocrine, nutritional and metabolic diseases	10.9*	12.5*	13.0*	13.0*	13.3*	13.0*	0.4**	16.8**
Other(h)	–32.3	–32.2	–29.8	–28.1	–29.8	–29.5	0.7**	–10.2**
Subtotal	*75.5**	*83.3**	*82.0**	*95.7**	*95.3**	*101.5**	*5.1***	*33.9***
Dialysis	329.1*	359.7*	373.1*	392.2*	400.8*	410.8*	15.7**	23.9**
Total (includes not stated)(i)	**404.8***	**443.0***	**454.9***	**487.7***	**496.0***	**512.1***	**20.8****	**25.7****

(continued)

Table 1.02.9 (continued): Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10(a)(b)(c)(d)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

** Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification from 2004–05, although the level of accuracy varies by jurisdiction and hospital. Data for these jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for these four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(f) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period

(g) Directly age-standardised using the Australian 2001 standard population.

(h) Includes: diseases of the musculoskeletal system and connective tissue; neoplasms; diseases of the nervous system; certain conditions originating in the perinatal period; diseases of the ear and mastoid process; diseases of the eye and adnexa; diseases of the blood and blood-forming organs and certain disorders involving the immune system; congenital malformations, deformations and chromosomal abnormalities; and factors influencing health status and contact with health services (except dialysis).

(i) Includes hospitalisations for which no principal diagnosis was recorded.

(j) Rate ratio Indigenous: non-Indigenous.

(k) Rate difference Indigenous-non-Indigenous.

Notes

1. Rates for Indigenous are calculated using the 2006 population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

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Data quality issues

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from WA where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data (AIHW 2010).

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The

proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011-12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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1.03 Injury and poisoning

The number of hospital separations with a principal diagnosis of injury and poisoning for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and rate ratio.

Data sources

Data for this measure come from the AIHW National Hospital Morbidity Database, the Bettering the Evaluation and Care of Health Survey, and the National Mortality Database.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from WA where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program . The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at <http://ses.library.usyd.edu.au/handle/2123/7771>.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

Analyses

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Hospitalisations

- In the 2-year period July 2008 to June 2010, there were 1,030,541 hospitalisations for injury and poisoning in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 44,067 (4.3%) of which were hospitalisations of Aboriginal and Torres Strait Islander people (Table 1.03.2).
- Hospitalisations for injury and poisoning were the second most common principal diagnosis at the ICD-10-AM chapter level (first is the chapter which includes 'care involving dialysis') among Aboriginal and Torres Strait Islander Australians, representing 8% of all hospital separations.

Hospitalisations by age and sex

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males and females had higher hospitalisation rates for injury and poisoning than non-Indigenous males and females across all age groups, except among females aged 65 years and over (Table 1.03.1).

- The greatest relative age differences in hospitalisation rates for injury and poisoning occurred in the 25–34, 35–44 and 45–54 year age groups. The rate of hospitalisations for Indigenous males aged 25–34 or 45–54 years was around 2.5 times the rate of non-Indigenous males and for Indigenous males aged 35–44 years, the rate of hospitalisations was almost three times the rate of non-Indigenous males. Indigenous females in these age groups were hospitalised at around 3 times to 4.5 times the rate of non-Indigenous females.
- For Indigenous males and females, hospitalisation rates were highest among those aged 25–34 years (66.4 and 54.8 per 1,000 respectively), for non-Indigenous males and females, rates were highest among those aged 65 years and over (45.5 and 57.9 per 1,000 respectively).
- Approximately 57% of Indigenous Australians hospitalised for injury and poisoning were male (24,923) and 43% were female (19,144) (Table 1.03.2).

Table 1.03.1: Age-specific hospitalisation rates (per 1,000 population) for a principal diagnosis of injury and poisoning, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010 (a)(b)(c)

									All ages	
	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+	Crude	Age std.(d)
Males										
Indigenous	30.4	27.1	53.0	66.4	69.0	56.4	44.1	52.8	47.5	52.2
Non-Indigenous	19.0	20.1	34.0	26.3	23.5	21.9	23.3	45.5	27.2	27.2
Rate ratio(e)	1.6	1.3	1.6	2.5	2.9	2.6	1.9	1.2	1.7	1.9
Rate difference(f)	11.4	7.0	19.1	40.1	45.4	34.5	20.8	7.3	20.3	24.9
Females										
Indigenous	22.9	15.2	36.0	54.8	53.7	46.5	39.4	48.4	36.2	41.6
Non-Indigenous	14.5	11.4	14.6	12.2	13.9	15.7	19.5	57.9	20.8	19.4
Rate ratio(e)	1.6	1.3	2.5	4.5	3.9	3.0	2.0	0.8	1.7	2.1
Rate difference(f)	8.4	3.8	21.4	42.6	39.8	30.8	19.9	-9.5	15.3	22.2
Persons										
Indigenous	26.7	21.3	44.7	60.6	61.0	51.2	41.6	50.3	41.8	46.9
Non-Indigenous	16.8	15.8	24.6	19.3	18.7	18.8	21.4	52.3	24.0	23.5
Rate ratio(e)	1.6	1.3	1.8	3.1	3.3	2.7	1.9	1.0	1.7	2.0
Rate difference(f)	9.9	5.4	20.2	41.3	42.4	32.4	20.2	-2.0	17.8	23.4

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions

(d) Directly age-standardised using the Australian 2001 standard population.

(e) Rate ratio Indigenous: non-Indigenous Australians.

(f) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 1.03.2 presents hospitalisations for a principal diagnosis of injury and poisoning for the 2-year period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory, Tasmania and the Australian Capital Territory.

- Over the period July 2008 to June 2010, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for injury and poisoning at twice the rate of non-Indigenous Australians in these jurisdictions.
- In Tasmania, Victoria, New South Wales, the Australian Capital Territory and Queensland, Indigenous people were hospitalised between 0.8 and 1.7 times the rate of non-Indigenous Australians. In South Australia, the Northern Territory and Western Australia, Indigenous Australians were hospitalised between 2.6 and 2.9 times the rate of non-Indigenous Australians. These differences may partly reflect jurisdictional differences in the level of Indigenous under-identification and therefore should be interpreted with caution.

Table 1.03.2: Hospitalisations for principal diagnosis of injury and poisoning, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010(a)(b)(c)(d)(e)

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000(e)	Number	Rate per 1,000(e)	Ratio(f)	Difference(g)
NSW						
Males	6,399	42.5	184,440	26.7	1.6*	15.8*
Females	4,225	30.1	143,973	18.7	1.6*	11.5*
Persons	10,624	36.3	328,414	22.8	1.6*	13.5*
Vic						
Males	1,216	37.2	145,971	27.2	1.4*	10.0*
Females	805	27.4	119,399	20.2	1.4*	7.1*
Persons	2,021	32.4	265,373	23.9	1.4*	8.5*
Qld						
Males	6,862	49.1	124,119	29.4	1.7*	19.7*
Females	4,612	34.8	88,592	20.2	1.7*	14.7*
Persons	11,474	41.9	212,711	24.9	1.7*	17.0*
WA						
Males	4,651	67.4	56,982	26.2	2.6*	41.2*
Females	4,145	63.1	41,691	18.9	3.3*	44.1*
Persons	8,796	65.2	98,673	22.8	2.9*	42.4*
SA						
Males	1,672	63.2	40,094	25.1	2.5*	38.1*
Females	1,447	52.9	34,201	18.8	2.8*	34.1*
Persons	3,119	57.6	74,295	22.1	2.6*	35.5*
NT						
Males	4,123	68.0	4,669	29.3	2.3*	38.6*
Females	3,910	61.8	2,339	18.5	3.3*	43.3*
Persons	8,033	64.7	7,008	24.2	2.7*	40.4*
NSW, Vic, Qld, WA, SA and NT(h)						
Males	**24,923**	**52.2**	**556,275**	**27.2**	**1.9***	**24.9***
Females	**19,144**	**41.6**	**430,195**	**19.4**	**2.1***	**22.2***
Persons	**44,067**	**46.9**	**986,474**	**23.5**	**2.0***	**23.4***
Tas						
Males	289	14.9	9,445	20.1	0.7	–5.2
Females	225	12.7	7,267	13.8	0.9	–1.0
Persons	514	13.8	16,712	17.0	0.8	–3.2

(continued)

Table 1.03.2 (continued): Hospitalisations for principal diagnosis of injury and poisoning, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2006 to June 2008[(a)(b)(c)(d)(e)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
ACT						
Males	141	24.9	7,120	20.9	1.2	3.9
Females	116	23.5	5,681	16.7	1.4*	6.8*
Persons	257	24.6	12,801	18.9	1.3*	5.7*

* Represents results with statistically significant differences in the Indigenous/Non-Indigenous comparisons at the p < 0.05 level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: Non-Indigenous.

(g) Rate difference Indigenous minus Non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by principal diagnosis

Type of injury

Table 1.03.3 presents hospitalisations for a principal diagnosis of injury and poisoning and certain other consequences of external causes by type of injury for the 2-year period July 2008 to June 2010 for the six jurisdictions.

- For the period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of all hospitalisations with a principal diagnosis of injury and poisoning, injuries were the most common reason for hospitalisation among Aboriginal and Torres Strait Islander people (76%) followed by complications of medical and surgical care not elsewhere classified (11.4%).
- Indigenous males and females were hospitalised at three times the rate of non-Indigenous males and females for burns and frostbite, and at around twice the rate of non-Indigenous males and females for poisoning, 'complications of surgical and medical care n.e.c.', 'other and unspecified effects of external causes (such as radiation, hypothermia, maltreatment syndromes)'/'certain early complications of trauma 'and 'toxic effects of substances chiefly non-medicinal'.

Table 1.03.3: Hospitalisations of Indigenous persons for principal diagnosis of injury and poisoning and certain other consequences of external causes, by type of injury and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

Principal diagnosis	Number	Per cent[(e)]	No per 1,000[(f)]	LCL[(g)]	UCL[(h)]	Ratio[(i)]	Difference[(j)]
				Males			
Injuries (S00–T19)	19,834	79.6	39.6	38.9	40.2	1.9*	19.0*
Complications of surgical & medical care n.e.c. (T80–T89)	2,405	9.6	7.4	7.0	7.8	1.8*	3.2*
Poisoning (T36–T50)	1,071	4.3	2.3	2.1	2.4	2.1*	1.2*
Other and unspecified effects of external causes/ Certain early complications of trauma (T66–T79)	485	1.9	1.0	0.9	1.1	1.8*	0.4*
Burns and frostbite (T20–T35)	797	3.2	1.4	1.3	1.5	2.8*	0.9*
Toxic effects of substances chiefly non-medicinal (T51–T65)	331	1.3	0.6	0.5	0.7	1.8*	0.3*
Total[(k)]	**24,923**	**100.0**	**52.2**	**51.4**	**53.0**	**1.9***	**24.9***
				Females			
Injuries (S00–T19)	13,716	71.6	29.0	28.5	29.6	2.2*	16.0*
Complications of surgical & medical care n.e.c. (T80–T89)	2,632	13.7	7.3	6.9	7.6	1.9*	3.5*
Poisoning (T36–T50)	1,590	8.3	3.1	2.9	3.3	1.8*	1.3*
Other and unspecified effects of external causes/ Certain early complications of trauma (T66–T79)	463	2.4	1.0	0.9	1.1	2.1*	0.5*
Burns and frostbite (T20–T35)	472	2.5	0.8	0.7	0.9	3.4*	0.6*
Toxic effects of substances chiefly non-medicinal (T51–T65)	271	1.4	0.5	0.4	0.5	2.1*	0.2*
Total[(k)]	**19,144**	**100.0**	**41.6**	**40.9**	**42.3**	**2.1***	**22.2***
				Persons			
Injuries (S00–T19)	33,550	76.1	34.3	33.9	34.8	2.0*	17.3*
Complications of surgical & medical care n.e.c. (T80–T89)	5,037	11.4	7.3	7.1	7.5	1.9*	3.4*
Poisoning (T36–T50)	2,661	6.0	2.7	2.6	2.8	1.9*	1.3*
Other and unspecified effects of external causes/ Certain early complications of trauma (T66–T79)	948	2.2	1.0	0.9	1.0	1.9*	0.5*
Burns and frostbite (T20–T35)	1,269	2.9	1.1	1.0	1.2	3.0*	0.7*
Toxic effects of substances chiefly non-medicinal (T51–T65)	602	1.4	0.5	0.5	0.6	1.9*	0.3*
Total[(k)]	**44,067**	**100.0**	**46.9**	**46.3**	**47.4**	**2.0***	**23.4***

(continued)

Table 1.03.3 (continued): Hospitalisations of Indigenous persons for principal diagnosis of injury and poisoning and certain other consequences of external causes, by type of injury and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2008–09 to 2009–10.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: Non-Indigenous Australians.

(j) Rate difference Indigenous minus non-Indigenous Australians.

(k) Total includes sequelae of injuries, poisoning, external causes (T90–T98).

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

External cause of injury and poisoning

Table 1.03.4 presents external causes of injury and poisoning for Aboriginal and Torres Strait Islander people in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory with a principal diagnosis of injury, poisoning and other consequences of external causes.

- In the 2-year period July 2008 to June 2010, assault was the most common cause for hospitalisation for Indigenous males and females hospitalised with a principal diagnosis of injury and poisoning (21% and 28% respectively) in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.
- Aboriginal and Torres Strait Islander males and females were 8 and 34 times as likely to be hospitalised for injuries due to assault as non-Indigenous males and females respectively.
- Indigenous males and females were hospitalised for intentional self-harm at almost three times and two times the rate of non-Indigenous males and females, respectively.
- Indigenous males and females were hospitalised for exposure to electrical currents, smoke, fire, animals or nature at 2.5 times the rate of non-Indigenous males and females.

Table 1.03.4: External causes for hospitalisations of Indigenous persons with a principal diagnosis of injury and poisoning and other consequences of external causes, by sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

Principal diagnosis	Number	Per cent [(e)]	No per 1,000[(f)]	LCL[(g)]	UCL[(h)]	Ratio[(i)]	Difference[(j)]
				Males			
Assault (X85–Y09)	5,244	21.0	10.9	10.5	11.2	7.5*	9.4*
Falls (W00–W19)	4,522	18.1	10.3	9.9	10.7	1.5*	3.4*
Exposure to inanimate mechanical forces (W20–W49)	3,683	14.8	6.5	6.2	6.7	1.5*	2.2*
Complications of medical and surgical care (Y40–Y84)	2,439	9.8	7.5	7.1	7.9	1.7*	3.1*
Transport accidents (V01–V99)	2,875	11.5	5.2	5.0	5.4	1.4*	1.6*
Other accidental exposures[(k)]	1,834	7.4	3.7	3.5	3.9	1.1*	0.3*
Intentional self-harm (X60–X84)	1,245	5.0	2.6	2.4	2.7	2.9*	1.7*
Exposure to animate mechanical forces (W50–W64)	1,182	4.7	2.0	1.9	2.2	2.1*	1.1*
Exposure to electric current/smoke/ fire/venomous animals and plants/forces of nature (W85–W99, X00–X39)[(l)]	853	3.4	1.5	1.4	1.7	2.3*	0.9*
Accidental poisoning by and exposure to noxious substances (X40–X49)	482	1.9	0.9	0.8	1.0	2*	0.5*
Other external causes[(m)]	526	2.1	1.1	1.0	1.2	3.4*	0.8*
No external causes	38	0.2	0.1	0.0	0.1	3.5*	0.1*
Total	**24,923**	**100.0**	**52.2**	**51.4**	**53.0**	**1.9***	**24.9***
				Females			
Assault (X85–Y09)	5,362	28.0	10.6	10.3	10.9	34.4*	10.3*
Falls (W00–W19)	3,475	18.2	9.3	8.9	9.7	1.2*	1.7*
Exposure to inanimate mechanical forces (W20–W49)	1,693	8.8	3.0	2.8	3.1	2.2*	1.6*
Complications of medical and surgical care (Y40–Y84)	2,690	14.1	7.4	7.1	7.7	1.9*	3.5*
Transport accidents (V01–V99)	1,278	6.7	2.4	2.3	2.6	1.5*	0.8*
Other accidental exposures[(k)]	982	5.1	2.1	2.0	2.3	1.2*	0.4*
Intentional self-harm (X60–X84)	1,669	8.7	3.2	3.0	3.3	2.1*	1.7*
Exposure to animate mechanical forces (W50–W64)	553	2.9	1.0	0.9	1.1	2.3*	0.6*
Exposure to electric current/smoke/ fire/venomous animals and plants/forces of nature (W85–W99, X00–X39)[(l)]	539	2.8	0.9	0.8	1.0	2.7*	0.6*
Accidental poisoning by and exposure to noxious substances (X40–X49)	465	2.4	0.8	0.7	0.9	2.1*	0.4*
Other external causes[(m)]	410	2.1	0.8	0.7	0.9	3.0*	0.5*
No external causes	28	0.1	0.1	0.0	0.1	4.4*	0.04*
Total	**19,144**	**100.0**	**41.6**	**40.9**	**42.3**	**2.1***	**22.2***

(continued)

Table 1.03.4 (continued): External causes for hospitalisations of Indigenous persons with a principal diagnosis of injury and poisoning and other consequences of external causes, by sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010([a][b][c][d])

Principal diagnosis	Number	Per cent [e]	No per 1,000[f]	LCL[g]	UCL[h]	Ratio[i]	Difference[j]
				Persons			
Assault (X85–Y09)	10,606	24.1	10.7	10.5	10.9	12.2*	9.8*
Falls (W00–W19)	7,997	18.1	9.9	9.6	10.2	1.3*	2.5*
Exposure to inanimate mechanical forces (W20–W49)	5,376	12.2	4.7	4.5	4.8	1.7*	1.9*
Complications of medical and surgical care (Y40–Y84)	5,129	11.6	7.4	7.2	7.7	1.8*	3.3*
Transport accidents (V01–V99)	4,153	9.4	3.8	3.6	3.9	1.5*	1.2*
Other accidental exposures[k]	2,816	6.4	2.9	2.8	3.0	1.1*	0.3*
Intentional self-harm (X60–X84)	2,914	6.6	2.9	2.8	3.0	2.4*	1.7*
Exposure to animate mechanical forces (W50–W64)	1,735	3.9	1.5	1.4	1.6	2.1*	0.8*
Exposure to electric current/smoke/ fire/venomous animals and plants/forces of nature (W85–W99, X00–X39)[l]	1,392	3.2	1.2	1.1	1.3	2.5*	0.7*
Accidental poisoning by and exposure to noxious substances (X40–X49)	947	2.1	0.9	0.8	0.9	2.1*	0.4*
Other external causes[m]	936	2.1	0.9	0.9	1.0	3.2*	0.6*
No external causes	66	0.1	0.1	0.0	0.1	3.8*	0.05*
Total	**44,067**	**100.0**	**46.9**	**46.3**	**47.4**	**2.0***	**23.4***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2008–09 to 2009–10.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: Non-Indigenous Australians.

(j) Rate difference Indigenous minus non-Indigenous Australians.

(k) Accidental drowning and submersion (W65–W74), accidental threats to breathing (W75–W84), overexertion, travel and privation (X50–X57), accidental exposure to other and unspecified factors (X58–X59),

(l) Includes exposure to electrical current, radiation and extreme ambient air temperature and pressure (W85–W99), smoke, fire and flames (X00–X09), contact with heat and hot substances (X10–X19), contact with venomous animals and plants (X20–X29), exposure to forces of nature (X30–X39).

(m) Includes event of undetermined intent (Y10–Y34), legal intervention and operation of war (Y35–Y36), sequelae of external causes of morbidity and mortality (Y85–Y89), supplementary factors classified elsewhere (Y90–Y98).

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 1998–99 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2007–08 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

Injury and poisoning—1998-99 to 2009-10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for injury and poisoning over the period 1998-99 to 2009-10 for Queensland, Western Australia, South Australia and the Northern Territory are presented in Table 1.03.5 and Figure 1.03.1.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant changes in hospitalisation rates for injury and poisoning among Indigenous males and females during the period 1998-99 to 2009-10.
- There were significant increases in hospitalisation rates for injury and poisoning among non-Indigenous males, females, and persons overall during the same period, with an average yearly increase in the rate of around 0.2 overall, per 1,000 population. This was equivalent to a 9.3% increase in the rate for persons, over the period.
- Over the period 1998-99 to 2009-10 there were significant decreases in the rate ratio between Indigenous females and non-Indigenous females (9% decline) and Indigenous persons and non-Indigenous Australians (7% decline).

Table 1.03.5: Age-standardised hospitalisation rates, rate ratios and rate differences for injury and poisoning, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Indigenous separations														
Males	7,050	6,649	6,735	7,208	6,867	6,909	7,145	7,550	7,637	7,944	8,412	8,896	172*	26.8*
Females	5,618	5,643	5,523	5,737	5,661	5,821	5,884	6,169	6,522	6,462	6,850	7,264	144*	28.1*
Persons	12,668	12,292	12,259	12,946	12,528	12,730	13,029	13,719	14,159	14,406	15,262	16,160	315*	27.4*
Non-Indigenous separations														
Males	87,125	89,164	87,752	88,025	85,986	89,283	92,575	96,716	102,198	107,221	112,458	113,406	2,592*	32.7*
Females	59,751	60,925	61,453	61,761	61,725	64,087	66,152	69,686	72,570	75,760	82,121	84,702	2,257*	41.5*
Persons	146,876	150,089	149,207	149,788	147,716	153,370	158,727	166,402	174,768	182,982	194,579	198,108	4,849*	36.3*
Indigenous rate per 1,000														
Males	60.0	54.6	55.3	56.8	51.9	52.8	53.7	56.1	53.8	54.9	58.0	59.4	0.1	1.2
Females	48.2	47.4	45.7	46.6	44.6	45.7	45.2	45.9	47.3	46.8	47.9	49.4	0.1	2.6
Persons	54.0	51.0	50.4	51.6	48.3	49.3	49.4	50.8	50.6	50.8	52.9	54.2	0.1	1.8
Non-Indigenous rate per 1,000														
Males	26.1	26.5	25.8	25.5	24.5	25.0	25.3	25.9	26.8	27.3	27.9	27.5	0.2*	7.3*
Females	17.5	17.5	17.3	17.0	16.7	16.9	17.2	17.7	18.0	18.4	19.5	19.6	0.2*	12.6*
Persons	22.0	22.2	21.7	21.4	20.7	21.1	21.4	22.0	22.5	23.0	23.8	23.7	0.2*	9.3*
Rate ratio[(e)]														
Males	2.3	2.1	2.1	2.2	2.1	2.1	2.1	2.2	2.0	2.0	2.1	2.2	–0.01	–5.4
Females	2.8	2.7	2.6	2.7	2.7	2.7	2.6	2.6	2.6	2.5	2.5	2.5	–0.02*	–9.0*
Persons	2.5	2.3	2.3	2.4	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.3	–0.02*	–6.8*

(continued)

Table 1.03.5 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences for injury and poisoning, Qld, WA, SA and NT, 1998–99 to 2009–10[a]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[c]	Per cent change[d]
Rate difference[f]														
Males	33.9	28.1	29.5	31.3	27.4	27.9	28.4	30.2	27.0	27.5	30.1	31.9	–0.1	–3.4
Females	30.7	29.9	28.5	29.5	27.9	28.7	28.0	28.2	29.3	28.4	28.4	29.8	–0.1	–3.2
Persons	32.0	28.9	28.7	30.2	27.6	28.2	28.0	28.9	28.1	27.8	29.0	30.5	–0.1	–3.4

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory the Australian Capital Territory and Tasmania.

(b) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

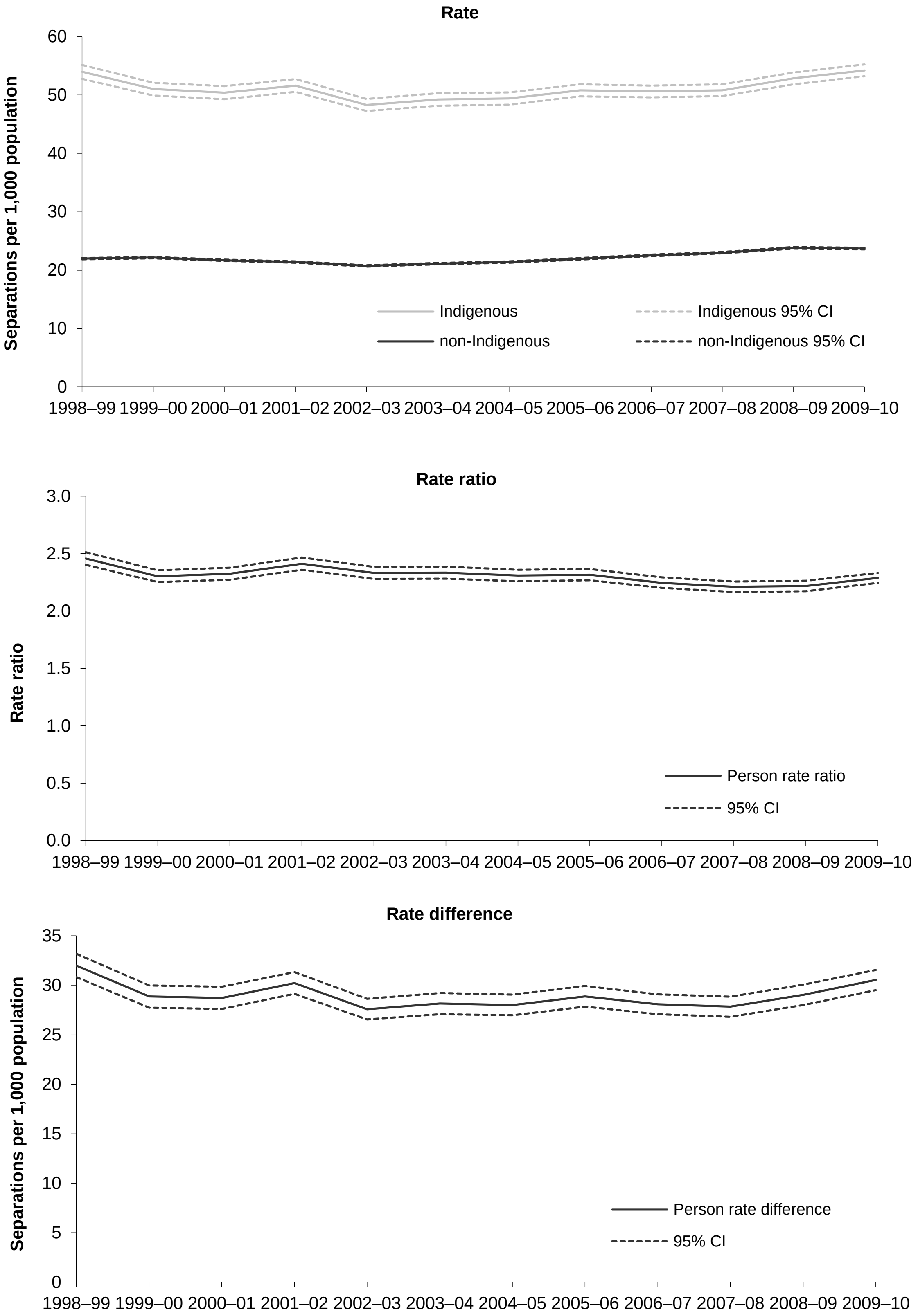
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.03.1: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for injury and poisoning, Qld, WA, SA and NT, 1998-1999 to 2009–2010

Injury and poisoning—2004–05 to 2009-10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for injury and poisoning over the period 2004–05 to 2009-10 for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory are presented in Table 1.03.6 and Figure 1.03.2.

- In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for injury and poisoning among Indigenous males, females and persons overall during the period 2004–05 to 2009-10.
- There were also significant increases in hospitalisation rates for injury and poisoning among non-Indigenous Australian males, females, and persons overall during the same period, with an average yearly increase in the rate of around 0.4 overall, per 1,000 population. This was equivalent to an 8.7% increase in the rate for persons overall, over the period.
- Over the period 2004–05 to 2009-10 there was a significant increase in the hospitalisation rate ratio between Indigenous and non-Indigenous Australians (5%). There were also significant increases in the rate differences between Indigenous and non-Indigenous males, females and persons overall (24%, 14% and 19%, respectively).

Table 1.03.6: Age-standardised hospitalisation rates, rate ratios and rate differences for injury and poisoning, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)(b)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change over period[(d)]
Indigenous separations								
Males	9,847	10,659	11,015	11,248	12,078	12,845	557*	28.3*
Females	7,812	8,183	8,670	8,639	9,311	9,833	385*	24.6*
Persons	17,659	18,842	19,685	19,887	21,389	22,678	941*	26.6*
Non-Indigenous Australian separations								
Males	236,480	247,218	258,238	265,779	275,416	280,859	8,972*	19.0*
Females	178,850	188,080	194,838	200,209	211,320	218,875	7,863*	22.0*
Persons	415,334	435,302	453,081	465,992	486,739	499,735	16,835*	20.3*
Indigenous rate (separations per 1,000)								
Males	45.6	48.5	47.7	48.1	51.0	53.3	1.3*	14.5*
Females	37.4	38.0	39.6	39.0	41.0	42.2	0.9*	12.5*
Persons	41.5	43.2	43.7	43.5	46.0	47.7	1.1*	13.6*
Non-Indigenous Australian rate (separations per 1,000)								
Males	25.3	26.1	26.7	26.9	27.2	27.2	0.4*	7.4*
Females	17.6	18.2	18.5	18.7	19.3	19.6	0.4*	10.5*
Persons	21.6	22.3	22.8	22.9	23.4	23.6	0.4*	8.7*
Rate ratio[(e)]								
Males	1.8	1.9	1.8	1.8	1.9	2.0	0.02	6.6
Females	2.1	2.1	2.1	2.1	2.1	2.2	0.01	1.8
Persons	1.9	1.9	1.9	1.9	2.0	2.0	0.02*	4.5*
Rate difference[(f)]								
Males	20.2	22.4	21.0	21.2	23.8	26.1	1.0*	23.5*
Females	19.7	19.8	21.0	20.3	21.7	22.6	0.6*	14.3*
Persons	19.8	20.9	20.9	20.6	22.6	24.1	0.8*	19.0*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory the Australian Capital Territory and Tasmania.

(b) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

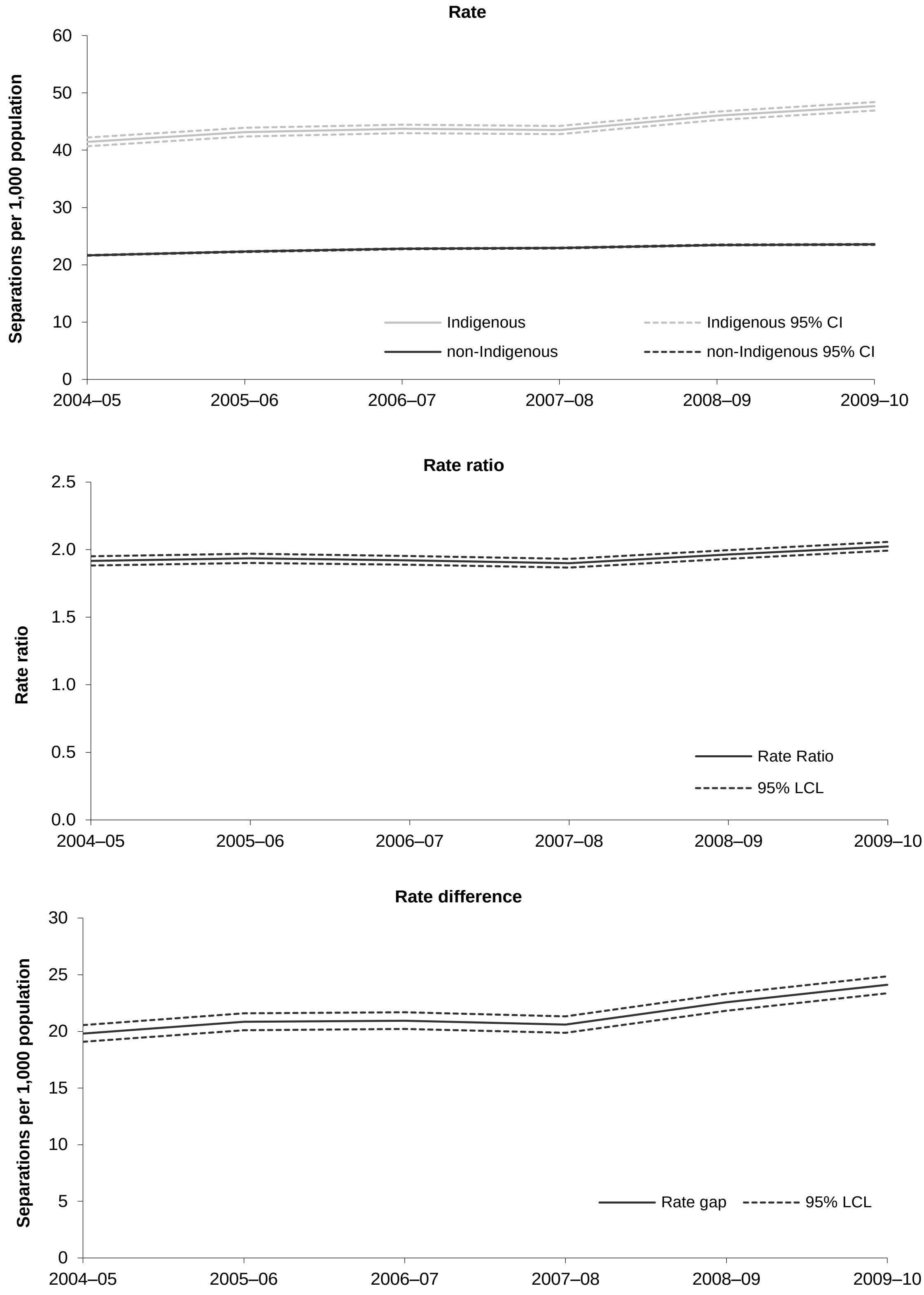
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for Non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for Non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.03.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for injury and poisoning, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009-2010

Assault

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for assault over the seven-year period 1998-99 to 2009-10 are presented in Table 1.03.7 and Figure 1.03.3.

- Over the period 1998-99 to 2009-10, there were no significant changes in the hospitalisation rate for assault among Indigenous males and females.
- Over the same period there were significant increases in the hospitalisation rate for assault for non-Indigenous Australians. The fitted trend implies an average yearly increase in the rate of around 0.03 per 1,000 for non-Indigenous males and 0.01 per 1,000 for non-Indigenous females, which is equivalent to a 22% and 19% increase in the rate for males and females over the period.
- There was a significant decline in the hospitalisation rate ratio between Indigenous and non-Indigenous Australians for assault over the period 1998-99 to 2009-10 (15% decrease). Over the same period there was no significant change in the rate difference between Indigenous and non-Indigenous Australians.

Table 1.03.7: Age-standardised hospitalisation rates, rate ratios and rate differences for a principal diagnosis of injury and poisoning and a first reported external cause of assault, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Indigenous separations														
Males	1,602	1,571	1,580	1,960	1,835	1,764	1,803	1,868	1,880	1,994	2,032	2,093	43*	29.3*
Females	1,749	1,782	1,701	2,180	2,132	2,127	2,181	2,255	2,363	2,232	2,277	2,370	57*	35.9*
Persons	3,351	3,353	3,281	4,140	3,967	3,891	3,984	4,123	4,243	4,226	4,309	4,463	100*	32.7*
Non-Indigenous separations														
Males	4,589	4,510	4,835	5,039	4,814	4,729	5,062	5,496	5,916	6,296	6,632	6,365	194*	46.6*
Females	1,022	967	1,028	1,117	1,078	1,090	1,029	1,160	1,154	1,243	1,424	1,460	38*	40.7*
Persons	5,611	5,477	5,864	6,156	5,893	5,819	6,091	6,656	7,070	7,539	8,056	7,825	232*	45.5*
Indigenous rate (separations per 1,000)														
Males	13.9	13.1	12.7	15.7	14.4	13.3	13.3	13.5	13.2	13.8	13.6	13.7	0.0	–1.6
Females	13.7	13.5	12.6	15.7	15.2	14.7	15.1	15.2	15.5	14.4	14.4	14.7	0.1	9.0
Persons	13.7	13.3	12.6	15.7	14.7	14.0	14.2	14.3	14.4	14.1	14.0	14.2	0.0	3.7
Non-Indigenous rate (separations per 1,000)														
Males	1.3	1.3	1.4	1.4	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.5	0.03*	22.0*
Females	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.01*	19.1*
Persons	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	0.02*	22.1*
Rate ratio[(e)]														
Males	10.5	10.2	9.2	11.0	10.7	10.3	9.7	9.3	8.6	8.7	8.4	9.0	–0.2*	–19.5*
Females	45.4	47.8	42.4	49.2	50.0	48.5	53.5	48.4	50.8	44.8	40.0	40.6	–0.3	–8.3
Persons	16.8	16.8	15.0	17.8	17.8	17.4	17.1	16.1	15.5	14.6	13.9	14.9	–0.2*	–15.3*

(continued)

Table 1.03.7 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences for a principal diagnosis of injury and poisoning and a first reported external cause of assault, Qld, WA, SA and NT, 1998–99 to 2009–10 (a)(b)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(c)	Per cent change(d)
Rate difference(f)														
Males	12.5	11.8	11.3	14.2	13.0	12.0	11.9	12.0	11.7	12.2	12.0	12.1	0.0	–4.1
Females	13.4	13.2	12.3	15.4	14.9	14.4	14.8	14.9	15.2	14.1	14.1	14.3	0.1	8.8
Persons	12.9	12.5	11.8	14.8	13.9	13.2	13.4	13.4	13.4	13.1	13.0	13.2	0.0	2.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

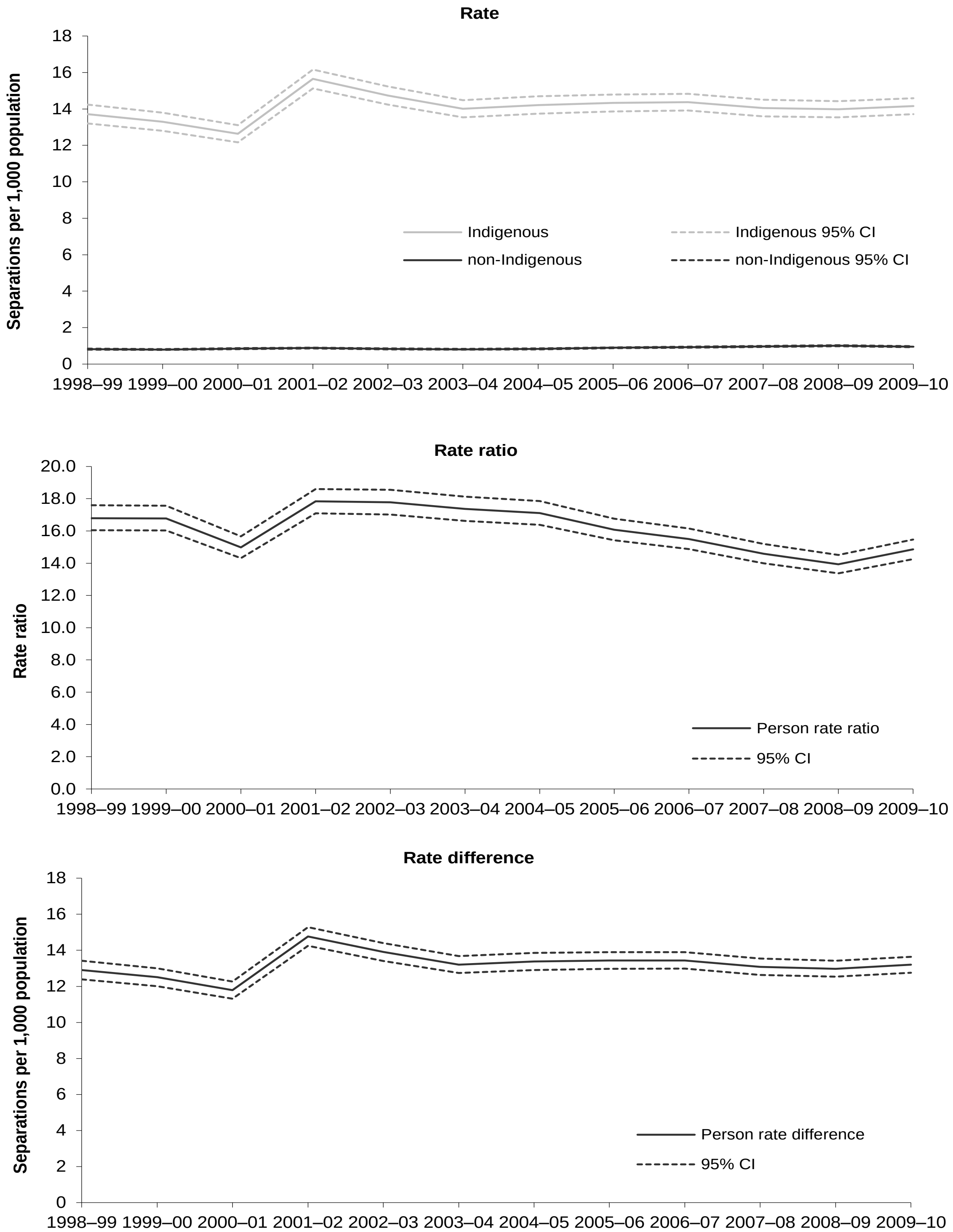
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010). Causes of injury are based on the first reported external cause as ‘assault’ ICD-10-AM codes X85–Y09, where the principal diagnosis was ‘injury and poisoning’ (S00–T98).
2. Rates have been directly age-standardised using the 2001 Australian standard population.
3. Population estimates are based on 2006 census.
4. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.03.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for a principal diagnosis of injury and poisoning and a first reported external cause of assault, Qld, WA, SA and NT, 1998-1999 to 2009-2010

Assault 2004–05 to 2009-10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for assault over the period 2004–05 to 2007–08 for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory are presented in Table 1.03.8 and Figure 1.03.4.

- Over the period 2004–05 to 2009-10, there was only a significant increase in the hospitalisation rate for assault among Indigenous males; the fitted trend implies an average yearly increase in the rate of 0.1 per 1,000 (a 5% increase). There was no significant change in the rate for Indigenous females, or persons overall.
- Over the same period, there were no significant increases in the hospitalisation rate for assault for non-Indigenous males, females and persons overall.
- There was a significant increase in the rate difference between Indigenous and non-Indigenous Australians for males only (5%).

Table 1.03.8: Age-standardised hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for a principal diagnosis of injury and poisoning and a first reported external cause of assault, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10(a)(b)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[c]	Per cent change[d]
Indigenous separations								
Males	2,251	2,352	2,464	2,539	2,587	2,657	80*	17.8*
Females	2,502	2,572	2,750	2,559	2,646	2,716	31	6.3
Persons	4,753	4,924	5,214	5,098	5,233	5,373	112*	11.8*
Non-Indigenous Australian separations								
Males	12,697	13,858	14,738	14,955	15,403	14,392	381*	15.0*
Females	2,798	2,891	2,874	2,920	3,191	3,081	67*	12.1*
Persons	15,495	16,749	17,612	17,875	18,594	17,473	448*	14.5*
Indigenous rate (separations per 1,000)								
Males	10.4	10.6	10.7	11.0	10.8	10.9	0.1*	5.0*
Females	10.9	10.9	11.4	10.4	10.6	10.6	–0.1	–4.0
Persons	10.6	10.7	11.1	10.7	10.7	10.7	0.0	0.1
Non-Indigenous rate (separations per 1,000)								
Males	1.3	1.4	1.5	1.5	1.5	1.4	0.0	3.5
Females	0.3	0.3	0.3	0.3	0.3	0.3	0.0	2.8
Persons	0.8	0.9	0.9	0.9	0.9	0.8	0.0	3.9
Rate ratio[e]								
Males	7.7	7.3	7.1	7.3	7.2	7.9	0.0	1.5
Females	36.5	36.0	38.4	35.1	33.4	35.4	–0.5	–6.5
Persons	12.9	12.2	12.2	11.8	11.7	12.7	–0.1	–3.4
Rate difference[f]								
Males	9.0	9.1	9.2	9.5	9.3	9.5	0.1*	5.2*
Females	10.6	10.6	11.1	10.1	10.3	10.3	–0.1	–4.2
Persons	9.8	9.9	10.2	9.8	9.8	9.9	0.0	–0.2

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

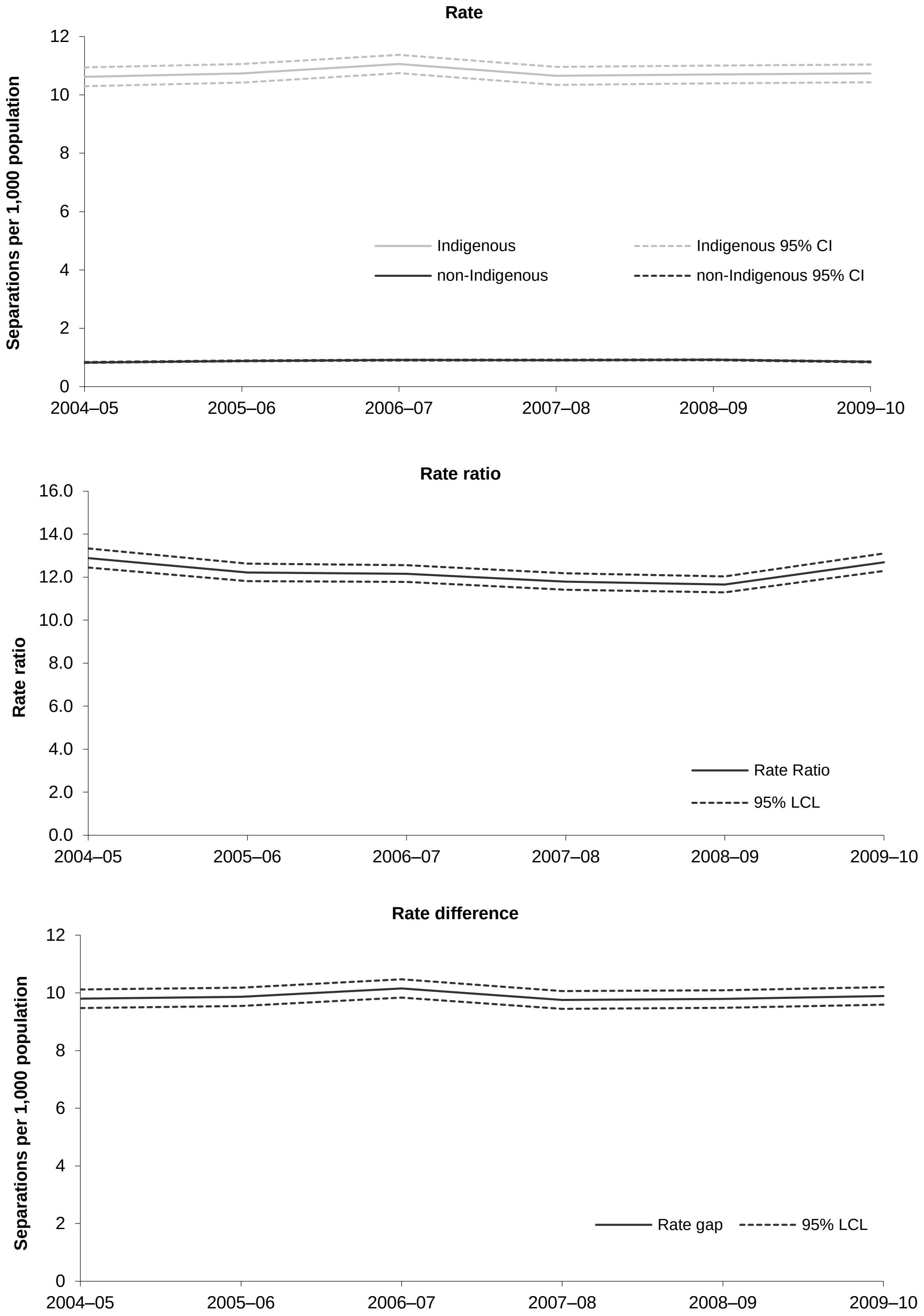
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for Non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for Non-Indigenous Australians.

Notes

1. Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010). Causes of injury are based on the first reported external cause as ‘assault’ ICD-10-AM codes X85–Y09, where the principal diagnosis was ‘injury and poisoning’ (S00–T98).
2. Rates have been directly age-standardised using the 2001 Australian standard population.
3. Population estimates are based on 2006 census.
4. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.03.4: Hospitalisation rates, rate ratios and rate differences for a principal diagnosis of injury and poisoning and a first reported external cause of assault, NSW, Vic, Qld, WA, SA and NT, 2004-05 to 2009-2010

General practitioner encounters

Information about general practitioner (GP) encounters is available from the BEACH survey. Data for the 5-year period April 2006–March 2007 to April 2010–March 2011 are presented below. In general, GPs manage significantly more problems per 1,000 Indigenous encounter than they do at encounters with other patients (table 1.03.9).

- In the period April 2006–March 2007 to April 2010–March 2011, there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,196 problems were managed. Of these, 4.8 per cent (440) were injury problems (Table 1.03.9).
- Injury problems were managed at a rate of around 74 per 1,000 encounters with Indigenous patients.
- After adjusting for differences in age distribution:
  - Injury problems were managed at similar rates during GP encounters with Indigenous patients and with other patients.
  - There were almost five times as many GP encounters for assault with Indigenous patients than with other patients over the BEACH 5-year reporting period.

Table 1.03.9: Problems managed relating to injury(a) managed by general practitioners, by Indigenous status of the patient, BEACH survey years April 2006–March 2007 to April 2010–March 2011 inclusive(b)(c)

	Number		Per cent of all problem managed		Crude rate (no. per 1,000 encounters)						Age-standardised rate (no. per 1,000 encounters)(d)			
Problem managed	**Indig.**	**Other(e)**	**Indig.**	**Other(e)**	**Indig.**	**95% LCL(f)**	**95% UCL(g)**	**Other**	**95% LCL(f)**	**95% UCL(g)**	**Indig.**	**Other(e)**	**Ratio(h)**	**Rate Difference(i)**
General injuries (A80-82)	11	930	0.1	0.1	1.8	0.7	3.0	1.9	1.8	2.1	3.5	1.9	1.8	1.6
Trauma/injury NOS (A80)(j)	9	819	0.1	0.1	1.5	0.4	2.6	1.7	1.6	1.9	3.3	1.7	1.9	1.6
Multiple trauma/injuries (A82)(j)	2	98	0.0	0.0	0.3	0.0	0.8	0.2	0.2	0.2	0.2	0.2	1.2	0.0
Musculoskeletal injuries(k)	218	17,125	2.4	2.3	36.5	31.2	41.8	35.8	34.9	36.7	35.1	35.9	1.0	-0.8
Skin injuries (S12-19)	153	11,466	1.7	1.5	25.6	21.1	30.1	24.0	23.4	24.6	25.5	24.0	1.1	1.5
Neurological injuries (N79-81)	15	715	0.2	0.1	2.5	1.2	3.8	1.5	1.4	1.6	1.9	1.5	1.3	0.4
Ear injuries (H76-79, H85)	13	424	0.1	0.1	2.2	0.9	3.4	0.9	0.8	1.0	1.8	0.9	2.0	0.9
Eye injuries (F75-79)	9	954	0.1	0.1	1.5	0.5	2.5	2.0	1.9	2.1	1.4	2.0	0.7	-0.6
Assault/harmful event (Z25)	17	210	0.2	0.0	2.8	1.5	4.2	0.4	0.4	0.5	2.1*	0.4*	4.8*	1.7*
Other injuries(l)	4	234	0.0	0.0	0.7	0.0	1.3	0.5	0.4	0.6	0.4	0.5	0.9	-0.1
Total injury problems(m)	*440*	*32,044*	*4.8*	*4.3*	*73.7*	*65.5*	*81.9*	*67.0*	*65.8*	*68.2*	*71.7*	*67.1*	*1.1*	*4.6*
Other problems managed	8,756	713,580	95.2	95.7	1,466.4	1,426.3	1,506.6	1,492.8	1,483.6	1,501.9	1,567.4*	1,491.5*	1.1*	75.9*
Total problems	**9,196**	**745,624**	**100.0**	**100.0**	**1,540.1**	**1,499.0**	**1,581.2**	**1,559.8**	**1,550.9**	**1,568.7**	**1,639.1***	**1,558.6***	**1.1***	**80.5***

(continued)

Table 1.03.9 (continued): Problems managed relating to injury[(a)] managed by general practitioners, by Indigenous status of the patient, BEACH survey years April 2006–March 2007 to April 2010–March 2011 inclusive[(b)(c)]

* Represents results with statistically significant differences in the Indigenous/other comparisons at the $p < 0.05$ level.

(a) Classified according to ICPC-2 chapter codes (Classification Committee of the World Organization of Family Doctors (WICC) 1998).

(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

(c) Data for Indigenous and other Australians have not been weighted.

(d) Directly age-standardised rate (no. per 1,000 encounters). Figures do not add to 100 as more than one problem can be managed at each encounter.

(e) ‘Other’ includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(f) LCL = lower confidence interval.

(g) UCL = upper confidence interval.

(h) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for other Australians.

(i) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for other Australians.

(j) Trauma/injury NOS and Multiple trauma/injuries are subsets of General Injuries.

(k) ICPC–2 codes: L72-L81, L96, L19014, L83023-26, L84019-21, L95003, L99017-19, L99084, L99089, L99091, L99 095, N54005, N80012-14.

(l) ICPC–2 codes: B76-B77, D79-D80, R87-R88, U80, W75, X82, Y80.

(m) ICPC–2 codes: A80-A82, F75-F79, H76-H79, H85, L72-L81, L96, L19014, L83023-26, L84019-21, L95003, L99017-19, L99084, L99089, L99091, L99 095, N54005, N80012-14, N79-N81, S12-S19, Z25.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Mortality

Table 1.03.10 presents data on mortality due to external causes (injury and poisoning) over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, external causes (injury and poisoning) were responsible for 15% of Indigenous deaths.
- After adjusting for differences in age distribution, a slightly higher proportion of Indigenous deaths had an underlying cause of external causes (injury and poisoning) than non-Indigenous deaths (7% and 6%, respectively). External causes were reported as an additional cause of death in 11% of Indigenous deaths and 10% of non-Indigenous deaths.
- Intentional self-harm (suicide) was the most common external cause reported as an additional cause of death for Indigenous persons (4% of deaths).
- The mean number of causes of death for deaths with an underlying cause of external cause (injury and poisoning) was slightly lower for Indigenous Australians (3.1) than non-Indigenous Australians (3.5).

Table 1.03.10: Selected external causes (injury and poisoning) as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006-2010[a][b][c][d][e][f][g]

	Underlying cause								Additional cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Indig.	Non-Indig.
Site of neoplasm	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Crude mean no. of causes[i]	Crude mean no. of causes[i]
Males																		
Intentional self-harm (X60–X84)	31.5	6.1	33.9	2.6	15.6	2.3	15.5	2.2	31.5	6.1	33.9	2.6	15.6	2.3	15.6	2.3	2.8	2.6
Accidents																		
Transport accidents (V01–V99)	26.4	5.1	29.6	2.2	11.2	1.7	11.2	1.6	26.7	5.2	30.2	2.3	11.5	1.7	11.4	1.7	2.9	2.8
Accidental drowning or accidental threats to breathing (W65–W84)	4.1	0.8	5.8	0.4	2.8	0.4	2.8	0.4	8.4	1.6	14.1	1.1	7.6	1.1	7.8	1.1	3.0	3.4
Accidental poisoning by and exposure to noxious substances (X40–X49)	9.1	1.8	10.6	0.8	5.0	0.8	5.1	0.7	13.7	2.7	16.6	1.3	6.1	0.9	6.1	0.9	3.8	3.7
Exposure to electric current/smoke/fire/animals/nature (W85–W99,X00–X39)	2.8	0.6	4.7	0.4	0.9	0.1	0.9	0.1	3.1	0.6	5.1	0.4	1.2	0.2	1.2	0.2	3.1	3.3
Accidental falls (W00–W19)	3.7	0.7	8.7	0.7	5.7	0.9	6.0	0.9	4.3	0.8	9.6	0.7	7.4	1.1	7.8	1.1	4.3	4.4

(continued)

Table 1.03.10 (continued): Selected external causes (injury and poisoning) as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006-2010[(a)(b)(c)(d)(e)(f)(g)]

	Underlying cause								Additional cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Indig.	Non-Indig.
External cause	**Rate**	**Proportion of total deaths %**	**Rate**	**Proportion of total deaths %**	**Rate**	**Proportion of total deaths %**	**Rate**	**Proportion of total deaths %**	**Rate**	**Proportion of total deaths %**	**Rate**	**Proportion of total deaths %**	**Rate**	**Proportion of total deaths %**	**Rate**	**Proportion of total deaths %**	**Crude mean no. of causes[(i)]**	**Crude mean no. of causes[(i)]**
Exposure to inanimate mechanical forces (W20–W49)	1.5	0.3	n.p.	n.p.	0.8	0.1	0.8	0.1	1.7	0.3	1.8	0.1	0.8	0.1	0.8	0.1	3.4	2.9
Other external causes of accidental injury (W50–W64 X50–X59)	1.5	0.3	n.p.	n.p.	3.1	0.5	3.4	0.5	3.5	0.7	11.9	0.9	8.1	1.2	8.6	1.2	4.3	5.0
Assault (X85–Y09)	8.4	1.6	10.3	0.8	1.3	0.2	1.3	0.2	8.5	1.7	10.5	0.8	1.3	0.2	1.3	0.2	2.8	2.7
Complications of medical or surgical care (Y40–Y84)	0.7	0.1	n.p.	n.p.	1.1	0.2	1.1	0.2	12.7	2.5	31.3	2.4	16.5	2.5	17.0	2.5	5.5	5.1
Other external causes)[(j)]	6.5	1.3	9.0	0.7	3.8	0.6	3.8	0.6	9.1	1.8	15.1	1.1	5.2	0.8	5.2	0.8	3.3	3.4
Total external causes	**96.3**	**18.8**	**119.2**	**9.0**	**51.4**	**7.7**	**51.9**	**7.5**	**117.3**	**22.9**	**169.9**	**12.9**	**78.5**	**11.7**	**80.0**	**11.6**	**3.1**	**3.3**
All causes	513.3	100.0	1,321.9	100.0	668.4	100.0	690.8	100.0	513.3	100.0	1,321.9	100.0	668.4	100.0	690.8	100.0	3.2	3.2

(continued)

Table 1.03.10 (continued): Selected external causes (injury and poisoning) as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006-2010[(a)(b)(c)(d)(e)(f)(g)]

	Underlying cause								Additional cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Indig.	Non-Indig.
External cause	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Crude mean no. of causes[(i)]	Crude mean no. of causes[(i)]
									Females									
Intentional self-harm (X60–X84)	9.5	2.3	8.9	0.9	4.6	0.7	4.5	0.9	9.5	2.3	8.9	0.9	4.6	0.7	4.5	0.9	2.8	2.9
Accidents																		
Transport accidents (V01–V99)	12.2	2.9	13.9	1.4	3.6	0.6	3.5	0.7	12.4	3.0	14.5	1.4	3.6	0.6	3.5	0.7	2.9	2.7
Accidental drowning or accidental threats to breathing (W65–W84)	1.8	0.4	1.5	0.1	1.3	0.2	1.2	0.2	4.5	1.1	7.8	0.8	5.1	0.8	4.3	0.8	2.5	3.7
Accidental poisoning by and exposure to noxious substances (X40–X49)	4.8	1.2	5.8	0.6	2.3	0.4	2.2	0.4	7.5	1.8	9.1	0.9	2.8	0.4	2.6	0.5	3.8	4.1
Exposure to electric current/smoke/fire/ animals/nature (W85–W99,X00–X39)	1.2	0.3	n.p.	n.p.	0.4	0.1	0.4	0.1	1.2	0.3	n.p.	n.p.	0.7	0.1	0.6	0.1	3.0	3.5
Accidental falls (W00–W19)	1.8	0.4	4.5	0.4	5.6	0.9	4.5	0.9	2.7	0.6	7.1	0.7	8.0	1.3	6.4	1.2	5.3	4.5

(continued)

Table 1.03.10 (continued): Selected external causes (injury and poisoning) as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006-2010[a][b][c][d][e][f][g]

	Underlying cause								Additional cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Indig.	Non-Indig.
External cause	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Crude mean no. of causes[i]	Crude mean no. of causes[i]
Exposure to inanimate mechanical forces (W20–W49)	0.4	0.1	n.p.	n.p.	0.1	0.0	0.1	0.0	0.4	0.1	n.p.	n.p.	0.1	0.0	0.1	0.0	2.8	3.0
Other external causes of accidental injury (W50–W64 X50–X59)	1.6	0.4	n.p.	n.p.	4.1	0.7	3.3	0.6	4.1	1.0	12.8	1.3	11.8	1.9	9.4	1.8	4.5	5.1
Assault (X85–Y09)	6.4	1.5	7.0	0.7	0.6	0.1	0.6	0.1	6.4	1.5	7.0	0.7	0.6	0.1	0.7	0.1	3.2	2.6
Complications of medical or surgical care (Y40–Y84)	0.8	0.2	n.p.	n.p.	1.2	0.2	1.0	0.2	10.8	2.6	23.7	2.3	13.8	2.2	11.6	2.3	5.5	5.1
Other external causes)[j]	2.2	0.5	2.7	0.3	1.6	0.3	1.5	0.3	3.5	0.8	5.6	0.6	2.7	0.4	2.4	0.5	3.4	3.8
Total external causes	**42.7**	**10.3**	**52.7**	**5.2**	**25.4**	**4.1**	**22.7**	**4.4**	**59.7**	**14.4**	**94.3**	**9.3**	**51.1**	**8.2**	**43.8**	**8.5**	**3.3**	**3.9**
All causes	414.2	100.0	1,016.6	100.0	625.0	100.0	515.2	100.0	414.2	100.0	1,016.6	100.0	625.0	100.0	515.2	100.0	3.4	3.2

(continued)

Table 1.03.10 (continued): Selected external causes (injury and poisoning) as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006-2010[a][b][c][d][e][f][g]

	Underlying cause								Additional cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Indig.	Non-Indig.
External cause	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Crude mean no. of causes[i]	Crude mean no. of causes[i]
									Persons									
Intentional self-harm (X60–X84)	20.4	4.4	21.0	1.8	10.1	1.6	9.9	1.7	20.4	4.4	21.0	1.8	10.1	1.6	9.9	1.7	2.8	2.7
Accidents																		
Transport accidents (V01–V99)	19.3	4.2	21.6	1.9	7.4	1.1	7.3	1.2	19.5	4.2	22.2	1.9	7.5	1.2	7.4	1.2	2.9	2.8
Accidental drowning or accidental threats to breathing (W65–W84)	3.0	0.6	3.4	0.3	2.1	0.3	2.0	0.3	6.4	1.4	10.8	0.9	6.3	1.0	6.0	1.0	2.9	3.5
Accidental poisoning by and exposure to noxious substances (X40–X49)	7.0	1.5	8.2	0.7	3.6	0.6	3.6	0.6	10.6	2.3	12.8	1.1	4.4	0.7	4.4	0.7	3.8	3.9
Exposure to electric current/smoke/fire/ animals/nature (W85–W99,X00–X39)	2.0	0.4	3.0	0.3	0.7	0.1	0.7	0.1	2.2	0.5	3.3	0.3	0.9	0.1	0.9	0.2	3.1	3.3
Accidental falls (W00–W19)	2.7	0.6	6.4	0.6	5.7	0.9	5.2	0.9	3.5	0.7	8.3	0.7	7.7	1.2	7.1	1.2	4.6	4.5

(continued)

Table 1.03.10 (continued): Selected external causes (injury and poisoning) as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006-2010[a][b][c][d][e][f][g]

	Underlying cause								Additional cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Indig.	Non-Indig.
External cause	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Rate	Proportion of total deaths %	Crude mean no. of causes[i]	Crude mean no. of causes[i]
Exposure to inanimate mechanical forces (W20–W49)	1.0	0.2	0.9	0.1	0.4	0.1	0.4	0.1	1.0	0.2	1.1	0.1	0.5	0.1	0.5	0.1	3.3	2.9
Other external causes of accidental injury (W50–W64 X50–X59)	1.5	0.3	4.1	0.4	3.6	0.6	3.3	0.6	3.8	0.8	12.5	1.1	9.9	1.5	9.1	1.5	4.4	5.1
Assault (X85–Y09)	7.4	1.6	8.6	0.7	1.0	0.1	1.0	0.2	7.5	1.6	8.6	0.7	1.0	0.2	1.0	0.2	3.0	2.7
Complications of medical or surgical care (Y40–Y84)	0.7	0.2	n.p.	n.p.	1.1	0.2	1.0	0.2	11.7	2.5	27.2	2.4	15.2	2.3	14.0	2.3	5.5	5.1
Other external causes)[j]	4.4	0.9	5.6	0.5	2.7	0.4	2.6	0.4	6.3	1.4	9.9	0.9	3.9	0.6	3.7	0.6	3.3	3.5
Total external causes	**69.4**	**15.0**	**84.5**	**7.3**	**38.4**	**5.9**	**37.1**	**6.2**	**88.4**	**19.1**	**130.7**	**11.3**	**64.7**	**10.0**	**61.5**	**10.3**	**3.1**	**3.5**
All causes	463.5	100.0	1,156.1	100.0	646.6	100.0	597.3	100.0	463.5	100.0	1,156.1	100.0	646.6	100.0	597.3	100.0	3.3	3.2

(continued)

Table 1.03.10 (continued): Selected external causes (injury and poisoning) as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006-2010[(a)(b)(c)(d)(e)(f)(g)]

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) These data exclude 5,441 registered deaths where the Indigenous status was not stated over the period 2006-2010.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(h) Figures are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mean number of causes is calculated based on the average number of causes of death present for a death with the selected underlying cause of death. This data item provides insight into co-morbidity.

(j) Includes event of undetermined intent; legal intervention and operations of war; sequelae of external cause of mortality; supplementary factors related to causes of mortality not classified elsewhere.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Injury due to transport

Mode of transport

Tables 1.03.11 and 1.03.12 present data on mode of transport for fatal and serious injury for the six jurisdictions assessed as having adequate identification of Indigenous deaths for the period 2003–04 to 2006–07 and hospitalisations for 2003–04 to 2007–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- During the period 2003–04 to 2006–07, 56% of Indigenous persons fatally injured in a transport accident were occupants of a car, 29% were pedestrians, 3.8% were motorcyclists and 1.5% were occupants of a pick-up truck or van. Of other Australians fatally injured in a transport accident, 51% were occupants of a car, 15% were pedestrians, 14% were motorcyclists, and 2.9% were occupants of pick-up truck or van (Table 1.03.11).
- Of the Indigenous persons seriously injured in a transport accident in the period 2003–04 to 2007–08, 42% were occupants of a car, 17% were pedal cyclists, 15% were motorcyclists and 14% were pedestrians. Of other Australians seriously injured in a transport accident, 35% were occupants of a car, 25% were motorcyclists, 17% were pedal cyclists, 7% were pedestrians and 6% were animal riders or an occupant of an animal-drawn vehicle (Table 1.03.12).

Table 1.03.11: Mode of transport[(a)] for fatal injury, NSW, Vic, Qld, WA, SA & NT, 2003–04 to 2006–07

	Indigenous			Other				
Fatally injured person	**Number**	**Per cent**	**Rate[(b)]**	**Number**	**Per cent**	**Rate[(b)]**	**Rate ratio[(c)]**	**Rate difference[(d)]**
Car occupant	191	55.7	11.1	3,025	51.2	3.9	2.9	7.2
traffic[(e)]	179	52.2	10.5	2,937	49.7	3.8	2.8	6.7
non-traffic[(f)]	10	2.9	0.5	79	1.3	0.1	4.5	0.4
Motorcyclist	13	3.8	0.7	813	13.8	1.1	0.7	–0.4
traffic[(e)]	12	3.5	0.6	747	12.7	1.0	0.7	–0.4
non-traffic[(f)]	n.p.	n.p.	n.p.	65	1.1	0.1	n.p.	n.p.
Pedal cyclist	n.p.	n.p.	n.p.	128	2.2	0.2	n.p.	n.p.
traffic[(e)]	n.p.	n.p.	n.p.	122	2.1	0.2	n.p.	n.p.
non-traffic[(f)]	0	0.0	0.0	6	0.1	0.0	0.0	0.0
Pedestrian	100	29.2	6.0	861	14.6	1.1	5.5	4.9
traffic[(e)]	81	23.6	4.9	703	11.9	0.9	5.5	4.0
non-traffic[(f)]	13	3.8	0.8	105	1.8	0.1	6.2	0.7
Occupant of pick-up truck or van	5	1.5	0.3	169	2.9	0.2	1.3	0.1
Occupant of heavy transport vehicle	n.p.	n.p.	n.p.	137	2.3	0.2	n.p.	n.p.
Bus occupant	n.p.	n.p.	n.p.	14	0.2	0.0	n.p.	n.p.
Animal rider or occupant of animal-drawn vehicle	0	0.0	0.0	25	0.4	0.0	0.0	0.0
Occupant of special all-terrain or off-road vehicle	n.p.	n.p.	n.p.	44	0.7	0.1	n.p.	n.p.
Occupant of 3-wheeled motor vehicle	0	0.0	0.0	11	0.2	0.0	1.0	0.0
Occupant of a tram	0	0.0	0.0	n.p.	n.p.	n.p.	n.p.	n.p.
Occupant of a train	0	0.0	0.0	19	0.3	0.0	0.0	0.0

(continued)

Table 1.03.11 (continued): Mode of transport[(a)] for fatal injury, NSW, Vic, Qld, WA, SA & NT, 2003–04 to 2006–07

	Indigenous			Other				
Fatally injured person	**Number**	**Per cent**	**Rate(b)**	**Number**	**Per cent**	**Rate(b)**	**Rate ratio(c)**	**Rate difference(d)**
Occupant of a special industrial vehicle	0	0.0	0.0	24	0.4	0.0	0.0	0.0
Occupant of a special agricultural vehicle	0	0.0	0.0	53	0.9	0.1	0.0	–0.1
Occupant of a special construction vehicle	0	0.0	0.0	19	0.3	0.0	0.0	0.0
Occupant of watercraft	n.p.	n.p.	n.p.	118	2.0	0.1	n.p.	n.p.
Occupant of aircraft	n.p.	n.p.	n.p.	155	2.6	0.2	n.p.	n.p.
Other and unspecified	16	4.7	0.7	288	4.9	0.4	1.8	0.3
Total	**343**	**100.0**	**19.7**	**5,905**	**100.0**	**7.5**	**2.6**	**12.2**

(a) ‘Mode of transport’ here means the vehicle the person was travelling in at the time of being injured in a transport accident. ‘Other and unspecified’ includes V87, V88, V89, V98, and V99 for ICD–10 (deaths).

(b) Per 100,000 population, adjusted by direct standardisation to the Australian population in June 2001.

(c) Ratio of age-standardised rate for persons specified as Indigenous to the equivalent rate for all other persons (i.e. non-Indigenous or not stated).

(d) Difference between age-standardised rate for persons specified as Indigenous to the equivalent rate for all other persons (i.e. non-Indigenous or not stated).

(e) A traffic accident is any vehicle accident occurring on a public road (i.e. originating on, terminating on, or involving a vehicle partially on the road).

(f) A non-traffic accident is any vehicle accident that occurs entirely on any place other than a public road. For a certain proportion of cases, whether an accident was traffic or non-traffic was unknown. These cases are included in the totals for each mode of transport and this is the reason the sum of traffic and non-traffic cases is sometimes less than the total for each mode.

Source: Henley and Harrison, 2010.

Table 1.03.12: Mode of transport[(a)] for serious injury, NSW, Vic, Qld, WA, SA and NT, 2003–04 to 2007–08

	Indigenous			Other				
Seriously injured person	Number	Per cent	Rate[(b)]	Number	Per cent	Rate[(b)]	Rate ratio[(c)]	Rate difference[(d)]
Car occupant	3,167	41.7	134.5	83,321	34.7	84.5	1.6	50.0
traffic[(e)]	2,691	35.5	114.4	72,944	30.8	74.9	1.5	39.5
non-traffic[(f)]	368	4.8	15.3	6,971	2.9	7.2	2.1	8.1
Motorcyclist	1,135	15.0	38.0	58,927	24.9	61.8	0.6	–23.8
traffic[(e)]	527	6.9	18.7	30,601	12.9	31.9	0.6	–13.2
non-traffic[(f)]	576	7.6	18.4	26,182	11.0	27.7	0.7	–9.3
Pedal cyclist	1,265	16.7	35.7	40,164	16.9	42.7	0.8	–7.0
traffic[(e)]	582	7.7	17.6	19,982	8.4	21.1	0.8	–3.5
non-traffic[(f)]	635	8.4	16.8	18,844	7.9	20.2	0.8	–3.4
Pedestrian	1,064	14.0	44.4	16,938	7.1	17.4	2.5	27.0
traffic[(e)]	774	10.2	33.5	11,930	5.0	12.3	2.7	21.2
non-traffic[(f)]	153	2.0	5.3	3,261	1.4	3.4	1.6	1.9
Occupant of pick-up truck or van	119	1.6	5.2	2,334	1.0	2.4	2.2	2.8
Occupant of heavy transport vehicle	46	0.6	2.4	3,676	1.6	3.8	0.6	–1.4
Bus occupant	45	0.6	2.4	2,007	0.8	2.0	1.2	0.4
Animal rider or occupant of animal-drawn vehicle	331	4.4	12.2	14,792	6.2	15.5	0.8	–3.3
Occupant of special all-terrain or off-road vehicle	96	1.3	3.0	3,371	1.4	3.5	0.8	–0.5
Occupant of three-wheeled motor vehicle	9	0.1	0.4	339	0.1	0.3	1.1	0.1
Occupant of a tram	14	0.2	0.7	347	0.1	0.3	2.0	0.4
Occupant of a train	18	0.2	0.6	544	0.2	0.5	1.1	0.1

(continued)

Table 1.03.12 (continued): Mode of transport[(a)] for serious injury, NSW, Vic, Qld, WA, SA and NT, 2003–04 to 2007–08

	Indigenous			Other				
Seriously injured person	**Number**	**Per cent**	**Rate(b)**	**Number**	**Per cent**	**Rate(b)**	**Rate ratio(c)**	**Rate difference(d)**
Occupant of a special industrial vehicle	16	0.2	0.9	704	0.3	0.7	1.2	0.2
Occupant of a special agricultural vehicle	10	0.1	0.3	935	0.4	0.9	0.3	–0.6
Occupant of a special construction vehicle	n.p.	n.p.	n.p.	308	0.1	0.3	0.9	n.p.
Occupant of watercraft	59	0.8	2.6	3,643	1.5	3.8	0.7	–1.2
Occupant of aircraft	n.p.	n.p.	n.p.	658	0.3	0.7	n.p.	n.p.
Other and unspecified	189	2.5	7.2	5,112	2.2	5.3	1.4	1.9
Total	**7,590**	**100.0**	**290.0**	**237,120**	**100.0**	**246.6**	**1.2**	**43.4**

(a) 'Mode of transport' here means the vehicle the person was travelling in at the time of being injured in a transport accident. 'Other and unspecified' includes V87, V88, V89, V98, and V99 for ICD–10 (deaths).

(b) Per 100,000 population, adjusted by direct standardisation to the Australian population in June 2001.

(c) Ratio of age-standardised rate for persons specified as Indigenous to the equivalent rate for all other persons (i.e. non-Indigenous or not stated).

(d) Difference between age-standardised rate for persons specified as Indigenous to the equivalent rate for all other persons (i.e. non-Indigenous or no stated).

(e) A traffic accident is any vehicle accident occurring on a public road (i.e. originating on, terminating on, or involving a vehicle partially on the road).

(f) A non-traffic accident is any vehicle accident that occurs entirely on any place other than a public road. For a certain proportion of cases, whether an accident was traffic or non-traffic was unknown. These cases are included in the totals for each mode of transport and this is the reason the sum of traffic and non-traffic cases is sometimes less than the total for each mode.

Source: Henley and Harrison, 2010.

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Land transport injury

- Most Indigenous transport deaths (98%) and serious injury cases (99%) were known to have involved land transport; 95% of other Australian transport deaths and 97% of serious injury cases were known to have involved land transport (Henley and Harrison, 2010).
- During the period 2003–04 to 2006–07, land transport accidents accounted for 20% of fatal injury cases for Indigenous people. From 2003–04 to 2007–08, land transport accidents accounted for 8% of all injury hospitalisations for Indigenous people. The age-standardised rate of land transport injury was 19 deaths per 100,000 Indigenous persons and 287 admissions to hospital per 100,000 Indigenous persons (Henley and Harrison, 2010).

Land transport injury by age and sex

- Fatal injury rates for Indigenous males were higher than those for other males across all ages. For females, fatal injury rates were similar for Indigenous and other women in the 10–14 and 15–19 year age groups, but Indigenous females had a higher death rate than other females in all other age groups (Table 1.03.13).
- Age-specific fatal injury rates for other males and females were highest for the 15–19 and 20–24 year age groups. For Indigenous males and females, fatal injury rates rose in the older teenage years and early adulthood then remained elevated through middle age, although age-specific rates were variable due to small numbers in each age group (Table 1.03.13).
- For Indigenous males and females, serious injury rates rose in the older teenage years and early adulthood then remained elevated throughout middle age. However, for other males and females, serious injury rates were highest for the 15–19 and 20–24 year age groups, declining thereafter until the 65 years and over age group (Table 1.03.13).

Table 1.03.13: Age-specific serious injury rates (per 100,000 population)[(a)] for land transport injury by sex, Indigenous and other persons, NSW, Vic, Qld, WA, SA and NT 2003–04 to 2007–08

	0–4	**5–9**	**10–14**	**15–19**	**20–24**	**25–29**	**30–34**	**35–39**	**40–44**	**45–49**	**50–54**	**55–59**	**60–64**	**65+**	**Age std.[(b)]**
Fatal injury (2003–04 to 2006–07)															
Indigenous male	12.7	5.5	4.7	38.1	33.5	22.9	45.4	51.8	28.8	28.3	19.2	23.0	34.6	31.1	27.5
Other male	2.2	1.7	2.5	17.9	22.1	17.3	15.5	11.6	9.1	9.6	8.2	7.5	8.6	13.0	10.8
Indigenous female	5.8	4.9	1.7	6.9	15.4	14.0	15.5	13.0	18.3	26.3	7.7	10.4	20.3	8.5	11.8
Other female	2.0	1.0	1.7	7.1	6.0	3.1	3.0	2.9	2.4	3.0	2.7	3.9	4.4	6.5	3.7
Serious injury (2003–04 to 2007–08)															
Indigenous male	156.7	254.5	492.0	650.0	554.8	545.5	532.1	465.0	440.4	398.2	311.6	255.0	166.1	186.4	386.3
Other male	78.8	215.0	490.1	681.3	603.0	466.8	412.2	351.0	303.9	258.3	220.6	186.5	163.9	176.5	329.0
Indigenous female	116.1	158.2	150.0	272.9	261.0	262.2	248.4	262.4	193.2	171.5	172.0	133.1	166.8	108.8	189.5
Other female	47.5	130.3	182.5	284.6	227.8	175.2	142.2	131.8	123.6	121.4	119.2	113.0	109.1	151.0	148.9

(a) Rates are averages of annual rates over the four years 2003–04 to 2006–07 for fatally injured persons and over the five years 2003–04 to 2007–08 for seriously injured persons.

(b) Adjusted by direct standardisation to the Australian population in June 2001.

Source: Henley and Harrison, 2010.

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Additional information

This section presents information on injuries received in the 4 weeks before the interview from the 2004–05 ABS National Aboriginal and Torres Strait Islander Health Survey (NATSIHS). The NATSIHS collected information on the type of injury, the damage caused by the injury, the activity and location at the time of injury and the part of the body affected.

Note that the 2004–05 NATSIHS data relate only to persons in private dwellings. People in hospitals, nursing and convalescent homes, and hospices were excluded from the sample.

Prevalence

- After adjusting for differences in age distribution, Indigenous Australians had a slightly lower rate of reported recent injury (in the previous 4 weeks) than non-Indigenous Australians (15.4 per 100 compared with 18.6 per 100).

Type of injury

- The most common events which led to injury for Indigenous Australians were low falls (33%) and cuts (19%).
- Indigenous Australians were three times as likely as non-Indigenous Australians to report a recent injury which was the result of an attack by another person (rate ratio 2.8) or a high fall (rate ratio 3.1).

Nature of injury

- The most common forms of recent injury for Indigenous Australians were an open wound (41%) and bruising (30%).
- Nearly half (45%) of Indigenous Australians aged 0–14 years who experienced an injury had an open wound. Bruising was also a common injury in this age group (36%).
- Indigenous Australians were more than twice as likely as non-Indigenous Australians to report a fracture as a recent injury (rate ratio 2.4).

Activity at time of injury event

- Leisure activities were the most common activity being undertaken when Indigenous Australians were injured (37% of Indigenous persons recently injured were undertaking leisure activity at the time of injury).
- In the Indigenous 0–14 age group, 62% of injuries occurred during leisure activities, 14% occurred during sports activities and 7% of injuries received in this age group occurred while attending school. For non-Indigenous Australians in the 0–14 age group, 54% of injuries occurred during leisure activities, 15% of injuries occurred during sports activities and 12% of injuries were received while attending school.
- Indigenous Australians who were recently injured were slightly less likely than non-Indigenous Australians who were recently injured to be attending school/college/university or working for income or as a volunteer at the time of injury (rate ratios of 0.7 and 0.8 respectively) and slightly more likely to be resting, sleeping or engaged in other personal activities at the time of injury (rate ratio of 1.4).

Location at time of injury event

- Indigenous Australians who received recent injuries were most likely to experience them inside or outside their own or someone else’s home (29% and 28% respectively).
- Indigenous Australians were less likely that non-Indigenous Australians to experience recent injuries at a commercial or industrial place (respective rate ratios of 0.5 and 0.7)

and slightly more likely than non-Indigenous Australians to experience recent injuries at a street/highway (rate ratio of 1.3).

Influence of alcohol

- In 2004–05, 6% of Indigenous Australians aged 15 years and over reported being under the influence of alcohol or other substances at the time of injury.
- Indigenous Australians were almost five times as likely as non-Indigenous Australians to report being under the influence of alcohol or other substances at the time of injury (rate ratio of 4.5).

Data quality issues

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from WA where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and

Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data (AIHW 2010).

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011-12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998 to 2008, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as

Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006-07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.04 Respiratory disease

Deaths, hospitalisations and prevalence of respiratory disease for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and ratio

Data sources

Data for this measure come from the Australian Institute of Health and Welfare (AIHW) National Mortality Database, the National Hospital Morbidity Database and the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS). Additional information on invasive pneumococcal disease notifications comes from the National Notifiable Disease Surveillance System.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in

data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).

- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

National Notifiable Diseases Surveillance System

A set of 65 diseases and conditions are notifiable nationally to the National Notifiable Diseases Surveillance System (NNDSS), which is managed by the Australian Government Department of Health and Ageing.

Identification of Indigenous notifications in all states and territories is incomplete, with the level of completeness varying across diseases as well as jurisdictions. The NNDSS provided the AIHW with data on Indigenous status completeness by disease and jurisdiction. Using a cut-off of 50% completeness of Indigenous status for the period 2009-2011, Western Australia, South Australia, Tasmania and the Northern Territory were assessed to have adequate identification for chlamydia, syphilis, gonorrhoea, hepatitis B and hepatitis C. Of the remaining states/territories, Queensland and Victoria had adequate identification for syphilis, gonorrhoea and chlamydia; ACT had adequate identification for syphilis, gonorrhoea and hepatitis B; and New South Wales had adequate identification for syphilis only.

Although data on hepatitis C is included in this indicator, sexual transmission is not considered the main route of transmission, hepatitis C primarily occurs among those with a history of injecting drug use. Data for hepatitis C included in this indicator are for ‘newly acquired’ and ‘unspecified’ notifications.

All categories of syphilis (including infectious, latent and unknown duration) have been included in the analysis of data in this report, with the exception on New South Wales for which the category of greater than 2 years duration or unknown status have been excluded due to low completeness of Indigenous status for these data.

Three years have been combined for reporting due to the small number of Indigenous and non-Indigenous notifications for some STIs each year.

Other Australians includes notifications for non-Indigenous Australians and those for whom Indigenous status is not stated.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women’s health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012-13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Analyses

Mortality

Table 1.04.1 presents data on mortality due to respiratory diseases over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

Further information on mortality due to respiratory disease, including trends over time can be found in indicator 1.23 Leading causes of mortality.

- Over the period 2006–2010, there were 858 deaths of Indigenous Australians and 39,317 deaths of non-Indigenous Australians from respiratory diseases in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.
- Over the period 2006–2010, respiratory diseases were responsible for 8% of Indigenous deaths and 8% of non-Indigenous deaths, most of which were for Chronic Obstructive Pulmonary Disease (COPD) (55%). Additionally, respiratory disease was reported as an additional cause of death in 26% of Indigenous deaths and 30% of non-Indigenous deaths.
- Indigenous Australians died from respiratory diseases at around twice the rate of non-Indigenous Australians.
- There has been a significant decline in mortality rates for respiratory diseases among Indigenous Australians in Western Australia, South Australia and the Northern Territory combined between 1997 and 2010 (39%), and a significant decline in the gap between Indigenous and non-Indigenous Australians (45% decline in the rate difference).
- Over the period 2001 to 2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a 20% decline in respiratory disease mortality rates for Indigenous persons, and no significant change in the gap (see Indicator 1.23 for more).
- The mean number of causes of death reported for deaths with an underlying cause of respiratory disease was similar for Indigenous Australians (3.4) and non-Indigenous Australians (3.3) (Table 1.04.1).
- After adjusting for differences in age-structure, COPD was reported as an additional cause of death in 13% of Indigenous deaths compared with 9% of non-Indigenous deaths (Table 1.04.1).

Table 1.04.1: Selected respiratory diseases as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f][g][h]

	Underlying cause								**Additional cause**									
	Indigenous				**Non-Indigenous**				**Indigenous**				**Non-Indigenous**					
	Crude		**Age-standardised[i]**		**Crude**		**Age-standardised[i]**		**Crude**		**Age-standardised[i]**		**Crude**		**Age-standardised[i]**		**Indig.**	**Non-Indig.**
	Rate[f]	**% of total deaths**	**Rate[f]**	**% of total deaths**	**Rate[f]**	**% of total deaths**	**Rate[f]**	**% of total deaths**	**Rate[f]**	**% of total deaths**	**Rate[f]**	**% of total deaths**	**Rate[f]**	**% of total deaths**	**Rate[f]**	**% of total deaths**	**Crude Mean no. of causes[j]**	**Crude Mean no. of causes[j]**
Males																		
Chronic lower respiratory diseases (J40–J47)	22.6	4.4	88.5	6.7	29.1	4.4	30.6	4.4	51.1	10.0	202.9	15.3	76.8	11.5	80.6	11.7	3.7	3.6
COPD (J40-J44)[k]	*18.6*	*3.6*	*79.2*	*6.0*	*26.9*	*4.0*	*28.4*	*4.1*	*45.3*	*8.8*	*187.6*	*14.2*	*71.5*	*10.7*	*75.2*	*10.9*	*3.6*	*3.6*
Asthma (J45-J46)[k]	*1.3*	*0.3*	*n.p.*	*n.p.*	*1.4*	*0.2*	*1.4*	*0.2*	*3.3*	*0.7*	*10.8*	*0.8*	*4.6*	*0.7*	*4.7*	*0.7*	*3.4*	*3.5*
Pneumonia and influenza (J09–J18)	8.6	1.7	23.7	1.8	9.2	1.4	9.8	1.4	53.5	10.4	176.2	13.3	76.7	11.5	81.3	11.8	2.4	2.3
Other respiratory disease (J00–06, J20–39, J60–99)	7.1	1.4	23.6	1.8	18.0	2.7	19.1	2.8	58.0	11.3	181.5	13.7	97.6	14.6	102.3	14.8	3.5	3.6
Total respiratory diseases	**38.3**	**7.5**	**135.8**	**10.3**	**56.3**	**8.4**	**59.5**	**8.6**	**132.0**	**25.7**	**447.4**	**33.8**	**207.5**	**31.0**	**218.3**	**31.6**	**3.4**	**3.4**
All causes	513.3	100.0	1,321.9	100.0	668.4	100.0	690.8	100.0	513.3	100.0	1,321.9	100.0	668.4	100.0	690.8	100.0	3.2	3.2

(continued)

Table 1.04.1 (continued): Selected respiratory diseases as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010 (a)(b)(c)(d)(e)(f)(g)(h)

	Underlying cause								Additional cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(i)		Crude		Age-standardised(i)		Crude		Age-standardised(i)		Crude		Age-standardised(i)		Indig.	Non-Indig.
	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Crude Mean no. of causes(j)	Crude Mean no. of causes(j)
									Females									
Chronic lower respiratory diseases (J40–J47)	21.8	5.3	65.3	6.4	24.3	3.9	20.0	3.9	48.8	11.8	145.9	14.4	56.2	9.0	46.2	9.0	3.7	3.5
COPD (J40-J44)(k)	*17.6*	*4.2*	*55.3*	*5.4*	*20.3*	*3.2*	*16.7*	*3.2*	*39.5*	*9.5*	*123.9*	*12.2*	*46.6*	*7.5*	*38.3*	*7.4*	*3.7*	*3.5*
Asthma (J45-J46)(k)	*2.5*	*0.6*	*5.7*	*0.6*	*2.3*	*0.4*	*2.0*	*0.4*	*6.9*	*1.7*	*17.0*	*1.7*	*7.9*	*1.3*	*6.5*	*1.3*	*3.9*	*3.8*
Pneumonia and influenza (J09–J18)	6.6	1.6	16.2	1.6	11.3	1.8	9.1	1.8	39.9	9.6	114.7	11.3	75.9	12.1	61.2	11.9	2.7	2.2
Other respiratory disease (J00–06, J20–39, J60–99)	4.7	1.1	14.3	1.4	14.1	2.3	11.4	2.2	45.4	11.0	126.0	12.4	80.4	12.9	65.9	12.8	3.4	3.5
Total respiratory diseases	**33.2**	**8.0**	**95.8**	**9.4**	**49.7**	**8.0**	**40.5**	**7.9**	**110.9**	**26.8**	**315.6**	**31.0**	**179.9**	**28.8**	**146.6**	**28.5**	**3.5**	**3.2**
All causes	414.2	100.0	1,016.6	100.0	625.0	100.0	515.2	100.0	414.2	100.0	1,016.6	100.0	625.0	100.0	515.2	100.0	3.4	3.2

(continued)

Table 1.04.1 (continued): Selected respiratory diseases as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010 (a)(b)(c)(d)(e)(f)(g)(h)

	Underlying cause								Additional cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(i)		Crude		Age-standardised(i)		Crude		Age-standardised(i)		Crude		Age-standardised(i)		Indig.	Non-Indig.
	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Rate(f)	% of total deaths	Crude Mean no. of causes(j)	Crude Mean no. of causes(j)
									Persons									
Chronic lower respiratory diseases (J40–J47)	22.2	4.8	74.9	6.5	26.7	4.1	24.6	4.1	49.9	10.8	169.4	14.7	66.5	10.3	61.2	10.2	3.7	3.6
COPD (J40-J44)(k)	*18.1*	*3.9*	*65.1*	*5.6*	*23.6*	*3.7*	*21.7*	*3.6*	*42.4*	*9.1*	*150.3*	*13.0*	*59.0*	*9.1*	*54.3*	*9.1*	*3.6*	*3.6*
Asthma (J45-J46)(k)	*1.9*	*0.4*	*4.8*	*0.4*	*1.9*	*0.3*	*1.7*	*0.3*	*5.1*	*1.1*	*14.2*	*1.2*	*6.2*	*1.0*	*5.7*	*1.0*	*3.7*	*3.6*
Pneumonia and influenza (J09–J18)	7.6	1.6	19.5	1.7	10.3	1.6	9.4	1.6	46.7	10.1	141.3	12.2	76.3	11.8	70.1	11.7	2.6	2.2
Other respiratory disease (J00–06, J20–39, J60–99)	5.9	1.3	18.4	1.6	16.0	2.5	14.7	2.5	51.7	11.2	150.6	13.0	89.0	13.8	81.9	13.7	3.5	3.6
Total respiratory diseases	**35.7**	**7.7**	**112.8**	**9.8**	**53.0**	**8.2**	**48.7**	**8.2**	**121.4**	**26.2**	**372.2**	**32.2**	**193.6**	**29.9**	**178.2**	**29.8**	**3.4**	**3.3**
All causes	463.5	100.0	1,156.1	100.0	646.6	100.0	597.3	100.0	463.5	100.0	1,156.1	100.0	646.6	100.0	597.3	100.0	3.3	3.2

(continued)

Table 1.04.1 (continued): Selected respiratory diseases as causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010 (a)(b)(c)(d)(e)(f)(g)(h)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) These data exclude 5,441 registered deaths where the Indigenous status was not stated over the period 2006-2010.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Rates are number of deaths per 100,000 population.

(g) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(h) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(i) Figures are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(j) Mean number of causes is calculated based on the average number of causes of death present for a death with the selected underlying cause of death. This data item provides insight into co-morbidity.

(k) Data presented for COPD and asthma are a subset of data presented for all chronic lower respiratory diseases.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Hospitalisations

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

- In the 2-year period July 2008 to June 2010, there were 704,000 hospitalisations for respiratory diseases in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 35,343 (5%) of which were hospitalisations of Aboriginal and Torres Strait Islander people (Table 1.04.2).
- Hospitalisations for respiratory diseases represented 6% of all hospital separations for Aboriginal and Torres Strait Islander Australians.

Hospitalisations by age and sex

- In the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males and females had higher hospitalisation rates for respiratory diseases than other males and females across all age groups (Table 1.04.2).
- For both Indigenous and non-Indigenous males and females, hospitalisation rates for respiratory diseases were highest among those aged 0–4 years, and 65 years and over.
- The greatest ratio of Indigenous to non-Indigenous mortality from respiratory diseases occurred in the 45–54 year age group for males and females, where Indigenous males were hospitalised at about 5 times the rate of non-Indigenous males and Indigenous females were hospitalised at over 6 times the rate of non-Indigenous females.
- Approximately 49.4% of Indigenous Australians hospitalised for respiratory diseases were males (17,475) and 50.6% were females (17,868) (Table 1.04.2).

Table 1.04.2: Age-specific hospitalisation rates for a principal diagnosis of diseases of the respiratory system, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c]

									All ages	
	0–4	**5–14**	**15–24**	**25–34**	**35–44**	**45–54**	**55–64**	**65+**	**Crude**	**Age std.[d]**
Males										
Indigenous	103.5	14.8	8.5	13.2	29.4	39.0	60.5	114.6	33.3	43.3
Non-Indigenous	55.9	13.4	7.8	6.2	7.0	8.1	13.9	50.0	17.3	17.5
Rate ratio[e]	1.9	1.1	1.1	2.1	4.2	4.8	4.4	2.3	1.9	2.5
Rate difference[f]	47.5	1.4	0.7	7.0	22.4	30.9	46.7	64.6	16.0	25.8
Females										
Indigenous	75.2	13.5	12.3	18.3	31.5	50.8	73.4	103.9	33.8	43.5
Non-Indigenous	37.5	11.9	10.6	6.9	7.1	8.2	13.4	37.1	15.3	14.6
Rate ratio[e]	2.0	1.1	1.2	2.6	4.4	6.2	5.5	2.8	2.2	3.0
Rate difference[f]	37.6	1.5	1.7	11.4	24.4	42.6	60.0	66.8	18.5	28.8
Persons										
Indigenous	89.6	14.2	10.3	15.7	30.5	45.2	67.4	108.5	33.6	43.2
Non-Indigenous	47.0	12.7	9.2	6.5	7.1	8.1	13.7	43.0	16.3	16.0
Rate ratio[e]	1.9	1.1	1.1	2.4	4.3	5.5	4.9	2.5	2.1	2.7
Rate difference[f]	42.6	1.5	1.2	9.2	23.4	37.0	53.7	65.5	17.3	27.3

(a) Data excludes private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(d) Directly age-standardised using the Australian 2001 standard population.

(e) Rate ratio Indigenous: non-Indigenous Australians.

(f) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

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Hospitalisations by state/territory

Table 1.04.3 presents hospitalisations for a principal diagnosis of respiratory diseases for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory, Tasmania and the Australian Capital Territory.

- Over the period July 2008 to June 2010, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for respiratory diseases at 2.7 times the rate of non-Indigenous Australians.
- In the Northern Territory Indigenous Australians were 4.5 times as likely as non-Indigenous Australians to be hospitalised for respiratory diseases. In Western Australia and South Australia, the ratio was 4 and 3 times respectively. In New South Wales, Victoria and Queensland Indigenous Australians were hospitalised at around twice the rate of non-Indigenous Australians in these jurisdictions.

Table 1.04.3: Hospitalisations for principal diagnosis of diseases of the respiratory system, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008-June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Number per 1,000[(e)]	Number	Number per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
NSW						
Males	4,524	34.2	122,364	17.8	1.9*	16.4*
Females	4,642	37.5	107,017	14.5	2.6*	23.0*
Persons	9,166	35.9	229,381	16.0	2.2*	19.9*
Vic						
Males	676	23.5	92,819	17.6	1.3*	5.9*
Females	795	27.4	84,949	14.8	1.8*	12.6*
Persons	1,471	25.6	177,770	16.0	1.6*	9.6*
Qld						
Males	4,468	41.5	72,162	17.3	2.4*	24.3*
Females	4,315	36.8	63,926	14.6	2.5*	22.2*
Persons	8,783	38.7	136,088	15.9	2.4*	22.8*
WA						
Males	3,274	54.5	31,817	15.2	3.6*	39.3*
Females	3,448	58.1	28,222	13.0	4.5*	45.0*
Persons	6,722	56.2	60,039	14.0	4.0*	42.1*
SA						
Males	1,106	51.4	32,228	20.1	2.6*	31.3*
Females	1,336	58.8	29,722	17.3	3.4*	41.6*
Persons	2,442	55.0	61,950	18.6	3.0*	36.5*
NT						
Males	3,427	66.6	2,098	16.5	4.0*	50.2*
Females	3,332	58.8	1,331	11.1	5.3*	47.7*
Persons	6,759	62.0	3,429	13.9	4.5*	48.1*
NSW, Vic, Qld, WA, SA and NT[(h)]						
Males	**17,475**	**43.3**	**353,488**	**17.5**	**2.5***	**25.8***
Females	**17,868**	**43.5**	**315,167**	**14.6**	**3.0***	**28.8***
Persons	**35,343**	**43.2**	**668,657**	**16.0**	**2.7***	**27.3***
Tas						
Males	187	13.5	5,249	10.3	1.3*	3.2*
Females	219	12.9	4,900	9.2	1.4*	3.8*
Persons	406	13.2	10,149	9.7	1.4*	3.5*

(continued)

Table 1.04.3 (continued): Hospitalisations for principal diagnosis of diseases of the respiratory system, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008–June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Number per 1,000[(e)]	Number	Number per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
ACT						
Males	55	9.3	3,270	10.6	0.9	–1.4
Females	45	16.2	3,031	9.1	1.8*	7.1*
Persons	100	12.8	6,301	9.8	1.3	3.0

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: Non-Indigenous.

(g) Rate difference Indigenous minus Non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for respiratory diseases in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 1.04.4, covering the period July 2008 to June 2010.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for a principal diagnosis of respiratory diseases than non-Indigenous Australians. The ratio of hospitalisations of Indigenous people compared with non-Indigenous Australians was between 1.8 (*Major cities*) and 4.3 (*Remote areas*).
- Rates of hospitalisations per 1,000 head of population were highest for Indigenous people living in *Remote* areas, at about 80 per 1,000. The rate was highest for non-Indigenous Australians who lived in *Very remote* areas, at about 21 per 1,000. The lowest rates were observed in *Major cities* areas for both Indigenous (about 27 per 1,000) and non-Indigenous Australians (15.4 per 1,000).
- Indigenous people in *Remote* areas were hospitalised for respiratory diseases at 4.3 times the rate of non-Indigenous Australians. In *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate which was 1.8 times that of non-Indigenous Australians. Nationally, the rate was 2.7 times.

Table 1.04.4: Hospitalisations for principal diagnosis of diseases of the respiratory system, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008-June 2010[a][b][c][d][e][f]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%[g]	UCL 95%[h]	Number	No. per 1,000	LCL 95%[g]	UCL 95%[h]	Ratio[i]	Difference[j]
Major cities	7,125	26.9	26.1	27.7	444,094	15.3	15.3	15.4	1.8*	11.6*
Inner regional	5,948	34.5	33.4	35.7	143,309	17.3	17.2	17.4	2.0*	17.2*
Outer regional[k]	8,353	48.9	47.5	50.2	67,949	18.0	17.8	18.1	2.7*	30.9*
Remote[l]	6,477	79.8	77.4	82.1	9,803	18.7	18.4	19.1	4.3*	61.0*
Very remote	7,413	51.9	50.5	53.3	3,313	20.6	19.9	21.4	2.5*	31.3*
Total[m]	**35,343**	**42.6**	**42.1**	**43.2**	**668,657**	**16.0**	**15.9**	**16.0**	**2.7***	**26.7***

* Represents results with statistically significant differences in the Indigenous/Non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008-10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by principal diagnosis

Table 1.04.5 presents hospitalisations of Indigenous people for principal diagnosis of diseases of the respiratory system by type of respiratory and sex for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- For the period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of all hospitalisations with a principal diagnosis of respiratory diseases, about 23% was for pneumonia, 13% was for chronic obstructive pulmonary disease (COPD) and 11% was for asthma.
- Indigenous females were hospitalised for COPD at about six times the rate of non-Indigenous females, and Indigenous males were hospitalised for COPD at four times the rate of non-Indigenous males. Indigenous females were hospitalised for pneumonia at 4.2 times the rate of non-Indigenous females, and Indigenous males were hospitalised for pneumonia at 3.5 times the rate of non-Indigenous males.

Table 1.04.5: Hospitalisations of Indigenous persons for principal diagnosis of diseases of the respiratory system, by type of respiratory disease and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

Principal diagnosis	Number	Per cent [(e)]	No per 1,000[(f)]	LCL[(g)]	UCL[(h)]	Ratio[(i)]	Difference[(j)]
				Males			
Asthma (J45)	1,739	10.0	2.5	2.3	2.6	1.6*	1.0*
COPD (J43-J44)	1,978	11.3	11.2	10.6	11.8	4.0*	8.4*
Other	9,799	56.1	18.4	17.8	18.9	1.8*	8.4*
Pneumonia (J12-J18)	3,959	22.7	11.2	10.7	11.7	3.5*	8.0*
Total (J00-J99)	**17,475**	**100.0**	**43.3**	**42.4**	**44.2**	**2.5***	**25.8***
				Females			
Asthma (J45)	2,086	11.7	4.1	3.9	4.4	2.7*	2.6*
COPD (J43-J44)	2,721	15.2	11.6	11.1	12.0	5.9*	9.6*
Other	9,031	50.5	17.2	16.8	17.7	2.0*	8.7*
Pneumonia (J12-J18)	4,030	22.6	10.5	10.1	10.9	4.2*	8.0*
Total (J00-J99)	**17,868**	**100.0**	**43.5**	**42.7**	**44.2**	**3.0***	**28.8***
				Persons			
Asthma (J45)	3,825	10.8	3.4	3.2	3.5	2.2*	1.8*
COPD (J43-J44)	4,699	13.3	11.3	10.9	11.7	4.9*	9.0*
Other	18,830	53.3	17.7	17.4	18.1	1.9*	8.5*
Pneumonia (J12-J18)	7,989	22.6	10.8	10.5	11.1	3.8*	8.0*
Total (J00-J99)	**35,343**	**100.0**	**43.2**	**42.6**	**43.8**	**2.7***	**27.3***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons at the $p < 0.05$ level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2008–09 to 2009–10.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous minus Non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 1998–99 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2007–08 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

Respiratory diseases — 1998-99 to 2009-10

All ages

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for respiratory diseases as principal diagnosis over the period 1998-99 to 2009–10 are presented in Table 1.04.6 and Figure 1.04.1.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant declines in hospitalisation rates for respiratory diseases among Indigenous males, female and persons overall during the period 1998-99 to 2009–10, with an average yearly decline in hospitalisation rates of 0.6 per 1,000 (11% decline) for males, 0.7 per 1,000 (13% decline) for females, and 0.6 per 1,000 (12% decline) for persons respectively.
- There were also significant declines in hospitalisation rates among non-Indigenous Australian males over the same period. The average yearly decline was 0.2 per 1,000 (9% decline).
- There was a significant decline in the hospitalisation rate ratio between Indigenous and non-Indigenous females and persons (not for males). There was a significant decrease in the rate difference between Indigenous and non-Indigenous males, females and persons 12% decline for males and 17% for females).

Children aged 0–4 years

Hospitalisation rates, rate ratios and rate differences between Indigenous and other children aged 0–4 years for respiratory diseases over the 12-year period 1998-99 to 2009–10 are presented in Table 1.04.7 and Figure 1.04.2.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant decrease in hospitalisation rates for respiratory diseases among Indigenous children aged 0–4 years during the period 1998-99 to 2009–10. The fitted trend implies an average yearly decrease in the rate of around 2.9 per 1,000 which is equivalent to a 25% decline over the period.
- Over the same period, there was a significant decrease in the rate of respiratory diseases hospitalisation among non-Indigenous children aged 0–4 years, with an average yearly decrease of 0.6 per 1,000 or a 12% decline in the rate over the period.

- There was a significant decrease in both the hospitalisation rate ratio and rate difference between Indigenous and non-Indigenous children for respiratory diseases. The fitted trend implies an average yearly decrease of 0.03 (14% decline) for the rate ratio, and around 2.3 per 1,000 for the rate difference (33% decline) in the period.

Table 1.04.6: Age-standardised hospitalisation rates, rate ratios and rate differences for diseases of the respiratory system, Qld, WA, SA and NT, 1998–1999 to 2009–2010[(a)(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Indigenous separations														
Males	5,886	5,892	5,723	5,538	5,420	5,874	5,354	5,463	5,163	5,805	5,909	6,366	13	2.4
Females	5,792	5,599	5,597	5,295	5,474	5,781	5,509	5,687	5,451	5,769	5,986	6,445	46*	8.6*
Persons	11,678	11,491	11,320	10,834	10,894	11,655	10,863	11,150	10,614	11,574	11,895	12,811	59	5.5
Non-Indigenous separations														
Males	58,750	59,555	59,059	60,695	58,505	59,544	58,936	61,751	59,318	66,497	68,213	70,092	899*	16.8*
Females	50,169	51,030	50,237	51,459	50,373	51,238	50,281	54,740	51,685	58,185	61,120	62,081	1,017*	22.3*
Persons	108,919	110,587	109,296	112,155	108,878	110,782	109,217	116,491	111,003	124,682	129,333	132,173	1,915*	19.3*
Indigenous rate per 1,000														
Males	57.5	56.1	52.0	52.0	50.7	53.6	51.9	50.9	45.9	51.3	50.6	50.5	–0.6*	–10.9*
Females	55.9	54.6	52.1	48.1	50.4	50.6	49.2	49.8	45.5	47.7	48.1	48.3	–0.7*	–13.0*
Persons	56.4	55.2	52.0	49.7	50.3	51.7	50.1	50.0	45.4	49.1	48.9	49.1	–0.6*	–12.4*
Non-Indigenous rate per 1,000														
Males	18.6	18.6	18.1	18.2	17.3	17.2	16.7	17.0	15.9	17.3	17.3	17.2	–0.2*	–9.2*
Females	14.8	14.8	14.3	14.4	13.8	13.8	13.3	14.2	13.1	14.4	14.7	14.6	0.0	–2.5
Persons	16.5	16.5	16.0	16.2	15.4	15.4	14.8	15.5	14.4	15.7	15.9	15.8	–0.1	–5.6
Rate ratio[(e)]														
Males	3.1	3.0	2.9	2.9	2.9	3.1	3.1	3.0	2.9	3.0	2.9	2.9	–0.01	–2.2
Females	3.8	3.7	3.6	3.3	3.6	3.7	3.7	3.5	3.5	3.3	3.3	3.3	–0.04*	–10.8*
Persons	3.4	3.3	3.2	3.1	3.3	3.4	3.4	3.2	3.2	3.1	3.1	3.1	–0.02*	–7.3*

(continued)

Table 1.04.6 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences for diseases of the respiratory system , Qld, WA, SA and NT, 1998–1999 to 2009–2010[(a)(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Rate difference[(f)]														
Males	39.0	37.5	33.9	33.8	33.4	36.4	35.3	33.9	29.9	34.0	33.3	33.3	–0.4*	–11.8*
Females	41.1	39.8	37.8	33.6	36.5	36.8	35.9	35.7	32.4	33.3	33.5	33.7	–0.6*	–16.7*
Persons	39.9	38.7	36.0	33.5	35.0	36.3	35.2	34.6	31.0	33.3	33.1	33.3	–0.6*	–15.2*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

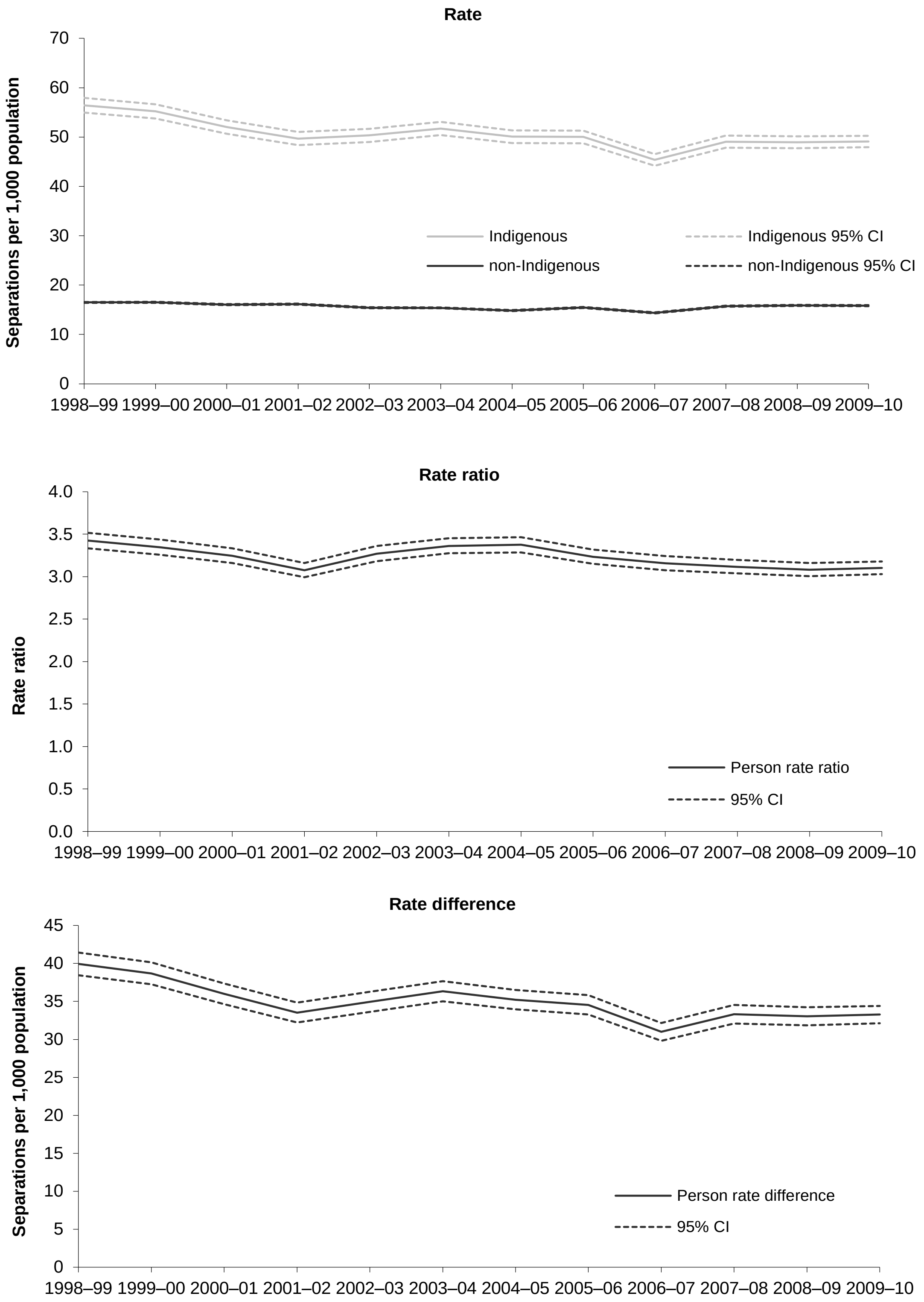
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.04.1: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the respiratory system, Qld, WA, SA and NT, 1998–1999 to 2009–2010

Table 1.04.7: Children aged 0-4 years, hospitalisation rates, rate ratios and rate differences for, diseases of the respiratory system Qld, WA, SA and NT, 1998–99 to 2009–10[(a)(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(c)	Per cent change(d)
Indigenous separations	4,868	4,751	4,592	4,202	4,289	4,569	3,648	3,726	3,584	3,781	3,846	4,094	-98*	-22.2*
Non-Indigenous separations	23,034	23,241	22,510	22,726	21,061	22,470	21,145	20,675	19,647	24,170	24,482	25,198	100.0	4.8
Indigenous No. per 1,000	128.0	124.2	118.7	107.6	109.3	116.7	93.7	96.3	92.8	97.2	97.3	101.4	-2.9*	-24.7*
Non-Indigenous No. per 1,000	51.6	52.2	50.6	51.1	47.2	50.1	46.6	44.7	41.3	49.0	47.4	47.0	-0.6*	-12.3*
Rate ratio(e)	2.5	2.4	2.3	2.1	2.3	2.3	2.0	2.2	2.2	2.0	2.1	2.2	-0.03*	-14.1*
Rate difference(f)	76.4	72.0	68.1	56.6	62.1	66.6	47.0	51.6	51.5	48.3	49.9	54.4	-2.3*	-33.0*

* Represents results with statistically significant increases or declines at the p < 0.05 level over the period 1998–99 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

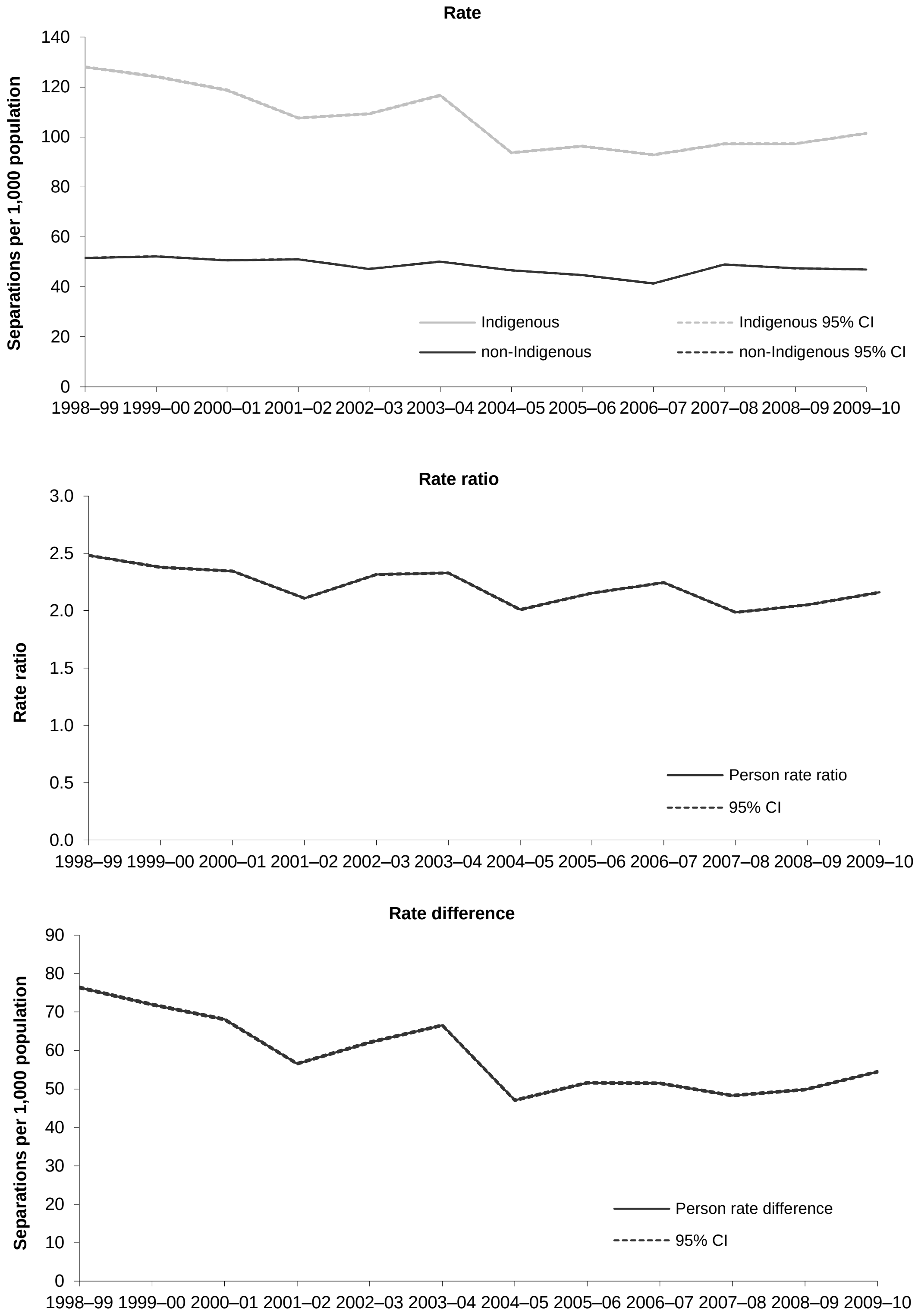
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.04.2: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the respiratory system, Qld, WA, SA and NT, 1998-1999 to 2009-2010

Respiratory diseases — 2004–05 to 2009–10

All ages

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for respiratory diseases over the period 2004–05 to 2009–10 are presented in Table 1.04.8 and Figure 1.04.3.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were increases in hospitalisation rates for respiratory diseases among Indigenous males, females and persons during the period 2004–05 to 2009–10, although the increases were not statistically significant.
- There were also increases in hospitalisation rates among non-Indigenous males, females and persons over the same period. The increase for non-Indigenous females (0.2 per 1,000 yearly, or 7.6% over the period) was statistically significant.
- There were no significant changes in the hospitalisation rate ratios and rate difference between Indigenous and non-Indigenous males, females and persons over this period.

Children aged 0–4 years

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous children aged 0–4 years for respiratory diseases over the period 2004–05 to 2009–10 are presented in Table 1.04.9 and Figure 1.04.4.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant increase in hospitalisation rates for respiratory diseases among Indigenous children aged 0–4 years during the period 2004–05 to 2009-10. The fitted trend implies an average yearly increase in the rate of around 1.8 per 1,000 which is equivalent to an 11.3% increment in the rate over the period.
- Over the same period, there were no significant changes in the hospitalisation rates among non-Indigenous children aged 0–4 years for respiratory diseases.
- The hospitalisation rate difference for respiratory diseases between Indigenous and non-Indigenous children significantly increased by 1.1 per 1,000 a year on average (15.8% over the period), while there was no significant change in the rate ratios.

Table 1.04.8: Age-standardised hospitalisation rates, rate ratios and rate differences for respiratory diseases, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)(b)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Indigenous separations								
Males	7,318	7,779	7,383	8,253	8,436	9,039	327*	22.3*
Females	7,560	7,942	7,685	8,307	8,602	9,266	318*	21.0*
Persons	14,879	15,721	15,068	16,560	17,038	18,305	645*	21.7*
Non-Indigenous Australian separations								
Males	157,856	160,897	158,919	173,434	175,266	178,222	4,556*	14.4*
Females	135,498	141,219	138,325	152,357	157,091	158,076	4,987*	18.4*
Persons	293,367	302,117	297,244	325,792	332,357	336,300	9,541*	16.3*
Indigenous rate (separations per 1,000)								
Males	42.4	43.1	39.4	42.9	42.9	43.7	0.3	3.1
Females	41.2	42.6	39.3	42.9	43.1	43.9	0.5	6.3
Persons	41.5	42.6	39.1	42.8	42.8	43.7	0.4	5.2
Non-Indigenous Australian rate (separations per 1,000)								
Males	17.3	17.3	16.7	17.8	17.6	17.5	0.1	2.3
Females	13.7	14.1	13.5	14.6	14.7	14.6	0.2*	7.6*
Persons	15.3	15.5	15.0	16.1	16.0	15.9	0.2	5.0
Rate ratio[(e)]								
Males	2.5	2.5	2.4	2.4	2.4	2.5	0.0	0.8
Females	3.0	3.0	2.9	2.9	2.9	3.0	0.0	–1.2
Persons	2.7	2.7	2.6	2.7	2.7	2.7	0.0	0.2
Rate difference[(f)]								
Males	25.1	25.8	22.7	25.1	25.3	26.2	0.2	3.6
Females	27.5	28.5	25.8	28.3	28.3	29.3	0.3	5.7
Persons	26.2	27.1	24.2	26.7	26.8	27.8	0.3	5.3

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

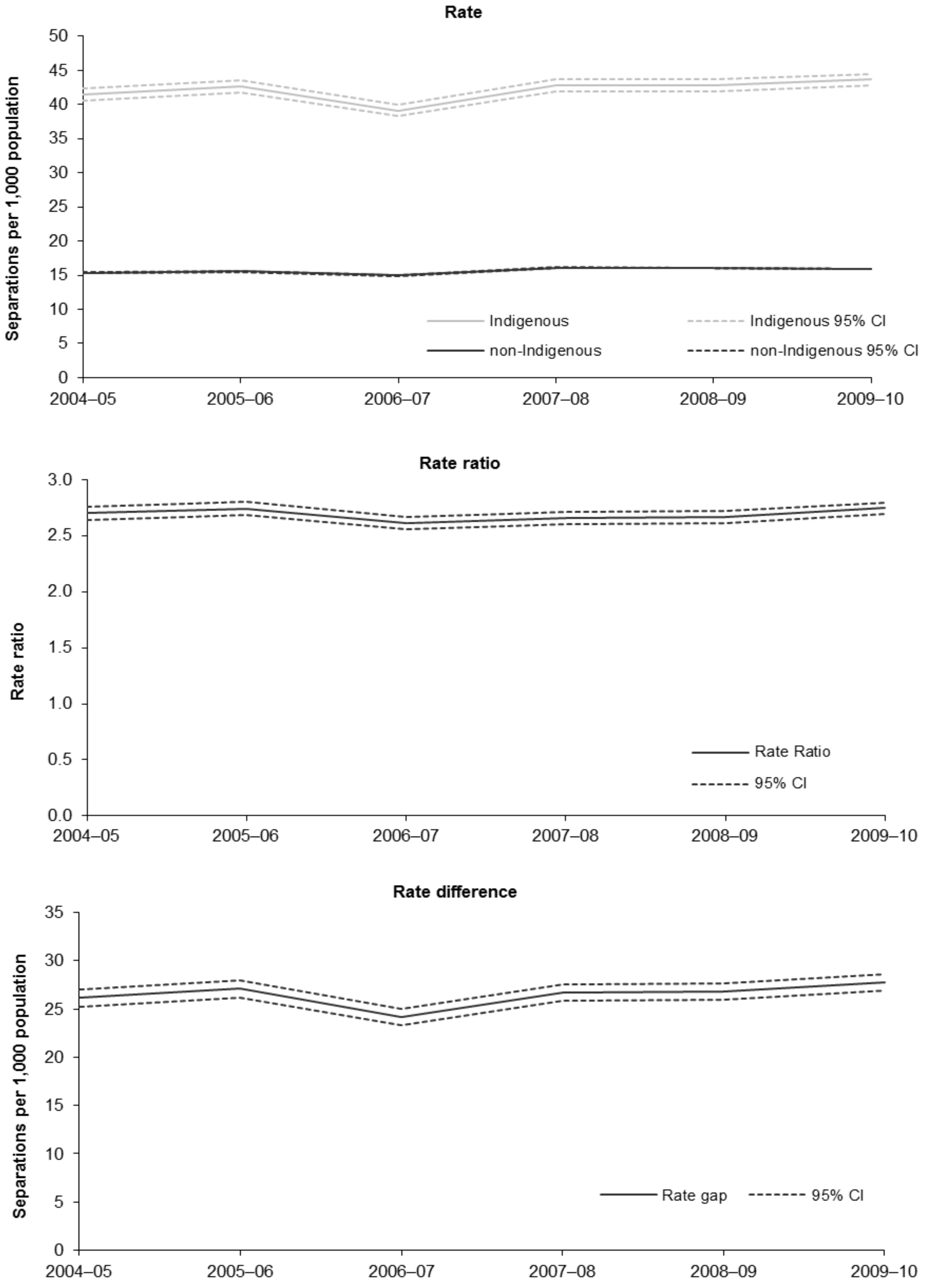
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for Non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.04.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the respiratory system, NSW, Vic, Qld, WA, SA and NT, 2004-2005 to 2009-2010

Table 1.04.9: Children aged 0-4 years, hospitalisation rates, rate ratios and rate differences for, diseases of the respiratory system NSW, Vic, Qld, WA, SA and NT, 2004-2005 to 2009–10[(a)(b)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Indigenous separations	5,012	5,286	5,067	5,533	5,674	5,897	173*	17.3*
Non-Indigenous Australian separations	52,393	52,801	52,050	61,328	60,435	61,725	2,253*	21.5*
Indigenous rate (separations per 1,000)	80.9	85.5	81.8	88.4	88.9	90.3	1.8*	11.3*
Non-Indigenous Australian rate (separations per 1,000)	44.8	44.5	43.0	49.4	47.2	46.8	0.7	7.6
Rate ratio[(d)]	1.8	1.9	1.9	1.8	1.9	1.9	0.0	3.3
Rate difference[(e)]	36.0	41.0	38.8	39.0	41.8	43.5	1.1*	15.8*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

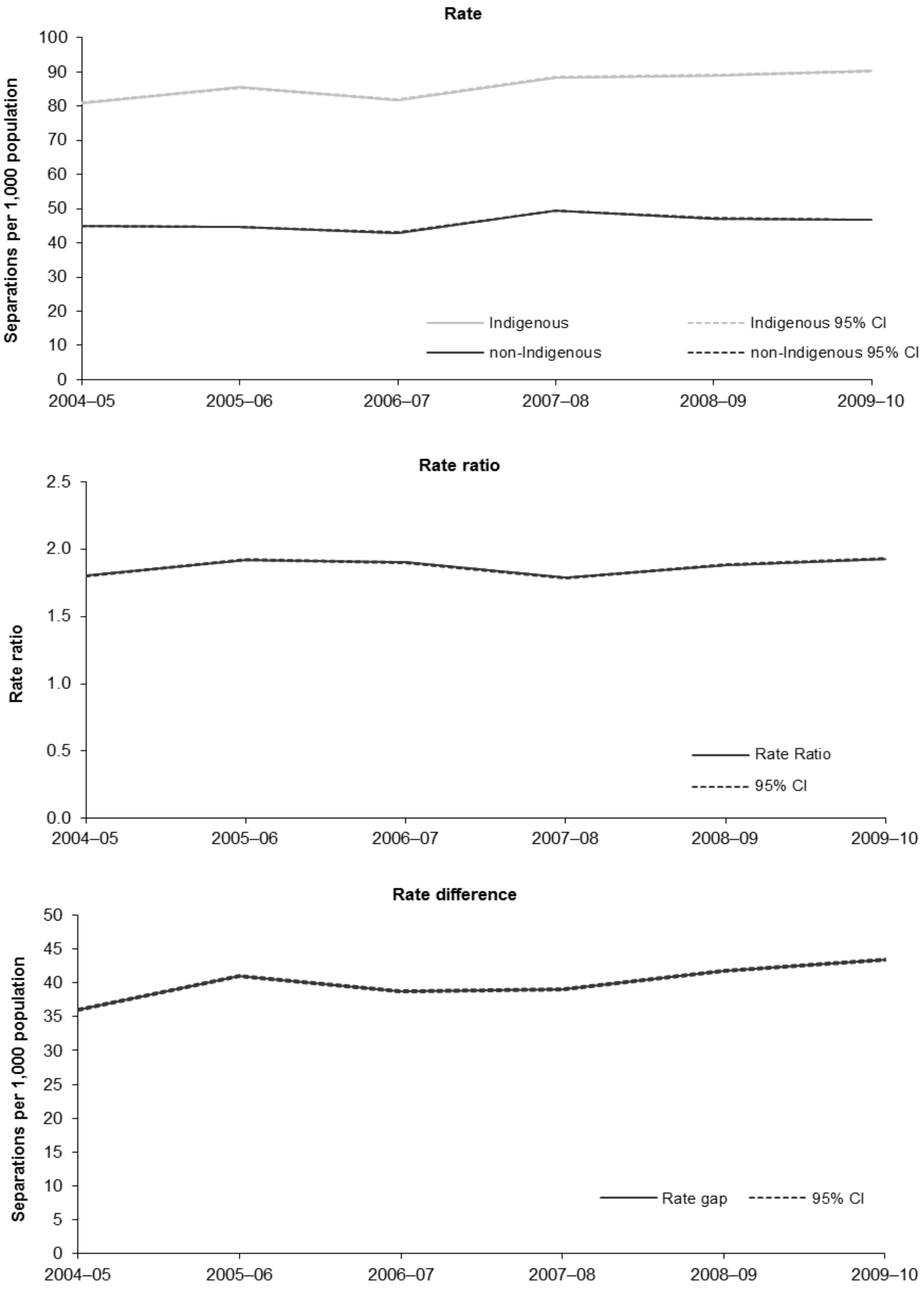
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for Non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for Non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.04.4: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the respiratory system, NSW, Vic, Qld, WA, SA and NT, 2004-2005 to 2009-2010

Invasive pneumococcal disease time series analysis

Time series data from 1998-99 to 2009-10 for children aged 0–4 years are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2009-10 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Invasive pneumococcal disease 1998-99 to 2009-10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous children aged 0–4 years in Queensland, Western Australia, South Australia and the Northern Territory for invasive pneumococcal disease over period 1998-99 to 2009-10 are shown in Table 1.04.10.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant decrease in the hospitalisation rates for invasive pneumococcal disease for both Indigenous and non-Indigenous children aged 0–4 years during the period 1998-99 to 2009-10. The fitted trend implies an average yearly decrease in the rate of around 0.04 per 1,000 for Indigenous children (71% decline) and 0.02 per 1,000 for non-Indigenous children (177% decline).
- There was a remarkable decrease in the number of hospitalisations for invasive pneumococcal disease for non-Indigenous children between 2004–05 and 2005–06. This decrease reflects the impact of the introduction of pneumococcal vaccinations for all Australian children from January 2005 (Roche et al. 2007). The introduction of these vaccinations has not had the same impact for Indigenous children, although free pneumococcal vaccinations have been available to all Indigenous children under 2 years of age since 2001.

Table 1.04.10: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences for invasive pneumococcal disease, Qld, WA, SA and NT, 1998–99 to 2009–10(a)(b)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(c)	Per cent change(d)
Indigenous separations	23	21	13	7	15	10	9	6	10	9	n.p.	n.p.	–1*	–71.1*
Non-Indigenous separations	47	89	101	116	99	78	63	12	18	29	20	33	–7*	–167.3*
Indigenous No. per 1,000	0.6	0.5	0.3	0.2	0.4	0.3	0.2	0.2	0.3	0.2	n.p.	n.p.	–0.04*	–71.1*
Non-Indigenous No. per 1,000	0.1	0.2	0.2	0.3	0.2	0.2	0.1	0.0	0.0	0.1	0.0	0.1	–0.02*	–177.1*
Rate ratio(e)	5.7	2.7	1.5	0.7	1.7	1.5	1.7	6.0	6.8	3.9	n.p.	n.p.	0.0	3.6
Rate difference(f)	0.5	0.3	0.1	–0.1	0.2	0.1	0.1	0.1	0.2	0.2	n.p.	n.p	0.0	–48.7

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Hospitalisations for pneumococcal meningitis (G00.1) and pneumococcal septicaemia (A40.3) have been used as a measure for invasive pneumococcal disease.
2. Rates have been directly age-standardised using the 2001 Australian standard population.
3. Population estimates are based on 2006 census.
4. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Invasive pneumococcal disease 2004–05 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous children aged 0–4 years in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory for invasive pneumococcal disease over the six year period 2004–05 to 2009-10 are shown in Table 1.04.11.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant decrease in hospitalisation rates for invasive pneumococcal disease among Indigenous children aged 0–4 years, while there were no significant change for non-Indigenous children aged 0–4 years during the period 2004–05 to 2009-10.
- Over the same period there were no significant trends observed in the hospitalisation rate ratios and rate differences between Indigenous and other children for invasive pneumococcal disease.

Table 1.04.11: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences for invasive pneumococcal disease, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10(a)(b)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(c)	Per cent change(d)
Indigenous separations	12	8	14	9	6	4	–1*	–60.7*
Non-Indigenous separations	158	48	54	80	75	71	–9	–29.7
Indigenous No. per 1,000	0.2	0.1	0.2	0.1	0.1	0.1	–0.02*	–62.7*
Non-Indigenous No. per 1,000	0.1	0.0	0.0	0.1	0.1	0.1	0.0	–35.2
Rate ratio(e)	1.4	3.2	5.1	2.2	1.6	1.1	–0.3	–90.6
Rate difference(f)	0.1	0.1	0.2	0.1	0.0	0.0	0.0	–126.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for Non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for Non-Indigenous Australians.

Notes

1. Hospitalisations for pneumococcal meningitis (G00.1) and pneumococcal septicaemia (A40.3) have been used as a measure for invasive pneumococcal disease.
2. Rates have been directly age-standardised using the 2001 Australian standard population.
3. Population estimates are based on 2006 census.
4. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

NATSIHS data

The NATSIHS reports data on the prevalence of respiratory conditions, including asthma among Indigenous Australians.

- In 2004–05, approximately 27% of Indigenous Australians reported respiratory diseases as a long-term health condition (ABS 2006).
- Prevalence of asthma was higher among Aboriginal and Torres Strait Islander people than non-Indigenous Australians. The rate for Indigenous children was 14% compared

with 11% for non-Indigenous children. After adjusting for differences in age-structure, Indigenous Australians were 1.6 times as likely as non-Indigenous people to report having asthma.

- Asthma was almost twice as common among Indigenous people living in non-remote areas (17%) than in remote areas (9%) (ABS 2006).

Additional information

Invasive pneumococcal disease

Pneumococcal disease is caused by the bacterium *Streptococcus pneumoniae* and can cause infection in parts of the respiratory tract (otitis media, sinusitis, respiratory diseases) or enter the bloodstream. Manifestations include meningitis, respiratory diseases and septicaemia. Invasive pneumococcal disease is defined as a sterile site isolate of *Streptococcus pneumoniae*, usually from blood (Menzies et al. 2008).

Incidence

The notification numbers and rates for invasive pneumococcal diseases for the period 2009-11 are presented in Table 1.04.12 and Table 1.04.13.

- For the period 2009–2011, there were 683 invasive pneumococcal disease notifications among Indigenous persons in all states (New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Northern Territory and the Australian Capital Territory). The age standardised notification rate for Indigenous persons was 47.6 per 100,000, which was seven times the rate for other persons (6.5 per 100,000).
- Notification rates were highest among those aged 35-44 years and 45-54 years for Indigenous Australians, and for other Australians the rates were highest in the age groups 0–4 years and 65 years and over. However, this data needs to be interpreted with caution due to the possible differences in the ascertainment of Indigenous status across different age groups.
- For all age groups, Indigenous Australians had higher notification rates than other Australians. Rate ratios were highest among the 35–44 and 45–54 year age groups, where Indigenous Australians suffered from invasive pneumococcal disease at around 15 and 14 times, respectively, the rate of other Australians (Table 1.04.12). However, this data needs to be interpreted with caution due to the possible differences in the ascertainment of Indigenous status across different age groups.
- For the period 2009–2011, among the invasive pneumococcal disease notifications for Indigenous Australians, there were 289 notifications of pneumonia and 172 notifications of other clinical presentations. The age standardised notification rate of pneumonia for Indigenous persons was 20.5 per 100,000, which was eight times the rate for other persons (2.5 per 100,000).

Table 1.04.12: Invasive pneumococcal disease notification rate, by age group and Indigenous status, NSW, Vic, Qld, WA, SA, Tas, NT and the ACT, 2009–2011[(a)(b)(c)]

	Number		Rate per 100,000			
	Indig.	Other[(d)]	Indig.	Other[(d)]	Rate ratio[(e)]	Rate difference[(f)]
0–4	116	714	56.4	17.6	3.2*	38.8*
5–14	97	223	25.2	2.9	8.8*	22.4*
15–24	51	162	14.8	1.8	8.1*	13.0*
25–34	82	281	35.1	3.1	11.4*	32.0*
35–44	139	405	67.7	4.4	15.3*	63.3*
45–54	110	449	71.3	5.1	14.0*	66.2*
55–64	53	693	58.4	9.4	6.2*	49.0*
65+	35	1,470	62.1	16.6	3.7*	45.5*
Total age-standardised[(g)]	**683**	**4,398**	**47.6**	**6.5**	**7.3***	**41.1***

* Represents results with statistically significant differences in the Indigenous/other comparisons at the $p < 0.05$ level.

(a) Calender year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.

(c) Data are reported for all states in Australia including New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Northern Territory and the Australian Capital Territory. All these jurisdictions are considered to have adequate levels of Indigenous identification in these data in 2009-2011.

(d) “Other” includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.

(e) Rate ratio Indigenous: Other.

(f) Rate difference Indigenous minus other.

(g) Directly age-standardised using the Australian 2001 standard population using five year age groups up to 65+.

Source: AIHW analysis of NNDSS data.

Table 1.04.13: Notification rates for Invasive Pneumococcal Disease[(a)], NSW, Vic, Qld, WA, SA, Tas, NT and the ACT, 2009–2011

	No.		Proportion (%)		No. per 100,000[(b)(c)]			
Clinical presentation	Indig.	Other[(d)]	Indig.	Other[(d)]	Indig.	Other[(d)]	Rate ratio[(e)]	Rate difference
Pneumonia	289	1,741	14.2	85.8	20.5	2.5	8.0	17.9
Other clinical presentations	172	1,591	9.8	90.2	12.6	2.3	5.4	10.3
Unknown clinical presentations	25	690	3.5	96.5	2.4	1.1	2.3	1.3
Total[(f)]	**683**	**4,398**	**13.4**	**86.6**	**47.6**	**6.5**	**7.3**	**41.1**

(a) Calender year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.

(c) Directly age-standardised using the Australian 2001 standard population using 5 year age groups up to 65+.

(d) "Other" includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Rate ration Indigenous: Other.

(f) Total includes number of persons with no data provided.

Source: AIHW analysis of NNDSS data.

Immunisation

A report by the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases found that coverage of pneumococcal vaccine was significantly higher for Indigenous adults compared with non-Indigenous adults, with the exception of those aged 65 years or more (Menzies et al. 2008). It should be noted that pneumococcal vaccinations were funded for non-Indigenous adults in that age group for only part of the period covered by the survey. Indigenous adults aged 50 years and over in remote areas had higher vaccination coverage rates for this disease than in non-remote areas (56% and 26%, respectively). There has been an increase in pneumococcal vaccine coverage in Indigenous adults aged 50 years and over from 25% in 2001 to 34% 2004–05 (Menzies et al. 2008).

Data quality issues

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006-07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011-12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

National Aboriginal and Torres Strait Islander Health Survey

The NATSIHS uses the standard Indigenous status question. The 2004-05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially ‘as reported’ by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Notifiable Diseases Surveillance System

Notifications

Incidence of sexually transmissible infections is one indicator of unsafe sexual practices. It does not measure all cases, just those involving sexually transmissible infections.

Notification statistics do not measure the incidence or prevalence of these infections in the community. Under-reporting of these infections can occur at a number of stages:

- a person infected may not have symptoms
- a person may not seek medical care
- no testing performed
- a false negative result may occur
- there may be a positive test result but for some reason a notification may not occur
- the case may not be reported to the NNDSS (for more information see Figure 1 in NNDSS 2008).

The level of under-reporting can vary by disease, jurisdiction and by time. The method of surveillance can vary between jurisdictions with different requirements for notification by medical practitioners, laboratories and hospitals. These can also change over time.

Notification statistics can provide insights into the health of the population which has been diagnosed with a notifiable illness and changes over time.

Notification statistics do not necessarily capture the mode of transmission, NNDSS data on the diseases discussed in this indicator are known to include infections acquired through non-sexual modes of transmission. For example, although data on hepatitis C is included in this indicator, sexual transmission is not considered the main route of transmission, hepatitis C primarily occurs among those with a history of injecting drug use.

Due to the high proportion of asymptomatic presentations of STI infections, diagnoses are heavily influenced by testing patterns. High rates of STI diagnoses in Indigenous populations may be due to higher levels of screening and not necessarily associated with increased levels of transmission among Indigenous persons.

Under-identification

The incompleteness of Indigenous identification means the number of notifications recorded as Indigenous is likely to be an under-estimate of Aboriginal and Torres Strait Islander notifications rates.

The completeness of Indigenous identification in notifiable disease registries varies between the states and territories and by disease. Information on the occurrence of sexually transmitted infections is included in this indicator if information on Indigenous status was reported for at least 50% of diagnoses in a state or territory health jurisdiction for the period 2009–2011. Based on this cut-off, Western Australia, South Australia, Tasmania and the Northern Territory were assessed to have adequate identification for chlamydia, syphilis, gonorrhoea, hepatitis B and hepatitis C. Of the remaining states/territories, Queensland and Victoria had adequate identification for syphilis, gonorrhoea and chlamydia; the Australian Capital Territory had adequate identification for syphilis, gonorrhoea and hepatitis B; and New South Wales had adequate identification for syphilis only.

Numerator and denominator

Rate and ratio calculations rely on good population estimates. The changes in the completeness of identification of Indigenous people in notification records may take place at different rates from changes in the identification of Indigenous people in the population estimates. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.05 Circulatory disease

Prevalence, incidence and number of hospital separations with a principal diagnosis of circulatory disease for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and rate ratio

Data sources

Data for this measure come from the AIHW National Mortality Database, the National Aboriginal and Torres Strait Islander Health Survey, the Bettering the Evaluation and Care of Health survey and the AIHW National Hospital Morbidity Database.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012-13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program . The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Analyses

Age-standardised rates and ratios have been used as a measure of morbidity in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Mortality

Table 1.05.1 presents data on deaths of Indigenous Australians from circulatory diseases over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

Data on time series analysis for mortality from circulatory diseases is presented in Table 1.23.15 of the measure *1.23 -Leading causes of mortality* in this report.

- Over the period 2006–2010, there were 2,925 deaths of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from circulatory diseases. Indigenous Australians died from circulatory diseases at 1.7 times the rate of non-Indigenous Australians.
- The most common type of circulatory disease causing death among Indigenous Australians was ischaemic heart disease (including acute myocardial infarction) (54%), followed by cerebrovascular disease (including stroke) (18%). Indigenous Australians died from these diseases at 1.8 and 1.5 times the rate of non-Indigenous Australians, respectively.

Table 1.05.1: Deaths of Indigenous Australians from circulatory diseases, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

	Number	Per cent	No. per 100,000(f)	95% LCL(g)	95% UCL(h)	Rate ratio(i)	Rate difference(j)	Rate difference %(k)
Ischaemic heart disease (I20–I25)	1,567	53.6	176.3	166.0	186.7	1.8	78.3	52.2
Acute myocardial infarction (I21)(l)	*638*	*21.8*	*74.3*	*67.5*	*81.1*	*1.6*	*26.5*	*17.7*
Cerebrovascular disease (I60–I69)	519	17.7	76.9	69.3	84.4	1.5	26.0	17.4
Stroke (I60–I64)(l)	*414*	*14.2*	*57.2*	*50.8*	*63.6*	*1.5*	*20.1*	*13.4*
Other heart disease (I26–I52)	515	17.6	58.6	52.4	64.7	1.8	25.6	17.1
Rheumatic heart disease (I00–I09)	90	3.1	5.7	4.3	7.1	4.7	4.5	3.0
Hypertension disease (I10–I15)	118	4.0	17.7	14.1	21.3	2.4	10.3	6.9
Other diseases of the circulatory system (I70–I99)	116	4.0	15.9	12.5	19.3	1.5	5.3	3.6
Total circulatory diseases (I00-I99)	**2,925**	**100.0**	**351.0**	**335.9**	**366.1**	**1.7**	**150.0**	**100.0**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all circulatory diseases.

(l) Data presented for acute myocardial infarction are a subset of data presented for ischaemic heart disease; data presented for stroke are a subset of data presented for cerebrovascular disease in this table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Self-reported prevalence

Self-reported data from the 2004-05 NATSIHS on the prevalence of heart and circulatory conditions among Aboriginal and Torres Strait Islander people are presented below.

Prevalence by age and sex

- In 2004–05, approximately 12% of Indigenous Australians reported having a diagnosed heart or circulatory condition as a current and long-term condition. Approximately 7% of Indigenous Australians reported having high blood pressure and 2% reported having a heart murmur or heart valve disorder.
- After adjusting for differences in age structure, approximately 23% of Indigenous Australians reported having a heart or circulatory condition compared with 20% of non-Indigenous Australians.
- Heart and circulatory conditions were most prevalent among those aged 55 years and over (57% for Indigenous Australians and 53% for non-Indigenous Australians).
- A higher proportion of Indigenous Australians reported having a heart or circulatory problem than non-Indigenous Australians across all age groups from 25 years and over (Table 1.05.2).

Table 1.05.2: Persons reporting heart and circulatory conditions, by Indigenous status and age group, 2004–05(a)(b)

	0–24		25–44		45–54		55 years and over		Total (crude)	Total (age standardised)			
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Indig.	Non-Indig.	Rate ratio	Rate difference
	Per cent												
Total with heart or circulatory condition	**2**	**2**	**17**	**12**	**35**	**28**	**57**	**53**	**12**	**23***	**20***	**1.2***	**3.0**
Has current and/or long-term high blood pressure	—(c)	—(c)	8*	4*	23*	14*	43*	34*	7	15*	11*	1.4*	4.0
Heart murmur/heart valve disorder	1	1	3*	1*	2(c)	2	4	3	2	2*	2*	1.0*	0.0
Total persons (‘000)	**273**	**6,396**	**129**	**5,661**	**40**	**2,706**	**33**	**4,530**	**474**	**474**	**19,292**	. .	. .

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Self-reported data from the National Aboriginal and Torres Strait Islander Health Survey 2004–05.

(b) Age-standardised proportions.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

Source: ABS and AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey and 2004–05 National Health Survey.

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Prevalence by remoteness and time series

- In 2004–05, the prevalence of heart/circulatory conditions was slightly higher among Aboriginal and Torres Strait Islander males and females in remote areas (12% and 17% respectively) than those in non-remote areas (10% and 14% respectively) (Table 1.05.3).
- There has been little change in the prevalence of heart/circulatory conditions among Aboriginal and Torres Strait Islander people between 2001 and 2004–05.

Table 1.05.3: Indigenous persons reporting heart and circulatory problems/diseases[(a)], by sex and remoteness area, 1995, 2001 and 2004–05

	1995[(b)]			2001			2004–05		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
					Per cent				
Remote	n.a.	n.a.	n.a.	10	16	12	12	17	14
Non-remote	15	16	15	10	13	10	10	14	11
Total	**n.a.**	**n.a.**	**n.a.**	**10**	**14**	**11**	**11**	**15**	**12**
Total number	**131,616**	**133,800**	**265,416**	**217,893**	**225,102**	**442,995**	**232,362**	**241,948**	**474,310**

(a) ICD-10-AM based output classification.

(b) Non-remote data are not available from the 1995 National Health Survey.

Sources: ABS and AIHW analysis of 1995 National Health Survey (Indigenous supplement); 2001 National Health Survey (Indigenous supplement); 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

Prevalence by selected population and health characteristics

- In 2004–05, Indigenous Australians aged 15 years and over were more likely to report having heart or circulatory problems if they were in the lowest (1st) quintile of household income than in the highest (5th) income quintile (28% compared with 25%); if the highest year of school completed was Year 9 or below than if Year 12 was the highest year of school completed (30% compared with 24%); and if they were unemployed or not in the labour force (28% and 30%) than if they were employed (23%) (Table 1.05.4).
- Indigenous Australians with reported fair/poor health status were much more likely to report heart or circulatory problems than Indigenous Australians with excellent/very good health status (37% compared with 19%). The proportions for non-Indigenous Australians were similar (34% compared with 16%).
- Indigenous Australians aged 15 years and over were more likely to report heart or circulatory problems if they reported their exercise level as low or sedentary rather than high (28% compared with 11%). They were also more likely to report heart or circulatory problems if they had experienced stressors in the previous 12 months (21%) than if no stressors were experienced (17%); if they drank at risky/high-risk levels in the last 12 months than if they did not (31% compared with 28%); and if they were overweight and obese than if they were normal or underweight (29% compared with 21%).
- Indigenous Australians aged 15 years and over were much more likely to report having heart or circulatory problems if they also reported diabetes or high cholesterol than if they did not report these conditions. This was also the case for non-Indigenous Australians.

Table 1.05.4: Proportion[(a)] of Indigenous and non-Indigenous Australians aged 15 years and over with heart/circulatory problems, by selected population characteristics, 2004–05

	Indigenous Australians		Non-Indigenous Australians	
	Has heart/circulatory problems	Does not have heart/circulatory problems	Has heart/circulatory problems	Does not have heart/circulatory problems
Household income				
1st quintile	28.2	71.8	25.7	74.3
5th quintile	24.8	75.2	16.7	83.3
Financial stress—able to raise $2,000 within a week for something important				
Yes	15.9	84.1	n.a.	n.a.
No	20.0	80.0	n.a.	n.a.
Highest year of school completed				
Year 12	23.6	76.4	18.4	81.6
Year 9 or below	30.0	70.0	24.6	75.4
Whether has non-school qualification				
Has a non-school qualification	25.4	74.6	20.7	79.3
Does not have a non-school qualification	28.0	72.0	21.9	78.1
Employment				
Employed	22.5	77.5	17.0	83.0
Unemployed	28.2	71.8	13.6	86.4
Not in the labour force	30.3	69.7	25.9	74.1
Housing				
Owner	17.3	82.7	n.a.	n.a.
Renter	18.4	81.6	n.a.	n.a.
Stressors in last 12 months[(b)]				
Serious illness or disability	24.5	75.5	n.a.	n.a.
Total experienced stressors	21.4	78.6	n.a.	n.a.
No stressors	16.8	83.2	n.a.	n.a.
Self-assessed health status				
Excellent/very good	18.8	81.2	15.9	84.1
Good	24.1	75.9	23.2	76.8
Fair/poor	37.4	62.6	33.5	66.5
Smoker status[(b)]				
Current daily smoker	29.0	71.0	19.4	80.6
Not current daily smoker	27.7	72.3	22.9	77.1
Risky/high-risk alcohol consumption in last 12 months[(b)]				
Yes	31.0	69.0	20.5	79.5
No	28.1	71.9	22.8	77.2

(continued)

Table 1.05.4 (continued): Proportion(a) of Indigenous and non-Indigenous Australians aged 15 years and over with heart/circulatory problems, by selected population characteristics, 2004–05

	Indigenous Australians		Non-Indigenous Australians	
	Has heart/circulatory problems	Does not have heart/circulatory problems	Has heart/circulatory problems	Does not have heart/circulatory problems
Whether used substances in last 12 months(b)(c)				
Yes	13.0	87.0	n.a.	n.a.
No	21.3	78.7	n.a.	n.a.
Physical activity(c)				
Low/sedentary	27.5	72.5	21.9	78.1
Moderate	21.9	78.1	21.0	79.0
High	11.0	89.0	15.4	84.6
Overweight/obesity				
Yes	29.3	70.7	23.8	76.2
No	20.6	79.4	18.5	81.5
Eats vegetables daily				
Yes	27.0	73.0	21.4	78.6
No	24.5	75.5	27.0	73.0
Eats fruit daily				
Yes	27.1	72.9	21.5	78.5
No	24.9	75.1	19.6	80.4
Diabetes				
Yes	39.5	60.5	35.6	64.4
No	23.9	76.1	20.4	79.6
High cholesterol				
Yes	59.6	40.4	44.5	55.5
No	23.4	76.6	18.6	81.4
Total (age-standardised)	**26.9**	**73.1**	**21.4**	**78.6**
Total (crude)	**18.1**	**81.9**	**. .**	**. .**
Total number persons aged 15 years and over	**53,179**	**240,462**	**3,422,780**	**12,109,597**

(a) Proportions are age-standardised except for data for financial stress, housing tenure, substance use in the last 12 months and stressors experienced in the last 12 months for which crude proportions are presented, as data for non-Indigenous Australians are not available.

(b) Persons aged 18 years and over.

(c) Non-remote areas only.

Source: AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

General practitioner encounters

Information about general practitioner (GP) encounters is available from the BEACH survey. Data for the 5-year period April 2006–March 2007 to April 2010–March 2011 are presented below. Circulatory problems (cardiovascular problems) are among the six most common types of problems managed at GP encounters with Indigenous patients (AIHW 2011).

- In the period April 2006–March 2007 to April 2010–March 2011, there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, for whom 9,196 problems were managed. Of these, 8.1 per cent (741) were for circulatory problems (Table 1.05.5).
- Circulatory problems were managed at a rate of around 124 per 1000 encounters among Indigenous patients.
- After adjusting for differences in age distribution:
  - Circulatory problems, including hypertension and circulatory checking were managed at similar rates during GP encounters with Indigenous patients and other patients.
  - There were almost twice as many GP encounters for ischaemic heart disease with Indigenous patients as with other patients over the BEACH 5-year reporting period, the difference is statistically significant.
  - There were also twice as many GP encounters for heart failure with Indigenous patients as with other patients over the BEACH 5-year reporting period. However, this the difference is not statistically significant due to the smaller Indigenous encounter sample size.

Table 1.05.5: Circulatory problems(a) managed by general practitioners, by Indigenous status of the patient, BEACH survey years April 2006–March 2007 to April 2010–March 2011 inclusive(b)(c)

	Number		Per cent of all problems		Crude rate (no. per 1,000 encounters)			Age-standardised rate (no. per 1,000 encounters)(d)							
Problem managed	**Indig.**	**Other(e)**	**Indig.**	**Other(e)**	**Indig.**	**95% LCL(f)**	**95% UCL(g)**	**Indig.**	**95% LCL(f)**	**95% UCL(g)**	**Other(e)**	**95% LCL(f)**	**95% UCL(g)**	**Rate ratio(h)**	**Rate difference (i)**
Hypertension (K86, K87)	381	45,130	4.1	6.1	63.8	54.8	72.8	96.4	81.7	111.0	94.0	91.9	96.0	1.0	2.4
Ischaemic heart disease (K74, K76)	77	5,597	0.8	0.8	12.9	9.3	16.5	21.7	14.6	28.9	11.6	11.2	12.1	1.9*	10.1*
Heart failure (K77)	35	3,112	0.4	0.4	5.9	3.1	8.6	13.1	6.7	19.4	6.5	6.1	6.8	2.0	6.6
Cardiac check-up (K30, K31)	34	5,715	0.4	0.8	5.7	3.8	7.6	8.1	4.7	11.5	11.9	11.2	12.6	0.7	–3.8
Atrial fibrillation/ flutter (K78)	38	5,548	0.4	0.7	6.4	3.3	9.4	15.1	5.7	24.4	11.5	11.0	12.0	1.3	3.5
Total circulatory problems(K00-K99)	741	84,100	8.1	11.3	124.1	110.0	138.2	189.6	161.9	217.3	175.1	172.0	178.1	1.1	14.5
Other problems managed	8,455	661,524	91.9	88.7	1,416.0	1,378.9	1,453.2	1,449.5	1,402.6	1,496.4	1,383.5	1,376.0	1,391.1	1.1*	66.0*
Total problems	**9,196**	**745,624**	**100.0**	**100.0**	**1,540.1**	**1,499.0**	**1,581.2**	**1,639.1**	**1,587.0**	**1,691.2**	**1,558.6**	**1,549.7**	**1,567.5**	**1.1***	**80.5***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Classified according to ICPC-2 chapter codes (Classification Committee of the World Organization of Family Doctors (WICC) 2005).

(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

(c) Data for Indigenous and other Australians have not been weighted.

(d) Directly age-standardised rate (no. per 1,000 encounters) using total BEACH encounters in the period as the standard. Figures do not add to 100 as more than one problem can be managed at each encounter.

(e) 'Other' includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(f) LCL = lower confidence interval.

(g) UCL = upper confidence interval.

(h) Rate ratio Indigenous: Other.

(i) Rate difference Indigenous rate minus Other (non-Indigenous) rate.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Hospitalisations

- For the 2-year period July 2008 to June 2010, there were 898,540 hospitalisations for circulatory diseases in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 17,928 (2.0 per cent) of which were hospitalisations of Aboriginal and Torres Strait Islander people (Table 1.05.6).
- Indigenous Australians were hospitalised for circulatory diseases at 1.7 times the rate of non-Indigenous Australians in the six jurisdictions combined.
- Circulatory disease is the seventh most common diagnosis at the ICD-10-AM chapter level for Aboriginal and Torres Strait Islander Australians admitted to hospital (excluding the Chapter which includes 'care involving dialysis'). Approximately 3 per cent of all hospitalisations of Indigenous Australians were for circulatory diseases.

Hospitalisations by age and sex

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous females had higher hospitalisation rates for circulatory diseases than non-Indigenous females across all age groups. Indigenous males had higher hospitalisation rates for circulatory diseases than non-Indigenous males across all age groups (Table 1.05.6).
- The greatest difference in hospitalisation rates for males occurred in the 25–34, 35–44 and 45–54 year age groups where Indigenous males were hospitalised at between two and three times the rate of non-Indigenous Australian males. The greatest difference in hospitalisation rates for females occurred in the 35–44, 45–54 and 55–64 year age groups where Indigenous females were hospitalised at around three times the rate of non-Indigenous Australian females.
- Hospitalisation rates for circulatory diseases increased with age for both Indigenous and non-Indigenous Australians.
- Approximately 52 per cent of Indigenous Australians hospitalised for circulatory diseases were males (9,362) and 48 per cent were females (8,566) (Table 1.05.7).

Hospitalisations by state/territory

Table 1.05.7 presents hospitalisations for a principal diagnosis of diseases of the circulatory system for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- Indigenous Australians were hospitalised for circulatory disease at 1.7 times the rate of non-Indigenous Australians.
- In Queensland, Western Australia, South Australia and the Northern Territory, Indigenous persons were hospitalised for circulatory diseases at around twice the rate of non-Indigenous Australians. Indigenous persons were hospitalised at 1.6 times the rate of non-Indigenous Australians for circulatory disease in the Australian Capital Territory and in New South Wales, and at similar rates to non-Indigenous Australians in Victoria and Tasmania. Hospitalisation rates by state/territory should be interpreted with caution due jurisdictional differences in the level of Indigenous under-identification in hospital separations data.

Table 1.05.6: Age-specific hospitalisation rates for a principal diagnosis of circulatory disease, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010 (a)(b)(c)

									All ages	
	0–4	**5–14**	**15–24**	**25–34**	**35–44**	**45–54**	**55–64**	**65+**	**Crude**	**Age std.**(d)
Males										
Indigenous	1.3	1.7	2.8	8.1	27.4	55.5	83.8	118.5	17.9	37.5
Non-Indigenous	0.9	0.9	1.9	4.0	9.8	22.0	45.7	112.5	24.6	24.3
Rate ratio(e)	1.5	1.8	1.5	2.0	2.8	2.5	1.8	1.1	0.7	1.5
Rate difference(f)	0.4	0.8	0.9	4.0	17.6	33.5	38.0	6.0	-6.8	13.2
Females										
Indigenous	1.2	2.2	2.6	6.2	20.6	42.4	66.0	104.5	16.2	30.7
Non-Indigenous	0.6	0.8	1.7	3.5	7.6	13.0	23.3	80.4	18.2	15.8
Rate ratio(e)	1.8	2.7	1.6	1.8	2.7	3.3	2.8	1.3	0.9	1.9
Rate difference(f)	0.5	1.4	0.9	2.8	13.0	29.4	42.7	24.1	-2.0	14.9
Persons										
Indigenous	1.2	1.9	2.7	7.1	23.9	48.7	74.3	110.5	17.0	33.9
Non-Indigenous	0.7	0.9	1.8	3.7	8.7	17.5	34.5	95.1	21.4	19.8
Rate ratio(e)	1.6	2.2	1.5	1.9	2.7	2.8	2.2	1.2	0.8	1.7
Rate difference(f)	0.5	1.1	0.9	3.4	15.2	31.2	39.9	15.4	-4.4	14.0

(a) Data excludes private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(d) Directly age-standardised using the Australian 2001 standard population.

(e) Rate ratio Indigenous: non-Indigenous Australians.

(f) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database

Table 1.05.7: Hospitalisations for principal diagnosis of diseases of the circulatory system, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[a][b][c][d][e]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[e]	Number	Rate per 1,000[e]	Ratio[f]	Difference[g]
NSW						
Males	2,675	35.3	173,139	24.1	1.5*	11.1*
Females	2,300	27.5	127,126	15.2	1.8*	12.3*
Persons	4,975	31.1	300,265	19.4	1.6*	11.7*
Vic						
Males	510	29.6	139,792	25.8	1.1*	3.7*
Females	415	21.1	109,052	17.3	1.2*	3.8*
Persons	925	24.8	248,845	21.3	1.2*	3.5*
Qld						
Males	2,754	42.2	101,032	24.1	1.8*	18.2*
Females	2,620	36.0	74,280	16.1	2.2*	20.0*
Persons	5,374	38.9	175,312	19.9	1.9*	18.9*
WA						
Males	1,490	37.5	47,823	22.8	1.6*	14.7*
Females	1,382	33.4	33,001	14.4	2.3*	19.0*
Persons	2,872	35.5	80,824	18.5	1.9*	17.0*
SA						
Males	506	34.3	40,115	22.7	1.5*	11.6*
Females	539	32.5	31,654	15.1	2.2*	17.5*
Persons	1,045	33.4	71,769	18.6	1.8*	14.7*
NT						
Males	1,427	37.3	2,484	20.1	1.9*	17.2*
Females	1,310	29.4	1,113	12.2	2.4*	17.2*
Persons	2,737	33.0	3,597	16.6	2.0*	16.4*
NSW, Vic, Qld, WA, SA and NT[h]						
Males	**9,362**	**37.5**	**504,385**	**24.3**	**1.5***	**13.2***
Females	**8,566**	**30.7**	**376,226**	**15.8**	**1.9***	**14.9***
Persons	**17,928**	**33.9**	**880,612**	**19.8**	**1.7***	**14.0***
Tas						
Males	120	15.5	8,426	15.2	1.0	0.4
Females	85	8.7	5,587	9.0	1.0	-0.3
Persons	205	12.1	14,013	11.9	1.0	0.1

(continued)

Table 1.05.7 (continued): Hospitalisations for principal diagnosis of diseases of the circulatory system, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[a][b][c][d][e]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[e]	Number	Rate per 1,000[e]	Ratio[f]	Difference[g]
ACT						
Males	43	29.1	5,056	17.0	1.7*	12.2*
Females	33	16.7	3,734	11.3	1.5	5.4
Persons	76	22.3	8,790	14.0	1.6*	8.3*

* Represents results with statistically significant differences in the Indigenous/Non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for circulatory diseases in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 1.05.8, covering the period July 2008 to June 2010.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for circulatory diseases than non-Indigenous Australians. The ratio of hospitalisations of Indigenous people compared with non-Indigenous Australians was higher and the difference was statistically significant for all ASGC areas.
- Rates of hospitalisations per 1,000 people were highest for Indigenous people living in *Remote* areas, at 46 per 1,000. The rate was highest for non-Indigenous Australians who lived in *Inner regional* areas, at 21 per 1,000. The lowest rates were observed in *Major cities* for both Indigenous Australians (27 per 1,000) and non-Indigenous Australians (19 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 2.3 times that of non-Indigenous Australians in *Remote* areas of Australia. In *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of 1.3 times that of non-Indigenous Australians. Nationally, the rate was 1.7 times.

Table1.05.8: Hospitalisations for principal diagnosis of diseases of the circulatory system, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)(f)]

	Indigenous				Non-Indigenous					
	Number	**No. per 1,000**	**LCL 95%[(g)]**	**UCL 95%[(h)]**	**Number**	**No. per 1,000**	**LCL 95%[(g)]**	**UCL 95%[(h)]**	**Ratio[(i)]**	**Difference[(j)]**
Major cities	4,144	25.9	25.0	26.8	581,222	19.3	19.2	19.3	1.3*	6.6*
Inner regional	3,394	33.7	32.4	34.9	200,616	21.4	21.3	21.5	1.6*	12.2*
Outer regional[(k)]	4,384	38.3	37.0	39.5	84,951	20.5	20.4	20.7	1.9*	17.7*
Remote[(l)]	2,775	46.4	44.5	48.4	10,437	20.4	20.1	20.8	2.3*	26.0*
Very remote	3,221	31.9	30.6	33.1	3,124	20.9	20.1	21.6	1.5*	11.0*
Total[(m)]	**17,928**	**33.1**	**32.6**	**33.7**	**880,612**	**19.9**	**19.8**	**19.9**	**1.7***	**13.3***

* Indicates a significant difference at the p <0.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008-10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by principal diagnosis

Table 1.05.9 presents hospitalisations with a principal diagnosis of diseases of the circulatory system by type of circulatory disease for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Of all hospitalisations with a principal diagnosis of diseases of the circulatory system, ischaemic heart disease was the most common reason for hospitalisation among Aboriginal and Torres Strait Islander people (43%, followed by pulmonary heart disease and other forms of heart disease (30%).
- Indigenous males and females were hospitalised for acute rheumatic fever and chronic rheumatic heart disease at much higher rates than non-Indigenous males and females (5 and 8 times respectively).
- Indigenous males and females were hospitalised for ischaemic heart disease at twice and three times the rate of non-Indigenous males and females respectively.
- Indigenous Australians were hospitalised at almost 3 times the rate of non-Indigenous Australians for hypertension disease.

Table 1.05.9: Hospitalisations of Indigenous persons for principal diagnosis of diseases of the circulatory system, by type of circulatory disease and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

Principal diagnosis	Number	Per cent(e)	No per 1,000(f)	LCL(g)	UCL(h)	Ratio(i)	Difference(j)
				Males			
Ischaemic heart disease (I20–I25)	4,397	47.0	17.1	16.5	17.7	1.9*	8.3*
Acute myocardial infarction (I21)	*2,089*	*22.3*	*7.9*	*7.5*	*8.3*	*2.5**	*4.8**
Subsequent myocardial infarction (I22)	*19*	*0.2*	*0.1*	*0.0*	*0.1*	*8.0**	*0.1**
Pulmonary heart disease and other forms of heart disease (I26–I52)	2,724	29.1	11.9	11.3	12.4	1.6*	4.2*
Cerebrovascular disease (I60–I69)	710	7.6	3.5	3.2	3.9	1.8*	1.5*
Stroke (I60–I64)	*655*	*7.0*	*3.2*	*2.9*	*3.5*	*1.9**	*1.6**
Acute rheumatic fever and chronic rheumatic heart disease (I00–I09)	249	2.7	0.4	0.3	0.5	4.8*	0.3*
Hypertension disease (I10–I15)	201	2.1	0.6	0.5	0.7	2.7*	0.4*
Other diseases of the circulatory system (I70–I99)(k)	1,081	11.5	4.0	3.7	4.3	0.7*	–1.5*
Total	**9,362**	**100.0**	**37.5**	**36.6**	**38.5**	**1.5***	**13.2***
				Females			
Ischaemic heart disease (I20–I25)	3,315	38.7	12.1	11.6	12.5	3.1*	8.2*
Acute myocardial infarction (I21)	*1,348*	*15.7*	*5.1*	*4.8*	*5.4*	*3.6**	*3.6**
Subsequent myocardial infarction (I22)	*15*	*0.2*	*0.1*	*0.0*	*0.1*	*10.3**	*0.05**
Pulmonary heart disease and other forms of heart disease (I26–I52)	2,689	31.4	10.3	9.8	10.7	1.9*	4.9*
Cerebrovascular disease (I60–I69)	754	8.8	3.3	3.0	3.5	2.2*	1.8*
Stroke (I60–I64)	*681*	*8.0*	*3.0*	*2.7*	*3.2*	*2.4**	*1.7**
Acute rheumatic fever and chronic rheumatic heart disease (I00–I09)	469	5.5	0.9	0.8	1.0	8.3*	0.8*
Hypertension disease (I10–I15)	292	3.4	1.0	0.9	1.2	3.0*	0.7*
Other diseases of the circulatory system (I70–I99)(k)	1,047	12.2	3.2	3.0	3.5	0.7*	–1.3*
Total	**8,566**	**100.0**	**30.7**	**30.0**	**31.5**	**1.9***	**14.9***

(continued)

Table 1.05.9 (continued): Hospitalisations of Indigenous persons for principal diagnosis of diseases of the circulatory system, by type of circulatory disease and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

Principal diagnosis	Number	Per cent[(e)]	No per 1,000[(f)]	LCL[(g)]	UCL[(h)]	Ratio[(i)]	Difference[(j)]
				Persons			
Ischaemic heart disease (I20–I25)	7,712	43.0	14.4	14.1	14.8	2.3*	8.2*
Acute myocardial infarction (I21)	*3,437*	*19.2*	*6.4*	*6.2*	*6.7*	*2.9**	4.2*
Subsequent myocardial infarction (I22)	*34*	*0.2*	*0.1*	*0.0*	*0.1*	*8.4**	0.1*
Pulmonary heart disease and other forms of heart disease (I26–I52)	5,413	30.2	11.0	10.6	11.3	1.7*	4.5*
Cerebrovascular disease (I60–I69)	1,464	8.2	3.4	3.2	3.6	2.0*	1.7*
Stroke (I60–I64)	*1,336*	*7.5*	*3.1*	*2.9*	*3.3*	*2.1**	1.6*
Acute rheumatic fever and chronic rheumatic heart disease (I00–I09)	718	4.0	0.7	0.6	0.7	6.8*	0.6*
Hypertension disease (I10–I15)	493	2.7	0.9	0.8	1.0	2.9*	0.6*
Other diseases of the circulatory system (I70–I99)[(k)]	2,128	11.9	3.6	3.4	3.7	0.7*	–1.4*
Total	**17,928**	**100.0**	**33.9**	**33.3**	**34.4**	**1.7***	**14.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010); ICD-10-AM codes I00–I99.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2008–09 to 2009–10.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous minus non-Indigenous Australians.

(k) Includes disease of arteries, arterioles and capillaries, diseases of veins, lymphatic vessels and lymph nodes and other unspecified disorders of the circulatory system.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by additional diagnosis

Table 1.05.10 presents hospitalisations for additional diagnoses of diseases of the circulatory system for Aboriginal and Torres Strait Islander people in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- For the 2-year period July 2008 to June 2010, hospitalisations of Indigenous Australians with a principal diagnosis of circulatory diseases were commonly reported with the disease category 'contact with health services and factors influencing health status' which includes dialysis (65%) and with other diseases of the circulatory system (61%). Furthermore, 37% of all hospitalisations of Indigenous Australians with a principal diagnosis of circulatory disease were reported with an additional diagnosis of endocrine, metabolic and nutritional disorders.
- In particular, hospitalisations with a principal diagnosis of ischaemic heart disease, cerebrovascular disease and pulmonary heart disease/other heart disease were commonly reported with an additional diagnosis of endocrine, metabolic and nutritional disorders (44%, 41% and 38% respectively).
- Indigenous Australians who were hospitalised with a principal diagnosis of cerebrovascular disease, which includes stroke, had diseases of the nervous system commonly reported as an additional diagnosis of hospitalisation (55%), as well as symptoms, signs and abnormal clinical and laboratory findings (45%).

Table 1.05.10: Hospitalisations of Indigenous persons for principal diagnosis of circulatory disease, by additional diagnoses of hospitalisation, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Reported with a principal diagnosis of circulatory disease									
Additional diagnoses of hospitalisation	**Ischaemic heart disease (I20–I25)**	***Acute myocardial infarction (I21)***	***Subsequent myocardial infarction (I22)***	**Pulmonary heart disease/Other heart disease (I26–I52)**	**Cerebro-vascular disease (I60–I69)**	***Stroke (I60–I64)***	**Acute rheumatic fever /chronic rheumatic heart disease (I00–I09)**	**Hypertensive disease (I10–115)**	**Other circulatory diseases (I70–I99)[(e)]**	**All circulatory diseases**
	Per cent									
Contact with health services & factors influencing health status (includes dialysis) (Z00–Z99)	73.9	77.7	76.5	61.3	62.8	62.6	41.6	52.1	50.3	64.5
Diseases of the circulatory system (I00–I99)	78.1	82.6	88.2	57.5	62.1	61.8	35.7	12.8	24.1	60.7
Endocrine, nutritional & metabolic diseases (E00–E90)	44.1	48.9	52.9	38.4	40.8	41.4	13.9	18.3	17.6	37.0
Diseases of the genitourinary system (N00–N99)	15.3	20.1	29.4	23.8	19.5	20.0	9.7	19.1	12.4	17.7
Symptoms, signs & abnormal clinical & laboratory findings (R00–R99)	8.6	10.8	14.7	16.6	44.9	46.2	10.0	18.9	11.3	14.6
Diseases of the respiratory system (J00–J99)	8.3	11.3	8.8	20.1	11.3	11.5	9.7	4.7	4.3	11.6
Mental & behavioural disorders (F00–F99)	8.4	9.7	2.9	12.4	15.6	15.8	3.2	12.4	7.4	10.0
Diseases of the nervous system (G00–G99)	4.2	5.4	11.8	6.7	54.5	57.3	1.0	4.9	2.9	8.8
Certain infectious and parasitic diseases (A00–B99)	5.2	7.4	8.8	10.2	11.6	12.4	12.7	3.2	8.8	7.9
Diseases of the blood and disorders involving immune mechanism (D50–D89)	5.7	7.8	5.9	8.5	6.8	6.7	8.9	5.5	7.2	6.9

(continued)

Table 1.05.10 (continued): Hospitalisations of Indigenous persons for principal diagnosis of circulatory disease, by additional diagnoses of hospitalisation, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

	Reported with a principal diagnosis of circulatory disease									
Additional diagnoses of hospitalisation	**Ischaemic heart disease (I20–I25)**	***Acute myocardial infarction (I21)***	***Subsequent myocardial infarction (I22)***	**Pulmonary heart disease/Other heart disease (I26–I52)**	**Cerebro-vascular disease (I60–I69)**	***Stroke (I60–I64)***	**Acute rheumatic fever /chronic rheumatic heart disease (I00–I09)**	**Hypertensive disease (I10–115)**	**Other circulatory diseases (I70–I99)(e)**	**All circulatory diseases**
	Per cent									
Diseases of the digestive system (K00–K93)	3.9	4.7	2.9	7.0	7.7	7.6	4.7	6.1	13.1	6.3
Injury & poisoning and other consequences of external causes (S00–T98)	4.7	6.3	0.0	3.9	5.9	5.2	5.0	2.8	5.6	4.6
Diseases of the eye and adnexa (H00–H59)	3.7	4.9	14.7	4.2	9.6	9.9	0.8	2.2	1.6	3.9
Other(f)	5.3	7.0	8.8	11.0	11.5	12.0	10.0	4.1	11.4	8.4
Total number	**7,712**	**3,437**	**34**	**5,413**	**1,464**	**1,336**	**718**	**493**	**2,128**	**17,928**

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010); ICD-10-AM codes I00–I99.

(c) Financial year reporting.

(d) Indigenous data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Includes diseases of arteries, arterioles and capillaries, diseases of veins, lymphatic vessels and lymph nodes and other unspecified disorders of the circulatory system.

(f) Includes: diseases of the musculoskeletal system and connective tissue; diseases of the skin and subcutaneous tissue; neoplasms; congenital malformations, deformations and chromosomal abnormalities; diseases of the ear and mastoid process; pregnancy, childbirth and the puerperium; and certain conditions originating in the perinatal period.

Notes

1. Sum of components may exceed 100% as more than one additional diagnosis can be reported for each hospitalisation.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 1998–99 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2007–08 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

Circulatory disease—1998-99 to 2009-10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the circulatory system over period 1998–99 to 2009–10 are presented in Table 1.05.11 and Figure 1.05.1.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there was a non-significant decline in hospitalisation rates for circulatory diseases among Indigenous Australians during the period 1998-99 to 2009–10. The fitted trend implies an average yearly decrease in the rate of 0.1 per 1,000 which is equivalent to an increase of 4 per cent over the period.
- There were significant declines in hospitalisation rates for circulatory diseases among non-Indigenous Australians during the same period, with an average yearly decrease in the rate of around 0.2 per 1,000 population. This is equivalent to 13 per cent decline over the period.
- There was a significant increase in the hospitalisation rate ratio and a non-significant increase in the rate differences between Indigenous and non-Indigenous Australians for circulatory diseases over the period 1998-99 to 2009–10. The fitted trend implies an average yearly increase of 0.02 in the rate ratio (10% increase over the period) and 0.1 per 1,000 in the rate difference between Indigenous and non-Indigenous Australians (9% increase) for the period 1998-99 to 2009–10. This reflects a relative and absolute increase in the gap between hospitalisation rates for Indigenous and non-Indigenous Australians for circulatory diseases.

Table 1.05.11: Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of circulatory system, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Indigenous separations														
Males	2,242	2,347	2,277	2,383	2,509	2,679	2,688	2,980	2,805	2,999	2,939	3,238	87*	42.7*
Females	2,181	2,249	2,141	2,359	2,276	2,354	2,636	2,661	2,674	2,772	2,875	2,976	76.3*	38.5*
Persons	4,423	4,596	4,418	4,742	4,785	5,033	5,324	5,641	5,479	5,771	5,814	6,214	163.2*	40.6*
Non-Indigenous separations														
Males	80,879	83,044	81,958	83,041	82,758	81,701	83,252	90,022	93,032	95,302	95,102	96,352	1,557.5*	21.2*
Females	60,078	61,936	62,039	63,176	61,996	61,122	62,589	65,449	66,924	68,066	69,306	70,742	896.5*	16.4*
Persons	140,958	144,980	143,997	146,217	144,754	142,823	145,841	155,471	159,956	163,368	164,408	167,094	2,453.9*	19.1*
Indigenous rate per 1,000														
Males	39.9	42.1	38.8	39.7	41.3	43.4	39.1	43.1	39.4	42.4	38.2	40.8	0.0	–0.1
Females	36.6	37.0	33.1	34.8	34.0	32.3	35.1	35.1	33.6	34.0	34.4	32.8	–0.2	–6.1
Persons	38.2	39.4	35.8	37.1	37.4	37.2	37.0	38.8	36.3	37.7	36.3	36.4	–0.1	–3.5
Non-Indigenous rate per 1,000														
Males	27.1	27.1	25.9	25.5	24.6	23.5	23.2	24.3	24.4	24.2	23.6	23.2	–0.3*	–13.2*
Females	17.3	17.4	16.9	16.7	16.0	15.4	15.3	15.6	15.6	15.5	15.4	15.3	–0.2*	–12.5*
Persons	21.9	21.9	21.2	20.9	20.1	19.2	19.1	19.8	19.8	19.7	19.3	19.1	–0.2*	–12.5*
Rate ratio[(e)]														
Males	1.5	1.6	1.5	1.6	1.7	1.8	1.7	1.8	1.6	1.7	1.6	1.8	0.02*	15.4*
Females	2.1	2.1	2.0	2.1	2.1	2.1	2.3	2.2	2.2	2.2	2.2	2.1	0.01*	6.9*
Persons	1.7	1.8	1.7	1.8	1.9	1.9	1.9	2.0	1.8	1.9	1.9	1.9	0.02*	10.3*

(continued)

Table 1.05.11 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of circulatory system, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Rate difference[(f)]														
Males	12.8	15.0	12.9	14.3	16.8	19.9	15.9	18.8	15.0	18.1	14.7	17.6	0.3	27.6
Females	19.2	19.6	16.2	18.1	18.1	16.9	19.7	19.4	18.0	18.6	19.0	17.5	0.0	–0.5
Persons	16.3	17.5	14.6	16.2	17.4	18.0	17.9	19.1	16.5	18.1	17.0	17.3	0.1	8.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

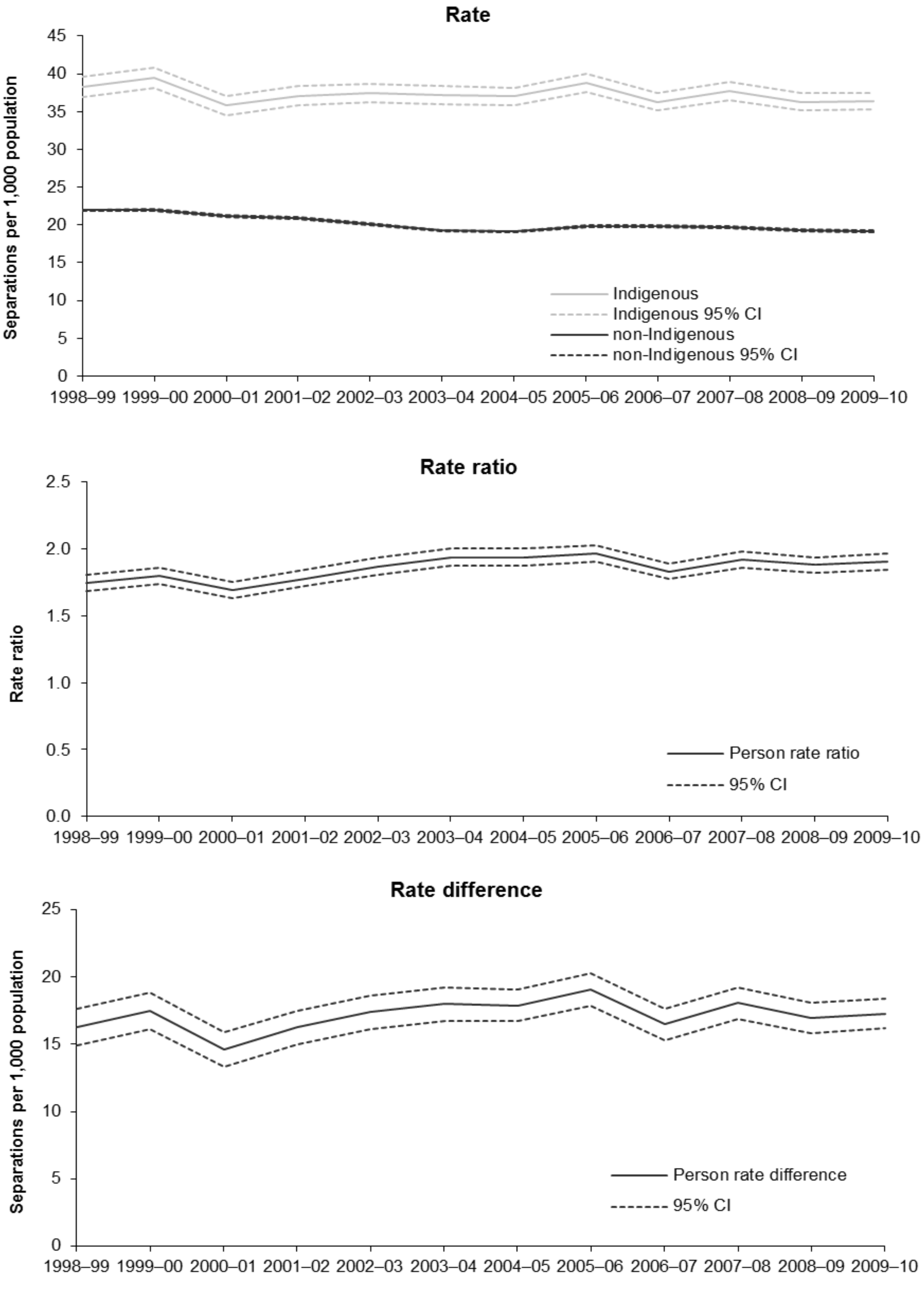
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.05.1: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians from diseases of circulatory system, Qld, WA, SA and NT, 1998-1999 to 2009-2010

Circulatory disease—2004–05 to 2009-10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the circulatory system over the period 2004-05 to 2009–10 are presented in Table 1.05.12 and Figure 1.05.2.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined; there was no significant change in hospitalisation rates for circulatory diseases among Indigenous Australians during the period 2004-05 to 2009–10.
- There were significant declines in hospitalisation rates among non-Indigenous Australians during the same period, with an average yearly decrease in the rate of around 0.2 per 1,000 population. This is equivalent to a 5% decline over the period.
- There were significant increases in the hospitalisation rate ratios and rate differences between Indigenous and non-Indigenous Australians for circulatory diseases over the period 2004-05 to 2009–10. The fitted trend implies an average yearly increase of 0.03 in the rate ratio (10 % increase over the period) and 0.5 per 1,000 in the rate difference (21 % increase). This reflects a relative and absolute increase in the gap between hospitalisation rates for Indigenous and non-Indigenous Australians for circulatory diseases.

Table 1.05.12: Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of circulatory system, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)(b)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Indigenous separations								
Males	3,861	4,178	4,170	4,459	4,544	4,818	176.3*	22.8*
Females	3,593	3,679	3,816	4,087	4,266	4,300	159.1*	22.1*
Persons	7,454	7,857	7,986	8,546	8,810	9,118	335.4*	22.5*
Non-Indigenous Australian separations								
Males	234,039	243,627	249,167	252,382	250,089	254,296	3,539.6*	7.6*
Females	176,204	180,924	184,913	186,291	186,456	189,770	2,451.5*	7.0*
Persons	410,256	424,552	434,082	438,674	436,545	444,067	5,989.3*	7.3*
Indigenous rate (separations per 1,000)								
Males	35.0	36.8	35.7	37.9	37.3	37.7	0.5*	7.1*
Females	29.8	30.3	29.8	31.3	31.9	29.6	0.2	2.7
Persons	32.2	33.4	32.5	34.3	34.5	33.3	0.3	4.6
Non-Indigenous Australian rate (separations per 1,000)								
Males	25.3	25.7	25.6	25.3	24.4	24.2	–0.3*	–5.5*
Females	16.3	16.4	16.4	16.2	15.9	15.8	–0.1*	–3.7*
Persons	20.5	20.8	20.7	20.5	19.9	19.8	–0.2*	–4.6*
Rate ratio[(e)]								
Males	1.4	1.4	1.4	1.5	1.5	1.6	0.04*	13.2*
Females	1.8	1.8	1.8	1.9	2.0	1.9	0.02	6.6
Persons	1.6	1.6	1.6	1.7	1.7	1.7	0.03*	9.5*
Rate difference[(f)]								
Males	9.7	11.1	10.1	12.7	12.9	13.5	0.8*	40.0*
Females	13.5	13.9	13.4	15.2	16.1	13.8	0.3	10.5
Persons	11.7	12.6	11.8	13.9	14.5	13.5	0.5*	20.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence of the patient hospitalised

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

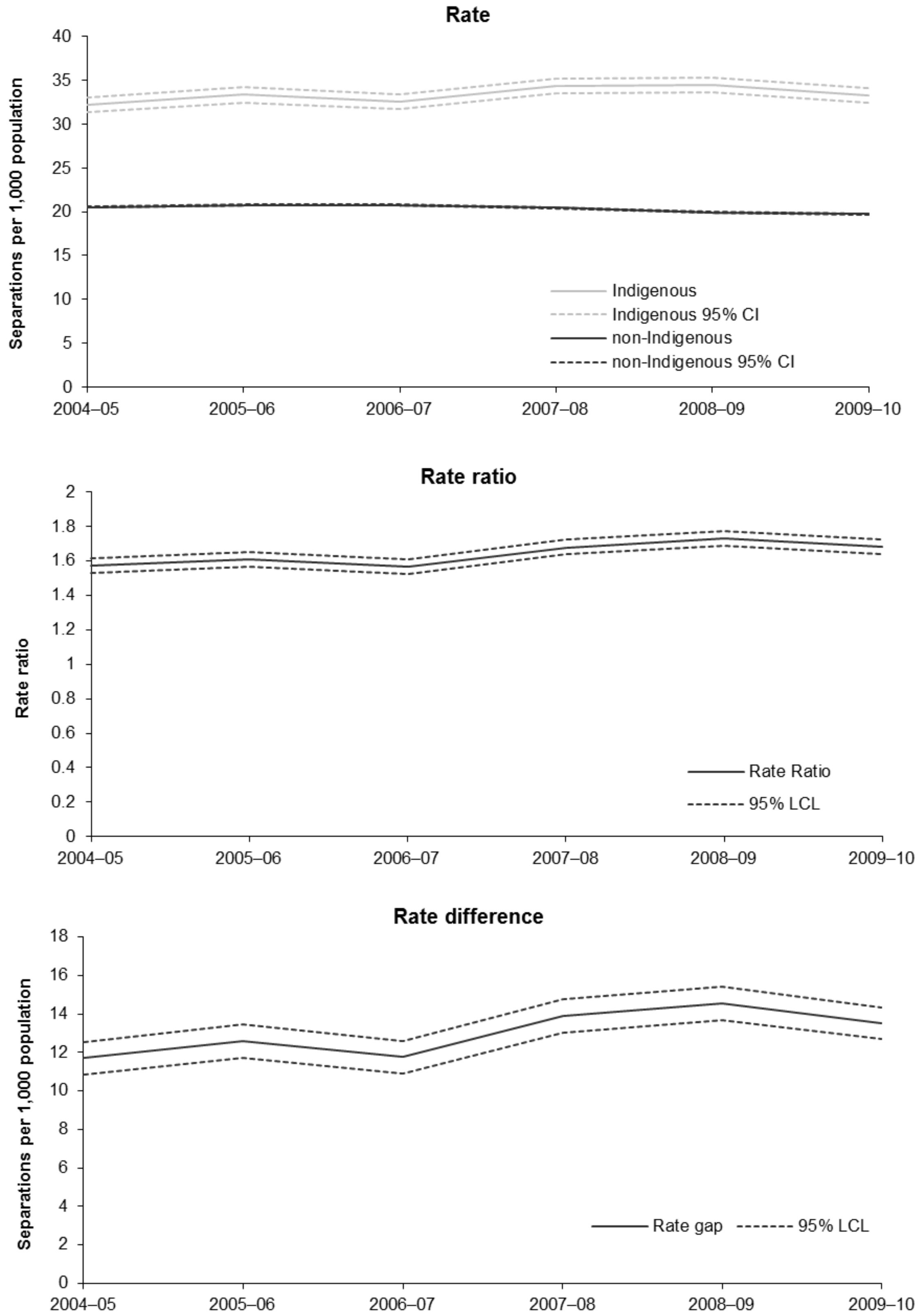
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for Non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for Non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.05.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians from diseases of circulatory system, NSW, Vic, Qld, WA, SA and NT, 2004-2005 to 2009-2010

Coronary heart disease hospital procedures

This section presents summarized information on coronary heart disease hospital procedures for Indigenous and non-Indigenous Australians in 2008-10. For detailed analysis see measure 3.06 in this report.

- In 2008–10, among those Australians hospitalised with coronary heart disease, Indigenous Australians were less likely to receive coronary procedures such as coronary angiography and revascularisation procedures than non-Indigenous Australians. Approximately 19.3% of Indigenous patients and 29.2% of non-Indigenous patients received coronary procedures such as coronary angiography and revascularisation procedures.
- After taking the different population age structures into account, the angiography and revascularisation rate for Aboriginal and Torres Strait Islanders was 60% lower than the rate for non-Indigenous Australians (rate ratio of 0.6 for both).
- Similar results were observed when PCI and CABG were analysed separately, with Indigenous Australians generally less likely to receive these procedures than non-Indigenous Australians. The age-adjusted procedure rate for PCI was around 50% lower than non-Indigenous Australians, although the age-adjusted rate for CABG is 10% lower (age-standardised rate ratio of 0.5 and 0.9, respectively).
- Indigenous Australians with coronary heart disease tended to have more complex cases (measured by the number of comorbidities). In 2008–10, Indigenous people with coronary heart disease were less likely to undergo a coronary procedure across all levels of complexity. In the lower complex group (none, 1 or 2 comorbidities present), Indigenous Australians were no more than half as likely to have a coronary procedure.
- The complexity of cases did not explain the lower procedure rate in Indigenous Australians compared with non-Indigenous Australians.

Data quality issues

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010**.**

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006-07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: Vic 74%, NSW 76%, SA 86%, Qld 87%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The 2004-05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in Major cities, Inner and outer regional areas and Remote and very remote areas, but Very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In Remote and very remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample frame has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998 to 2008, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only (AIHW 2010).

In 2011-12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

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1.06 Acute rheumatic fever and rheumatic heart disease

Age-standardised rate and ratio of incidence and prevalence of acute rheumatic fever and rheumatic heart disease among Aboriginal and Torres Strait Islander people by age group

Data sources

Northern Territory Acute Rheumatic Fever and Rheumatic Heart Disease Program data

Data for this measure come from the acute rheumatic fever and rheumatic heart disease program in the Northern Territory.

Prior to 2009, data on acute rheumatic fever (ARF) and rheumatic heart disease (RHD) in the Northern Territory were collected from two programs. Data from the Top End program covered the northern part of the Northern Territory including Darwin, East Arnhem, Lower Top End (Katherine region), Alligator, Daly, Finniss and Bathurst–Melville. Data from the Central Australian program covered the Barkley region and Central Northern Territory (Alice Springs region). Although Central Australia also covers parts of Western Australia and South Australia, data from these areas have not been included. This is due to difficulties in determining denominator populations for the calculation of rates.

Incidence data (new registrations) for ARF are for the period 2007–2010. Prevalence data for RHD are at 31 December 2010.

The 2006 estimated resident Indigenous populations for the Northern Territory, the Top End and Central Australia have been used as the denominator for rates. This is because data for the Top End and Central Australia are available from the ABS for Census years only. Caution should therefore be used in interpreting rates presented here.

Analyses

Incidence of ARF

- Between 2007 and 2010 in the Northern Territory, there were 221 new and recurrent cases of ARF among Indigenous persons (Table 1.06.1).

Incidence by sex and age group

- During the 4-year period 2007–2010, Aboriginal and Torres Strait Islander children aged 5–14 years in the Northern Territory accounted for over half (61%) of new and recurrent cases of ARF among Indigenous persons in the Northern Territory (Table 1.06.1).
- The incidence of ARF among Aboriginal and Torres Strait Islander children aged 5–14 years in the Northern Territory was around 1.8 per 1,000 among males and 2.8 per 1,000 among females.
- Approximately 37% of new and recurrent cases of ARF among Indigenous persons in the Northern Territory were of males and 63% were of females.

Incidence by region

- During the 4-year period 2007–2010, there were 160 new or recurrent cases of ARF among Indigenous persons in the Top End of the Northern Territory. For the same period in Central Australia, there were 61 cases of ARF registered among Indigenous persons. Most of the new or recurrent cases of ARF in either Top End of the Northern Territory or Central Australia were for Indigenous persons (Table 1.06.2).
- In 2007–2010, incidence of ARF among Indigenous Australians in the Top End of the Northern Territory and Central Australia was around 0.6 per 1,000 (Table 1.06.2).
- Incidence rates of ARF among Indigenous Australians in the Northern Territory were around 75 times those for non-Indigenous Australians, which is the result of the very small number of notifications among non-Indigenous Australians (Table 1.06.2).

Table 1.06.1: Incidence (new and recurrent cases) of acute rheumatic fever among Indigenous persons in the Northern Territory, by age group and sex, 2007–2010[(a)]

	Males					Females					Persons				
	Number	Per cent	No. per 1,000[(b)]	95% LCL[(c)]	95% UCL[(d)]	Number	Per cent	No. per 1,000[(b)]	95% LCL[(c)]	95% UCL[(d)]	Number	Per cent	No. per 1,000[(b)]	95% LCL[(c)]	95% UCL[(d)]
0–4	1	1.2	0.1	–0.2	0.3	2	1.4	0.1	–0.2	0.5	3	1.4	0.1	–0.1	0.3
5–14	54	65.9	1.8	0.8	2.7	81	58.3	2.8	1.6	4.1	135	61.1	2.3	1.5	3.1
15–24	21	25.6	0.8	0.1	1.5	32	23.0	1.3	0.4	2.2	53	24.0	1.0	0.5	1.6
25–34	3	3.7	0.1	–0.2	0.5	14	10.1	0.6	0.0	1.3	17	7.7	0.4	0.0	0.8
35–44	2	2.4	0.1	–0.2	0.5	8	5.8	0.5	–0.2	1.1	10	4.5	0.3	–0.1	0.7
45+	1	1.2	0.1	–0.2	0.3	2	1.4	0.1	–0.2	0.3	3	1.4	0.1	–0.1	0.2
Total	**82**	**100.0**	**0.7**	**0.4**	**0.9**	**139**	**100.0**	**1.1**	**0.7**	**1.4**	**221**	**100.0**	**0.9**	**0.6**	**1.1**

(a) Calendar year reporting. Data are presented in 4-year groupings because of small numbers each year.

(b) Age-specific rates calculated using the average number of registrations for 2007–2010 divided by the 2006 estimated resident Indigenous population for the Northern Territory.

(c) LCL = lower confidence limit.

(d) UCL = upper confidence limit.

Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program data.

Table 1.06.2: Incidence (new or recurrent cases) of acute rheumatic fever in the Top End of the Northern Territory, Central Australia and the Northern Territory, by Indigenous status and sex, 2007–2010(a)

	Number		Per cent(b)		Indigenous			Non-Indigenous				
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	No. per 1,000(c)	95% LCL(d)	95% UCL(e)	No. per 1,000(b)	95% LCL(d)	95% UCL(e)	Ratio(f)	Rate difference(g)
NT Top End												
Males	69	2	97.2	2.8	0.5	0.3	0.8	0.01	–0.01	0.03	70.8*	0.5*
Females	91	2	97.8	2.2	0.7	0.4	1.0	0.01	–0.02	0.03	78.0*	0.7*
Persons	160	4	97.6	2.4	0.6	0.4	0.8	0.01	–0.01	0.02	76.7*	0.6*
Central Australia(h)												
Males	13	0	100.0	0.0	0.2	0.0	0.5	0.00	0.00	0.00	n.a.	0.2
Females	48	1	98.0	2.0	0.9	0.4	1.5	0.02	–0.05	0.08	54.3	0.9
Persons	61	1	98.4	1.6	0.6	0.3	0.9	0.01	–0.03	0.04	65.6*	0.6*
Northern Territory												
Males	82	2	97.6	2.4	0.4	0.2	0.6	0.01	–0.01	0.02	70.1*	0.4*
Females	139	3	97.9	2.1	0.8	0.5	1.0	0.01	–0.01	0.03	74.6*	0.8*
Persons	221	5	97.8	2.2	0.6	0.4	0.8	0.01	–0.01	0.02	75.0*	0.6*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Calendar year reporting. Data are presented in 4-year groupings because of small numbers each year.
(b) Proportion of total male, female and all persons cases in the period 2007–2010.
(c) Directly age-standardised using the Australian 2001 standard population.
(d) LCL = lower confidence limit.
(e) UCL = upper confidence limit.
(f) Rate ratio Indigenous: non-Indigenous.
(g) Rate difference is Indigenous minus non-Indigenous
(h) Excludes cases in Western Australia and South Australia because of difficulties in ascertaining denominator populations.

Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program data.

Incidence time series analyses

Incidence rates for ARF among Indigenous Australians in the Northern Territory are presented by age group and year for the period 2006 to 2010 in Table 1.06.3.

- Over the period 2006 to 2010, the incidence rate of ARF among Indigenous people did not change significantly for any age group other than 0–4 year olds which declined by 120% over the period.

Table 1.06.3: Incidence rates[(a)] of acute rheumatic fever in the Northern Territory, Indigenous Australians by age group, 2006 to 2010

	2006	2007	2008	2009	2010	Annual change[(b)]	Per cent change over period[(c)]
0–4	0.3	0.3	0.1	0.0	0.0	–0.08*	–120.0*
5–14	1.5	3.2	1.7	2.2	2.1	0.02	5.5
15–24	0.9	1.2	1.0	0.9	1.0	–0.01	–3.3
25–34	0.6	0.7	0.1	0.5	0.4	–0.06	–40.0
35–44	0.2	0.5	0.0	0.4	0.4	0.01	20.0
45+	0.4	0.0	0.0	0.0	0.3	–0.02	–20.0
Total	**0.7**	**1.2**	**0.6**	**0.81**	**0.84**	**–0.02**	**–9.2**

* Represents significant increases or decreases over the period 2006 to 2010 at the $p < 0.05$ level.

(a) Age-specific rates calculated using the 2006 estimated resident Indigenous population for the Northern Territory.

(b) Average annual change in rates determined using linear regression analysis.

(c) Per cent change between 2006 and 2010 based on the average annual change over the period.

Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program data.

Incidence of RHD (new registrations)

Time series analyses by age

Incidence rates for RHD registrations among Indigenous Australians in the Northern Territory are presented by age group for the period 2006 to 2010 in Table 1.06.4.

- Between 2006 and 2010 there was a 54% decline in new registrations of RHD among Aboriginal and Torres Strait Islander people in the Northern Territory (Table 1.06.4).
- There were significant decreases in the rate of new registrations for RHD in the Northern Territory among Indigenous Australians aged 15–24, 25–34 and 45–54 years.
- For 0–14 year olds, the rate increased but not significantly. For other age groups, the rate decreased but not significantly.

Table 1.06.4: Incidence rates[a] of rheumatic heart disease (new registration) in the Northern Territory, Indigenous Australians by age group[b], 2006 to 2010

Age (years)	2006	2007	2008	2009	2010	Annual change[c]	Per cent change over period[d]
0–14	0.5	0.8	1.3	0.9	0.8	0.1	43.3
15–24	2.1	1.9	1.3	1.5	0.6	–0.3*	–63.1*
25–34	1.8	1.8	1.7	1.1	0.3	–0.4*	–84.2*
35–44	1.0	1.8	1.1	0.6	0.6	–0.2	–80.0
45–54	2.7	2.5	0.7	1.6	0.7	–0.5*	–72.0*
55–64	1.5	1.1	0.0	0.7	1.1	–0.1	–30.0
65+	1.6	0.5	0.5	0.5	0.5	–0.2	–53.3
Total	**1.4**	**1.5**	**1.2**	**1.1**	**0.6**	**–0.2***	**–54.3***

* Represents significant increases or decreases over the period 2006 to 2010 at the $p < 0.05$ level.

(a) Age-specific rates calculated using the 2006 estimated resident Indigenous population for the Northern Territory.

(b) All ages are as at 31 December 2010.

(c) Average annual change in rates determined using linear regression analysis.

(d) Per cent change between 2006 and 2010 based on the average annual change over the period.

Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program data.

Time series analyses by region

Incidence rates for RHD registrations among Indigenous Australians in the Northern Territory between 2006 and 2010 by region are presented in Table 1.06.5 and Figure 1.06.1. Rates for non-Indigenous Australians are not presented because of the small number of cases each year.

Note that the 2006 estimated resident Indigenous population has been used as the denominator when calculating rates for all years as population data for the Top End and Central Australia are available for Census years only.

Note also that changes in the level of accuracy of Indigenous identification in registration data will result in changes in the level of reported cases of RHD for Indigenous Australians. Caution should therefore be used in interpreting rates and changes over time.

- Over the period 2006 to 2010, there was a 55% decline in new RHD registrations among Indigenous Australians in the Top End of the Northern Territory over the 5-year period (Table 1.06.5).
- In Central Australia there was no significant change in the in the rate of new RHD registrations among Indigenous Australians.

Table 1.06.5: Numbers and rates[(a)] of new rheumatic heart disease registrations in the Top End of the Northern Territory, Central Australia and total Northern Territory, Indigenous Australians, 2006 to 2010

	2006	2007	2008	2009	2010	Annual change[(b)]	Per cent change over period[(c)]
Top End NT							
Number	69	68	65	53	29	. .	. .
Rate[(d)]	1.6	1.5	1.5	1.2	0.7	–0.2*	–55.1
Central Australia							
Number	18	26	13	15	12	. .	. .
Rate[(d)]	0.9	1.3	0.6	0.7	0.6	–0.1	–51.1
Northern Territory							
Number	87	94	78	68	41	. .	. .
Rate[(d)]	1.4	1.5	1.2	1.1	0.6	–0.2*	–54.3*

* Represents significant increases or decreases over the period 2006 to 2010 at the $p < 0.05$ level.

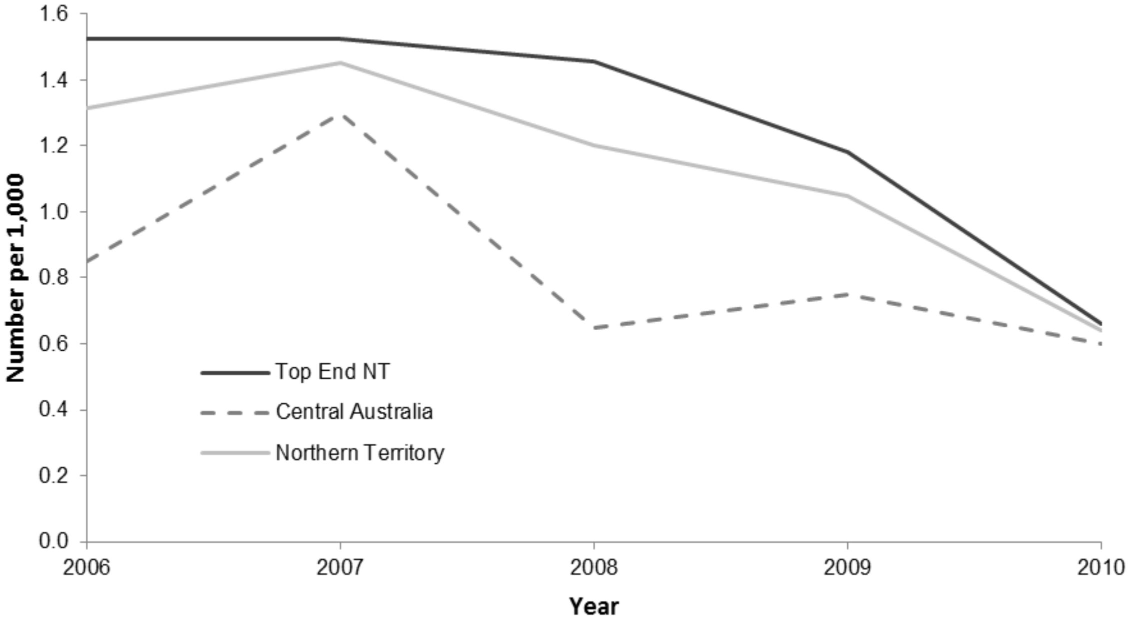
(a) Crude rates calculated using the 2006 estimated resident Indigenous population for the Top End, Central Australia and total Northern Territory.

(b) Average annual change in rates determined using linear regression analysis.

(c) Per cent change between 2006 and 2010 based on the average annual change over the period.

(d) Rate per 1,000.

Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program data.



Source: Northern Territory Rheumatic Heart Disease Program data.

Figure 1.06.1: Rates of new rheumatic heart disease registrations among Indigenous persons in the Top End of the Northern Territory, Central Australia and total Northern Territory, all ages, 2006 to 2010

Prevalence of RHD

- As at 31 December 2010, there were 1,479 cases of RHD in the Northern Territory, of which 1,379 (93%) were Indigenous people (Table 1.06.7).

Prevalence by sex and age group

- The overall prevalence rate of RHD for Indigenous males in the Northern Territory was around 18 per 1,000. For Indigenous females, the prevalence rate was much higher at around 33 per 1,000 (Table 1.06.6).
- As at 31 December 2010, rates of RHD among Indigenous adults between the ages of 25 and 64 years in the Northern Territory were between 31 and 36 per 1,000 (Table 1.06.6).
- The biggest disparities in rates of RHD between Indigenous and non-Indigenous Australians were in the 15–24 and 25–34 year age groups, where the respective rate ratios were around 120 and 131 (Table 1.06.6).
- Approximately 34% of cases of RHD in the Indigenous population were among Indigenous males and 66% among Indigenous females (Table 1.06.6).

Table 1.06.6: Prevalence of rheumatic heart disease (total registrations) for Indigenous persons in the Northern Territory, by age group and sex, as at 31 December 2010

Age at 31 Dec 2010 (in years)	No.	%	No. per 1,000[(a)]	95% LCL[(b)]	95% UCL[(c)]	Rate ratio[(d)]
			Males			
0–14	53	11.2	4.6	3.4	5.8	n.a.
15–24	121	25.5	19.0	15.6	22.4	100.1*
25–34	108	22.7	21.5	17.5	25.5	139.9*
35–44	92	19.4	22.6	18.0	27.1	76.4*
45–54	62	13.1	23.9	18.0	29.8	32.7*
55–64	26	5.5	21.3	13.2	29.4	47.6*
65+	13	2.7	18.5	8.5	28.5	5.9*
Total	**475**	**100.0**	**15.1**	**13.7**	**16.4**	**33.5***
Total ASR[(e)]	**. .**	**. .**	**17.8**	**15.8**	**19.8**	**28.2***
			Females			
0–14	68	7.5	6.2	4.8	7.7	n.a.
15–24	184	20.4	29.3	25.1	33.4	137.5*
25–34	215	23.8	39.8	34.6	45.0	123.1*
35–44	198	21.9	46.1	39.8	52.4	79.5*
45–54	137	15.2	47.1	39.4	54.8	42.9*
55–64	67	7.4	43.6	33.4	53.8	14.3*
65+	35	3.9	30.3	20.4	40.1	5.2*
Total	**904**	**100.0**	**27.8**	**26.0**	**29.6**	**29.5***
Total ASR[(e)]	**. .**	**. .**	**32.6**	**30.2**	**34.9**	**24.4***
			Persons			
0–14	121	8.8	5.4	4.4	6.4	n.a.
15–24	305	22.1	24.1	21.4	26.8	120.1*
25–34	323	23.4	31.0	27.7	34.3	131.1*
35–44	290	21.0	34.6	30.7	38.6	80.6*
45–54	199	14.4	36.2	31.2	41.1	40.0*
55–64	93	6.7	33.7	27.0	40.5	21.8*
65+	48	3.5	25.8	18.6	33.0	6.0*
Total	**1,379**	**100.0**	**21.5**	**20.4**	**22.7**	**31.6***
Total ASR[(e)]	**. .**	**. .**	**25.7**	**24.1**	**27.2**	**27.3***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Age-specific rates calculated using the 2006 estimated resident Indigenous population for the Northern Territory.

(b) LCL = lower confidence limit.

(c) UCL = upper confidence limit.

(d) Rate ratio Indigenous: non-Indigenous.

(e) Total age-standardised rates.

Source: Northern Territory Rheumatic Heart Disease Program data.

Prevalence by region

Table 1.06.7 presents total numbers and rates (prevalence) of RHD among Indigenous and non-Indigenous Australians in the Top End of the Northern Territory, Central Australia and the total Northern Territory as at 31 December 2010.

- As at 31 December 2010, there were 1,154 cases of RHD in the Top End of the Northern Territory, of which 93% (1,073) were Indigenous Australians (Table 1.06.7).
- For the same reference period, there were 325 cases of RHD in Central Australia, of which 94% (306) were Indigenous Australians (Table 1.06.7).
- After adjusting for differences in age structures, rates of RHD among Indigenous males and females in the Top End of the Northern Territory were around 36 and 28 times the rates for non-Indigenous males and females respectively (Table 1.06.7).
- In 2010, the prevalence rate of RHD among Indigenous males and females in Central Australia was around 13 and 17 times the rates for non-Indigenous males and females respectively (Table 1.06.7).

Table 1.06.7: Prevalence of rheumatic heart disease in the Top End of the Northern Territory and Central Australia, by Indigenous status and sex, as at 31 December 2010

	Number		Per cent[(a)]		Indigenous			Non-Indigenous				
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	No. per 1,000[(b)]	95% LCL[(c)]	95% UCL[(d)]	No. per 1,000[(b)]	95% LCL[(c)]	95% UCL[(d)]	Ratio[(e)]	Rate difference[(f)]
NT Top End												
Males	379	28	93.1	6.9	20.7	18.1	23.2	0.6	0.3	0.8	35.6*	20.1*
Females	694	53	92.9	7.1	36.9	33.8	40.0	1.3	0.9	1.7	27.7*	35.6*
Persons	1,073	81	93.0	7.0	29.3	27.2	31.3	0.9	0.7	1.1	32.4*	28.4*
Central Australia[(g)]												
Males	96	7	93.2	6.8	11.5	8.6	14.4	0.9	0.2	1.6	12.8*	10.6*
Females	210	12	94.6	5.4	23.7	20.3	27.2	1.4	0.5	2.2	17.4*	22.4*
Persons	306	19	94.2	5.8	18.1	15.8	20.4	1.1	0.6	1.7	16.3*	17.0*
Northern Territory												
Males	475	35	93.1	6.9	17.8	15.8	19.8	0.6	0.4	0.9	28.2*	17.2*
Females	904	65	93.3	6.7	32.6	30.2	34.9	1.3	1.0	1.7	24.4*	31.3*
Persons	1,379	100	93.2	6.8	25.7	24.1	27.2	0.9	0.7	1.1	27.3*	24.7*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Proportion of total registrations for males, females and all persons.

(b) Directly age-standardised using the Australian 2001 standard population.

(c) LCL = lower confidence limit.

(d) UCL = upper confidence limit.

(e) Rate ratio Indigenous: non-Indigenous.

(f) Rate difference is Indigenous minus non-Indigenous.

(g) Excludes cases in Western Australia and South Australia because of difficulties in ascertaining denominator populations.

Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program data.

Adherence to secondary prophylaxis

Table 1.06.8 presents numbers and percentages for adherence to secondary prophylaxis in the last 12 months, by Indigenous status, for persons on the ARF/RHD program in the Northern Territory in 2010.

- Of the 1,106 Indigenous persons in the ARF/RHD program in 2010, 30% met less than 50% of their required doses in the previous 12 months, 42% met 50% to 80% of their required doses, and 28% met greater than 80% of their required doses. Comparisons with non-Indigenous persons are difficult due to the low number of non-Indigenous persons on the ARF/RHD program.

Table 1.06.8: Adherence to secondary prophylaxis in the last 12 months for persons on the ARF/RHD program, 2010

	Number		Per cent	
Percentage of required doses received in previous 12 months	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
NT Top End				
Less than 50%	228	5	27.8	62.5
50% to 80%	348	n.p.	42.4	n.p.
Greater than 80%(b)	245	n.p.	29.8	n.p.
Central Australia(a)				
Less than 50%	103	n.p.	36.1	n.p.
50% to 80%	116	n.p.	40.7	n.p.
Greater than 80%(b)	66	n.p.	23.2	n.p.
Northern Territory				
Less than 50%	331	6	29.9	60.0
50% to 80%	464	n.p.	42.0	n.p.
Greater than 80%(b)	311	n.p.	28.1	n.p.

(a) Excludes cases in Western Australia and South Australia because of difficulties in ascertaining denominator populations.

(b) Includes people who received one or more doses when none were required.

Source: AIHW analysis of Northern Territory Rheumatic Heart Disease Program data.

Data quality issues

Northern Territory rheumatic heart disease program

Registrations

Registrations do not measure the incidence or prevalence of conditions in a population. Under-reporting of these conditions can occur at a number of stages. A person infected may not feel ill or may not seek medical care. The condition may not be diagnosed or a registration may not occur.

Some of the data tables (for instance table 1.06.1 and table 1.06.2) are presented in 4-year groupings because of small numbers each year.

Under-identification

The accurate identification of Aboriginal and Torres Strait Islander people within this data collection is less likely to be a problem. This is due to the high proportion of Aboriginal and Torres Strait Islander people in the Top End of the Northern Territory and in Central Australia, and the predominance of Aboriginal and Torres Strait Islander people with this disease.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.07 High blood pressure

The prevalence of high blood pressure/hypertension among Aboriginal and Torres Strait Islander Australians expressed as a rate by age group, age-standardised rate and ratio

Hypertension is high blood pressure. However, high blood pressure can be measured and managed without the diagnosis of hypertension, which requires multiple reading over time.

Data sources

Data for this measure come from the National Aboriginal and Torres Strait Islander Health Survey, the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database, the Bettering the Evaluation and Care of Health survey and National Aboriginal and Torres Strait Islander Social Survey.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012-13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program . The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008

NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Analyses

Age-standardised rates and ratios have been used as a measure of morbidity in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of other Australians, taking into account differences in age distributions.

Self-reported prevalence

Self-reported data from the NATSIHS on the prevalence of high blood pressure/ hypertension among Indigenous Australians are presented in Tables 1.07.1, 1.07.2, 1.07.3 and 1.07.4.

- In 2004–05, approximately 7% of Indigenous Australians reported high blood pressure/hypertension.
- After adjusting for differences in age structures, approximately 14% of Indigenous males and 16% of Indigenous females reported high blood pressure/ hypertension compared with 10% of both non-Indigenous males and females.
- High blood pressure/ hypertension was most prevalent among those aged 55 years and over for both population groups. Approximately 39% of Indigenous males and 46% of Indigenous females reported high blood pressure/hypertension in this age group compared with 32% and 36% of non-Indigenous males and females respectively (Table 1.07.1).
- In 2004–05, the prevalence of high blood pressure/ hypertension was higher among Indigenous Australians in remote areas (10% for both males and females) than among Indigenous Australians in non-remote areas (6% for males and 7% for females).
- There was no significant change in the prevalence of high blood pressure/hypertension among Indigenous Australians between 2001 and 2004–05 (Table 1.07.2).

Table 1.07.1: Proportion of persons reporting high blood pressure/ hypertension, by Indigenous status, sex and age group, 2004–05(a)

	Males		Females		Persons			Rate
							Ratio	difference
Age group	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	(persons)	(persons)
				Per cent				
0–14	—(b)	—(b)	—(b)	—(b)	—(c)	—(b)	0.8	n.p.
15–24	1(b)	—(b)	1(c)	—(b)	1(c)	—(c)	2.1	n.p.
25–34	4	3	5*(c)	2*(c)	5*	2*	2.3	3
35–44	14*	6*	11*	4*	12*	4*	2.7	8
45–54	22	15	24*	13*	22*	14*	1.6	8
55 years and over	39	32	46*	36*	42*	33*	1.2	9
Total	**7**	**. .**	**8**	**. .**	**7**	**. .**	**n.p.**	**n.p.**
Total standardised(d)	**14***	**10***	**16***	**10***	**15***	**10***	**1.5**	**5**
Total number	**232,632**	**9,600,405**	**241,948**	**9,691,973**	**474,310**	**19,292,387**	**. .**	**. .**

* Statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Self-reported data from the National Aboriginal and Torres Strait Islander Health Survey 2004–05 and the National Health Survey 2004–05 consisting of persons ever told has condition, still current and long term, and ever told has condition, current and not long term.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(d) Age-standardised proportions.

Source: ABS and AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey and 2004–05 National Health Survey.

Table 1.07.2: Indigenous persons reporting high blood pressure/ hypertension, by sex and remoteness, 1995, 2001 and 2004–05

	1995[(a)]		2001		2004–05	
	Males	Females	Males	Females	Males	Females
			Per cent			
Remote	n.a.	n.a.	7	10	10	10
Non-remote	15	16	5	7	6	7
Total	**n.a.**	**n.a.**	**6**	**8**	**7**	**8**
Total number	**131,616**	**133,800**	**217,893**	**225,012**	**232,362**	**241,948**

(a) Remote data are not available for the 1995 National Health Survey.

Sources: ABS and AIHW analysis of ABS 1995 National Health Survey (Indigenous supplement); 2001 National Health Survey (Indigenous supplement); 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

Hospitalisations

- In the 2-year period July 2008 to June 2010 there were 13,610 hospitalisations for hypertensive disease in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of which 493 (3.6%) were hospitalisations of Aboriginal and Torres Strait Islander people (Table 1.07.4).
- Hospitalisations for hypertensive disease accounted for 0.1% of total hospitalisations (excluding dialysis) of Aboriginal and Torres Strait Islander people.

Hospitalisations by age and sex

- For the two-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males and females had higher hospitalisation rates for hypertensive disease than non-Indigenous males and females from age 15-24 years onwards (Table 1.07.3).
- The greatest disparities in rates for males occurred in the 25-34, 35–44 and 45–54 year age groups, where Indigenous males were hospitalised between 4.8 and 5.9 times the rate of non-Indigenous males in these age groups. For Indigenous females, the greatest disparities in hospitalisation rates was among those aged 35–44, 45–54 and 55–64 where Indigenous females were hospitalised at between 4.8 to 7.4 times the rate of non-Indigenous females (Table 1.07.3).
- For both Indigenous and non-Indigenous Australian males and females, hospitalisation rates for hypertensive disease were highest in the age group 65 years and over.
- Approximately 41% of Indigenous Australians hospitalised for a principal diagnosis of hypertensive disease were males (201) and 59% were females (292) (Table 1.07.4).

Table 1.07.3: Age-specific hospitalisation rates for a principal diagnosis of hypertensive disease, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c]

									All ages	
	0–4	**5–14**	**15–24**	**25–34**	**35–44**	**45–54**	**55–64**	**65+**	**Crude**	**Age std.[d]**
Males										
Indigenous	0.2	0.0	0.1	0.4	0.8	1.3	1.0	1.1	0.4	0.6
Non-Indigenous	0.0	0.0	0.0	0.1	0.2	0.3	0.4	0.9	0.2	0.2
Rate ratio[e]	5.8	0.2	1.6	5.9	5.6	4.8	2.4	1.3	1.6	2.7
Rate difference[f]	0.2	0.0	0.0	0.3	0.7	1.1	0.6	0.2	0.1	0.4
Females										
Indigenous	0.0	0.0	0.1	0.3	1.0	1.3	2.2	3.3	0.6	1.0
Non-Indigenous	0.0	0.0	0.0	0.1	0.1	0.3	0.4	1.9	0.4	0.3
Rate ratio[e]	0.6	1.3	3.0	4.5	7.4	4.8	5.1	1.7	1.4	3.0
Rate difference[f]	0.0	0.0	0.1	0.2	0.8	1.0	1.7	1.4	0.1	0.7
Persons										
Indigenous	0.1	0.0	0.1	0.3	0.9	1.3	1.6	2.4	0.5	0.9
Non-Indigenous	0.0	0.0	0.0	0.1	0.1	0.3	0.4	1.4	0.3	0.3
Rate ratio[e]	3.5	0.6	2.2	5.2	6.5	4.8	3.9	1.6	1.5	2.9
Rate difference[f]	0.1	0.0	0.0	0.3	0.8	1.0	1.2	0.9	0.1	0.6

(a) Data excludes private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(d) Directly age-standardised using the Australian 2001 standard population.

(e) Rate ratio Indigenous: non-Indigenous Australians.

(f) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisation rates by state/territory

Table 1.07.4 presents hospitalisations for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males and females were hospitalised for hypertensive disease at around three times the rate of non-Indigenous males and females.
- Indigenous persons were hospitalised for hypertensive disease at around three times the rate of non-Indigenous males in most states and territories. Hospitalisation rates by state/territory should be interpreted with caution due to relative small numbers and jurisdictional differences in the level of Indigenous under-identification in hospital separations data.

Table 1.07.4: Hospitalisations of Indigenous persons for principal diagnosis of hypertensive disease, by sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
NSW						
Males	69	0.7	1,570	0.2	3.3*	0.5*
Females	76	1.0	2,997	0.4	2.7*	0.6*
Persons	145	0.9	4,567	0.3	2.9*	0.6*
Vic						
Males	3	0.1	1,090	0.2	0.5	–0.1
Females	10	0.4	1,969	0.3	1.3	0.1
Persons	13	0.3	3,059	0.3	1.0	0.0
Qld						
Males	66	0.6	1,335	0.3	1.8*	0.3*
Females	134	1.8	2,028	0.4	4.1*	1.4*
Persons	200	1.3	3,363	0.4	3.3*	0.9*
WA						
Males	31	1.0	348	0.2	6.0*	0.8*
Females	32	0.6	543	0.2	2.7*	0.4*
Persons	63	0.8	891	0.2	3.8*	0.6*
SA						
Males	12	0.7	432	0.3	2.8*	0.5*
Females	18	0.9	776	0.4	2.5*	0.6*
Persons	30	0.8	1,208	0.3	2.6*	0.5*
NT						
Males	20	0.4	6	0.0	8.1*	0.3*
Females	22	0.4	23	0.3	1.4	0.1
Persons	42	0.4	29	0.2	2.4*	0.2*
NSW, Vic, Qld, WA, SA and NT[(h)]						
Males	**201**	**0.6**	**4,781**	**0.2**	**2.7***	**0.4***
Females	**292**	**1.0**	**8,336**	**0.3**	**3.0***	**0.7***
Persons	**493**	**0.9**	**13,117**	**0.3**	**2.9***	**0.6***
Tas						
Males	2	0.1	79	0.1	1.0	0.0
Females	3	0.3	92	0.2	2.0	0.2
Persons	5	0.2	171	0.2	1.6	0.1

(continued)

Table 1.07.4 (continued): Hospitalisations of Indigenous persons for principal diagnosis of hypertensive disease, by sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
ACT						
Males	1	. .	49	0.2	. .	. .
Females	0	. .	69	0.2	. .	. .
Persons	1	. .	118	0.2	. .	. .

* Represents results with statistically significant differences in the Indigenous/Non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for hypertensive disease in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented by Australian Standard Geographical Classification (ASGC) in Table 1.07.5, covering the period July 2008 to June 2010.

- Indigenous Australians in all ASGC areas except *Very remote* areas were more likely to be hospitalised for hypertensive disease than other Australians. The ratio of hospitalisations of Indigenous people compared with other Australians was higher and the difference was statistically significant for all ASGC areas except *Very remote* areas.
- Rates of hospitalisations per 1,000 people were highest for Indigenous people living in *Remote* areas, at 1.3 per 1,000. The rate was highest for non-Indigenous Australians who lived in *Very remote* areas, at 0.7per 1,000. The lowest rates were observed in *Major cities* for both Indigenous people (0.4 per 1,000) and non-Indigenous people (0.2 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 2.3 times that of other Australians in *Remote* areas of Australia. In *Very remote* areas, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of 0.8 times that of other Australians. In these states combined, the rate was 2.8 times.

Table 1.07.5: Hospitalisations for hypertensive disease, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)(f)]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%[(g)]	UCL 95%[(h)]	Number	No. per 1,000	LCL 95%[(g)]	UCL 95%[(h)]	Ratio[(i)]	Difference[(j)]
Major cities	69	0.4	0.3	0.6	7,433	0.2	0.2	0.3	1.8*	0.2*
Inner regional	100	0.8	0.6	1.0	3,218	0.3	0.3	0.4	2.4*	0.5*
Outer regional[(k)]	148	1.1	0.9	1.3	2,055	0.5	0.5	0.5	2.3*	0.6*
Remote[(l)]	83	1.3	1.0	1.6	291	0.6	0.5	0.6	2.3*	0.7*
Very remote	93	0.9	0.7	1.1	111	0.7	0.6	0.9	1.2	0.2
Total[(m)]	**493**	**0.8**	**0.8**	**0.9**	**13,117**	**0.3**	**0.3**	**0.3**	**2.8***	**0.5***

* Indicates a significant difference at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008-10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

General practitioner encounters

Information about general practitioner (GP) encounters is available from the BEACH survey. Data for the 5-year BEACH reporting period April 2006–March 2007 to April 2010–March 2011 are presented in Table 1.07.6. Hypertension is among the top three most common individual problems managed at GP encounters with Aboriginal and Torres Strait Islander patients.

- In the BEACH period April 2006–March 2007 to April 2010–March 2011 there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,196 problems were managed. Of these, 381 (4.1% of all problems managed) were for hypertension.
- Hypertension was managed at GP encounters with Indigenous patients at a rate of 63.8 per 1,000 encounters.
- After adjusting for differences in age distribution, hypertension was managed at GP encounters at similar rates for both Indigenous and other patients (96 per 1,000 for Indigenous, 94 per 1,000 for other people).

Table 1.07.6: Hypertension[(a)] managed by general practitioners, by Indigenous status, BEACH years April 2006–March 2007 to April 2010–March 2011[(b)(c)]

	Number		Crude rate (no. per 1,000 encounters)			Age-standardised rate (no. per 1,000 encounters)(d)							
	Indigenous	Other(e)	Indigenous	95% LCL(f)	95% UCL(g)	Indigenous	95% LCL(f)	95% UCL(g)	Other(e)	95% LCL(f)	95% UCL(g)	Rate ratio(h)	Rate difference(i)
Males	152	19,212	64.5	52.6	76.5	82.6	66.2	99.0	99.2	96.8	101.6	0.8	–16.6
Females	222	25,552	62.2	51.5	73.0	103.2	83.2	123.1	90.5	88.3	92.6	1.1	12.7
Persons(j)(k)	381	45,130	63.8	54.8	72.8	96.4	81.7	111.0	94.0	91.9	96.0	1.0	2.4

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Classified according to ICPC-2 codes (Classification Committee of the World Organization of Family Doctors (WICC) 2005). ICPC–2 codes: K86, K87.

(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

(c) Data for Indigenous and other Australians have not been weighted.

(d) Directly age-standardised rate (no. per 1,000 encounters) using total BEACH encounters in the period as the standard. Figures do not add to 100 as more than one problem can be managed at each encounter.

(e) 'Other' includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(f) LCL = lower confidence interval.

(g) UCL = upper confidence interval.

(h) Rate ratio Indigenous: Other.

(i) Rate difference Indigenous rate minus Other (non-Indigenous) rate.

(j) Indigenous Total persons include 7 cases where sex was not recorded.

(k) Other Total persons includes 366 cases where sex was not recorded.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Additional information

Self-reported prevalence of hypertension during pregnancy

Self-reported data from the 2008 NATSISS on the prevalence of high blood pressure during pregnancy among Indigenous women are presented in Tables 1.07.7 and 1.07.8.

- In 2008 in Australia, 14% of Indigenous children aged 0–3 years had mothers who had high blood pressure during pregnancy. This proportion was lowest in Queensland (8%) and highest in Western Australia (20%) and the Australian Capital Territory (21%), although the proportion for the Australian Capital Territory should be interpreted with caution due to high relative standard errors (Table 1.07.7).
- The proportion of Indigenous children aged 0–3 years with mothers who had high blood pressure during pregnancy was higher in remote areas (16%) than non-remote areas (14%) (Table 1.07.8).

Table 1.07.7: Number and proportion of Indigenous children aged 0–3 years whose mother had high blood pressure during pregnancy, by state/territory, 2008

	Number	Proportion
NSW	2,702	17.4
Vic	486	14.8
Qld	1,337	8.4
WA	1,268	20.1
SA	425	16.0
Tas	302	16.7
ACT	88[(a)]	21.0[(a)]
NT	688	13.5
Total	**7,295**	**14.3**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Note: Proportions exclude not known and not collected responses.

Source: 2008 NATSISS.

Table 1.07.8: Number and proportion of Indigenous children aged 0–3 years whose mother had high blood pressure during pregnancy, by Remoteness Area, 2008

	Number	Proportion
Major cities	1,956	11.7
Inner regional	2,177	17.5
Outer regional	1,459	13.1
Total non-remote	*5,593*	*13.9*
Remote	735	17.3
Very remote	968	14.7
Total remote	*1,702*	*15.7*
Total	**7,295**	**14.3**

Note: Proportions exclude not known and not collected responses.

Source: 2008 NATSISS.

Data quality issues

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Imperfect recall or individual interpretation of survey questions may nevertheless affect some responses.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in major cities and regional and remote areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.

In remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011-12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998 to 2008, (Britt & Miller 2009:101): 'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

1.08 Cancer

Incidence, survival rates, mortality and hospital separations for selected cancers

Data sources

Data for this measure come from the Australian Cancer Database (ACD), the National Mortality Database, the Bettering the Evaluation and Care of Health Survey (BEACH) and the AIHW National Hospital Morbidity Database.

Australian Cancer Database (ACD)

Each state and territory has its own cancer registry which draws on a number of sources; notifications from pathology laboratories, radiation oncology units, hospitals and Registrars of Births, Death and Marriages. Each jurisdictional cancer registry supplies data annually to the AIHW, which is compiled into the Australian Cancer Database (ACD).

Indigenous identification is incomplete for all cancer registries, however has been assessed by the AIHW as having sufficient quality to report for Western Australia, Queensland, New South Wales and the Northern Territory. For current period reporting, five-years combined data are presented for these four jurisdictions. Time-series data by Indigenous status are not able to be reported at this point in time.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program . The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for ‘separations’ and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Data analysis

Cancer was identified as a leading cause of disease in Australia in 2010, accounting for 19% of the total burden (AIHW & AACR 2010). Recent research showed that cancer survival rates were lower for Indigenous people who were diagnosed with cancer in comparison with non-Indigenous people (Cramb et al. 2012). This raises important questions in relation to the delivery of, and access to services, for Indigenous Australians. This section uses cancer registration and hospital separation data to illustrate cancer diagnoses and survival rates among Indigenous and non-Indigenous populations.

Cancer incidence

State and territory population-based cancer registries receive information on cancer diagnoses from a variety of sources including hospitals, pathology laboratories, radiotherapy centres and registries of births, deaths and marriages.

Cancer registry data for selected cancers for the five year period 2004-2008, for New South Wales, Queensland, Western Australia and the Northern Territory combined, shows:

- Indigenous people were nearly twice as likely to be diagnosed with lung cancer, and nearly 3 times as likely to be diagnosed with cervical cancer as non-Indigenous people (Table 1.08.1). By contrast, Indigenous people were less likely to develop bowel cancer, female breast cancer and melanoma than non-Indigenous people (Table 1.08.1).

Table 1.08.1: Incidence of selected cancers, by Indigenous status and sex, WA, Qld, NSW, and NT, 2004–08[a][b]

	Indigenous					Non-Indigenous					Indigenous status not stated				
Cancer type	**No.**	**% all cancers**	**No. per 100,000[c]**	**LCL 95%[d]**	**UCL 95%[e]**	**No.**	**% all cancers**	**No. per 100,000[c]**	**LCL 95%[d]**	**UCL 95%[e]**	**No.**	**%**	**Rate ratio[f]**	**Rate difference[g]**	**Rate difference %[h]**
								Males							
Bowel cancer	187	9.7	54.5	45.5	64.5	21,864	13.3	69.6	68.6	70.5	1,299	5.6	0.8*	–15.1*	–57.1
Lung cancer	339	17.6	109.6	96.2	124.1	18,097	11.0	58.4	57.6	59.3	460	2.4	1.9*	51.2*	193.6
Melanoma	34	1.8	11.5	7.2	17.1	12,650	7.7	40.2	39.5	40.9	8,706	40.7	0.3*	–28.7*	–108.4
Female breast cancer	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Cervical cancer	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total cancers	**1,931**	**100.0**	**547.0**	**517.6**	**577.4**	**164,109**	**100.0**	**520.6**	**518.0**	**523.1**	**25,225**	**13.2**	**1.1**	**26.4**	**100.0**
								Females							
Bowel cancer	160	8.3	41.0	34.2	48.7	17,650	13.9	48.9	48.2	49.6	1,169	6.2	0.8*	–7.9*	–21.5
Lung cancer	263	13.6	59.5	51.8	67.8	10,748	8.5	29.8	29.3	30.4	374	3.3	2.0*	29.6*	80.5
Melanoma	26	1.3	6.0	3.6	9.3	8,494	6.7	24.5	24.0	25.1	6,442	43.1	0.2*	–18.5*	–50.3
Female breast cancer	432	22.3	81.3	73.0	90.2	35,663	28.0	103.0	102.0	104.1	3,552	9.0	0.8*	–21.7*	–59.0
Cervical cancer	121	6.3	18.1	14.6	22.1	2,178	1.7	6.5	6.3	6.8	189	7.6	2.8*	11.5*	31.4
Total cancers	**1,933**	**100.0**	**397.2**	**377.2**	**417.8**	**127,154**	**100.0**	**360.4**	**358.4**	**362.4**	**15,946**	**11.0**	**1.1***	**36.8***	**100.0**
								Persons							
Bowel cancer	347	9.0	47.2	41.6	53.2	39,514	13.6	58.6	58.0	59.2	2,468	5.8	0.8*	–11.4*	–43.3
Lung cancer	602	15.6	80.3	73.2	87.8	28,845	9.9	42.7	42.2	43.2	834	2.8	1.9*	37.6*	142.4
Melanoma	60	1.6	8.3	6.0	11.1	21,144	7.3	31.6	31.2	32.0	15,148	41.7	0.3*	–23.3*	–88.4
Female breast cancer	432	11.2	81.3	73.0	90.2	35,663	12.2	103.0	102.0	104.1	3,552	9.0	0.8*	–21.7*	–59.0
Cervical cancer	121	3.1	18.1	14.6	22.1	2,178	0.7	6.5	6.3	6.8	189	7.6	2.8*	11.5*	31.4
Total cancers	**3,864**	**100.0**	**458.8**	**442.0**	**476.0**	**291,263**	**100.0**	**432.4**	**430.8**	**434.0**	**41,171**	**12.2**	**1.1***	**26.4***	**100.0**

(continued)

Table 1.08.1 (continued): Incidence of selected cancers, by Indigenous status and sex, WA, Qld, NSW, and NT, 2004–08[(a)(b)]

* Represents results with statistically significant differences at the $p<0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Data are reported for New South Wales, Queensland, Western Australia and the Northern Territory only. These four states and territories are currently considered to have adequate levels of Indigenous identification in cancer registry data for these periods.

(b) Data are presented in five-year groupings because of small numbers each year.

(c) Directly age-standardised incidence rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(d) LCL = lower confidence limit.

(e) UCL = upper confidence limit.

(f) Rate ratio is the incidence rate for Indigenous Australians divided by the incidence rate for non-Indigenous Australians.

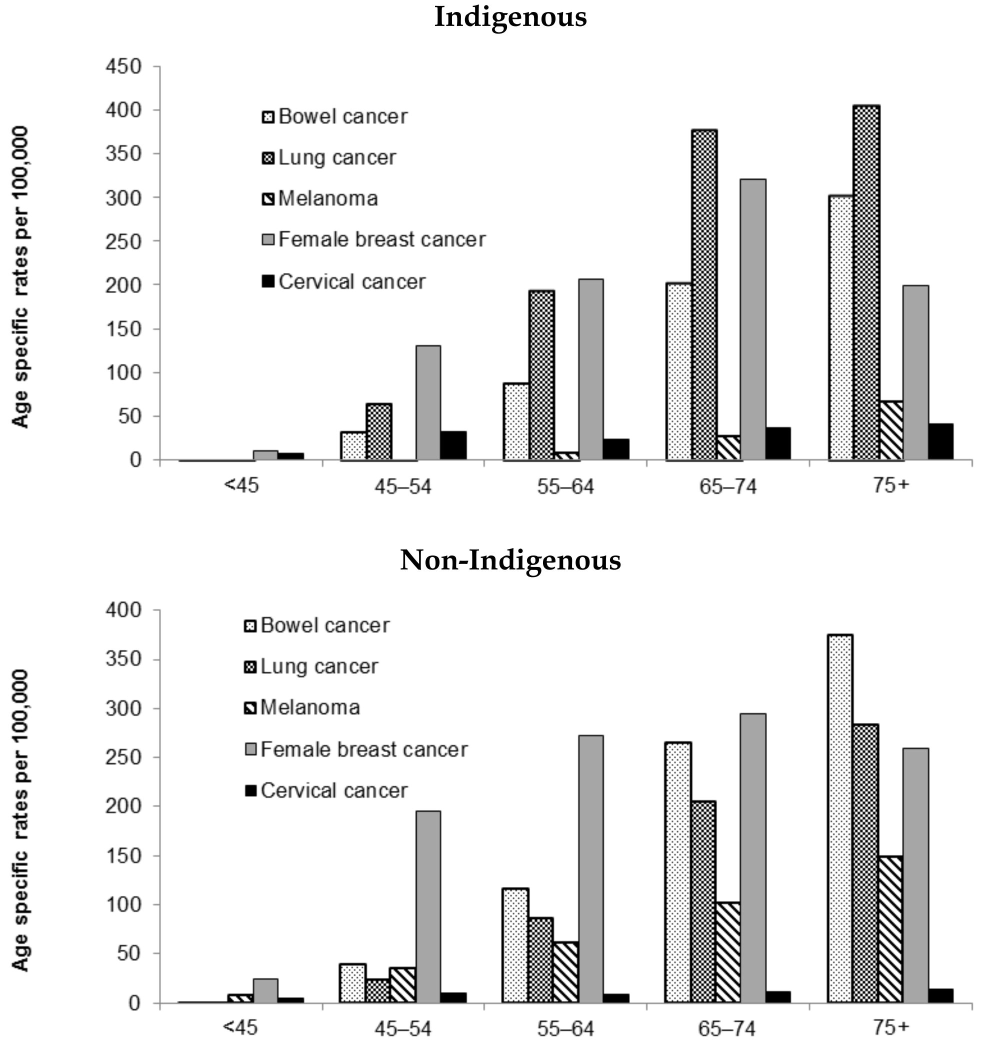
(g) Rate difference is the incidence rate for Indigenous Australians minus the incidence rate for non-Indigenous Australians.

(h) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all neoplasms.

Source: AIHW Australian Cancer Database.

Cancer incidence by age

- Cancer incidence rates for bowel cancer, lung cancer, melanoma and cervical cancer increased with age, being highest among those aged 75 years and over for both Indigenous and non-Indigenous Australians. Incidence rates for female breast cancer however were highest among those aged 65–74 years for both Indigenous and non-Indigenous (Figure 1.08.1).
- Incidence rates for bowel cancer and melanoma were lower for Indigenous Australians than non-Indigenous Australians across all age-groups. Indigenous females in age groups 45 years and over were around 3 times as likely to be diagnosed with cervical cancer as non-Indigenous females in the same age groups. Indigenous persons aged 45–54 years were three times as likely to be diagnosed with lung cancer as non-Indigenous persons in the same age groups.



Source: AIHW Australian Cancer Database.

Figure 1.08.1: Incidence of selected cancers, by Indigenous status and age, WA, Qld, NSW, and NT, 2004–08

Cancer incidence by state/territory

- Between 2004 and 2008, among the four jurisdictions where data were reported, Indigenous incidence rates for bowel cancer, lung cancer and female breast cancer were highest in New South Wales (65, 85 and 91 per 100,000 respectively). By contrast, the Indigenous cervical cancer incidence rate in New South Wales was the lowest among the four jurisdictions (13 per 100,000) (Table 1.08.2).
- During the same period of time, non-Indigenous incidence rates for bowel cancer and lung cancer were highest in the Northern Territory (61 per 100,000 for both types). The non–Indigenous cervical cancer incidence rate in New South Wales was the lowest among the four jurisdictions (6 per 100,000) (Table 1.08.2).
- For total cancers, incidence rates for Indigenous persons were slightly higher than for non-Indigenous persons in New South Wales, and slightly lower than for non-Indigenous persons in Western Australia and the Northern Territory. Rates were similar in Queensland.

Table 1.08.2: Incidence of selected cancers by Indigenous status, by state/territory, 2004–08(a)(b)

	Indigenous					Non-Indigenous					Indigenous status not stated				
Cancer type	**No.**	**%**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(e)**	**No.**	**%**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(e)**	**No.**	**%**	**Rate ratio(f)**	**Rate difference(g)**	**Rate difference %(h)**
NSW															
Bowel cancer	166	11.0	65.4	54.5	77.6	21,360	14.0	58.1	57.3	58.9	1,421	6.2	1.1	7.3	8.5
Lung cancer	236	15.6	85.2	73.2	98.4	15,176	9.9	41.2	40.6	41.9	533	3.3	2.1*	44.0*	51.3
Melanoma	33	2.2	14.2	9.1	20.9	9,304	6.1	25.8	25.2	26.3	8,475	47.6	0.6*	–11.5*	–13.4
Female breast cancer	179	11.9	90.9	76.8	106.7	18,783	12.3	101.5	100.0	103.0	1,997	9.5	0.9	–10.6	–12.4
Cervical cancer	34	2.3	13.2	8.9	18.8	1,072	0.7	6.0	5.6	6.4	120	9.8	2.2*	7.2*	8.4
Total cancers	**1,509**	**100.0**	**505.6**	**476.1**	**536.3**	**152,912**	**100.0**	**419.9**	**417.7**	**422.0**	**24,436**	**13.7**	**1.2***	**85.8***	**100.0**
Qld															
Bowel cancer	110	8.9	43.7	34.7	54.0	12,264	13.9	60.6	59.5	61.7	987	7.4	0.7*	–17.0*	–100.5
Lung cancer	180	14.6	76.7	64.6	90.3	9,004	10.2	44.3	43.4	45.2	277	2.9	1.7*	32.4*	191.6
Melanoma	16	1.3	5.7	2.8	10.0	6,716	7.6	33.3	32.5	34.1	6,435	48.9	0.2*	–27.5*	–162.6
Female breast cancer	153	12.4	90.4	75.0	107.9	10,775	12.2	102.4	100.5	104.4	1,431	11.6	0.9	–12.0	–71.0
Cervical cancer	46	3.7	23.1	15.8	32.2	695	0.8	6.8	6.3	7.4	63	7.8	3.4*	16.3*	96.4
Total cancers	**1,233**	**100.0**	**452.2**	**422.9**	**482.8**	**88,544**	**100.0**	**435.3**	**432.5**	**438.2**	**15,983**	**15.1**	**1.0**	**16.9**	**100.0**
WA															
Bowel cancer	38	6.5	30.8	20.2	44.4	5,616	11.8	56.0	54.6	57.5	60	1.1	0.6*	–25.2*	54.1
Lung cancer	95	16.3	83.7	65.9	104.4	4,413	9.3	44.5	43.2	45.9	23	0.5	1.9*	39.2*	–84.1
Melanoma	8	1.4	6.0	2.0	12.7	4,908	10.3	48.3	47.0	49.7	214	4.2	0.1*	–42.3*	90.8
Female breast cancer	54	9.3	66.6	48.3	89.0	5,844	12.3	110.9	108.1	113.8	123	2.0	0.6*	–44.4*	95.3

(continued)

Table 1.08.2 (continued): Incidence of selected cancers by Indigenous status, by state/territory, 2004–08(a)(b)

	Indigenous					Non-Indigenous					Indigenous status not stated				
Cancer type	**No.**	**%**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(e)**	**No.**	**%**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(e)**	**No.**	**%**	**Rate ratio(f)**	**Rate difference(g)**	**Rate difference %(h)**
Cervical cancer	20	3.4	15.4	8.9	24.5	382	0.8	7.6	6.8	8.4	6	1.5	2.0*	7.8*	–16.7
Total cancers	**583**	**100.0**	**425.4**	**386.1**	**467.3**	**47,591**	**100.0**	**472.0**	**467.8**	**476.3**	**703**	**1.4**	**0.9***	**–46.6***	**100.0**
								NT							
Bowel cancer	33	6.1	24.1	15.4	35.4	274	12.4	61.0	52.8	69.9	0	0.0	0.4*	–36.8*	64.9
Lung cancer	91	16.9	71.8	56.3	89.8	252	11.4	60.6	52.1	69.8	1	0.3	1.2	11.2	–19.8
Melanoma	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Female breast cancer	46	8.5	53.7	38.3	72.8	261	11.8	91.2	78.9	104.7	1	0.3	0.6*	–37.5*	66.1
Cervical cancer	21	3.9	22.4	12.0	36.9	29	1.3	9.5	5.8	14.3	0	0.0	2.4	13.0	–22.9
Total cancers	**539**	**100.0**	**389.1**	**351.5**	**429.2**	**2,216**	**100.0**	**445.8**	**424.0**	**468.3**	**49**	**1.7**	**0.9***	**–56.7***	**100.0**
								Total(b)							
Bowel cancer	347	9.0	47.2	41.6	53.2	39,514	13.6	58.6	58.0	59.2	2,468	5.8	0.8*	–11.4*	–43.2
Lung cancer	602	15.6	80.3	73.2	87.8	28,845	9.9	42.7	42.2	43.2	834	2.8	1.9*	37.6*	142.4
Melanoma	60	1.6	8.3	6.0	11.1	21,144	7.3	31.6	31.2	32.0	15,148	41.7	0.3*	–23.3*	–88.3
Female breast cancer	435	11.3	81.3	73.0	90.2	35,663	12.2	103.0	102.0	104.1	3,552	9.0	0.8*	–21.7*	–82.2
Cervical cancer	121	3.1	18.1	14.6	22.1	2,178	0.7	6.5	6.3	6.8	189	7.6	2.8*	11.5*	43.6
Total cancers	**3,864**	**100.0**	**458.8**	**442.0**	**476.0**	**291,263**	**100.0**	**432.4**	**430.8**	**434.0**	**41,171**	**12.2**	**1.1***	**26.4***	**100.0**

(continued)

Table 1.08.2 (continued): Incidence of selected cancers by Indigenous status, by state/territory, 2004–08(a)(b)

* Represents results with statistically significant differences at the $p<0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Data are reported for New South Wales, Queensland, Western Australia and the Northern Territory only. These four states and territories are currently considered to have adequate levels of Indigenous identification in cancer registry data for these periods.

(b) Data are presented in **five**-year groupings because of small numbers each year.

(c) Directly age-standardised incidence rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(d) LCL = lower confidence limit.

(e) UCL = upper confidence limit.

(f) Rate ratio is the incidence rate for Indigenous Australians divided by the incidence rate for non-Indigenous Australians.

(g) Rate difference is the incidence rate for Indigenous Australians minus the incidence rate for non-Indigenous Australians.

(h) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all neoplasms.

Notes

1. Results reported in this table may differ from those in jurisdictional reports because the identification of Aboriginal and Torres Strait Islander status is based on self report which may differ by jurisdiction.
2. The proportion of cases with ‘missing’ Aboriginal and Torres Strait Islander status differs by jurisdiction, and methods to deal with missing status also differ. For example, some jurisdictions use a multiple imputation model to allocate Aboriginal status which is missing.

Source: AIHW Australian Cancer Database.

Survival from selected cancers

Data on survival rates for selected cancers is presented below for New South Wales, Queensland, Western Australia and the Northern Territory combined:

- Over the period 2006–2010 the mean age at diagnosis (for all selected cancers) was lower for Indigenous males and females than for non-Indigenous males and females (Table 1.08.3).
- Between 2006 and 2010 the survival rate for Indigenous males diagnosed with cancer (all selected cancers combined) was 11 percentage points less than that of non-Indigenous males (41% compared with 52%). A similar difference was found between Indigenous and non-Indigenous females (10 percentage points; 49% compared with 59%) (Table 1.08.3).
- Indigenous males diagnosed with lung cancer had a slightly higher rate of survival than their non-Indigenous counterparts (13% compared with 10% respectively). By contrast, Indigenous females diagnosed with lung cancer had a lower rate of survival than non-Indigenous females (7% compared with 14% respectively) (Table 1.08.3).

Table 1.08.3: Five-year crude survival for selected cancers by Indigenous status and sex, WA, Qld, NSW, and NT, 2006–2010[(a)(b)]

	Males					Females				
	No.[(c)]	Mean age at diagnosis[(c)]	Crude survival (%)	LCL 95%[(d)]	UCL 95%[(e)]	No.[(c)]	Mean age at diagnosis[(c)]	Crude survival (%)	LCL 95%[(d)]	UCL 95%[(e)]
Bowel cancer										
Indigenous	187	60.6	39.6	31.0	48.2	160	62.8	49.1	39.1	58.4
Non-Indigenous	21,864	68.2	54.0	53.2	54.8	17,650	70.0	57.1	56.2	58.0
Not stated	1,299	66.6	—	—	—	1,169	69.1	—	—	—
Lung cancer										
Indigenous	339	63.2	12.5	8.2	17.8	263	61.2	6.9	3.7	11.5
Non-Indigenous	18,097	70.3	10.3	9.8	10.9	10,748	69.4	14.3	13.5	15.1
Not stated	460	70.7	—	—	—	374	69.1	—	—	—
Melanoma										
Indigenous	34	60.3	75.8	59.9	86.1	26	56.5	88.7	75.5	95.0
Non-Indigenous	12,650	64.1	67.4	66.4	68.3	8,494	60.0	79.3	78.3	80.3
Not stated	8,706	59.6	—	—	—	6,442	55.9	—	—	—
Breast cancer in females										
Indigenous	n.a.	n.a.	n.a.	n.a.		432	55.3	70.6	65.1	75.5
Non-Indigenous	n.a.	n.a.	n.a.	n.a.		35,663	59.8	82.5	82.0	82.9
Not stated	n.a.	n.a.	n.a.	n.a.		3,552	62.0	—	—	—
Cervical cancer										
Indigenous	n.a.	n.a.	n.a.	n.a.		121	45.9	44.8	32.9	56.0
Non-Indigenous	n.a.	n.a.	n.a.	n.a.		2,178	52.0	67.6	65.1	69.9
Not stated	n.a.	n.a.	n.a.	n.a.		189	43.8	—	—	—
Total cancers										
Indigenous	1,931	58.2	41.0	38.1	43.9	1,933	55.6	48.7	45.7	51.5
Non-Indigenous	164,109	66.8	51.7	51.4	52.0	127,154	64.4	58.7	58.4	59.1
Not stated	25,225	64.1	—	—	—	15,946	60.4	—	—	—

(a) Data are reported for New South Wales, Queensland, Western Australia and the Northern Territory only. These four states and territories are currently considered to have adequate levels of Indigenous identification in cancer registry data for these periods.

(b) Data are presented in five-year groupings because of small numbers each year.

(c) The number of incidence cases and the mean age at diagnosis are based on the period 2004–2008.

(d) LCL = lower confidence limit.

(e) UCL = upper confidence limit.

Source: AIHW Australian Cancer Database.

Mortality

Age-standardised rates and ratios have been used as a measure of mortality in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate disparities between the rates of mortality among Indigenous Australians and those of non-Indigenous Australians, taking into account differences in age distributions.

Tables 1.08.4 and 1.08.5 present data on mortality due to cancer (neoplasms) over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Between 2006 and 2010 about 2,100 Indigenous Australians died of neoplasms, which equates to an age-standardised rate of 245 deaths per 100,000 population. Almost all deaths from neoplasms involved malignant neoplasms (99%).
- Deaths involving cancer of the digestive organs and respiratory and intra-thoracic organs were the leading causes of death involving cancer for both Indigenous males and females (Table 1.08.4).
- Over the period 2006–2010, neoplasms were reported as an underlying cause of death in 21% of Indigenous and 30% of non-Indigenous deaths, and were reported as a multiple cause of death in 24% of Indigenous deaths and 34% of non-Indigenous deaths (Table 1.08.5).

Table 1.08.4: Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

Site of neoplasm	Number	Per cent	No. per 100,000(g)	95% LCL(h)	95% UCL(i)	Rate ratio(j)	Rate difference(k)	Rate difference %(l)
					Males			
Digestive organs (C15–C26)	334	31.0	78.3	68.2	88.4	1.3	18.3	30.9
Bowel cancer(C18–C20)(m)	*69*	*6.4*	*17.0*	*12.1*	*21.9*	*0.8*	*–3.2*	*–5.5*
Respiratory and inthrathoracic organs (C30–C39)	326	30.2	90.3	78.8	101.8	1.9	42.2	71.2
Bronchus & lung (C34)(m)	*289*	*26.8*	*81.6*	*70.6*	*92.7*	*1.8*	*35.8*	*60.4*
Ill-defined, secondary & unspecified site (C76–C80)	71	6.6	19.4	14.0	24.8	1.5	6.6	11.2
Malignant neoplasm, without specification of site (C80)(m)	*61*	*5.7*	*16.6*	*11.7*	*21.6*	*1.4*	*4.9*	*8.3*
Lymphoid, haematopoietic and related tissue (C81–C96)	54	5.0	15.8	10.6	21.0	0.8	–4.8	–8.1
Female genital organs (C51–C58)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cervix (C53)(m)	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Lip, oral cavity and pharynx (C00–C14)	98	9.1	19.4	14.9	23.9	4.2	14.8	24.9
Breast (C50)	0	0.0	0.0	0.0	0.0	0.0	–0.2	–0.4
Malignant neoplasms of urinary tract (C64–C68)	30	2.8	7.6	4.5	10.8	0.6	–4.5	–7.5
Male genital organs (C60–C63)	70	6.5	27.9	20.6	35.2	0.9	–2.5	–4.1
Other malignant neoplasms(n)	65	6.0	16.6	11.6	21.6	0.6	–9.5	–16.1
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	***1,064***	***98.7***	***279.7***	***259.5***	***299.8***	***1.3***	***58.2***	***98.2***
Non-malignant neoplasms (D00-D44, D47.0, D47.2, D47.7-D48)	14	1.3	3.3	1.0	5.7	1.5	1.1	1.8
Total neoplasms	**1,078**	**100.0**	**283.0**	**262.7**	**303.3**	**1.3**	**59.3**	**100.0**
					Females			
Digestive organs (C15–C26)	260	25.3	58.5	50.5	66.4	1.6	21.4	29.0
Bowel cancer(C18–C20)(m)	*59*	*5.7*	*12.3*	*8.8*	*15.9*	*0.9*	*–1.3*	*–1.8*
Respiratory and inthrathoracic organs (C30–C39)	221	21.5	45.4	38.8	52.1	1.9	21.6	29.2
Bronchus & lung (C34)(m)	*213*	*20.7*	*43.5*	*37.0*	*50.0*	*1.9*	*20.1*	*27.2*
Ill-defined, secondary & unspecified site (C76–C80)	71	6.9	15.8	11.7	19.9	1.6	6.1	8.3
Malignant neoplasm, without specification of site (C80)(m)	*61*	*5.9*	*13.3*	*9.6*	*17.0*	*1.5*	*4.6*	*6.2*
Lymphoid, haematopoietic and related tissue (C81–C96)	74	7.2	17.2	12.8	21.6	1.4	4.7	6.4
Female genital organs (C51–C58)	123	12.0	22.9	18.3	27.5	1.9	10.7	14.5

(continued)

Table 1.08.4 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

Site of neoplasm	Number	Per cent	No. per 100,000(g)	95% LCL(h)	95% UCL(i)	Rate ratio(j)	Rate difference(k)	Rate difference %(l)
Cervix (C53)(m)	*58*	*5.6*	*8.8*	*6.3*	*11.3*	*4.6*	*6.9*	*9.3*
Lip, oral cavity and pharynx (C00–C14)	30	2.9	5.0	2.9	7.0	3.3	3.4	4.7
Breast (C50)	134	13.0	26.3	21.3	31.4	1.2	4.3	5.9
Malignant neoplasms of urinary tract (C64–C68)	16	1.6	3.0	1.3	4.7	0.6	–2.3	–3.0
Male genital organs (C60–C63)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other malignant neoplasms(n)	63	6.1	13.2	9.4	17.0	1.1	0.7	0.9
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	***1,012***	***98.3***	***212.2***	***197.5***	***227.0***	***1.5***	***72.6***	***98.1***
Non-malignant neoplasms (D00-D44, D47.0, D47.2, D47.7-D48)	17	1.7	3.3	1.6	5.0	1.7	1.4	1.9
Total neoplasms	**1,029**	**100.0**	**215.5**	**200.6**	**230.4**	**1.5**	**73.9**	**100.0**
					Persons			
Digestive organs (C15–C26)	594	28.2	67.9	61.6	74.2	1.4	20.2	30.3
Bowel cancer(C18–C20)(m)	*128*	*6.1*	*14.4*	*11.5*	*17.3*	*0.9*	*–2.3*	*–3.5*
Respiratory and inthrathoracic organs (C30–C39)	547	26.0	64.5	58.4	70.7	1.9	29.8	44.7
Bronchus & lung (C34)(m)	*502*	*23.8*	*59.6*	*53.6*	*65.5*	*1.8*	*26.1*	*39.2*
Ill-defined, secondary & unspecified site (C76–C80)	142	6.7	17.4	14.1	20.6	1.6	6.3	9.4
Malignant neoplasm, without specification of site (C80)(m)	*122*	*5.8*	*14.7*	*11.7*	*17.7*	*1.5*	*4.6*	*7.0*
Lymphoid, haematopoietic and related tissue (C81–C96)	128	6.1	16.6	13.2	19.9	1.0	0.4	0.6
Female genital organs (C51–C58)	123	5.8	12.8	10.1	15.5	2.0	6.3	9.4
Cervix (C53)(m)	*58*	*2.8*	*4.8*	*3.4*	*6.2*	*4.8*	*3.8*	*5.7*
Lip, oral cavity and pharynx (C00–C14)	128	6.1	11.5	9.2	13.8	3.8	8.5	12.7
Breast (C50)	134	6.4	14.8	11.9	17.8	1.3	3.1	4.6
Malignant neoplasms of urinary tract (C64–C68)	46	2.2	5.0	3.4	6.7	0.6	–3.3	–5.0
Male genital organs (C60–C63)	70	3.3	11.5	8.5	14.4	0.9	–1.7	–2.6
Other malignant neoplasms(n)	128	6.1	14.7	11.7	17.8	0.8	–4.0	–6.1
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	***2,076***	***98.5***	***241.3***	***229.3***	***253.4***	***1.4***	***65.4***	***98.3***
Non-malignant neoplasms (D00-D44, D47.0, D47.2, D47.7-D48)	31	1.5	3.2	1.9	4.6	1.6	1.2	1.7
Total neoplasms	**2,107**	**100.0**	**244.6**	**232.5**	**256.7**	**1.4**	**66.6**	**100.0**

(continued)

Table 1.08.4 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(l) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all neoplasms.

(m) Data presented for bowel cancer are a subset for all cancers of the digestive organs; data presented for bronchus & lung cancer are a subset of data presented for all respiratory and inthrathoracic organs; data presented for cervix cancer are a subset of data presented for all cancers of the female genital organs in this table.

(n) Includes neoplasms of bone and articular cartilage; melanoma & other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; C9 Malignant neoplasms of independent (primary) multiple sites.

Source: AIHW analysis of ABS Mortality Database.

Table 1.08.5: Selected multiple causes of death, by Indigenous status and sex, cancer, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)(g)]

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Indig.	Non-Indig.
Site of neoplasm	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**Crude mean no. of causes[(i)]**	**Crude mean no. of causes[(i)]**
Males																		
Digestive organs (C15–C26)	27.9	5.4	78.6	5.9	59.9	9.0	60.0	8.7	30.6	6.0	87.3	6.6	68.5	10.3	69.1	10.0	2.6	2.4
Respiratory and inthrathoracic organs (C30–C39)	27.3	5.3	90.7	6.9	48.0	7.2	48.2	7.0	28.8	5.6	97.6	7.4	52.9	7.9	53.2	7.7	2.7	2.6
Bronchus & lung (C34)[(j)]	*24.2*	*4.7*	*82.0*	*6.2*	*45.7*	*6.8*	*45.8*	*6.6*	*25.4*	*5.0*	*88.1*	*6.7*	*49.8*	*7.5*	*50.2*	*7.3*	*2.8*	*2.6*
Ill-defined, secondary & unspecified site (C76–C80)	5.9	1.2	19.5	1.5	12.5	1.9	12.8	1.9	17.4	3.4	53.5	4.0	43.4	6.5	43.9	6.4	3.1	2.7
Lymphoid, haematopoietic and related tissue (C81–C96)	4.5	0.9	15.9	1.2	20.3	3.0	20.6	3.0	5.8	1.1	21.0	1.6	26.3	3.9	27.0	3.9	3.0	3.0
Female genital organs (C51–C58)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cervix (C53)[(j)]	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Lip, oral cavity and pharynx (C00–C14)	8.2	1.6	19.5	1.5	4.7	0.7	4.6	0.7	9.0	1.8	21.7	1.6	6.0	0.9	5.9	0.9	2.4	2.5
Breast (C50)	—	—	—	—	0.2	0.0	0.2	0.0	—	—	—	—	0.4	0.1	0.4	0.1	—	2.6

(continued)

Table 1.08.5 (continued): Selected multiple causes of death, by Indigenous status and sex, cancer, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)(g)]

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Crude		Age-standardised[(h)]		Indig.	Non-Indig.
Site of neoplasm	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	Crude mean no. of causes[(i)]	Crude mean no. of causes[(i)]
Malignant neoplasms of urinary tract (C64–C68)	2.5	0.5	7.7	0.6	11.8	1.8	12.1	1.8	3.4	0.7	12.0	0.9	16.3	2.4	16.9	2.4	2.7	2.7
Male genital organs (C60–C63)	5.9	1.1	28.0	2.1	28.8	4.3	30.3	4.4	8.0	1.6	40.3	3.0	44.3	6.6	47.1	6.8	2.6	2.6
Other malignant neoplasms[(k)]	6.8	1.3	21.1	1.6	32.4	4.8	32.8	4.7	7.3	1.4	23.6	1.8	34.0	5.1	34.5	5.0	2.8	2.6
Non-malignant neoplasms (D00–D48)	1.2	0.2	n.p.	n.p.	2.2	0.3	2.3	0.3	2.9	0.6	12.0	0.9	9.7	1.5	10.2	1.5	3.3	3.2
Total neoplasms	**90.1**	**17.6**	**284.2**	**21.5**	**220.7**	**33.0**	**223.9**	**32.4**	**99.5**	**19.4**	**325.6**	**24.6**	**255.5**	**38.2**	**260.8**	**37.8**	**2.7**	**2.6**
All causes	513.3	100.0	1,321.9	100.0	668.4	100.0	690.8	100.0	513.3	100.0	1,321.9	100.0	668.4	100.0	690.8	100.0	3.2	3.2
									Females									
Digestive organs (C15–C26)	21.6	5.2	58.8	5.8	44.0	7.0	37.1	7.2	24.3	5.9	68.7	6.8	49.9	8.0	41.9	8.1	2.6	2.3
Respiratory and inthrathoracic organs (C30–C39)	18.3	4.4	45.6	4.5	27.9	4.5	23.8	4.6	20.2	4.9	51.3	5.0	29.9	4.8	25.5	4.9	2.7	2.4
Bronchus & lung (C34)[(j)]	*17.7*	*4.3*	*43.7*	*4.3*	*27.3*	*4.4*	*23.4*	*4.5*	*19.3*	*4.7*	*48.9*	*4.8*	*29.2*	*4.7*	*25.0*	*4.9*	*2.7*	*2.4*

(continued)

Table 1.08.5 (continued): Selected multiple causes of death, by Indigenous status and sex, cancer, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Indig.	Non-Indig.
Site of neoplasm	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	Crude mean no. of causes(i)	Crude mean no. of causes(i)
Ill-defined, secondary & unspecified site (C76–C80)	5.9	1.4	15.9	1.6	11.6	1.9	9.7	1.9	18.7	4.5	47.4	4.7	36.0	5.8	30.7	6.0	2.8	2.7
Lymphoid, haematopoietic and related tissue (C81–C96)	6.1	1.5	17.3	1.7	14.8	2.4	12.4	2.4	6.8	1.6	19.3	1.9	18.9	3.0	15.8	3.1	3.4	2.8
Female genital organs (C51–C58)	10.2	2.5	23.0	2.3	14.2	2.3	12.2	2.4	11.5	2.8	27.0	2.7	16.5	2.6	14.1	2.7	2.4	2.2
Cervix (C53)(j)	*4.8*	*1.2*	*8.8*	*0.9*	*2.1*	*0.3*	*1.9*	*0.4*	*5.3*	*1.3*	*10.3*	*1.0*	*2.6*	*0.4*	*2.3*	*0.4*	*2.5*	*2.4*
Lip, oral cavity and pharynx (C00–C14)	2.5	0.6	5.0	0.5	1.8	0.3	1.5	0.3	3.4	0.8	6.6	0.6	2.3	0.4	1.9	0.4	2.3	2.4
Breast (C50)	11.1	2.7	26.4	2.6	25.2	4.0	22.0	4.3	14.0	3.4	35.2	3.5	33.2	5.3	28.4	5.5	2.5	2.3
Malignant neoplasms of urinary tract (C64–C68)	1.3	0.3	n.p.	n.p.	6.3	1.0	5.3	1.0	1.6	0.4	n.p.	n.p.	8.0	1.3	6.6	1.3	3.0	2.6
Male genital organs (C60–C63)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other malignant neoplasms(k)	6.9	1.7	18.2	1.8	18.3	2.9	15.7	3.0	7.2	1.7	19.6	1.9	19.2	3.1	16.5	3.2	2.6	2.5
Non-malignant neoplasms (D00–D48)	1.4	0.3	n.p.	n.p.	2.3	0.4	1.9	0.4	3.6	0.9	8.8	0.9	8.0	1.3	6.5	1.3	3.4	3.1

(continued)

Table 1.08.5 (continued): Selected multiple causes of death, by Indigenous status and sex, cancer, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Indig.	Non-Indig.
Site of neoplasm	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**Crude mean no. of causes(i)**	**Crude mean no. of causes(i)**
Total neoplasms	**85.3**	**20.6**	**216.5**	**21.3**	**166.3**	**26.6**	**141.7**	**27.5**	**95.0**	**22.9**	**248.4**	**24.4**	**189.3**	**30.3**	**160.3**	**31.1**	**2.7**	**2.4**
All causes	414.2	100.0	1,016.6	100.0	625.0	100.0	515.2	100.0	414.2	100.0	1,016.6	100.0	625.0	100.0	515.2	100.0	3.4	3.2
									Persons									
Digestive organs (C15–C26)	24.7	5.3	68.2	5.9	51.9	8.0	47.8	8.0	27.4	5.9	77.8	6.7	59.2	9.2	54.4	9.1	2.6	2.4
Respiratory and inthrathoracic organs (C30–C39)	22.8	4.9	64.8	5.6	37.9	5.9	34.8	5.8	24.5	5.3	70.9	6.1	41.3	6.4	38.0	6.4	2.7	2.5
Bronchus & lung (C34)(j)	*20.9*	*4.5*	*59.8*	*5.2*	*36.5*	*5.6*	*33.5*	*5.6*	*22.4*	*4.8*	*65.4*	*5.7*	*39.5*	*6.1*	*36.3*	*6.1*	*2.7*	*2.5*
Ill-defined, secondary & unspecified site (C76–C80)	5.9	1.3	17.4	1.5	12.0	1.9	11.1	1.9	18.1	3.9	50.1	4.3	39.7	6.1	36.5	6.1	2.9	2.7
Lymphoid, haematopoietic and related tissue (C81–C96)	5.3	1.1	16.6	1.4	17.5	2.7	16.2	2.7	6.3	1.4	19.9	1.7	22.6	3.5	20.8	3.5	3.3	2.9
Female genital organs (C51–C58)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cervix (C53)(j)	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Lip, oral cavity and pharynx (C00–C14)	5.3	1.1	11.5	1.0	3.3	0.5	3.0	0.5	6.2	1.3	13.4	1.2	4.2	0.6	3.8	0.6	2.3	2.5

(continued)

Table 1.08.5 (continued): Selected multiple causes of death, by Indigenous status and sex, cancer, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Indig.	Non-Indig.
Site of neoplasm	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**Crude mean no. of causes(i)**	**Crude mean no. of causes(i)**
Breast (C50)	5.6	1.2	14.9	1.3	12.8	2.0	11.8	2.0	7.0	1.5	20.0	1.7	16.8	2.6	15.5	2.6	2.5	2.3
Malignant neoplasms of urinary tract (C64–C68)	1.9	0.4	5.1	0.4	9.1	1.4	8.3	1.4	2.5	0.5	7.3	0.6	12.2	1.9	11.2	1.9	2.8	2.7
Male genital organs (C60–C63)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other malignant neoplasms(k)	6.8	1.5	19.5	1.7	25.3	3.9	23.4	3.9	7.2	1.6	21.3	1.8	26.6	4.1	24.6	4.1	2.7	2.5
Non-malignant neoplasms (D00–D48)	1.3	0.3	3.3	0.3	2.3	0.3	2.1	0.4	3.3	0.7	9.9	0.9	8.8	1.4	8.1	1.4	3.3	3.1
Total neoplasms	**87.7**	**18.9**	**245.7**	**21.3**	**193.4**	**29.9**	**178.2**	**29.8**	**97.3**	**21.0**	**281.4**	**24.3**	**222.3**	**34.4**	**204.7**	**34.3**	**2.7**	**2.5**
All causes	463.5	100.0	1,156.1	100.0	646.6	100.0	597.3	100.0	463.5	100.0	1,156.1	100.0	646.6	100.0	597.3	100.0	3.3	3.2

(continued)

Table 1.08.5 (continued): Selected multiple causes of death, by Indigenous status and sex, cancer, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(d) These data exclude 5,441 registered deaths where the Indigenous status was not stated over the period 2006–2010.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(h) Figures are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mean number of causes is calculated based on the average number of causes of death present for a death with the selected underlying cause of death. This data item provides insight into co-morbidity.

(j) Data presented for bronchus & lung cancer are a subset of data presented for all respiratory and inthrathoracic organs; data presented for cervix cancer are a subset of data presented for all cancers of the female genital organs in this table.

(k) Includes neoplasms of bone and articular cartilage; melanoma & other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; neoplasms of primary and independent sites, Chronic myeloproliferative disease; Essential thrombocythaemia.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

General practitioner encounters

Management of selected cancers

Information about general practitioner (GP) encounters is available from the BEACH survey. Data for the 5-year period April 2006–March 2007 to April 2010–March 2011 are presented below.

- During this period, there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,196 problems were managed. Of these, less than one per cent (56) was for malignant neoplasms (Table 1.08.6).
- After adjusting for age differences, problems involving total malignant neoplasms were managed at a rate of 14 per 1,000 encounters with Indigenous patients, compared with 25 per 1,000 encounters for other patients, this difference is statistically significant (Table 1.08.6).
- Problems involving bowel cancer were managed at a significantly lower rate with Indigenous patients in comparison with encounters for other patients (0.5 per 1,000 encounters and 1.4 per 1,000 encounters respectively after adjusting for age differences)

Table 1.08.6: Problems managed relating to cancer[(a)] managed by general practitioners, by Indigenous status of the patient, BEACH survey years April 2006–March 2007 to April 2010–March 2011 inclusive[(b)(c)]

	Number		Per cent of total problem managed		Crude rate (no. per 1,000 encounters)						Age-standardised rate (no. per 1,000 encounters)[(d)]			
Problem managed	**Indig.**	**Other[(e)]**	**Indig.**	**Other[(e)]**	**Indig.**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Other**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Indig.**	**Other[(e)]**	**Ratio[(h)]**	**Rate diff.[(i)]**
Respiratory malignancies (R84)(R85)	2	521	0.02	0.07	0.3	0.0	1.0	1.1	1.0	1.2	0.4	1.1	0.3	–0.7
Lung/brochus/trachea cancer (R84)[(j)]	2	426	0.02	0.06	0.3	0.0	1.0	0.9	0.8	1.0	0.4	0.9	0.4	–0.5
Breast cancer in females (X76)	7	1,170	0.08	0.16	1.2	0.3	2.0	2.4	2.3	2.6	1.3	2.4	0.5	–1.1
Cervical cancer (X75)	4	111	0.04	0.01	0.7	0.0	1.5	0.2	0.2	0.3	0.6	0.2	2.8	0.4
Bowel cancer (D75)	3	650	0.03	0.09	0.5	0.0	1.1	1.4	1.2	1.5	0.5*	1.4*	0.4*	–0.9*
Other malignant neoplasm [(k)]	40	9,725	0.43	1.30	6.7	4.5	8.9	20.3	19.6	21.1	10.7*	20.2*	0.5*	–9.5*
Malignant neoplasm total [(l)]	*56*	*12,177*	*0.61*	*1.63*	*9.4*	*6.5*	*12.2*	*25.5*	*24.6*	*26.3*	*13.5**	*25.3**	*0.5**	*–11.8**
Other problems managed	9,140	733,447	99.39	98.37	1,530.7	1,490.1	1,571.4	1,534.3	1,525.6	1,543.1	1,625.5*	1,533.2*	1.1*	92.3*
Total problems	**9,196**	**745,624**	**100.00**	**100.00**	**1,540.1**	**1,499.0**	**1,581.2**	**1,559.8**	**1,550.9**	**1,568.7**	**1,639.1***	**1,558.6***	**1.1***	**80.5***

(continued)

Table 1.08.6 (continued): Problems managed relating to cancer[(a)] managed by general practitioners, by Indigenous status of the patient, BEACH survey years April 2006–March 2007 to April 2010–March 2011 inclusive[(b)(c)]

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level.

(a) Classified according to ICPC–2 chapter codes (Classification Committee of the World Organization of Family Doctors (WICC) 1998).
(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.
(c) Data for Indigenous and other Australians have not been weighted.
(d) Directly age-standardised rate (no. per 1,000 encounters). Figures do not add to 100 as more than one problem can be managed at each encounter.
(e) ‘Other’ includes non-Indigenous patients and patients for whom Indigenous status was not stated.
(f) LCL = lower confidence interval.
(g) UCL = upper confidence interval.
(h) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for other Australians.
(i) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for other Australians.
(j) Lung/bronchus/trachea cancer is a subset of respiratory malignancies.
(k) ICPC–2 codes: A79, B72–B74, B74, D76–D77, F74002–03,06, H75002,03, K72002–03, L71, N74, S77, T71, T73001–02, U75–U77 W72, X77, Y77–Y78.
(l) ICPC–2 codes: A79, B72–B74, B74, D75–D77, F74002–03,06, H75002,03, K72002–03, L71, N74, R84–R85, S77, T71, T73001–02, U75–U77 W72, X75–X77, Y77–Y78.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

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Hospitalisations

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate disparities between the rates of hospital admissions among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Hospitalisations by age and sex

- Hospitalisation admission data between July 2008 and June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and Northern Territory combined, shows that hospitalisation rates with a principal diagnosis of cancer increased with age for both Indigenous and non-Indigenous people (Table 1.08.7).
- Indigenous males aged 55 years and over had higher hospitalisation rates for cancer than Indigenous females.
- Hospitalisation rates for cancer were lower for Indigenous persons than non-Indigenous persons across all age groups.

Table 1.08.7: Age-specific hospitalisation rates per 1,000 population for a principal diagnosis of neoplasms (cancer), by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)]

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+	Total (crude)	Total (age standardised)[(f)]
Males										
Indigenous	1.3	0.6	1.2	1.5	3.9	13.2	30.5	54.3	5.4	13
Non-Indigenous	2.2	1.5	1.4	2	4.8	14.8	42.3	104	21.3	20.8
Rate ratio[(g)]	0.6	0.4	0.9	0.8	0.8	0.9	0.7	0.5	0.3	0.6
Rate difference[(h)]	–0.8	–0.8	–0.2	–0.5	–0.9	–1.5	–11.8	–49.7	–15.8	–7.9
Females										
Indigenous	2.4	0.9	0.8	1.4	6.1	13.6	22.8	37	5.6	10.5
Non-Indigenous	2.1	1.1	1.1	2.3	6.9	16	29	56.1	15.5	13.7
Rate ratio[(g)]	1.2	0.8	0.8	0.6	0.9	0.8	0.8	0.7	0.4	0.8
Rate difference[(h)]	0.3	–0.2	–0.3	–0.9	–0.7	–2.4	–6.1	–19.1	–9.9	–3.3
Persons										
Indigenous	1.9	0.8	1.0	1.5	5.1	13.4	26.4	44.4	5.5	11.5
Non-Indigenous	2.1	1.3	1.3	2.2	5.9	15.4	35.6	78.0	18.4	16.9
Rate ratio[(g)]	0.9	0.6	0.8	0.7	0.9	0.9	0.7	0.6	0.3	0.7
Rate difference[(h)]	–0.2	–0.5	–0.2	–0.7	–0.8	–2.0	–9.2	–33.5	–12.9	–5.4

(continued)

Table 1.08.7 (continued): Age-specific hospitalisation rates for a principal diagnosis of neoplasms (cancer), by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)(e)

(a) Categories are based on ICD-10-AM codes C00–C97, D45, D46, D47.1, D47.3.

(b) Data are from public and most private hospitals. Excludes data for private hospitals in the NT, ACT and Tasmania.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Data are reported for NSW, Vic, Qld, WA, SA and NT only. These jurisdictions are considered to have adequate levels of Indigenous identification in hospitalisation data, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(f) Total rate is directly age standardised per 1,000 separations, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(h) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 & 10 (Newborn - unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 1.08.8 presents hospitalisations for a principal diagnosis of cancer for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Rates for Tasmania and the Australian Capital Territory are also reported, however should be interpreted with caution due to small numbers and until recent audits of Indigenous identification in hospital data are completed.

- Between July 2008 and June 2010, Indigenous people in all states and territories, except Tasmania, had lower rates of hospitalisation from cancer than non-Indigenous people (Table 1.08.8).
- Hospitalisation rates for cancer ranged from around 9 per 100,000 in the Northern Territory to around 14 per 1,000 in Victoria, Queensland and South Australia (excludes Tasmania and the Australian Capital Territory).

Hospitalisation rates by state/territory should be interpreted with caution due jurisdictional differences in the level of Indigenous under-identification in hospital separations data.

Table 1.08.8: Hospitalisations for principal diagnosis of cancer (neoplasms) by Indigenous status and sex, NSW, Vic, Qld, WA, SA, NT, Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	No. per 1,000[(e)]	Number	No. per 1,000[(e)]	Rate ratio[(f)]	Rate difference[(g)]
NSW						
Males	849	11.2	125,547	17.4	0.6*	–6.2*
Females	843	9.4	95,304	11.8	0.8*	–2.4*
Persons[(h)]	1,692	10.2	220,851	14.3	0.7*	–4.1*
Vic						
Males	223	16.8	125,656	23.1	0.7*	–6.3*
Females	225	11.8	92,643	15.0	0.8*	–3.1*
Persons[(h)]	448	13.8	218,299	18.6	0.7*	–4.8*
Qld						
Males	882	15.4	98,143	23.2	0.7*	–7.8*
Females	938	12.4	70,885	15.4	0.8*	–3.0*
Persons[(h)]	1,820	13.7	169,028	19.0	0.7*	–5.3*
WA						
Males	455	12.7	45,119	21.5	0.6*	–8.8*
Females	395	9.3	31,749	13.9	0.7*	–4.6*
Persons[(h)]	850	10.8	76,868	17.4	0.6*	–6.6*
SA						
Males	152	13.6	39,381	22.1	0.6*	–8.5*
Females	163	12.4	28,077	13.8	0.9	–1.4
Persons[(h)]	315	12.9	67,458	17.5	0.7*	–4.6*
NT						
Males	295	9.5	1,645	13.7	0.7*	–4.1*
Females	375	8.5	907	7.8	1.1	0.7
Persons[(h)]	670	8.9	2,552	11.0	0.8*	–2.2*
NSW, Vic, Qld, WA, SA & NT[(i)]						
Males	2,856	13.0	435,491	20.8	0.6*	–7.9*
Females	2,939	10.5	319,565	13.7	0.8*	–3.3*
Persons[(h)]	5,795	11.5	755,056	16.9	0.7*	–5.4*
Tas						
Males	95	10.8	5,508	10.0	1.1*	0.9
Females	91	6.0	3,856	6.4	0.9*	–0.4
Persons[(h)]	186	8.4	9,364	8.1	1.0*	0.3

(continued)

Table 1.08.8 (continued): Hospitalisations for principal diagnosis of cancer (neoplasms) by Indigenous status and sex, NSW, Vic, Qld, WA, SA, NT, Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	No. per 1,000[(e)]	Number	No. per 1,000[(e)]	Rate ratio[(f)]	Rate difference[(g)]
ACT						
Males	5	2.8	2,397	7.9	0.4*	–5.1
Females	13	6.1	2,304	6.8	0.9*	–0.6
Persons[(h)]	18	4.5	4,701	7.3	0.6*	–2.7

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Categories are based on ICD-10-AM codes C00–C97, D45, D46, D47.1, D47.3.

(b) Data are from public and most private hospitals. Data are not available for private hospitals in the NT, the ACT and Tasmania.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+. Rates are directly age standardised per 1,000 separations, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(g) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

(h) Includes hospitalisations for which sex was indeterminate or not stated.

(i) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 & 10 (Newborn - unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Data for Tasmania and the ACT should be interpreted with caution until recent audits of Indigenous identification in hospital data are completed.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness area

Hospitalisation rates for a principal diagnosis of cancer in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 1.08.9, covering the period July 2008 to June 2010.

- Hospitalisation rates for cancer were highest in remote areas for Indigenous persons and highest in inner regional areas for non-Indigenous people.
- In remote areas, hospitalisation rates for cancer were similar for Indigenous and non-Indigenous people (14 per 1,000 population). In all other areas, rates were lower for Indigenous people than non-Indigenous people.

Table 1.08.9: Hospitalisations for principal diagnosis of cancer (neoplasms) by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000[(f)]	LCL 95%[(g)]	UCL 95%[(h)]	Number	No. per 1,000[(f)]	LCL 95%[(g)]	UCL 95%[(h)]	Rate ratio[(i)]	Rate difference[(j)]
Major cities	1,861	11.9	11.4	12.5	513,836	16.9	16.9	16.9	0.7*	–5.0*
Inner regional	1,192	12.6	11.9	13.3	163,389	17.1	17.0	17.2	0.7*	–4.5*
Outer regional[(k)]	1,240	10.7	10.1	11.3	67,316	15.7	15.6	15.8	0.7*	–5.0*
Remote[(l)]	729	14.0	12.9	15.0	7,930	14.2	13.9	14.5	1.0	–0.2
Very remote	773	8.4	7.8	9.0	2,459	10.7	10.2	11.1	0.8*	–2.3*
Total[(m)]	5,795	11.4	11.1	11.6	755,056	16.8	16.7	16.8	0.7*	**–5.4***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Categories are based on ICD-10-AM codes C00–C97, D45, D46, D47.1, and D47.3.

(b) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(f) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(j) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

(k) Outer regional includes remote Victoria.

(l) Remote excludes remote Victoria

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn - unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by principal diagnosis

Table 1.08.10 presents data on hospitalisations for cancer by principal diagnosis for Aboriginal and Torres Strait Islander people for the 2-year period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- During this period, cancer of the digestive organs accounted for 18% of cancer hospitalisations among Indigenous people, followed by ill-defined and secondary cancers and cancers in an unspecified site, and lymphoid, haematopoietic and related tissue cancers (13% for each type).
- Indigenous people were almost three times as likely as non-Indigenous people to be hospitalised for cervical cancer, and cancer of the lip, oral cavity or pharynx; and 1.5 times as likely to be hospitalised for cancer of the lungs or bronchus.
- For Indigenous males, the most common types of cancer hospitalisations were: cancer of the digestive organs (21% of all cancer hospitalisations); lymphoid, haematopoietic and related tissue cancers (15%); and ill-defined and secondary cancers and cancers in an unspecified site (12%).
- For Indigenous females, the most common types, each accounting for more than 14% of all cancer hospitalisations, were: cancer of the female genital organs; cancer of the digestive organs; and ill-defined, secondary and unspecified site cancers.

Table 1.08.10: Hospitalisations of Indigenous persons for principal diagnosis of cancer (neoplasms), by type of cancer and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)(e)

Principal diagnosis	Number	%(f)	No. per 1,000(g)	LCL 95%(h)	UCL 95%(i)	Rate ratio(j)	Rate difference(k)
Males							
Digestive organs (C15–C26)	588	20.6	2.6	2.4	2.9	0.9	–0.2
Respiratory and inthrathoracic organs (C30–C39)	322	11.3	1.7	1.5	1.9	1.4*	0.5*
Bronchus & lung (C34)(l)	246	8.6	1.4	1.2	1.6	1.3*	0.3*
Ill-defined, secondary & unspecified site (C76–C80)	350	12.3	1.7	1.5	1.9	0.9*	–0.2*
Lymphoid, haematopoietic and related tissue (C81–C96)	413	14.5	1.3	1.1	1.5	0.4*	–1.6*
Female genital organs (C51–C58)	.	.	.	.	.	.	.
Cervix (C53)(l)	.	.	.	.	.	.	.
Lip, oral cavity and pharynx (C00–C14)	267	9.3	1.1	1.0	1.3	3.0*	0.8
Breast (C50)	.	.	.	.	.	.	.
Malignant neoplasms of urinary tract (C64–C68)	117	4.1	0.7	0.5	0.8	0.5*	–0.7*
Male genital organs (C60–C63)	255	8.9	1.3	1.1	1.5	0.4*	–1.9*
Other malignant neoplasms(m)	544	19.0	2.6	2.4	2.9	0.4*	–4.5*
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	2,856	100.0	13.0	12.4	13.6	0.6*	–7.9*
Non-malignant neoplasms (D00-D44, D47.0, D47.2, D47.7-D48)	683	19.3	2.5	2.3	2.7	0.4*	–3.6*
Total neoplasms	3,539	100.0	15.5	14.8	16.1	0.6*	–11.5*
Females							
Digestive organs (C15–C26)	424	14.4	1.7	1.5	1.9	1.0	0.0
Respiratory and inthrathoracic organs (C30–C39)	301	10.2	1.2	1.1	1.4	1.9*	0.6*
Bronchus & lung (C34)(l)	278	9.5	1.1	1.0	1.3	1.8*	0.5*
Ill-defined, secondary & unspecified site (C76–C80)	423	14.4	1.6	1.4	1.7	1.0	–0.1
Lymphoid, haematopoietic and related tissue (C81–C96)	314	10.7	1.0	0.9	1.1	0.5*	–0.8*
Female genital organs (C51–C58)	434	14.8	1.4	1.2	1.5	1.6*	0.5*
Cervix (C53)(l)	152	5.2	0.4	0.4	0.5	2.8*	0.3*
Lip, oral cavity and pharynx (C00–C14)	98	3.3	0.3	0.2	0.4	2.3*	0.2*
Breast (C50)	413	14.1	1.4	1.3	1.6	0.7*	–0.6*
Malignant neoplasms of urinary tract (C64–C68)	81	2.8	0.3	0.2	0.3	0.6*	–0.2*
Male genital organs (C60–C63)	.	.	.	.	.	.	.
Other malignant neoplasms(m)	451	15.3	1.5	1.4	1.7	0.4*	–2.8*
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	2,939	100.0	10.5	10.0	10.9	0.8*	–3.3*

(continued)

Table 1.08.10 (continued): Hospitalisations of Indigenous persons for principal diagnosis of cancer (neoplasms), by type of cancer and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)]

Principal diagnosis	**Number**	**%[(f)]**	**No. per 1,000[(g)]**	**LCL 95%[(h)]**	**UCL 95%[(i)]**	**Rate ratio[(j)]**	**Rate difference[(k)]**
				Females (continued)			
Non-malignant neoplasms (D00-D44, D47.0, D47.2, D47.7-D48)	2,036	40.9	5.0	4.8	5.3	0.6*	–3.0*
Total neoplasms	4,975	100.0	15.5	15.0	16.0	0.7*	–6.3*
				Persons			
Digestive organs (C15–C26)	1,012	17.5	2.1	2.0	2.3	1.0	–0.1
Respiratory and inthrathoracic organs (C30–C39)	623	10.8	1.4	1.3	1.6	1.6*	0.5*
Bronchus & lung (C34)[(l)]	524	9.0	1.2	1.1	1.3	1.5*	0.4*
Ill-defined, secondary & unspecified site (C76–C80)	773	13.3	1.6	1.5	1.7	0.9*	–0.1*
Lymphoid, haematopoietic and related tissue (C81–C96)	727	12.5	1.1	1.0	1.3	0.5*	–1.2*
Female genital organs (C51–C58)	434	7.5	0.7	0.7	0.8	1.6*	0.3*
Cervix (C53)[(l)]	152	2.6	0.2	0.2	0.3	2.9*	0.2*
Lip, oral cavity and pharynx (C00–C14)	365	6.3	0.7	0.6	0.8	2.7*	0.4*
Breast (C50)	413	7.1	0.8	0.7	0.9	0.7*	–0.3*
Malignant neoplasms of urinary tract (C64–C68)	198	3.4	0.4	0.4	0.5	0.5*	–0.4*
Male genital organs (C60–C63)	255	4.4	0.6	0.5	0.6	0.4*	–0.9*
Other malignant neoplasms[(m)]	995	17.2	2.0	1.9	2.2	0.4*	–3.6*
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	5,795	100.0	11.5	11.2	11.9	0.7*	–5.4*
Non-malignant neoplasms (D00-D44, D47.0, D47.2, D47.7-D48)	2,719	31.9	3.8	3.6	3.9	0.5*	–3.2*
Total neoplasms	8,514	100.0	15.3	14.9	15.7	0.6*	–8.6*

(continued)

Table 1.08.10 (continued): Hospitalisations of Indigenous persons for principal diagnosis of cancer (neoplasms), by type of cancer and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d][e]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Categories are based on ICD-10-AM codes C00–C97, D45, D46, D47.1, D47.3.

(b) Data are from public and most private hospitals. Excludes data for private hospitals in the NT, the ACT and Tasmania.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Data are reported for NSW, Vic, Qld, WA, SA and NT only. These jurisdictions are considered to have adequate levels of Indigenous identification in hospitalisation data, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(f) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2008–09 to 2009–10.

(g) Rates are directly age standardised per 1,000 separations, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(k) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

(l) Data presented for bronchus & lung cancer are a subset of data presented for all respiratory and inthrathoracic organs; data presented for cervix cancer are a subset of data presented for all cancers of the female genital organs in this table.

(m) Includes neoplasms of bone and articular cartilage; melanoma & other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; C9 Malignant neoplasms of independent (primary) multiple sites.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 & 10 (Newborn - unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 1998–99 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2007–08 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

Cancer—1998–99 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for cancer over the period 1998–99 to 2009–10 for Queensland, Western Australia, South Australia and the Northern Territory are presented in Table 1.08.11 and Figure 1.08.2.

- Between 1998–99 and 2009–10, the age-standardised cancer hospitalisation rate for Indigenous people increased significantly by 37% (from 9 to 12 per 1,000 population).
- During the same time period, the age standardised cancer hospitalisation rate for non-Indigenous people increased significantly by 14% (from 15 to 18 per 1,000 population).

Table 1.08.11: Age-standardised hospitalisation rates, rate ratios and rate differences from cancer (neoplasms), Qld, WA, SA and NT, 1998–99 to 2009–10(a)(b)(c)(d)(e)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(f)	% change over period(g)
Indigenous separations														
Males	479	523	514	578	747	747	683	732	853	1,000	900	884	43.8*	100.5*
Females	537	631	707	561	688	775	737	813	897	937	903	968	37.8*	77.5*
Persons(h)	1,016	1,154	1,221	1,139	1,435	1,522	1,420	1,545	1,750	1,937	1,803	1,852	81.6*	88.3*
Non-Indigenous separations														
Males	55,353	63,451	66,529	67,975	72,250	73,122	73,910	81,554	85,203	89,213	91,432	92,856	3,279.7*	65.2*
Females	43,770	48,724	50,331	51,759	53,340	53,791	53,237	60,166	61,342	63,478	65,095	66,523	1,949.3*	49.0*
Persons(h)	99,123	112,175	116,860	119,734	125,592	126,913	127,147	141,720	146,545	152,691	156,527	159,379	5,228.9*	58.0*
Indigenous no. per 1,000(i)														
Males	9.7	11.6	10.3	11.0	14.3	14.3	12.4	14.4	13.4	16.6	13.6	13.4	0.4*	44.9*
Females	7.7	11.0	9.9	8.8	10.3	11.2	8.9	10.1	11.0	12.2	10.6	11.1	0.2*	28.7*
Persons(h)	8.5	11.2	10.0	9.7	12.0	12.4	10.3	11.8	12.0	14.1	11.9	12.0	0.3*	36.6*
Non-Indigenous no. per 1,000(i)														
Males	18.6	20.8	21.2	21.0	21.6	21.2	20.7	22.1	22.4	22.7	22.5	22.2	0.3*	15.2*
Females	12.9	14.0	14.0	14.0	14.0	13.8	13.3	14.6	14.5	14.6	14.6	14.6	0.1*	9.7*
Persons(h)	15.3	16.9	17.1	17.1	17.4	17.0	16.6	18.0	18.1	18.3	18.2	18.1	0.2*	14.1*
Rate ratio(j)														
Males	0.5	0.6	0.5	0.5	0.7	0.7	0.6	0.7	0.6	0.7	0.6	0.6	0.01*	24.4*
Females	0.6	0.8	0.7	0.6	0.7	0.8	0.7	0.7	0.8	0.8	0.7	0.8	0.01	15.9
Persons(h)	0.6	0.7	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.8	0.7	0.7	0.01	18.3

(continued)

Table 1.08.11 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from cancer (neoplasms), Qld, WA, SA and NT, 1998–99 to 2009–10(a)(b)(c)(d)(e)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(f)	% change over period(g)
								Rate difference(k)						
Males	–8.9	–9.2	–10.8	–10.0	–7.3	–6.8	–8.3	–7.7	–9.0	–6.1	–8.9	–8.8	0.1	–17.2
Females	–5.1	–3.0	–4.1	–5.2	–3.7	–2.6	–4.4	–4.5	–3.5	–2.4	–4.0	–3.5	0.1	–18.8
Persons(h)	–6.8	–5.7	–7.1	–7.3	–5.4	–4.6	–6.3	–6.2	–6.0	–4.2	–6.4	–6.0	0.1	–14.1

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Categories are based on ICD-10-AM codes C00–C97, D45, D46, D47.1, D47.3.

(b) Data are from public and most private hospitals. Data are not available for private hospitals in the NT.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Data are reported for Qld, WA, SA and NT only. These jurisdictions are considered to have adequate levels of Indigenous identification in hospitalisation data over these time periods, although the level of accuracy varies by jurisdiction and hospital over time. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

(h) Includes hospitalisations for which sex was indeterminate or not stated.

(i) Rates are directly age standardised per 1,000 separations, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

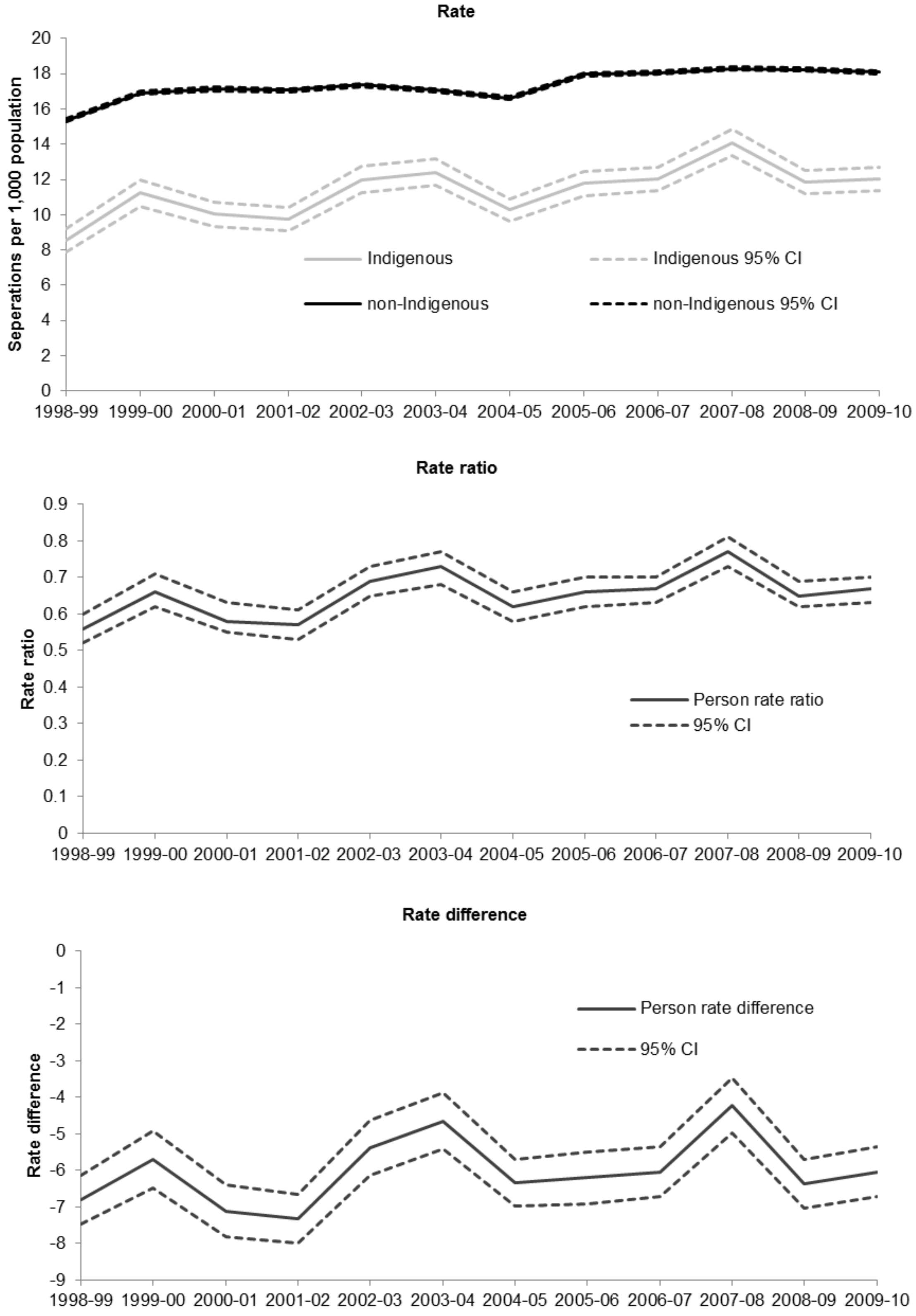
(j) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(k) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 Census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.08.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for cancer, Qld, WA, SA and NT, 1998–1999 to 2009–2010

Cancer—2004–05 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australian for cancer over the period 2004–05 to 2009–10 for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory combined are presented in Table 1.08.12 and Figure 1.08.3.

- Between 2004–05 and 2009–10, the age-standardised cancer hospitalisation rate for Indigenous persons significantly increased by 25% (from 9 to 12 per 1,000 population). Significant increases were observed for Indigenous females but not for Indigenous males.
- Over the same period, the age-standardised cancer hospitalisation rate for non-Indigenous persons significantly increased by 6%, (from 16 to 17 per 1,000 population). Significant increases were observed for both non-Indigenous males and females.
- There was a significant increase in the rate ratio between Indigenous and non-Indigenous cancer hospitalisation rates for females; and a significant decline in the rate difference for females.

Table 1.08.12: Age-standardised hospitalisation rates, rate ratios and rate differences for cancer (neoplasms), NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)(b)(c)(d)(e)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(f)]	Per cent change over period[(g)]
				Indigenous separations				
Males	1,025	1,131	1,228	1,444	1,396	1,460	91.0*	44.4*
Females	1,074	1,192	1,287	1,332	1,409	1,530	85.0*	39.6*
Persons[(h)]	2,099	2,323	2,515	2,776	2,805	2,990	176.1*	41.9*
				Non-Indigenous separations				
Males	180,794	193,127	200,641	207,117	213,061	222,430	7,841.7*	21.7*
Females	136,935	145,736	148,962	153,053	156,626	162,939	4,765.2*	17.4*
Persons[(h)]	317,734	338,863	349,603	360,170	369,687	385,369	12,606.1*	19.8*
				Indigenous no. per 1,000[(i)]				
Males	11.0	12.6	12.0	14.5	12.6	13.4	0.4	18.2
Females	8.0	9.4	9.9	10.5	10.2	10.7	0.5*	29.7*
Persons[(h)]	9.2	10.7	10.8	12.2	11.3	11.8	0.5*	25.2*
				Non-Indigenous no. per 1,000[(i)]				
Males	19.6	20.4	20.6	20.7	20.7	21.0	0.2*	5.8*
Females	13.0	13.5	13.6	13.6	13.6	13.8	0.1*	4.8*
Persons[(h)]	15.9	16.6	16.7	16.8	16.8	17.1	0.2*	5.9*
				Rate ratio[(j)]				
Males	0.6	0.6	0.6	0.7	0.6	0.6	0.01	11.6
Females	0.6	0.7	0.7	0.8	0.8	0.8	0.03*	23.5*
Persons[(h)]	0.6	0.6	0.6	0.7	0.7	0.7	0.02	18.0
				Rate difference[(k)]				
Males	–8.6	–7.8	–8.6	–6.1	–8.1	–7.6	0.2	–10.2
Females	–5.0	–4.2	–3.6	–3.1	–3.4	–3.2	0.4*	–34.8*
Persons[(h)]	–6.7	–5.9	–5.9	–4.6	–5.5	–5.3	0.3	–20.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Categories are based on ICD-10-AM codes C00–C97, D45, D46, D47.1, D47.3.

(b) Data are from public and most private hospitals. Data are not available for private hospitals in the NT.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Data are reported for NSW, Vic, Qld, WA, SA and NT only. These jurisdictions are considered to have adequate levels of Indigenous identification in hospitalisation data over these time periods, although the level of accuracy varies by jurisdiction and hospital over time. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

(h) Includes hospitalisations for which sex was indeterminate or not stated.

(i) Rates are directly age standardised per 1,000 separations, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

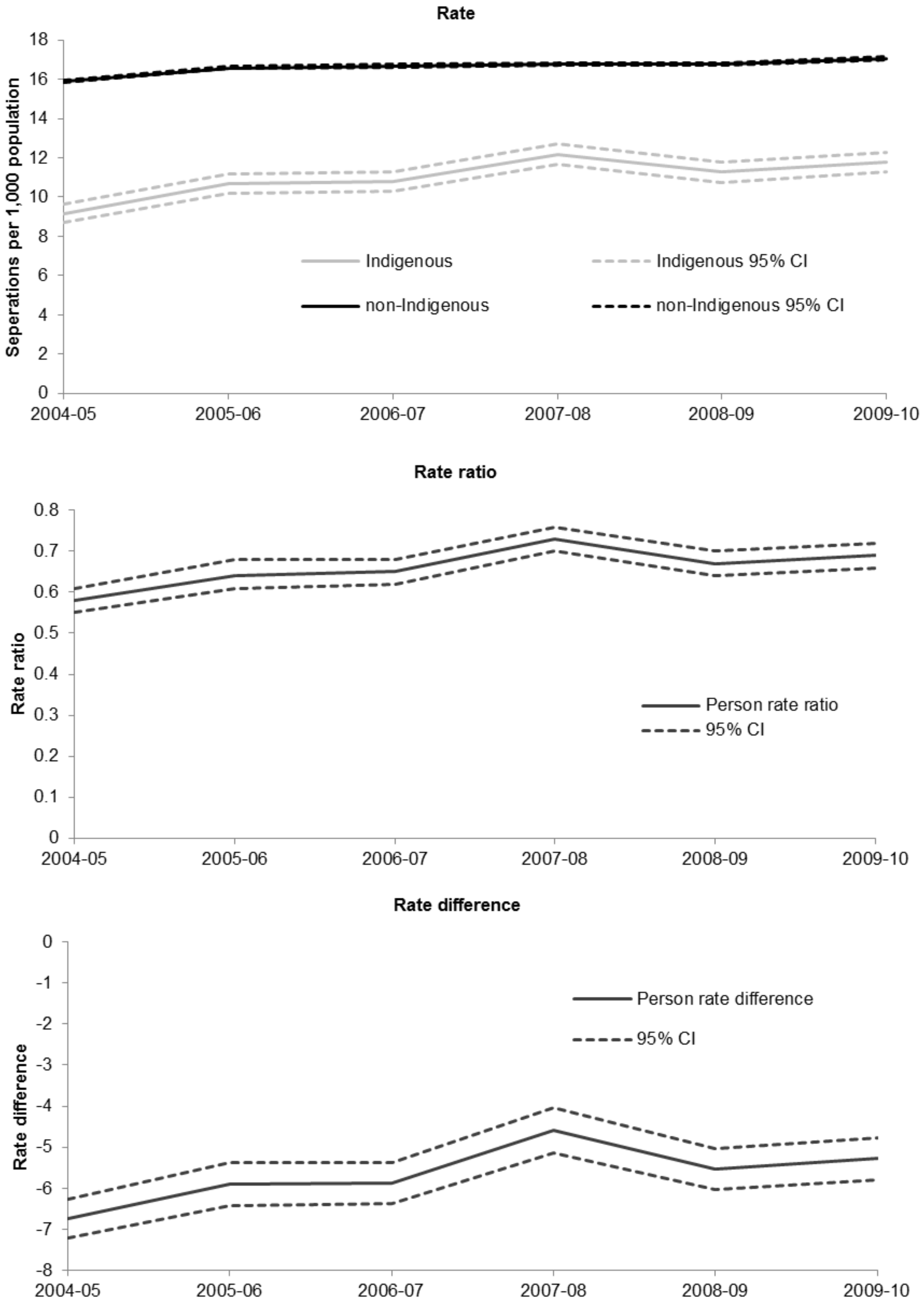
(j) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(k) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

Notes

4. Rates have been directly age-standardised using the 2001 Australian standard population.
5. Population estimates are based on 2006 Census.
6. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.08.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for cancer, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–2010

Data quality issues

Australian Cancer Database (ACD)

Each state and territory cancer registry draws on a number of sources of data to collate information on cancer notifications. Hospital admissions and deaths data allow for the collection and reporting of Indigenous status, whereas there is currently no Indigenous identifier in Pathology forms, and inconsistent reporting through referring GPs/specialists/surgeons. Indigenous status is recorded for radiation oncology services in New South Wales, Queensland and the Northern Territory only.

Indigenous identification is incomplete for all cancer registries, however has been assessed by the AIHW as having sufficient quality to report for Western Australia, Queensland, New South Wales and the Northern Territory.

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006–07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample frame has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998 to 2008, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.09 Diabetes

Prevalence of diabetes for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and ratio

Data sources

Data for this measure come from the National Aboriginal and Torres Strait Islander Health Survey, the Bettering the Evaluation and Care of Health Survey, AIHW National Hospital Morbidity Database and the National Aboriginal and Torres Strait Islander Social Survey.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program . The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Analyses

Age-standardised rates and ratios have been used as a measure of morbidity in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Self-reported prevalence

Data on the self-reported prevalence of diabetes were measured in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey and are presented below.

Prevalence by age, sex and remoteness

- In 2004–05, after adjusting for differences in age structure, approximately 12% of Indigenous Australians reported diabetes/ high sugar levels compared with 4% of non-Indigenous Australians.
- Prevalence of diabetes was highest among those aged 55 years and over for both Indigenous Australians (32%) and non-Indigenous Australians (12%). This age group had the greatest rate difference in prevalence between Indigenous and non-Indigenous Australians (21%).
- The greatest ratio between Indigenous and non-Indigenous Australians was among those 25–34 years. Indigenous Australians were 7.2 times as likely to report diabetes as non-Indigenous Australians in this age group (Table 1.09.1).
- Indigenous males were three times as likely and Indigenous females four times as likely, as non-Indigenous males and females to report diabetes/high sugar levels (Table 1.09.2).
- Prevalence of diabetes was higher among Indigenous Australians in remote areas than among Indigenous Australians in non-remote areas (9% compared with 5%) (Table 1.09.3).
- There was no significant change in the prevalence of diabetes among Indigenous Australians between 1995, 2001 and 2004–05 (Table 1.09.3).

Table 1.09.1: Persons reporting diabetes/high sugar levels, by Indigenous status and age group, 2004–05[(a)]

Age group	Indigenous	Non-Indigenous	Ratio	Rate difference
	Per cent	**Per cent**		
0–14	—[(b)]	—[(c)]	n.p.	n.p.
15–24	1.0[(c)]	0.5[(c)]	1.9	0.5
25–34	4.3*	0.6*	7.2	3.7
35–44	10.0*	2.0*	5.1	8
45–54	20.7*	4.0*	5.2	16.7
55 years and over	32.1*	11.6*	2.8	20.5
Total	**6.0***	. .	. .	. .
Total (age-standardised)[(d)]	**12.0***	**4.0***	**3.0**	**8.0**

* Represents statistically significant differences at the p < 0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Self-reported data from the National Aboriginal and Torres Strait Islander Health Survey 2004–05.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(d) Total is a directly age-standardised proportion.

Source: National Aboriginal and Torres Strait Islander Health Survey 2004–05.

Table 1.09.2: Persons reporting diabetes/high sugar levels, by Indigenous status, sex and remoteness, 2004–05

	Males			Females			Persons		
	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio
	Per cent	Per cent		Per cent	Per cent		Per cent	Per cent	
Remote	15	n.a.	n.a.	18	n.a.	n.a.	16	n.a.	n.a.
Non-remote	10	4	3	11	3	4	11	4	3
Total	**11**	**4**	**3**	**13**	**3**	**4**	**12**	**4**	**3**
Total number	**232,362**	**9,788,447**	. .	**241,948**	**9,893,092**	. .	**474,310**	**19,681,539**	. .

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

Table 1.09.3: Indigenous persons reporting diabetes/high sugar levels, by remoteness, 1995, 2001 and 2004–05

	1995	2001	2004–05
		Per cent	
Remote	n.a.	7	9
Non-remote	4	4	5
Total	**n.a.**	**5**	**6**
Total number	**265,416**	**442,995**	**474,310**

Sources: ABS and AIHW analysis of 1995 National Health survey (Indigenous supplement); 2001 National Health Survey (Indigenous supplement); ABS 2006.

Prevalence by selected population and health characteristics

- In 2004–05, Indigenous Australians aged 15 years and over were more likely to report having diabetes if they were under financial stress (unable to raise $2,000 within a week) (11% compared with 8%); if the highest year of school completed was Year 9 or below than if Year 12 was the highest year of school completed (17% compared with 14%); and if they were unemployed than if they were employed (22% compared with 13%). Among non-Indigenous Australians, those who were not in the labour force were more likely to report having diabetes than those who were unemployed or employed (Table 1.09.4).
- Indigenous Australians with reported fair/poor health status were much more likely to have diabetes than Indigenous Australians with excellent/very good health status (22% compared with 9%).
- Indigenous Australians aged 18 years and over were more likely to report having diabetes if they had experienced stressors in the last 12 months (12%) than if no stressors were experienced (9%); if they reported their exercise level as low or sedentary rather than high (14% compared with 11%); and if they were overweight and obese than if they were normal or underweight (18% compared with 9%).
- Indigenous Australians who drank at risky/high-risk levels in the last 12 months were less likely to report diabetes than those who did not drink at risky/high risk levels (8% compared with 17%).
- Indigenous Australians who reported that they did not eat vegetables daily (24%) were more likely to report having diabetes than those who did eat vegetables daily (15%). The reverse was true for non-Indigenous Australians.
- Similar proportions of Indigenous Australians who reported that they do and do not eat fruit daily had diabetes (16% and 13%).
- Indigenous Australians aged 15 years and over were much more likely to report having diabetes if they also reported hypertension, circulatory problems or high cholesterol (27%; 22%; and 30% respectively) than if they did not report these conditions (12%, 11% and 14% respectively). This was also the case for non-Indigenous Australians.

Table 1.09.4: Proportion[(a)] of Indigenous and non-Indigenous Australians aged 15 years and over with diabetes/high sugar levels, by selected population characteristics, 2004–05

	Indigenous		Non-Indigenous		Ratio
	Has diabetes	Does not have diabetes	Has diabetes	Does not have diabetes	Has diabetes
Household income					
1st quintile	17.9	82.1	6.0	94.0	3.0
5th quintile	16.3	83.7	3.4	96.6	4.8
Financial stress—able to raise $2,000 within a week for something important					
Yes	7.7	92.3	n.a.	n.a.	n.a.
No	11.2	88.8	n.a.	n.a.	n.a.
Highest year of school completed					
Year 12	14.4	85.6	3.8	96.2	3.8
Year 9 or below	17.3	82.7	6.0	94.0	2.9
Whether has non-school qualification					
Has a non-school qualification	13.3	86.7	4.3	95.7	3.1
Does not have a non-school qualification	16.6	83.4	4.7	95.3	3.5
Employment					
Employed	12.5	87.5	3.2	96.8	3.9
Unemployed	22.2	77.8	3.7	96.3	6.0
Not in the labour force	17.3	82.7	5.5	94.5	3.1
Housing					
Owner	6.6	93.4	n.a.	n.a.	n.a.
Renter	10.9	89.1	n.a.	n.a.	n.a.
Stressors in last 12 months[(b)]					
Serious illness or disability	12.2	87.8	n.a.	n.a.	n.a.
Total experienced stressors	11.7	88.3	n.a.	n.a.	n.a.
No stressors	8.8	91.2	n.a.	n.a.	n.a.
Self-assessed health status					
Excellent/very good	9.0	91.0	1.9	98.1	4.7
Good	14.2	85.8	5.0	95.0	2.8
Fair/poor	21.8	78.2	9.6	90.4	2.3
Smoker status[(b)]					
Current daily smoker	12.7	87.3	3.5	96.5	3.6
Not current daily smoker	18.5	81.5	4.8	95.2	3.9
Risky/high-risk alcohol consumption in last 12 months[(b)]					
Yes	8.1	91.9	2.9	97.1	2.8
No	17.4	82.6	5.0	95.0	3.5

(continued)

Table 1.09.4 (continued): Proportion[(a)] of Indigenous and non-Indigenous Australians aged 15 years and over with diabetes/high sugar levels, by selected population characteristics, 2004–05

	Indigenous		Non-Indigenous		Ratio
	Has diabetes	Does not have diabetes	Has diabetes	Does not have diabetes	Has diabetes
Whether used substances in last 12 months[(b)(c)]					
Yes	3.7	96.3	n.a.	n.a.	n.a.
No	10.7	89.3	n.a.	n.a.	n.a.
Physical activity[(c)]					
Low/sedentary	13.6	86.4	4.8	95.2	2.8
Moderate	12.1	87.9	4.0	96.0	3.0
High	11.2	88.8	2.6	97.4	4.3
Overweight/obesity					
Yes	17.7	82.3	5.9	94.1	3.0
No	8.7	91.3	2.9	97.1	3.0
Eats vegetables daily					
Yes	14.9	85.1	4.5	95.5	3.3
No	23.7	76.3	3.4	96.6	7.0
Eats fruit daily					
Yes	15.5	84.5	4.5	95.5	3.4
No	12.6	87.4	3.5	96.5	3.6
Hypertension					
Yes	26.5	73.5	9.6	90.4	2.8
No	12.3	87.7	3.3	96.7	3.7
Circulatory problems					
Yes	21.9	78.1	7.2	92.8	3.0
No	11.3	88.7	2.5	97.5	4.5
High cholesterol					
Yes	29.6	70.4	10.3	89.7	2.9
No	13.9	86.1	3.6	96.4	3.9
Total (age-standardised)	**15.4**	**84.6**	**4.5**	**95.5**	**3.4**
Total (crude)	**9.8**	**90.2**	**. .**	**. .**	**. .**
Total number persons aged 15 years and over	**28,703**	**264,938**	**720,634**	**14,811,743**	**. .**

(a) Proportions are age-standardised except for data for financial stress, housing tenure, substance use in the last 12 months and stressors experienced in the last 12 months for which crude proportions are presented, as data for non-Indigenous Australians are not available.

(b) Persons aged 18 years and over.

(c) Non-remote areas only.

Source: AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

General practitioner encounters

Information about general practitioner (GP) encounters is available from the BEACH survey. Data for the 5-year BEACH reporting period April 2006–March 2007 to April 2010–March 2011 are presented in Table 1.09.5. Diabetes is the most common individual problem managed at GP encounters with Indigenous patients.

- In the period April 2006–March 2007 to April 2010–March 2011 there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,196 problems were managed. Of these, 4.9% (451) were for diabetes problems.
- Diabetes was managed at a rate of 75.5 per 1,000 GP encounters with Indigenous patients.
- After adjusting for differences in age distribution, diabetes was managed at encounters with Indigenous patients at around three times the rate of encounters with other patients and the difference is statistically significant. This was largely due to the significant higher management rate of non-insulin dependent diabetes (Type 2).
- Non-insulin-dependent diabetes (Type 2) was the most common type of diabetes managed at encounters with Indigenous patients—at around three times the rate of encounters with other patients.
- Insulin-dependent diabetes (Type 1) was managed at encounters with Indigenous patients at a higher rate of encounters than with other patients, however, the difference is not statistically significant.
- Gestational diabetes was managed at GP encounters with Indigenous females at 1.5 times the management rate of encounters with other females, however, the difference is not statistically significant.

Table 1.09.5: Diabetes problems(a) managed by general practitioners, by Indigenous status of patient, BEACH years April 2006–March 2007 to April 2010–March 2011(b)(c)

	Number		Per cent of total problems		Crude rate (no. per 1,000 encounters)			Age-standardised rate (no. per 1,000 encounters)(d)							
Problem managed	**Indig.**	**Other(e)**	**Indig.**	**Other(e)**	**Indig.**	**95% LCL(f)**	**95% UCL(g)**	**Indig.**	**95% LCL(f)**	**95% UCL(g)**	**Other(e)**	**95% LCL(f)**	**95% UCL(g)**	**Rate ratio(h)**	**Rate difference(i)**
Diabetes: non-insulin-dependent (T90)	431	16,332	4.7	2.2	72.2	62.3	82.1	92.5	80.3	104.8	34.0	33.1	34.9	2.7*	58.5*
Diabetes: insulin-dependent (T89)	17	1,223	0.2	0.2	2.8	1.2	4.5	4.0	1.1	6.9	2.6	2.4	2.7	1.6	1.4
Total diabetes: non-gestational	*448*	*17,555*	*4.9*	*2.4*	*75.0*	*64.9*	*85.2*	*96.5*	*83.6*	*109.4*	*36.6*	*35.7*	*37.5*	*2.6**	*59.9**
Gestational diabetes (W85)(i)	3	112	0.0	0.0	0.5	0.0	1.1	0.3	0.0	0.7	0.2	0.2	0.3	1.5	0.1
All diabetes	*451*	*17,667*	*4.9*	*2.4*	*75.5*	*65.3*	*85.8*	*96.9*	*83.9*	*109.8*	*36.8*	*35.9*	*37.7*	*2.6**	*60.0**
Total problems	**9,196**	**745,624**	**100.0**	**100.0**	**1,540.1**	**1,499.0**	**1,581.2**	**1,639.1**	**1,587.0**	**1,691.2**	**1,558.6**	**1,549.7**	**1,567.5**	**1.1***	**80.5***

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Classified according to ICPC-2 codes (Classification Committee of the World Organization of Family Doctors (WICC) 2005). ICPC-2 codes T90, T89, W85.
(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.
(c) Data for Indigenous and other Australians have not been weighted.
(d) Directly age-standardised rate (no. per 1,000 encounters) using total BEACH encounters in the period as the standard. Figures do not add to 100 as more than one problem can be managed at each encounter.
(e) 'Other' includes non-Indigenous patients and patients for whom Indigenous status was not stated.
(f) LCL = lower confidence interval.
(g) UCL = upper confidence interval.
(h) Rate ratio Indigenous: Other.
(i) Rate difference Indigenous rate minus Other (non-Indigenous) rate.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

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Hospitalisations

- In the 2-year period July 2008 to June 2010, there were 161,525 hospitalisations for diabetes in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of which 7,955 hospitalisations (4.9%) were of Aboriginal and Torres Strait Islander people (Table 1.09.7).
- Diabetes was the principal diagnosis in 1.4% of all hospital separations for Aboriginal and Torres Strait Islander Australians.

Hospitalisations by age and sex

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, Indigenous males and females had much higher hospitalisation rates for diabetes than non-Indigenous males and females in all age groups from 15–24 years onwards (Table 1.09.6).
- The greatest difference in hospitalisation rates for diabetes occurred in the 55–64 year age group for both males (28 per 1,000) and females (32 per 1,000).
- The greatest rate ratio for males occurred in the 35–44 year age group, where Indigenous males were hospitalised at around 9 times the rate of non-Indigenous males. The greatest rate ratio for females occurred in the 45–54 year age group, where Indigenous females were hospitalised at around 12 times the rate of non-Indigenous females (Table 1.09.6).
- For Indigenous males and females and non-Indigenous males and females, hospitalisation rates for diabetes were highest among those aged 65 years and over (Table 1.09.6).
- Approximately 47% of Indigenous Australians hospitalised for diabetes were males (3,706) and 53% were females (4,249) (Table 1.09.7).

Table 1.09.6: Age-specific hospitalisation rates for a principal diagnosis of diabetes mellitus, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)]

									All ages	
	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+	Crude	Age std.[(d)]
Males										
Indigenous	0.1	1.1	1.6	3.0	11.0	21.2	34.4	41.9	7.1	14.0
Non-Indigenous	0.3	0.9	0.9	0.8	1.2	2.5	6.6	19.8	4.1	4.1
Rate ratio[(e)]	0.4	1.2	1.7	4.0	9.1	8.6	5.2	2.1	1.7	3.4
Rate difference[(f)]	–0.2	0.2	0.6	2.3	9.8	18.8	27.8	22.1	3.0	9.9
Females										
Indigenous	0.2	1.0	1.9	4.8	9.8	19.8	35.5	44.0	8.0	14.2
Non-Indigenous	0.3	1.0	1.2	0.9	1.1	1.7	3.9	14.4	3.4	3.0
Rate ratio[(e)]	0.5	1.0	1.6	5.5	9.2	11.8	9.1	3.1	2.4	4.8
Rate difference[(f)]	–0.1	0.0	0.8	3.9	8.7	18.1	31.7	29.6	4.7	11.2
Persons										
Indigenous	0.1	1.1	1.8	3.9	10.4	20.5	35.0	43.1	7.6	14.1
Non-Indigenous	0.3	1.0	1.1	0.8	1.1	2.1	5.3	16.8	3.7	3.5
Rate ratio[(e)]	0.4	1.1	1.7	4.8	9.1	9.9	6.7	2.6	2.0	4.0
Rate difference[(f)]	–0.2	0.1	0.7	3.1	9.3	18.4	29.7	26.3	3.8	10.6

(a) Financial year reporting.

(b) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) Data excludes private hospitals in the Northern Territory.

(d) Directly age-standardised using the Australian 2001 standard population.

(e) Rate ratio Indigenous: non-Indigenous Australians.

(f) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): ICD10-AM codes E10-E14.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 1.09.7 presents hospitalisations for a principal diagnosis of diabetes for the 2-year period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia, Northern Territory, Tasmania and the Australian Capital Territory.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males and females were hospitalised for diabetes at 3.4 and 4.8 times the rate of non-Indigenous Australian males and females respectively.
- In Western Australia, Indigenous females were hospitalised at over 6 times the rate of non-Indigenous females, and in the Northern Territory, Indigenous females were hospitalised at almost 7 times the rate of non-Indigenous females.

Table 1.09.7: Hospitalisations for principal diagnosis of diabetes mellitus, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
NSW						
Males	711	8.7	25,937	3.6	2.4*	5.0*
Females	818	8.9	21,760	2.7	3.3*	6.2*
Persons	1,529	8.7	47,697	3.1	2.8*	5.6*
Vic						
Males	148	7.7	24,339	4.5	1.7*	3.2*
Females	214	8.8	20,228	3.3	2.7*	5.6*
Persons	362	8.1	44,567	3.8	2.1*	4.3*
Qld						
Males	1,176	16.4	17,107	4.1	4.0*	12.3*
Females	1,322	16.6	13,817	3.1	5.4*	13.5*
Persons	2,498	16.5	30,924	3.5	4.7*	13.0*
WA						
Males	806	20.6	9,564	4.6	4.4*	16.0*
Females	909	21.5	7,876	3.5	6.2*	18.0*
Persons	1,715	21.2	17,440	4.0	5.3*	17.2*
SA						
Males	308	19.5	6,476	3.7	5.2*	15.8*
Females	285	16.1	5,526	2.8	5.8*	13.3*
Persons	593	17.6	12,002	3.2	5.4*	14.3*
NT						
Males	557	16.2	699	4.9	3.3*	11.3*
Females	701	17.2	241	2.4	7.2*	14.9*
Persons	1,258	16.9	940	3.8	4.4*	13.0*
NSW, Vic, Qld, WA, SA and NT[(h)]						
Males	**3,706**	**14.0**	**84,122**	**4.1**	**3.4***	**9.9***
Females	**4,249**	**14.2**	**69,448**	**3.0**	**4.8***	**11.2***
Persons	**7,955**	**14.1**	**153,570**	**3.5**	**4.0***	**10.6***
Tas						
Males	19	2.4	1,265	2.4	1.0	0.0
Females	51	3.1	1,163	2.1	1.5*	1.0
Persons	71	2.8	2,428	2.3	1.2	0.5

(continued)

Table 1.09.7 (continued): Hospitalisations for principal diagnosis of diabetes mellitus, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
ACT						
Males	11	3.7	815	2.7	1.4	1.0
Females	23	13.1	661	2.0	6.5*	11.1*
Persons	34	8.4	1,476	2.3	3.6*	6.1*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): ICD10-AM codes E10-E14.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for diabetes mellitus in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 1.09.8, covering the period July 2008 to June 2010.

- Indigenous Australians in all geographic areas were more likely to be hospitalised for diabetes than non-Indigenous Australians. The ratio of hospitalisations of Indigenous people compared with non-Indigenous Australians was higher and the difference was statistically significant for all ASGC areas.
- Rates of hospitalisations per 1,000 head of population were highest for Indigenous people living in *Remote* areas, at 21.5 per 1,000. The rate was highest for non-Indigenous Australians who lived in *outer regional* areas, at 3.8 per 1,000. The lowest rates were observed in *Major cities* areas for Indigenous people (8.8 per 1,000) and in *Very remote* areas for non-Indigenous Australians (3.3 per 1,000).
- Indigenous people were hospitalised for diabetes at a rate of 6 times that of non-Indigenous Australians in *Remote* areas of Australia. In *Major cities* areas, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of 2.6 times that of non-Indigenous Australians. Nationally, the rate was 4.1 times.

Table1.09.8: Hospitalisations for diabetes mellitus by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)(f)]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%[(g)]	UCL 95%[(h)]	Number	No. per 1,000	LCL 95%[(g)]	UCL 95%[(h)]	Ratio[(i)]	Difference[(j)]
Major cities	1,578	8.8	8.3	9.3	102,970	3.4	3.4	3.4	2.6*	5.4*
Inner regional	1,249	11.4	10.7	12.2	32,828	3.6	3.5	3.6	3.2*	7.9*
Outer regional[(k)]	2,035	17.1	16.2	17.9	15,449	3.8	3.7	3.9	4.5*	13.3*
Remote[(l)]	1,268	21.5	20.2	22.9	1,775	3.5	3.3	3.7	6.2*	18.0*
Very remote	1,814	19.3	18.3	20.2	511	3.3	3.0	3.6	5.8*	15.9*
Total[(m)]	**7,955**	**14.2**	**13.8**	**14.5**	**153,570**	**3.5**	**3.5**	**3.5**	**4.1***	**10.7***

* Indicates a significant difference at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): ICD10-AM codes E10-E14.

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. 2 Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by principal diagnosis

Table 1.09.9 presents hospitalisations for a principal diagnosis of diabetes by type of diabetic condition for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- For the period 2008–09 to 2009–10 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of all hospitalisations with a principal diagnosis of diabetes, Type 2 diabetes was the most common, responsible for 84% of hospitalisations of Indigenous Australians for diabetes.
- In the six jurisdictions combined, Indigenous males and females were hospitalised for Type 2 non-insulin-dependent diabetes at much higher rates than non-Indigenous males and females (3.9 and 5.7 times respectively). Indigenous Australians were hospitalised for Type 1 diabetes at around twice the rate of non-Indigenous Australians.
- Indigenous males and females were hospitalised for other specified diabetes at 4.8 and 4.7 times the rate of non-Indigenous males and females respectively.
- Indigenous females were hospitalised for gestational diabetes at 2.8 times the rate of non-Indigenous females.

Table 1.09.9: Hospitalisations of Indigenous persons for principal diagnosis of diabetes mellitus, by type of diabetes and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

Principal diagnosis	Number	Per cent(e)	No per 1,000(f)	LCL(g)	UCL(h)	Ratio(i)	Difference(j)
				Males			
Type 2—non-insulin-dependent diabetes (E11)	3,119	84.2	12.8	12.2	13.3	3.9*	9.5*
Type 1—insulin-dependent diabetes (E10)	539	14.5	1.1	1.0	1.2	1.5*	0.3*
Other specified diabetes (E13)	26	0.7	0.1	0.0	0.1	4.8*	0.1*
Unspecified diabetes (E14)	22	0.6	0.1	0.0	0.1	2.3*	0.04*
Total(k)	**3,706**	**100.0**	**14.0**	**13.5**	**14.6**	**3.4***	**9.9***
Gestational diabetes (O24.4)(l)	—	—	—	—	—	—	—
Total incl. O24.4	**3,706**	**100.0**	**14.0**	**13.5**	**14.6**	**3.4***	**9.9***
				Females			
Type 2—non-insulin-dependent diabetes (E11)	3,552	83.6	12.8	12.3	13.3	5.7*	10.6*
Type 1—insulin-dependent diabetes (E10)	651	15.3	1.3	1.2	1.4	1.8*	0.6*
Other specified diabetes (E13)	26	0.6	0.1	0.0	0.1	4.7*	0.05*
Unspecified diabetes (E14)	20	0.5	0.1	0.0	0.1	3.7*	0.05*
Total(k)	**4,249**	**100.0**	**14.2**	**13.7**	**14.7**	**4.8***	**11.2***
Gestational diabetes (O24.4)(l)	1,171	21.6	2.2	2.1	2.4	2.8*	1.4*
Total incl. O24.4	**5,420**	**100.0**	**16.4**	**15.9**	**17.0**	**4.4***	**12.7***
				Persons			
Type 2—non-insulin-dependent diabetes (E11)	6,671	83.9	12.8	12.4	13.1	4.7*	10.1*
Type 1—insulin-dependent diabetes (E10)	1,190	15.0	1.2	1.1	1.3	1.6*	0.5*
Other specified diabetes (E13)	52	0.7	0.1	0.0	0.1	4.6*	0.1*
Unspecified diabetes (E14)	42	0.5	0.1	0.0	0.1	2.8*	0.04*
Total(k)	**7,955**	**100.0**	**14.1**	**13.8**	**14.5**	**4.0***	**10.6***
Gestational diabetes (O24.4)(l)	1,171	12.8	1.1	1.1	1.2	2.9*	0.7*
Total incl. O24.4	**9,126**	**100.0**	**15.2**	**14.9**	**15.6**	**3.9***	**11.4***

(continued)

Table 1.09.9 (continued): Hospitalisations of Indigenous persons for principal diagnosis of diabetes mellitus, by type of diabetes and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons at the p < 0.05 level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patients hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2008–09 to 2009–10.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous minus non-Indigenous Australians.

(k) Total excludes gestational diabetes (O24.4).

(l) Indigenous females with gestational diabetes (O24.4). Proportion calculated out of those with Type 1, Type 2, other specified, unspecified or gestational.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by additional diagnosis

Table 1.09.10 presents hospitalisations with a principal diagnosis of diabetes by additional diagnosis of hospitalisation for Aboriginal and Torres Strait Islander people in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- For the 2-year period July 2008 to June 2010, aside from factors influencing health status and contact with health services for which 66.8% of Indigenous hospitalisations for diabetes had an additional diagnosis, hospitalisations of Indigenous Australians with a principal diagnosis of diabetes were commonly reported with an additional diagnosis of diseases of the circulatory system (57.8%), diseases of the genitourinary system (45.1%) and other endocrine, metabolic and nutritional disorders (33.8%).
- Aside from the diseases mentioned above, insulin-dependent diabetes was commonly reported with an additional diagnosis of certain infectious and parasitic disease (13.6 %), and non-insulin-dependent diabetes was commonly reported with an additional diagnosis of diseases of the eye and adnexa (28.3%).

Table 1.09.10: Hospitalisations of Indigenous persons for principal diagnosis of diabetes mellitus, by additional diagnosis of hospitalisation, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Reported with a principal diagnosis of diabetes				
Additional diagnosis of hospitalisation	**Insulin-dependent diabetes (E10)**	**Non-insulin-dependent diabetes (E11)**	**Other specified diabetes (E13)**	**Unspecified diabetes (E14)**	**Total**
			Per cent		
Factors influencing health status and contact with health services (includes dialysis) (Z00–Z99)	55.3	68.9	88.5	28.6	66.8
Diseases of the circulatory system (I00–I99)	17.6	65.4	40.4	11.9	57.8
Diseases of the genitourinary system (N00–N99)	21.2	49.6	36.5	11.9	45.1
Endocrine, nutritional & metabolic diseases (E00–E90) excluding (E10–E14)	26.2	35.0	61.5	21.4	33.8
Diseases of the eye & adnexa (H00–H59)	12.9	28.3	15.4	7.1	25.8
Certain infectious and parasitic diseases (A00–B99)	13.6	22.3	23.1	9.5	20.9
Diseases of the skin & subcutaneous tissue (L00–L99)	8.1	19.9	11.5	11.9	18.1
Diseases of the nervous system (G00–G99)	9.2	16.9	13.5	2.4	15.6
Symptoms, signs & abnormal clinical & laboratory findings (R00–R99)	11.5	14.1	17.3	9.5	13.7
Mental & behavioural disorders (F00–F99)	11.4	9.0	46.2	7.1	9.6
Diseases of the digestive system (K00–K93)	12.0	8.3	55.8	7.1	9.1
Injury & poisoning (S00–T98)	5.0	8.4	1.9	2.4	7.8
Diseases of the respiratory system (J00–J99)	6.8	6.9	13.5	2.4	6.9
Neoplasms (C00–D48)	0.2	0.9	1.9	0.0	0.8
Other[(e)]	9.2	21.7	19.2	9.5	19.8
Total number	**1,190**	**6,671**	**52**	**42**	**7,955**

(continued)

Table 1.09.10 (continued): Hospitalisations of Indigenous persons for principal diagnosis of diabetes mellitus, by additional diagnosis of hospitalisation, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Indigenous data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Includes: diseases of the musculoskeletal system and connective tissue; diseases of the ear and mastoid process; congenital malformations, deformations and chromosomal abnormalities; pregnancy, childbirth and the puerperium; certain conditions originating in the perinatal period; diseases of the blood and blood-forming organs; and certain disorders involving the immune system.

Notes

1. Sum of components may exceed 100% as more than one additional diagnosis can be reported for each hospitalisation.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 2001–02 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population. This period (2001–02 onwards) has been used for analysis because coding changes were made to diabetes complications in July 1999 and July 2000. Coding for diabetes is consistent only from 2001–02 onwards and data for previous years should not be included in the analysis of diabetes trends. The HPF Report (AHMAC 2012) reported trend data from July 1999 to July 2010 (Figure 37), however, the years 1999 to 2000 should be excluded from any interpretation of this figure.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2009–10 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

Diabetes—2001–02 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diabetes over the period 2001–02 to 2009–10 are presented in Table 1.09.11 and Figure 1.09.1.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for diabetes among Indigenous males and females during the period 2001–02 to 2009–10. The fitted trend implies an average yearly increase in the rate of around 0.4 per 1,000 population, which is equivalent to an increase of 21.2% in the hospitalisation rate over this period.
- There were also significant increases in hospitalisation rates among non-Indigenous Australians during the same period, with an average yearly increase in the rate of around 0.2 per 1,000 population. This is equivalent to a 45% increase in the hospitalisation rate between 2001–02 and 2009–10.
- There was a significant decrease in the hospitalisation rate ratio between Indigenous and non-Indigenous Australians for diabetes over the period 2001–02 and 2009–10 (a 17% decline over the period), but there was a significant increase in the hospitalisation rate difference (a 16% increase over the period).

Table 1.09.11: Age-standardised hospitalisation rates, rate ratios and rate differences from diabetes mellitus, Qld, WA, SA and NT, 2001–02 to 2009–10[(a)(b)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Indigenous separations											
Males	924	1,015	1,130	1,078	1,188	1,236	1,336	1,482	1,365	62.3*	53.9*
Females	1,084	1,118	1,245	1,278	1,440	1,528	1,537	1,615	1,602	73.3*	54.1*
Persons	2,009	2,133	2,375	2,356	2,628	2,764	2,873	3,097	2,967	135.5*	53.9*
Non-Indigenous separations											
Males	10,154	10,728	11,605	12,637	13,732	14,881	16,555	16,871	16,975	964.3*	76.0*
Females	8,418	8,934	9,598	10,676	11,367	12,088	13,863	13,885	13,575	757.1*	71.9*
Persons	18,572	19,662	21,203	23,313	25,099	26,969	30,418	30,756	30,550	1,721.3*	74.1*
Indigenous rate per 1,000											
Males	14.8	14.4	16.9	14.9	16.6	17.1	17.1	18.4	17.1	0.4*	21.4*
Females	15.8	15.4	17.0	16.6	18.2	19.1	18.4	18.4	17.1	0.3*	16.7*
Persons	15.3	15.0	17.1	15.9	17.5	18.2	17.9	18.5	17.0	0.4*	18.5*
Non-Indigenous rate per 1,000											
Males	3.1	3.2	3.4	3.5	3.8	3.9	4.3	4.2	4.1	0.2*	40.7*
Females	2.3	2.4	2.5	2.7	2.8	2.9	3.2	3.2	3.0	0.1*	41.5*
Persons	2.7	2.7	2.9	3.1	3.2	3.4	3.7	3.7	3.5	0.1*	41.2*
Rate ratio[(e)]											
Males	4.8	4.6	5.1	4.2	4.4	4.3	4.0	4.4	4.1	–0.1*	–14.0*
Females	6.9	6.5	6.9	6.2	6.5	6.6	5.7	5.8	5.7	–0.2*	–17.3*
Persons	5.8	5.5	5.9	5.2	5.4	5.4	4.8	5.1	4.8	–0.1*	–16.2*

(continued)

Table 1.09.11 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diabetes mellitus, Qld, WA, SA and NT, 2001–02 to 2009–10[(a)(b)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change[(d)]
Rate difference[(f)]											
Males	11.7	11.2	13.6	11.4	12.9	13.2	12.8	14.2	12.9	0.2*	16.3*
Females	13.5	13.0	14.5	13.9	15.4	16.2	15.2	15.3	14.1	0.2	12.6
Persons	12.7	12.3	14.2	12.8	14.3	14.9	14.2	14.9	13.5	0.2*	13.8*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2001–02 and 2009–10 based on the average annual change over the period.

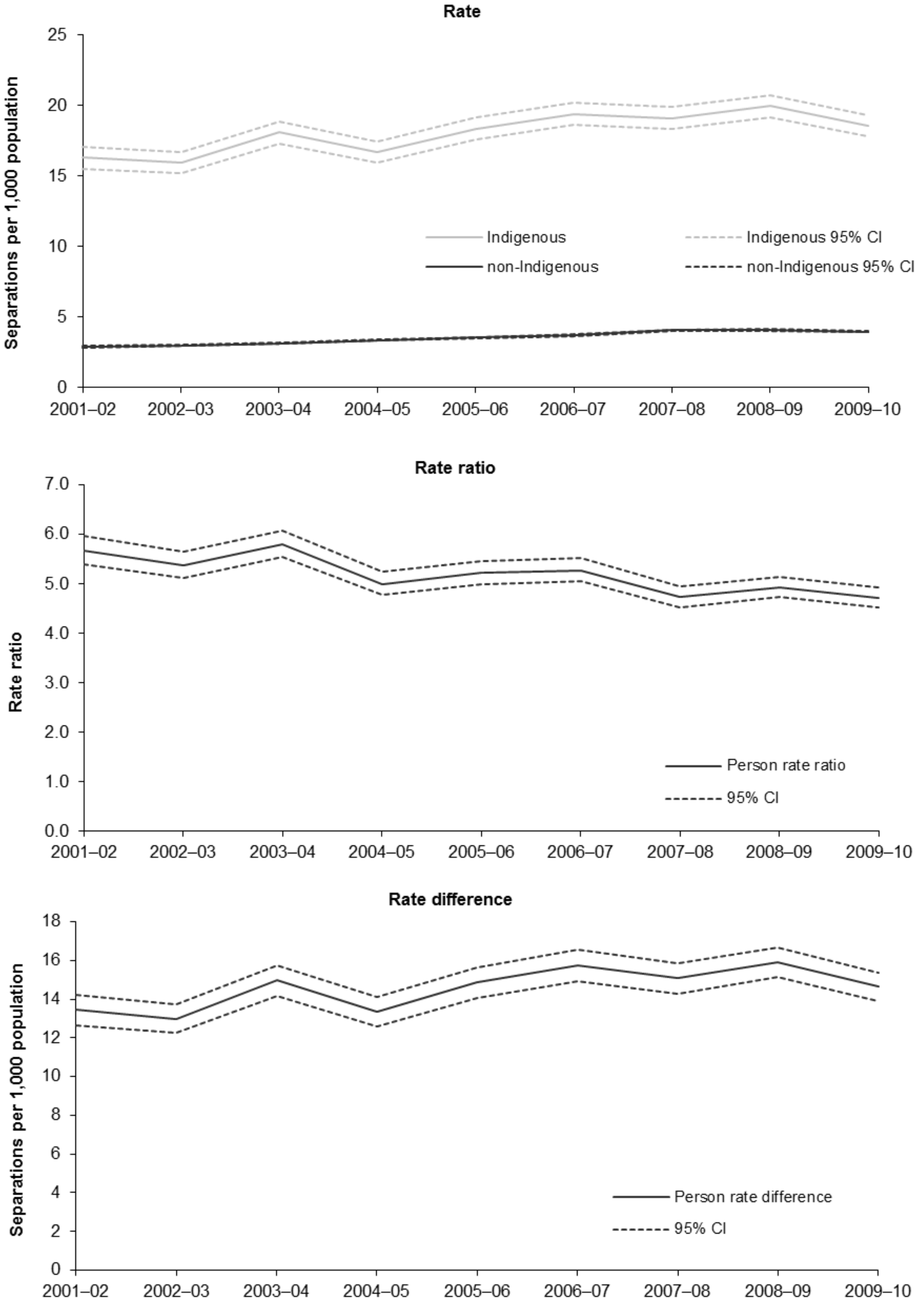
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
4. Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): ICD10-AM codes E10-E14.

Source: AIHW analysis of National Hospital Morbidity Database.


Rate

Rate ratio

Rate difference

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.09.1: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians from diabetes mellitus, Qld, WA, SA and NT, 2001–02 to 2009–10

Diabetes — 2004–05 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diabetes over the period 2004–05 to 2007–08 are presented in Table 1.09.12 and Figure 1.09.2.

- In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for diabetes among Indigenous males and females during the period 2004–05 to 2009–10. The fitted trend implies an average yearly increase in the rate of around 0.3 per 1,000 population, which is equivalent to an increase of 11% in the hospitalisation rate over this period.
- There were also significant increases in hospitalisation rates among non-Indigenous males and females during the same period, with an average yearly increase in the rate of around 0.1 per 1,000 population. This is equivalent to a 14% increase in the hospitalisation rate between 2004–05 and 2009–10.
- There was no significant change in the hospitalisation rate ratio or rate difference between Indigenous and non-Indigenous persons for diabetes over the period 2004–05 to 2009–10. There was however a significant increase in the hospitalisation rate difference for males (a 20% increase over the period).

Table 1.09.12: Age-standardised hospitalisation rates, rate ratios and rate differences from diabetes mellitus, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Indigenous separations								
Males	1,384	1,585	1,677	1,754	1,903	1,803	89.3*	32.3*
Females	1,614	1,815	2,015	2,012	2,128	2,121	99.2*	30.7*
Persons	2,999	3,400	3,692	3,766	4,031	3,924	188.3*	31.4*
Non-Indigenous Australian separations								
Males	32,619	35,126	37,721	40,291	41,445	42,677	2,051.9*	31.5*
Females	28,172	30,292	31,701	33,740	34,597	34,851	1,381.4*	24.5*
Persons	60,791	65,418	69,422	74,031	76,042	77,528	3,433.3*	28.2*
Indigenous rate (separations per 1,000)								
Males	11.4	13.1	13.7	13.6	14.4	13.7	0.4*	18.6*
Females	12.9	14.1	15.2	14.9	14.8	13.7	0.2	6.3
Persons	12.3	13.7	14.5	14.4	14.6	13.6	0.3	10.8
Non-Indigenous Australian rate (separations per 1,000)								
Males	3.5	3.7	3.9	4.1	4.1	4.1	0.1*	15.3*
Females	2.7	2.8	2.9	3.0	3.0	3.0	0.1*	12.2*
Persons	3.1	3.2	3.4	3.5	3.5	3.5	0.1*	14.0*
Rate ratio[(d)]								
Males	3.2	3.5	3.5	3.4	3.5	3.4	0.0	2.5
Females	4.9	5.0	5.3	5.0	4.9	4.6	–0.05	–5.3
Persons	4.0	4.2	4.3	4.1	4.2	3.9	0.0	–3.0
Rate difference[(e)]								
Males	7.9	9.4	9.8	9.6	10.3	9.6	0.3*	20.1*
Females	10.3	11.3	12.3	11.9	11.8	10.7	0.1	4.8
Persons	9.2	10.5	11.2	10.9	11.1	10.2	0.2	9.8

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Data are reported by state/territory of usual residence.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

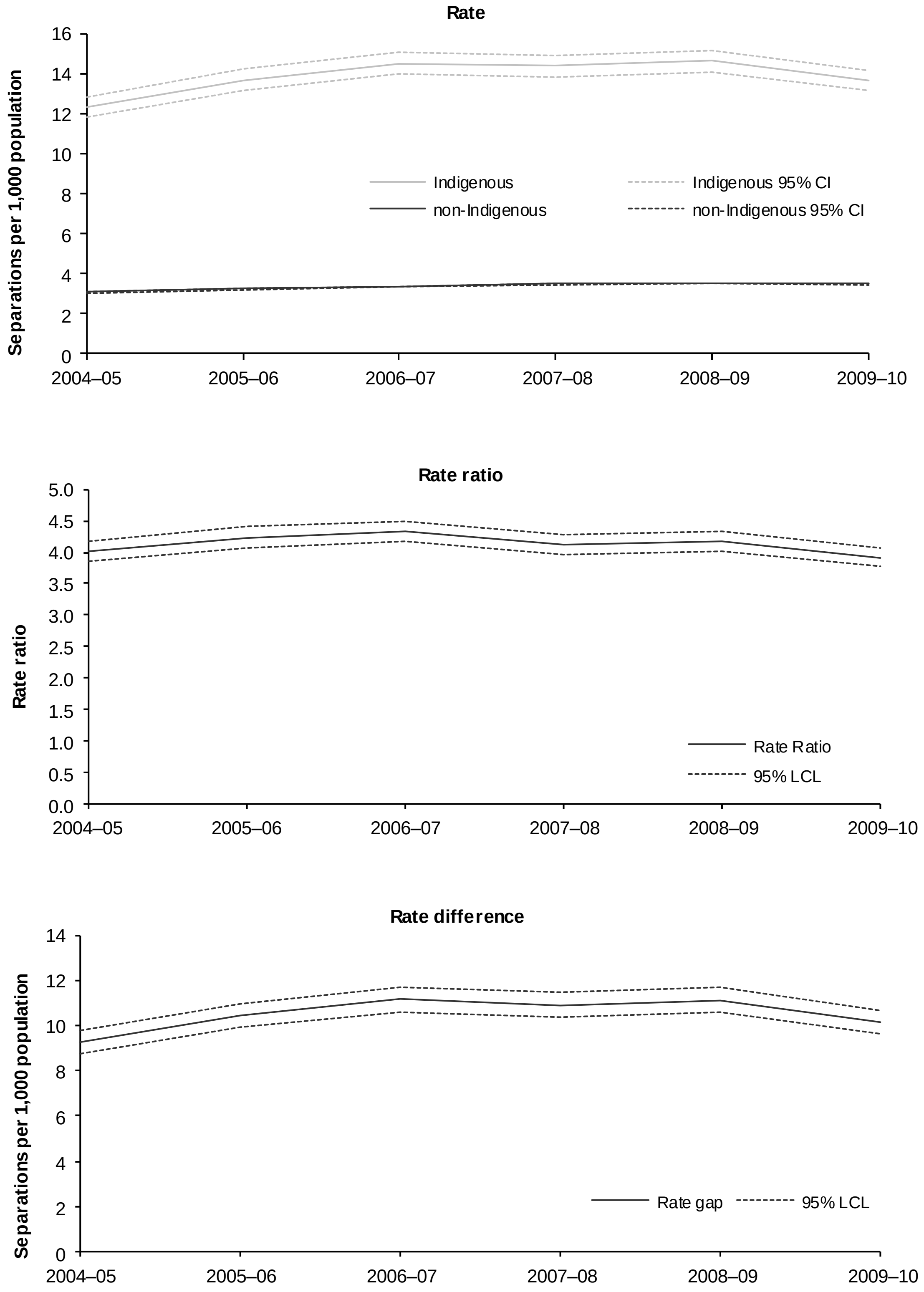
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
4. Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): ICD10-AM codes E10-E14.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.09.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians from diabetes mellitus, Qld, WA, SA and NT, 2004–2005 to 2009–2010

Mothers of Indigenous children

- In 2008, 8.5% Indigenous children aged 0–3 years had mothers who had diabetes or sugar problems during pregnancy. This proportion was lowest in Tasmania (2%), and highest in the Northern Territory (11%) however these data should be interpreted with caution due to small numbers and high standard errors for some states and territories (Table 1.09.13).
- In 2008, the proportion of Indigenous children age 0–3 years who had mothers who had diabetes or sugar problems during pregnancy was similar in non-remote (8.5%) and remote areas (8.4%) (Table 1.09.14).

Table 1.09.13: Number and proportion of Indigenous children aged 0–3 years whose mother had diabetes or sugar problems during pregnancy, by state/territory, 2008

	Number	Proportion
NSW/ACT	1,328(a)	8.3(a)
Vic	215	6.6
Qld	1,578(a)	9.8(a)
WA	519(a)	8.2(a)
SA	103(a)	3.8(a)
Tas	39(b)	2.2(b)
NT	577	11.1
Total	**4,361**	**8.5**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Note: Proportions exclude not known and not collected responses.

Source: 2008 NATSISS.

Table 1.09.14: Number and proportion of Indigenous children aged 0–3 years whose mother had diabetes or sugar problems during pregnancy, by Remoteness Area, 2008

	Number	Proportion
Major cities	1,831(a)	11.0(a)
Inner regional	552(a)	4.4(a)
Outer regional	1,054(a)	9.4(a)
Total non-remote	*3,438*	*8.5*
Remote	279(a)	6.6(a)
Very remote	644	9.6
Total remote	*923*	*8.4*
Total	**4,361**	**8.5**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Note: Proportions exclude not known and not collected responses.

Source: 2008 NATSISS.

Data quality issues

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998 to 2008, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.10 Kidney disease

The number of Aboriginal and Torres Strait Islander people with treated end-stage renal disease (ESRD) as registered by the Australia and New Zealand Dialysis and Transplant Registry, expressed as a rate by age group, age-standardised rate and ratio

Data sources

Data for this indicator come from the National Mortality Database, the AIHW National Hospital Morbidity Database and the Australia and New Zealand Dialysis and Transplant Registry.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for ‘separations’ and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in

data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).

- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Australia and New Zealand Dialysis and Transplant Registry (ANZDATA)

In Australia, persons who develop ESRD and undertake dialysis or kidney transplantation are registered with ANZDATA. The Registry is the most comprehensive and reliable source of information on persons treated for ESRD. It compiles data on incidence and prevalence, renal complications, co-morbidities and patient deaths. The current Registry began in 1977 and is coordinated by the Queen Elizabeth Hospital in Adelaide. All relevant hospitals and related satellite units in Australia and New Zealand participate.

Indigenous identification is based on self-identification and discussion with the treating nurse or physician, and is often based on identification in hospital records. However, because of the heightened awareness of the extent of renal disease in Indigenous Australians and the prolonged and repeated contact with renal units in hospitals, it is believed that Indigenous identification in the Registry is more complete than in general hospital data (Cass et al. 2001).

Analyses

Age-standardised rates and ratios have been used as a measure of morbidity in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Mortality

Tables 1.10.1 and 1.10.2 present data on deaths of Indigenous Australians from kidney disease over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, 3% of deaths (323) among Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined were due to kidney disease. After adjusting for differences in age structure, Indigenous Australians died from kidney diseases at over three times the rate of non-Indigenous Australians (Table 1.10.1).
- Over the period 2001 to 2010 there were significant increases in the in kidney disease mortality rates for Indigenous and non-Indigenous Australians (increases of 89% and 19% respectively), and a significant widening of the gap (Table 1.10.2).

Table 1.10.1: Deaths of Indigenous Australians from kidney disease, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f]

	Number			Per cent			Rate per 100,000[g]				
	Indig.	Non-Indig.	Not stated	Indig.	Non-Indig.	Not stated	Indig.	Non-Indig.	Rate ratio[h]	Rate difference[i]	Rate difference %[j]
Kidney diseases (N00–N29)	323	9,199	78	2.9	1.9	1.4	40.3	11.4	3.5*	28.9*	5.2
All causes	**11,132**	**479,933**	**5,441**	**100.0**	**100.0**	**100.0**	**1,151.1**	**597.0**	**1.9***	**554.0***	**100.0**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(h) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(i) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(j) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all causes.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.10.2: Age-standardised mortality rates, rate ratios and rate differences, kidney diseases, NSW, Qld, WA, SA and NT, 2001–2010[(a)(b)(c)(d)(e)]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change(f)	Per cent change(g)
Indigenous rate (deaths per 100,000(h))	21.1	26.3	28.3	28.2	25.7	49.8	35.6	40.3	38.4	38.0	2.1*	88.7*
Non-Indigenous rate (deaths per 100,000(h))	9.7	10.3	10.2	9.7	9.8	10.5	12.0	12.4	11.7	10.3	0.2*	19.2*
Rate ratio(i)	2.2	2.6	2.8	2.9	2.6	4.7	3.0	3.3	3.3	3.7	0.1*	56.2*
Rate difference(j)	11.4	16.0	18.1	18.6	15.9	39.3	23.5	27.9	26.7	27.7	1.9*	147.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD-10 codes N00-N39.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Hospitalisations

- Over the period June 2008 to July 2010, there were 2,127,523 hospitalisations for chronic kidney disease and its sequelae in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of which 262,612 (12.3%) were for Indigenous Australians.
- Approximately 43% of total hospitalisations of Indigenous Australians were for chronic kidney disease.

Hospitalisations for chronic kidney disease

Chronic kidney disease includes diabetic nephropathy, hypertensive renal disease, glomerular disease, chronic renal failure and end-stage renal disease (ESRD).

Hospitalisations of Indigenous Australians for chronic kidney disease and its sequelae in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined over the period June 2008 to July 2010 are presented in Tables 1.10.3 and 1.10.4.

- Of all hospitalisations for chronic kidney disease among Aboriginal and Torres Strait Islander people, the majority (98%) were for care involving dialysis.
- Indigenous Australians were hospitalised for both care involving dialysis and diabetic nephropathy at around 11 times the rate of non-Indigenous Australians, and chronic renal failure at around four times the rate of non-Indigenous Australians.
- Approximately 45% of Indigenous Australians hospitalised for chronic kidney disease and its sequelae were males (118,711) and 55% were females (143,901).
- Indigenous males were hospitalised for chronic kidney disease with dialysis at over eight times the rate of non-Indigenous males, and Indigenous females were hospitalised for chronic kidney disease at over 15 times the rate of non-Indigenous females (Table 1.10.4).
- Over the period June 2008 to July 2010, there were 262,612 bed-days associated with Indigenous chronic kidney disease hospitalisations in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, at an average of 1.1 days per separation. Excluding same-day separations for dialysis (220,763 hospitalisations), the average length of stay in hospital for Indigenous people with chronic kidney disease was 5.0 days compared with 4.9 days for non-Indigenous Australians.
-

Table 1.10.3: Hospitalisations for chronic kidney disease and its sequelae, by Indigenous status and type of kidney disease, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Number		Per cent		Indigenous			Non-Indigenous				
Principal diagnosis	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**No. per 1,000[(e)]**	**95% LCL[(f)]**	**95% UCL[(g)]**	**No. per 1,000[(e)]**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Ratio[(h)]**	**Difference[(i)]**
Care involving dialysis (ESRD)	258,552	1,809,330	98.5	97.0	446.8	444.9	448.7	40.9	40.8	40.9	10.9*	405.9*
Diabetic nephropathy	1,534	11,823	0.6	0.6	2.8	2.7	3.0	0.3	0.3	0.3	10.7*	2.6*
Renal-tubulo interstitial diseases	912	12,812	0.3	0.7	1.0	0.9	1.1	0.3	0.3	0.3	3.3*	0.7
Chronic renal failure	789	15,058	0.3	0.8	1.5	1.4	1.6	0.3	0.3	0.4	4.4*	1.2*
Glomerular diseases	420	5,398	0.2	0.3	0.3	0.3	0.4	0.1	0.1	0.1	2.5*	0.2
Hypertensive renal disease	58	1,023	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	3.4*	0.1
Other chronic diseases	347	9,467	0.1	0.5	0.4	0.4	0.5	0.2	0.2	0.2	1.9*	0.2
Total	**262,612**	**1,864,911**	**100.0**	**100.0**	**453.0**	**451.1**	**454.9**	**42.2**	**42.1**	**42.2**	**10.7***	**410.8***
Total excl. dialysis	**4,060**	**55,581**	**1.5**	**3.0**	**6.2**	**6.0**	**6.4**	**1.3**	**1.3**	**1.3**	**4.8***	**4.9***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons at the $p < 0.05$ level.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio Indigenous: non-Indigenous Australians.

(i) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 1.10.4: Hospitalisations of Indigenous Australians for chronic kidney disease and its sequelae, by sex and type of kidney disease, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d]

	Males							Females						
Principal diagnosis	**Number**	**Per cent**[e]	**No per 1,000**[f]	**LCL**[g]	**UCL**[h]	**Ratio**[i]	**Difference**[j]	**Number**	**Per cent**[e]	**No per 1,000**[f]	**LCL**[g]	**UCL**[h]	**Ratio**[i]	**Difference**[j]
Care involving dialysis (ESRD)	117,076	98.6	444.4	441.4	447.4	8.2*	390.4*	141,476	98.3	454.4	451.9	456.9	15.3*	424.7*
Diabetic nephropathy	689	0.6	2.7	2.5	3.0	8.2*	2.4*	845	0.6	2.9	2.7	3.1	14.2*	2.7*
Renal-tubulo interstitial diseases	96	0.1	0.3	0.2	0.3	2.2*	0.1*	816	0.6	1.7	1.6	1.9	3.5*	1.2*
Chronic renal failure	384	0.3	1.8	1.6	2.0	4.6*	1.4*	405	0.3	1.3	1.2	1.5	4.4*	1.0*
Glomerular diseases	246	0.2	0.4	0.3	0.5	2.4*	0.2*	174	0.1	0.3	0.2	0.3	2.8*	0.2*
Hypertensive renal disease	40	0.0	0.1	0.1	0.1	3.7*	0.1*	18	0.0	0.1	0.0	0.1	3.0*	0.0*
Other chronic diseases	180	0.2	0.5	0.4	0.5	1.7*	0.2*	167	0.1	0.4	0.3	0.5	2.1*	0.2*
Total	**118,711**	**100.0**	**450.1**	**447.1**	**453.2**	**8.1***	**394.9***	**143,901**	**100.0**	**461.1**	**458.6**	**463.7**	**14.9***	**430.1***
Total excl. dialysis	**1,635**	**1.4**	**5.7**	**5.4**	**6.1**	**4.4***	**4.4***	**2,425**	**1.7**	**6.7**	**6.4**	**7.0**	**5.1***	**5.4***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons at the p < 0.05 level.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of hospitalisations of Indigenous and non-Indigenous people in the period 2008–09 to 2009–10.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
   Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by age and sex

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, Indigenous males and females had higher hospitalisation rates for chronic kidney disease (excluding dialysis) than non-Indigenous males and females across all age groups (Table 1.10.5).
- For Indigenous and non-Indigenous males, hospitalisation rates were highest among those aged 65 years and over (14.9 and 4.9 per 1,000 respectively). For Indigenous females rates were highest among those aged 55–64 years (16.8 per 1,000), and for non-Indigenous females rates were highest among those aged 65 years and over (3.7 per 1,000).
- Approximately 40% of Indigenous Australians hospitalised for chronic kidney disease (excluding dialysis) were male (1,635) and 60% were female (2,425) (Table 1.10.6).

Table 1.10.5: Age-specific hospitalisation rates (per 1,000 population) for a principal diagnosis of chronic kidney disease (excluding dialysis), by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010 (a)(b)(c)

									All ages	
	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+	Crude	Age std.(d)
Males										
Indigenous	2.0	1.0	0.4	1.2	4.9	8.7	12.6	14.9	3.1	5.7
Non-Indigenous	1.0	0.3	0.3	0.5	0.8	1.1	1.8	4.9	1.3	1.3
Rate ratio(e)	1.9	2.9	1.3	2.5	6.3	7.8	6.8	3.1	2.4	4.4
Rate difference(f)	1.0	0.6	0.1	0.7	4.1	7.6	10.7	10.1	1.8	4.4
Females										
Indigenous	0.8	1.2	2.5	3.7	6.6	9.6	16.8	13.9	4.6	6.7
Non-Indigenous	0.7	0.4	1.3	1.1	1.0	1.1	1.4	3.7	1.4	1.3
Rate ratio(e)	1.1	3.3	2.0	3.5	6.6	8.9	11.9	3.8	3.3	5.1
Rate difference(f)	0.1	0.9	1.3	2.6	5.6	8.5	15.4	10.3	3.2	5.4
Persons										
Indigenous	1.4	1.1	1.4	2.4	5.8	9.2	14.8	14.4	3.9	6.2
Non-Indigenous	0.9	0.4	0.8	0.8	0.9	1.1	1.6	4.2	1.4	1.3
Rate ratio(e)	1.6	3.1	1.9	3.2	6.5	8.3	9.1	3.4	2.9	4.8
Rate difference(f)	0.5	0.7	0.7	1.7	4.9	8.1	13.2	10.1	2.5	4.9

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data excludes private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Financial year reporting.

(c) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(d) Directly age-standardised using the Australian 2001 standard population.

(e) Rate ratio Indigenous: non-Indigenous Australians.

(f) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 1.10.6 presents hospitalisations for chronic kidney disease (excluding dialysis) for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, as well as rates and ratios for these six jurisdictions. Data for Tasmania and the Australian Capital Territory are also included but should be treated with caution until further audits of Indigenous hospital separations data are completed.

- Over the period July 2008 to June 2010, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for chronic kidney disease (excluding dialysis) at almost five times the rate of non-Indigenous Australians.
- In New South Wales, Queensland, South Australia, Western Australia and the Northern Territory, Indigenous Australians were hospitalised for chronic kidney disease (excluding dialysis) at between four and seven times the rate of non-Indigenous Australians. Indigenous Australians were hospitalised at around twice the rate of non-Indigenous Australians in Victoria and the Australian Capital Territory, and at similar rates to non-Indigenous Australians in Tasmania. These differences may partly reflect jurisdictional differences in the level of Indigenous under-identification and therefore should be interpreted with caution.

Table 1.10.6: Hospitalisations for chronic kidney disease (excluding dialysis) by Indigenous status and jurisdiction, July 2008–June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
NSW						
Males	389	5.7	8,069	1.1	4.9*	4.5*
Females	419	4.2	8,751	1.1	3.7*	3.1*
Persons	808	4.8	16,821	1.1	4.2*	3.6*
Vic						
Males	70	2.7	8,250	1.5	1.7*	1.1*
Females	79	2.9	9,038	1.6	1.9*	1.4*
Persons	149	2.8	17,288	1.5	1.8*	1.2*
Qld						
Males	491	5.4	5,202	1.2	4.3*	4.2*
Females	729	6.8	5,785	1.3	5.2*	5.5*
Persons	1,220	6.1	10,987	1.3	4.8*	4.8*
WA						
Males	349	8.0	3,035	1.5	5.5*	6.5*
Females	592	11.5	3,095	1.4	8.2*	10.1*
Persons	941	9.8	6,130	1.4	6.9*	8.4*
SA						
Males	107	6.6	2,027	1.2	5.6*	5.4*
Females	151	7.4	2,045	1.2	6.3*	6.3*
Persons	258	7.0	4,072	1.2	6.0*	5.8*
NT						
Males	229	5.2	118	0.9	6.0*	4.4*
Females	455	9.2	165	1.3	7.3*	7.9*
Persons	684	7.4	283	1.0	7.0*	6.3*
NSW, Vic, Qld, WA, SA and NT[(h)]						
Males	**1,635**	**5.7**	**26,701**	**1.3**	**4.4***	**4.4***
Females	**2,425**	**6.7**	**28,879**	**1.3**	**5.1***	**5.4***
Persons	**4,060**	**6.2**	**55,581**	**1.3**	**4.8***	**4.9***
Tas						
Males	15	0.9	596	1.2	0.8	–0.2
Females	25	1.8	505	0.9	1.9*	0.9
Persons	40	1.4	1,101	1.0	1.3	0.3

(continued)

Table 1.10.6 (continued): Hospitalisations for chronic kidney disease (excluding dialysis) by Indigenous status and jurisdiction, July 2008–June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
ACT						
Males	n.p.	n.p.	303	1.0	n.p.	n.p.
Females	n.p.	n.p.	313	0.9	n.p.	n.p.
Persons	13	1.8	616	0.9	1.9*	0.8

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness area

Hospitalisation rates for chronic kidney disease (excluding dialysis) in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 1.10.7 covering the period July 2008 to June 2010.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for chronic kidney disease (excluding dialysis) than non-Indigenous Australians.
- Rates of hospitalisations were highest for Indigenous people living in *Remote* and *Very remote* areas, at 10 and 9 per 1,000, respectively. The lowest rate for Indigenous people was observed in *Major cities* (3.5 per 1,000).

Table 1.10.7: Age-specific hospitalisations for chronic kidney disease (excluding dialysis) by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)(e)(f)

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%(g)	UCL 95%(h)	Number	No. per 1,000	LCL 95%(g)	UCL 95%(h)	Ratio(i)	Difference(j)
Major cities	770	3.5	3.2	3.8	36,726	1.2	1.2	1.2	2.8*	2.3*
Inner regional	622	5.6	5.1	6.1	12,687	1.5	1.4	1.5	3.8*	4.1*
Outer regional(k)	974	6.9	6.4	7.4	5,264	1.4	1.3	1.4	5.1*	5.5*
Remote(l)	669	10.3	9.4	11.2	681	1.3	1.2	1.4	7.7*	9.0*
Very remote	1,025	8.7	8.1	9.3	214	1.3	1.2	1.5	6.5*	7.4*
Total(m)	**4,060**	**6.2**	**6.0**	**6.4**	**55,581**	**1.3**	**1.3**	**1.3**	**4.8***	**4.9***

* Indicates a significant difference at the p <0.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Registration data

Information is available on Indigenous persons with ESRD from the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA).

ESRD is a complete or near-complete failure of the kidneys to excrete wastes, concentrate urine, and regulate electrolytes. ESRD occurs when the kidneys are no longer able to function at a level that is necessary for day-to-day life. It usually occurs as chronic renal failure worsens to the point where kidney function is less than 10% of normal. Common associated complications include inflammation of the tissue layers surrounding the heart, bleeding in the gastrointestinal tract, altered brain function and structure, disturbances or structural or functional changes in the peripheral nervous system.

- Between 2008 and 2010, there were 7,204 new patients registered with ANZDATA, of whom 644 (9%) identified as Aboriginal or Torres Strait Islander. This is higher than the proportion of Indigenous people in the total population (3.0%).
- Indigenous people starting ESRD treatment were substantially younger than non-Indigenous Australians starting ESRD treatment. Over half (62%) of new Indigenous patients registered with ANZDATA were aged less than 55 years, whereas less than a third (27%) of non-Indigenous Australians registered were below that age (Table 1.10.8).
- Incidence rates of treated ESRD for Indigenous Australians were higher than for non-Indigenous Australians across all age groups. The difference was marked at ages 45–54 years and 55–64 years where incidence rates for Indigenous Australians were between 13 and 11 times those for non-Indigenous Australians.
- After adjusting for differences in age structure, the incidence rate of treated ESRD for Indigenous Australians was over seven times the incidence rate of non-Indigenous Australians.
- Between 2008 and 2010, Indigenous males and females were 5 and 10 times as likely to register for treatment of ESRD as non-Indigenous males and females (Table 1.10.9).
- Incidence rates of treated ESRD for Indigenous Australians were higher than for non-Indigenous Australians in all states and territories. Rate ratios ranged from three in New South Wales to 15 in the Northern Territory (Table 1.10.10).
- Incidence rates for ESRD among Indigenous Australians were higher in remote areas of Australia than in *Major cities*. Indigenous Australians were 22 and 15 times as likely to register for treatment of ESRD as non-Indigenous Australians in *Remote* and *Very remote* areas respectively, and 11 times as likely to register for treatment of ESRD in outer regional areas. In *Major cities* and *Inner regional* areas, incidence rates for Indigenous Australians were around four and three times those for non-Indigenous Australians living in these areas (Table 1.10.11).

The reasons for the high incidence of treated ESRD among Indigenous Australians are probably related to the high proportion of the Indigenous population with factors which contribute to the increased risk of kidney impairment and lack of access to services for detection and treatment of chronic kidney disease (ABS & AIHW 2005).

Table 1.10.8: Incidence of end-stage renal disease, by Indigenous status and age group, 2008–2010[(a)]

	Number		Per cent[(b)]		No. per 100,000[(c)]			
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio[(d)]**	**Rate difference**
0–24	13	236	2.0	3.6	1.4	1.1	1.2	0.3
25–44	184	797	28.6	12.1	42.3	4.4	9.7*	37.9*
45–54	201	940	31.2	14.3	133.4	10.6	12.6*	122.8*
55–64	175	1,378	27.2	21.0	202.1	18.8	10.8*	183.3*
65+	71	3,209	11.0	48.9	132.0	36.9	3.6*	95.1*
Total[(e)]	**644**	**6,560**	**100.0**	**100.0**	**68.3**	**9.5**	**7.2***	**58.7***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons.

(a) Calendar year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Proportion of Indigenous and non-Indigenous patients in each age group.

(c) Age-specific rates per 100,000 population.

(d) Rate ratio Indigenous: Non-Indigenous.

(e) Total rates are directly age-standardised using the Australian 2001 standard population. Age standardised rates have been calculated using the direct method, age standardised by 5 year age group to 65+.

Source: AIHW analysis of ANZDATA data.

Table 1.10.9: Incidence of end-stage renal disease for Indigenous Australians, by age group and sex, 2008–2010(a)

Age group	Indigenous Male						
	No.	**Per cent(b)**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(d)**	**Rate ratio (e)**	**Rate difference (f)**
0–14 years	n.p.	n.p.	n.p.	0.2	3.1	0.8	–0.2
15–24 years	n.p.	n.p.	n.p.	0.8	4.3	1.9	1.6
25–34 years	18	6.1	15.7	2.7	7.1	4.4*	12.1*
35–44 years	65	22.2	66.1	7.3	12.4	9.5*	59.2*
45–54 years	91	31.1	126.2	7.8	12.2	9.8*	113.3*
55–64 years	76	25.9	185.7	5.9	9.4	7.4*	160.7*
65 +years	35	11.9	150.9	2.1	4.1	3.0*	100.1*
Total(g)	**293**	**100.0**	**67.1**	**4.8**	**6.0**	**5.4***	**54.5***

Age group	Indigenous Female						
	No.	**Per cent(b)**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(d)**	**Rate ratio (e)**	**Rate difference (f)**
0–14 years	n.p.	n.p.	n.p.	n.a	n.a	0.0	–0.6
15–24 years	n.p.	n.p.	n.p.	0.9	5.3	2.1	1.6
25–34 years	23	6.6	20.0	4.2*	10.3	6.6*	16.9*
35–44 years	78	22.2	72.9	14.6*	24.8	19.0*	69.0*
45–54 years	110	31.3	139.9	13.6*	20.8	16.8*	131.6*
55–64 years	99	28.2	216.8	13.9*	21.4	17.2*	204.2*
65 +years	36	10.3	117.7	3.4*	6.5	4.7*	92.5*
Total(g)	**351**	**100.0**	**69.7**	**9.1***	**11.4**	**10.2***	**62.9***

Age group	Indigenous Total						
	No.	**Per cent(b)**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(d)**	**Rate ratio (e)**	**Rate difference (f)**
0–14 years	n.p.	n.p.	n.p.	0.1	1.9	0.5	–0.4
15–24 years	11	1.7	3.3	1.1	3.7	2.0*	1.6*
25–34 years	41	6.4	17.9	3.9	7.5	5.4*	14.5*
35–44 years	143	22.2	69.6	10.8	15.6	12.9*	64.2*
45–54 years	201	31.2	133.4	10.8	14.7	12.6*	122.8*
55–64 years	175	27.2	202.1	9.2	12.6	10.8*	183.3*
65 +years	71	11.0	132.0	2.8	4.5	3.6*	95.1*
Total(g)	**644**	**100.0**	**68.3**	**5.8**	**6.9**	**7.2***	**58.7***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons.

(a) Calender year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Proportion of male, female and total registration rates for Indigenous persons in the period 2008–20010.

(c) Age-specific rates per 100,000 population.

(d) LCL = lower confidence limit, UCL = upper confidence limit.

(e) Rate ratio Indigenous: non-Indigenous.

(f) Rate difference is Indigenous minus non-Indigenous.

(g) Total rates are directly age-standardised using the Australian 2001 standard population. Age standardised rates have been calculated using the direct method, age standardised by 5 year age group to 65+.

Source: AIHW analysis of ANZDATA data.

Table 1.10.10: Incidence of end-stage renal disease, by Indigenous status, sex and state/territory, 2008–2010[(a)]

	Males				Females				Persons			
	No.	No. per 100,000[(b)]	Ratio[(c)]	Rate difference[(d)]	No.	No. per 100,000[(b)]	Ratio[(c)]	Rate difference[(d)]	No.	No. per 100,000[(b)]	Ratio[(c)]	Rate difference[(d)]
NSW/ACT												
Indigenous	34	25.5	2.1*	13.1*	48	32.8	4.5*	25.5*	82	29.3	3.0*	19.6*
Non-Indigenous	1,409	12.4	. .	. .	911	7.4	. .	. .	2,320	9.7	. .	. .
Vic												
Indigenous	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Non-Indigenous	1,073	13.0	. .	. .	552	6.1	. .	. .	1,625	9.4	. .	. .
Qld												
Indigenous	87	76.5	6.2*	64.2*	80	55.9	7.5*	48.5*	167	64.9	6.6*	55.1*
Non-Indigenous	787	12.3	. .	. .	509	7.5	. .	. .	1,296	9.8	. .	. .
WA												
Indigenous	59	97.6	7.8*	85.2*	73	114.9	18.8*	108.8*	132	107.1	11.7*	97.9*
Non-Indigenous	403	12.5	. .	. .	207	6.1	. .	. .	610	9.2	. .	. .
SA												
Indigenous	26	128.9	10.2*	116.3*	26	97.8	16.3*	91.8*	52	110.4	12.1*	101.3*
Non-Indigenous	334	12.6	. .	. .	180	6.0	. .	. .	514	9.1	. .	. .
Tas												
Indigenous	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Non-Indigenous	89	11.0	. .	. .	66	7.5	. .	. .	155	9.1	. .	. .
NT												
Indigenous	76	132.4	10.8*	120.2*	110	166.2	n.a.	n.a.	186	150.7	15.3*	140.9*
Non-Indigenous	26	12.3	. .	. .	14	n.a.	. .	. .	40	9.8	. .	. .

(continued)

Table 1.10.10 (continued): Incidence of end-stage renal disease, by Indigenous status, sex and state/territory, 2008–2010(a)

	Males				Females				Persons			
	No.	No. per 100,000(b)	Ratio(c)	Rate difference(d)	No.	No. per 100,000(b)	Ratio(c)	Rate difference(d)	No.	No. per 100,000(b)	Ratio(c)	Rate difference(d)
Australia												
Indigenous	293	67.1	5.4*	54.5*	351	69.7	10.2*	62.9*	644	68.3	7.2*	58.7*
Non-Indigenous	4,121	12.5	. .	. .	2,439	6.8	. .	. .	6,560	9.5	. .	. .

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous Australian comparisons.

(a) Calendar year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Directly age-standardised using the Australian 2001 standard population. Age standardised rates have been calculated using the direct method, age standardised by 5 year age group to 65+.

(c) Rate ratio Indigenous: non-Indigenous.

(d) Rate difference is Indigenous minus non-Indigenous.

Source: AIHW analysis of ANZDATA data.

Table 1.10.11: Incidence of end-stage renal disease, by Indigenous status and remoteness, 2008–2010[(a)]

	Number		Per cent[(b)]		No. per 100,000[(c)]			
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Rate ratio[(d)]	Rate difference[(e)]
Major cities	111	4,577	17.3	69.8	46.2	10.7	4.3*	35.5*
Inner regional	56	1,323	8.6	20.2	32.9	9.7	3.4*	23.2*
Outer regional	157	578	24.4	8.8	85.6	9.3	9.2*	76.4*
Remote	130	55	20.2	0.8	152.6	7.0	21.7*	145.5*
Very remote	190	23	29.5	0.4	138.7	9.2	15.1*	129.5*
Australia[(f)]	**644**	**6,560**	**100.0**	**100.0**	**77.2**	**10.3**	**7.5***	**66.9***

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous Australian comparisons.

(a) Calendar year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Proportion of Indigenous and non-Indigenous patients in each remoteness category.

(c) Directly age-standardised using the Australian 2001 standard population. Age standardised rates have been calculated using the direct method, age standardised by 5 year age group to 65+.

(d) Rate ratio Indigenous: non-Indigenous.

(e) Rate difference is Indigenous minus non-Indigenous.

(f) Australia total includes cases where remoteness category was not known.

Source: AIHW analysis of ANZDATA data.

Time series analysis

Data on the incidence of ESRD among Indigenous and non-Indigenous Australians for the period 1991–2010 are presented below (Table 1.10.12; Figure 1.10.1).

- The number of Indigenous patients starting ESRD treatment has nearly quadrupled since 1991 (from 54 in 1991 to 198 in 2010).
- Over the period 1991–2010, there were significant increases in the incidence rate of ESRD among Indigenous Australians. The fitted trend implies an average yearly increase in the rate of around 30.1 per 100,000, which is equivalent to a 96% increase in the rate over the period. The fitted trend showed significant increases in the incidence of ESRD for both Indigenous males and females.
- Over the same period, there were also significant increases in the incidence rates of ESRD among non-Indigenous males and females, but these increases were not as rapid as in the Indigenous population (increase of 90% for males and 41% for females).
- There was a significant increase in the incidence rate difference and a non-significant increase in the rate ratio between Indigenous and non-Indigenous Australians for ESRD over the period 1991–2010 (103% in the rate difference and 6% in the rate ratio for persons), reflecting both a relative and absolute increase in the gap between incidence rates for Indigenous and non-Indigenous Australians for ESRD over the period.

The early rapid increase in the incidence of ESRD in the Indigenous population may reflect both real growth and the increasing availability and acceptability of kidney replacement therapy by Indigenous people. In recent years rates of ESRD in the Indigenous population appear to have stabilised.

Fluctuations in the incidence rates of ESRD for Indigenous Australians over time may also reflect changing levels of identification of Indigenous registrations in the ANZDATA Registry and Indigenous population estimates. Caution should be exercised in assessing trends in Indigenous ESRD rates over time and comparisons with the non-Indigenous population.

Table 1.10.12: Age-standardised incidence rates, rate ratios and rate differences for end-stage renal disease, 1991–2010(a)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change(b)	Per cent change over period(c)
Indigenous																						
Males	26	25	41	45	58	46	57	67	59	66	71	81	81	88	90	103	105	110	84	93	76.3*	293.4*
Females	28	39	49	67	70	57	95	70	98	84	104	91	92	105	125	117	129	132	111	105	86.4*	308.5*
Persons	54	64	90	112	128	103	152	137	157	150	175	172	173	193	215	220	234	242	195	198	162.7*	301.2*
Non-Indigenous																						
Males	540	591	596	704	738	760	782	883	950	928	1,045	1,059	1,085	1,089	1,260	1,375	1,362	1,392	1,376	1,320	911.0*	168.7*
Females	385	429	473	499	507	563	551	586	644	672	692	661	725	673	808	842	770	842	831	739	430.4*	111.8*
Persons	925	1,020	1,069	1,203	1,245	1,323	1,333	1,469	1,594	1,600	1,737	1,720	1,810	1,762	2,068	2,217	2,132	2,234	2,207	2,059	1,341.4*	145.0*
Indigenous rate (no. per 100,000)(d)																						
Males	27.8	28.5	44.4	50.7	61.7	42.9	48.2	69.8	54.5	64.9	59.7	71.8	73.4	68.1	68.1	78.8	74.6	73.6	54.1	59.0	34.2*	123.1*
Females	34.0	44.1	47.9	67.5	68.9	55.0	87.4	67.1	89.5	68.5	92.9	75.1	69.1	76.9	91.3	81.7	79.7	79.1	62.2	61.5	26.3*	77.4*
Persons	31.2	36.8	45.8	59.1	65.2	49.7	69.2	67.9	73.1	66.2	77.8	73.7	70.4	72.6	80.7	80.1	77.0	76.4	58.2	60.4	30.1*	96.4*
Non-Indigenous(d) rate (no. per 100,000)																						
Males	6.9	7.4	7.5	8.7	9.0	9.1	9.2	10.3	10.9	10.5	11.5	11.5	11.5	11.3	12.9	13.7	13.2	13.2	12.6	11.9	6.2*	90.4*
Females	4.7	5.2	5.6	5.8	5.7	6.2	6.0	6.3	6.7	6.9	6.9	6.5	7.0	6.4	7.4	7.6	6.8	7.3	7.0	6.1	1.9*	40.7*
Persons	5.7	6.2	6.5	7.1	7.3	7.6	7.5	8.1	8.6	8.5	9.0	8.8	9.1	8.7	9.9	10.4	9.8	10.0	9.7	8.8	3.9*	68.9*
Rate ratio(e)																						
Males	4.0	3.9	5.9	5.9	6.9	4.7	5.2	6.8	5.0	6.2	5.2	6.3	6.4	6.0	5.3	5.8	5.6	5.6	4.3	5.0	0.2	5.9
Females	7.2	8.5	8.5	11.5	12.0	8.8	14.6	10.7	13.3	9.9	13.4	11.6	9.9	12.1	12.3	10.7	11.7	10.8	8.9	10.1	1.3	18.2
Persons	5.4	5.9	7.1	8.3	9.0	6.6	9.2	8.4	8.5	7.8	8.6	8.4	7.8	8.4	8.1	7.7	7.8	7.6	6.0	6.9	0.3	5.8

(continued)

Table 1.10.12 (continued): Age-standardised incidence rates, rate ratios and rate differences for end-stage renal disease, 1991–2010[(a)]

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(f)]																						
Males	20.9	21.1	36.9	42.0	52.7	33.8	38.9	59.5	43.6	54.4	48.1	60.4	61.9	56.8	55.3	65.2	61.4	60.5	41.5	47.1	28.0*	134.2*
Females	29.3	38.9	42.3	61.6	63.1	48.7	81.4	60.9	82.8	61.6	86.0	68.6	62.1	70.6	83.8	74.1	72.9	71.8	55.2	55.4	24.5*	83.5*
Persons	25.5	30.5	39.4	52.0	57.9	42.1	61.7	59.8	64.5	57.7	68.8	65.0	61.4	64.0	70.8	69.7	67.2	66.4	48.6	51.6	26.2*	102.6*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991–2010.

(a) Data for 1991–2008 are preliminary, and may not match totals reported in previous or future tables.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

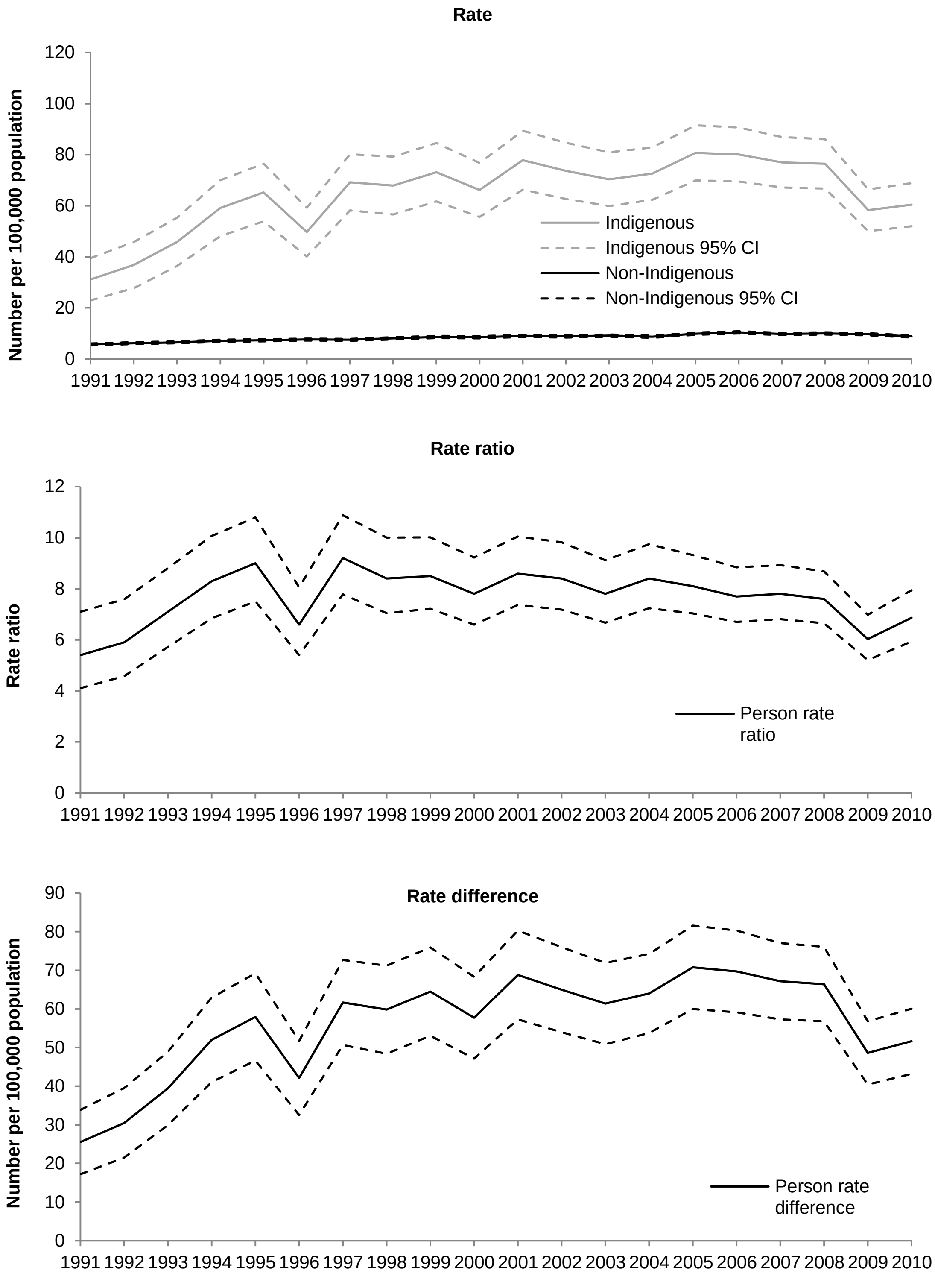
(c) Per cent change between 1991 and 2008 based on the average annual change over the period.

(d) Rates have been directly age-standardised using the Australian 2001 standard population. Age standardised rates have been calculated using the direct method, age standardised by 5 year age group to 75+.

(e) Incidence rate for Indigenous people divided by the rate for non-Indigenous Australians.

(f) Incidence rate for Indigenous people minus the rate for non-Indigenous Australians.

Source: AIHW analysis of ANZDATA data.



Source: AIHW analysis of ANZDATA data.

Figure 1.10.1: Age-standardised registration rates, rate ratios and differences for end-stage renal disease, by Indigenous status, 1991–2010

Management of end-stage renal disease

ESRD patients require either a kidney transplant or dialysis to maintain the functions normally performed by the kidneys. Patterns of treatment for ESRD differ between Indigenous and non-Indigenous patients.

- As at 31 December 2010, of all Indigenous ESRD patients registered, 87% relied on dialysis and only 13% had received a kidney transplant. In contrast, 53% of non-Indigenous Australians living with ESRD relied on dialysis and 48% had received a kidney transplant (Table 1.10.13).
- Indigenous Australians with ESRD were 15 times as likely as non-Indigenous Australians to rely on dialysis.

Once dialysis treatment has started, Indigenous people are less likely than non-Indigenous Australians to be placed on the active transplant waiting list and less likely to move from the waiting list to transplantation (McDonald & Russ 2003; Cass et al. 2003). Factors which may contribute to these disparities include miscommunication between Indigenous patients and health professionals, lack of understanding from Indigenous patients of their illness and its treatment, lower rates of well-matched kidney donors for Indigenous patients than for non-Indigenous patients and the higher rate of comorbidity among Indigenous Australians (Cass et al. 2003; McDonald & Russ 2003). Transplant outcomes are also substantially poorer for Indigenous Australians than for non-Indigenous Australians (McDonald & Russ 2003).

Table 1.10.13: Total patients with end-stage renal disease, by Indigenous status and treatment, as at 31 December 2010(a)

	Number		Per cent(b)		No. per 100,000(c)			
Treatment	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio(d)**	**Ratio difference(e)**
Dialysis	1,208	9,382	87.2	53.3	427.5	28.6	15.0*	398.9*
Transplant	177	8,232	12.8	46.7	57.6	34.4	1.7*	23.2*
Total	**1,385**	**17,614**	**100.0**	**100.0**	**485.1**	**63.0**	**7.7***	**422.1***

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Calendar year reporting.

(b) Proportion of Indigenous and non-Indigenous patients receiving dialysis and transplants.

(c) Directly age-standardised using the Australian 2001 standard population. Age standardised rates have been calculated using the direct method, age standardised by 5 year age group to 75+.

(d) Rate ratio Indigenous: non-Indigenous.

(e) Rate difference is Indigenous minus non-Indigenous.

Source: AIHW analysis of ANZDATA data.

Data quality issues

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006–07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data (AIHW 2010).

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas.

The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

ANZDATA

The data reported here on Indigenous persons with end-stage renal disease (ESRD) have been supplied by the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA). Data sets provided for analysis are de-identified. The interpretation and reporting of these data are the responsibility of the authors and in no way should be seen as an official policy or interpretation of the registry. Data is collected from all dialysis and transplant units in Australia and New Zealand at 31st December. This encompasses virtually all patient events that have occurred in the previous twelve months as well as a "snapshot" of all dialysis and transplants patients on those dates.

Indigenous status question

Patients in the Registry are identified according to 'racial origin'. Aboriginal people and Torres Strait Islanders are identified separately, but separate results are not always published for Torres Strait Islanders because of small numbers of patients.

Under-identification

Indigenous identification is based on self-identification in hospital records and discussion with the treating nurse or physician. The completeness of identification of Indigenous people in the registry is not known. However it is believed that Indigenous identification in the Registry is more complete than in general hospital data (Cass et al. 2001). Racial identification in the ANZDATA Registry is reported to be good. A survey form is completed for all patients at the commencement of haemodialysis; this survey has a question about 'Racial origin' and includes a prompt regarding Indigenous status. ESRD patients have regular contact with renal services from the time of diagnosis, through intensive maintenance therapy until death. There is heightened awareness of renal disease in Indigenous Australians and multiple opportunities exist to reconfirm data accuracy (Cass et al. 2001).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero

. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.11 Oral health

The number of decayed, missing and filled deciduous infant teeth (dmft) and the number of decayed, missing and filled permanent adult teeth (DMFT) for Aboriginal and Torres Strait Islander people

Data sources

Data for this measure come from the ABS 2008 National Aboriginal and Torres Strait Islander Social Survey, the AIHW Dental Statistics Research Unit (Child Dental Health Survey, Indigenous child oral health in remote communities study, and the National Survey of Adult Oral Health), the AIHW National Hospital Morbidity Database, the Northern Territory Emergency Response Child Health Check Initiative data collection, the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey, the Western Australian Aboriginal Child Health Survey.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides

information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Child Dental Health Survey

The Child Dental Health Survey is a national survey of the oral health status of school children enrolled in school dental services in each state and territory of Australia. Data are obtained each year from routine dental examinations conducted by non-calibrated dental health professionals within the school dental services. Children are enrolled from both public and private schools. The survey is managed by the AIHW Dental Statistics Research Unit.

The latest available data for Indigenous children is for 2007 for New South Wales and 2008 for South Australia, Tasmania and the Northern Territory.

Study of Aboriginal and Torres Strait Islander child oral health in remote communities

Indigenous child oral health data were collected from remote Indigenous communities in all jurisdictions in the 2000–2003 period, as part of a study undertaken by the Australian

Research Centre for Population Oral Health (ARCPOH). The study collaborated with the Far West Area Health Service (New South Wales), the remote Indigenous communities of Nganampa lands (South Australia), and various remote communities around Alice Springs (Northern Territory). Data were collected by dental health professionals providing services to these communities.

Data were gathered in terms of sociodemographic information (age, sex, and Indigenous status), self-care habits (toothbrushing at home and school), dental disease experience, gingivitis and caries risk status, and fluorosis and hypoplasia levels.

National Survey of Adult Oral Health

The 2004–06 National Survey of Adult Oral Health is the second national oral examination survey of Australians which included telephone interviews with 14,123 people aged 15–97 years, 5,505 of whom were also dentally examined. The survey included 229 people who identified as Aboriginal or Torres Strait Islander (1.6%). The survey collected information on levels of oral disease, perceptions of oral health and patterns of dental care within a representative cross-section of adults in all states and territories of Australia. The first survey (the National Oral Health Survey of Australia) was conducted in 1987–88 and did not collect information on Indigenous status.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for ‘separations’ and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Northern Territory Emergency Response Child Health Check Initiative

The Northern Territory Emergency Response Child Health Check Initiative (NTER CHCI) section in this indicator is produced based on the data that were collected from the Closing the Gap Program in the Northern Territory Dental Program.

This program was introduced as a follow-up to the Child Health Check Initiative (CHCI), which is one component of the health-related measures introduced under the Northern Territory Emergency Response (NTER). Oral health was identified as a major health problem during the health checks and children were provided with referrals for dental services. The Australian Government extended its CHCI funding to the Northern Territory Department of Health and Families (NT DHF) and six Aboriginal Community Controlled Health Organisations (ACCHOs) to provide eligible children with follow-up dental services.

This indicator presents the number of dental services that were provided to Indigenous children in the prescribed areas throughout the course of this program which concluded on 30 June 2012.

In March 2012, the Australian Government announced funding over 10 years for health services as part of the *Stronger Futures in the Northern Territory* package. This includes continued investment in oral health services.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Western Australian Aboriginal Child Health Survey

This survey was a large-scale investigation into the health of 5,289 Western Australian Aboriginal and Torres Strait Islander children aged 0–17 years. It was undertaken in 2001 and 2002 by the Telethon Institute for Child Health Research in conjunction with the Kulunga Research Network. The survey was the first to gather comprehensive health, educational and developmental information on a population-based sample of Aboriginal and Torres Strait Islander children and their families and communities.

The survey findings were published in four volumes between June 2004 and November 2006.

Analyses

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

NATSISS data

Information from the 2008 NATSISS is available on children aged 0–14 years, regarding teeth or gum problems and the reason for parents not taking children to see the dentist when they needed to. Data on teeth and gum problems is available for breakdown by type of dental or gum problem, age, state/territory, remoteness, number of months with the problem, and the time since last dental check. This data is presented in Tables 1.11.1, 1.11.2, 1.11.3, 1.11.4, 1.11.5, 1.11.6, and 1.11.7.

In 2008, over 57,000 (32% of the sample) Indigenous children aged 0–14 years had reported teeth or gum problems. 15.5% of Indigenous children aged 0–14 years reported tooth or gum problems due to tooth or teeth being filled because of dental decay, and 15.2% reported problems due to cavities or dental decay (Table 1.11.1).

Table 1.11.1: Number and proportion of Indigenous children aged 0–14 years[(a)] with reported teeth or gum problems, by type of dental or gum problem, 2008

	Number	Proportion
Type of teeth/gum problem		
Cavities or dental decay	27,089	15.2
Tooth or teeth filled because of dental decay	27,647	15.5
Teeth pulled out because of dental decay	12,203	6.8
An accident caused breakage or loss of teeth	7,474	4.2
Bleeding or sore gums	4,927	2.8
Other problems with teeth or gums	6,713	3.8
Total has teeth or gum problems(b)	*57,056*	*32.0*
Does not have teeth or gum problems	121,177	68.0
Total(c)	**178,233**	**100.0**
Not known	3,581	. .

(a) Indigenous children who have teeth. Excludes children who do not have teeth.

(b) Total will be less than the sum of the components as a child can have more than one tooth or gum problem.

(c) Excludes not known responses.

Source: AIHW analysis of 2008 NATSISS.

For Indigenous children aged 0–14 years with reported teeth or gum problems, the most problems occurred between 10–14 years of age. The number of problems experienced was 26,380 (46% of the total problems experienced) (Table 1.11.2).

Table 1.11.2: Number and proportion of Indigenous children[(a)] with reported teeth or gum problems, by age, 2008

Age (years)	Number	Proportion
0–4	5,553	9.7
5–9	25,123	44.0
10–14	26,380	46.2
Total	**57,056**	**100.0**

(a) Indigenous children who have teeth. Excludes children who do not have teeth.

Note: Excludes not known responses.

Source: AIHW analysis of 2008 NATSISS.

Within Victoria, 38% of Indigenous children aged 0–14 years reported teeth or gum problems, compared to the Northern Territory where only 20% of Indigenous children reported teeth and gum problems (Table 1.11.3).

Table 1.11.3: Number and percentage of Indigenous children aged 0–14 years[(a)] with reported teeth or gum problems, by state/territory, 2008

	Number	Per cent[(b)]
NSW	17,826	32.8
Vic	4,519	38.3
Qld	17,811	33.8
WA	6,653	28.1
SA	3,190	33.1
Tas/ACT	2,885	36.8
NT	4,171	20.3
Aust.	57,055	31.6

(a) Excludes Indigenous children who do not have teeth and not known responses.

(b) Based on 2008 Indigenous population.

Source: AIHW analysis of 2008 NATSISS.

Within non-remote areas, 34% of Indigenous children aged 0–14 years reported teeth or gum problems compared to 24% of Indigenous children living in remote areas (Table 1.11.4).

Table 1.11.4: Number and percentage of Indigenous children aged 0–14 years[(a)] with reported teeth or gum problems, by remoteness, 2008

	Number	Per cent[(b)]
Non-remote	47,307	34.1
Remote	9,748	24.0
Total	**57,055**	**31.8**

(a) Excludes Indigenous children who do not have teeth and not known responses.

(b) Based on 2006 Indigenous population.

Source: AIHW analysis of 2008 NATSISS.

For Indigenous children aged 0–14 years with reported teeth or gum problems, over half (58%) had the problem for over 12 months. This was greater in non-remote (60%) than remote (49%) areas (Table 1.11.5).

Table 1.11.5: Number and proportion of Indigenous children aged 0–14 years with reported teeth or gum problems by number of months with teeth or gum problem and remoteness, 2008

	Non-remote		Remote		Total	
Number of months	Number	Proportion	Number	Proportion	Number	Proportion
1 month	7,927	16.8	1,779	18.2	9,706	17.0
2 to <6	5,690	12.0	1,737	17.8	7,426	13.0
6 to <12	5,208	11.0	1,417	14.5	6,625	11.6
12+	28,483	60.2	4,816	49.4	33,299	58.4
Total	**47,307**	**100.0**	**9,748**	**100.0**	**57,056**	**100.0**

Source: AIHW analysis of 2008 NATSISS.

For Indigenous children aged 0–14 years with reported teeth or gum problems, the majority (28%) had a dental check less than 3 months ago. Twenty-two per cent last had a dental check 6 months to less than a year ago, and 22% last had a check 1 year ago to less than 2 years ago (Table 1.11.6).

Table 1.11.6: Number and proportion of Indigenous children aged 0–14 years[(a)] with reported teeth or gum problems by time since last dental check, 2008

Time since last dental check	Number	Proportion
Less than 3 months ago	15,656	27.9
3 months to less than 6 months ago	8,622	15.3
6 months to less than a year ago	12,344	22.0
1 year ago to less than 2 years ago	12,096	21.5
2 years ago or more	3,237	5.8
Never	4,227	7.5
Total[(b)]	**56,180**	**100.0**
Not known	875	. .

(a) Includes children who have teeth only.

(b) Excludes not known responses.

Source: AIHW analysis of 2008 NATSISS.

In 2008, 14, 751 Indigenous children aged 0–14 years needed to go to the dentist, but were not taken by a parent. The main reason parents identified for this was that the waiting time was too long, or the dentist was not available at the time required (32%) (Table 1.11.7).

Table 1.11.7: Reasons parent did not take child to see a dentist when needed to in last 12 months, 2008

Reasons why parent did not take child to see a dentist when needed to	Number	Proportion
Cost	3,048	20.7
Transport/distance	1,712	11.6
Waiting time too long or not available at time required	4,715	32.0
Not available in area	2,311	15.7
Could not find time to take child (including personal/ family responsibilities)	2,382	16.1
Dislikes service/professional/afraid/embarrassed	1,330	9.0
Decided not to seek care for child	860	5.8
Other	1,769	12.0
Total needed to go to a dentist but didn't[(a)]	**14,751**	**100.0**
Total did not need to see dentist in last 12 months	**163,804**	**. .**

(a) Total will be less than the sum of the components as more than one reason may be reported.

Note: Children aged 0–14 years who had teeth and needed to go to a dentist but did not go.

Source: AIHW analysis of 2008 NATSISS.

Decayed, missing and filled teeth

Oral health outcomes are usually measured in terms of the number of decayed, missing or filled (dmft/DMFT) baby (deciduous) and adult (permanent) teeth (AIHW 2000). The dmft/DMFT score measures decay experience in deciduous and permanent teeth. Another measure of good oral health is the proportion of children with no tooth decay.

Data on decayed, missing and filled teeth for Indigenous children and adults come from the Child Dental Health Survey and the National Survey of Adult Dental Health and are presented below.

Children

Data on decay in deciduous and permanent teeth are presented below for Indigenous children in New South Wales, South Australia, the Northern Territory and Tasmania. Data for New South Wales are for 2007, and for South Australia, the Northern Territory and Tasmania they are for 2008.

Deciduous teeth

Mean dmft

- In New South Wales, South Australia, the Northern Territory and Tasmania, the mean number of decayed, missing or filled deciduous teeth for Indigenous children aged 5–10 years was higher than for non-Indigenous children at all ages (Table 1.11.8).
- In general, of all children with decayed, missing or filled deciduous teeth, both Indigenous and non-Indigenous children were most likely to have decayed teeth, followed by filled teeth.
- For New South Wales, South Australia, the Northern Territory and Tasmania combined, the mean numbers of decayed or missing teeth were highest among those aged less than 7 years, whereas the mean number of filled teeth was highest among those aged 7 years and over.

Table 1.11.8: Mean number of decayed, missing or filled deciduous teeth, children aged 4–10 years, by Indigenous status, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	New South Wales		South Australia		Northern Territory		Tasmania		NSW, SA, Tas & NT	
Age	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
					Decayed					
5 years	2.44*(a)	1.07*	3.03*(a)	1.10*	1.75*(b)	0.28*	1.69(a)	1.16	2.37*(b)	1.06*
6 years	2.01*	0.99*	2.86*	0.98*	1.64(a)	0.94(a)	2.77*(b)	1.20*	2.06*(b)	1.00*
7 years	1.96(a)	0.88	1.52*(a)	0.92*	2.22*(a)	0.19*	1.30(a)	0.97	2.03*(b)	0.89*
8 years	1.67*(a)	0.82*	1.44*(a)	0.82*	2.05*(a)	0.74*	1.43*(a)	0.94*	1.7*	0.83*
9 years	1.33(a)	0.85	1.29*	0.73*	1.47*(a)	0.16*	1.33*	0.74*	1.35*	0.81*
10 years	1.13*	0.55*	0.79*	0.54*	0.84*(a)	0.25*	0.93(a)	0.55	1.05*	0.54*
					Missing					
5 years	0.42(a)	0.10	0.52*	0.21*	0.87(a)	0.30	0.84(a)	0.31	0.52	0.14
6 years	0.23	0.07	0.78*	0.23*	0.32*	0.04*	0.58	0.60	0.31*	0.13*
7 years	0.22	0.10	0.41*	0.19*	0.19(b)	0.14(b)	0.76*	0.78*	0.25	0.16
8 years	0.31	0.10	0.47*	0.18*	0.24	0.12	0.58	0.62	0.32	0.15
9 years	0.15	0.07	0.23*	0.14*	0.09	0.03	0.26*	0.52*	0.15	0.11
10 years	0.06	0.06	0.13	0.09	0.12	0.02	0.60(a)	0.38	0.09	0.09
					Filled					
5 years	0.47	0.29	0.74*	0.59*	1.38(b)	1.29(a)	0.43	0.56	0.65	0.37
6 years	0.51	0.37	1.26*	0.94*	1.93*(a)	0.62*	0.87(a)	0.79	0.83	0.49
7 years	0.49	0.49	1.03	1.22*	2.23*(a)	1.13*	1.36(a)	1.01	0.99	0.66
8 years	0.86	0.63	1.77	1.44*	1.56(a)	2.02(a)	1.17(a)	1.20	1.07	0.84
9 years	0.72(a)	0.61	1.52	1.41*	1.56(a)	1.39(a)	1.51(a)	1.20	0.97	0.80
10 years	0.48	0.53	1.19	1.06*	0.64	0.66	0.75	0.98	0.58	0.65

(continued)

Table 1.11.8 (continued): Mean number of decayed, missing or filled deciduous teeth, children aged 4–10 years, by Indigenous status, NSW (2007), SA (2008), NT (2008) and Tas (2008)

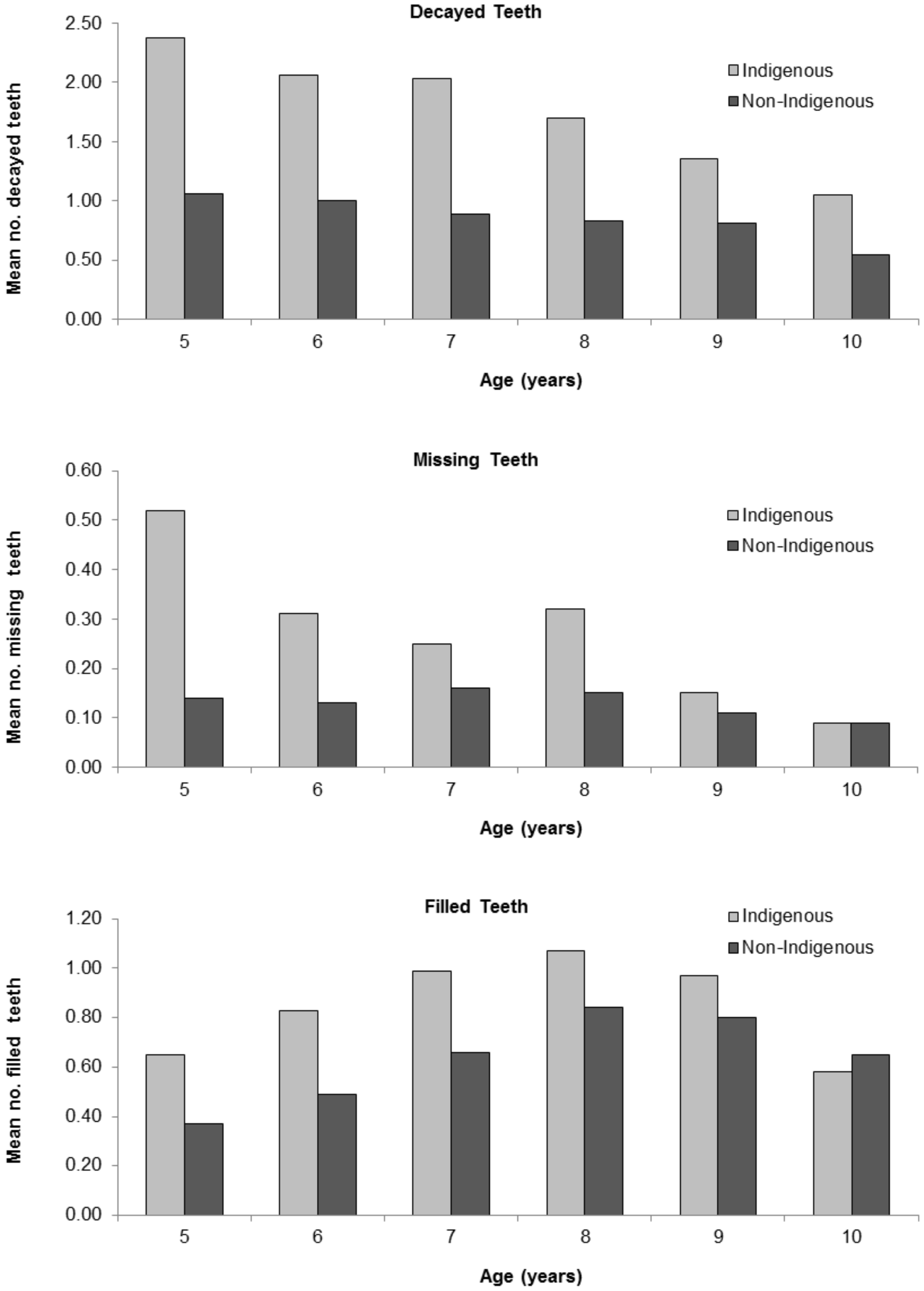
	New South Wales		South Australia		Northern Territory		Tasmania		NSW, SA, Tas & NT	
Age	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
					Decayed, missing & filled (dmft)					
5 years	3.33*(b)	1.46*	4.29*	1.89*	4.00*(b)	1.87*(a)	2.96(b)	2.03	3.55*(b)	1.57*
6 years	2.74*(a)	1.42*	4.90*(a)	2.15*	3.90*(b)	1.6*(a)	4.22*(b)	2.59*	3.20*(b)	1.62*
7 years	2.67(b)	1.48	2.96*	2.34*	4.94*(a)	1.45*(a)	3.43(b)	2.77	3.27*(b)	1.7*
8 years	2.84*(a)	1.55*	3.68*	2.44*	3.85(a)	2.89(a)	3.19(a)	2.76	3.09*(b)	1.81*
9 years	2.20(a)	1.54	3.04*	2.28*	3.11*(a)	1.58*(a)	3.10(a)	2.46	2.47*(b)	1.73*
10 years	1.66(a)	1.13	2.11*	1.69*	1.6*(a)	0.93*	2.28(a)	1.91	1.71	1.28

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

Source: AIHW Dental Statistics Research Unit.



Source: AIHW Dental Statistics Research Unit.

Figure 1.11.1: Mean number of decayed, missing or filled deciduous teeth, children aged 5–10 years, by Indigenous status, NSW (2007), SA (2008), NT (2008) and TAS (2008)

- The mean dmft of children aged 5–10 years by residential location is presented in Table 1.11.9. In all age groups and residential locations, Indigenous children had higher mean dmft levels than non-Indigenous children. The highest rate ratio between Indigenous and non-Indigenous children was in Inner cities, followed by outer cities, remote/very remote and major cities.

Table 1.11.9: Mean dmft for Indigenous and non-Indigenous children aged 5–10 years by residential location, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous	Non-Indigenous	Rate ratio(a)	Rate difference(b)
Major cities				
5 years	2.62(c)	1.35	1.94	1.27
6 years	2.41(c)	1.41	1.71	1.00
7 years	2.75(c)	1.44	1.91	1.31
8 years	2.13(d)	1.54	1.38	0.59
9 years	2.27(c)	1.49	1.52	0.78
10 years	1.65(d)	1.22	1.35	0.43
Inner cities				
5 years	2.78(c)	0.18(c)	15.44	2.60
6 years	3.19*(d)	0.13*(c)	24.54	3.06
7 years	2.6(c)	0.14(c)	18.57	2.46
8 years	3.42(c)	0.14(c)	24.43	3.28
9 years	2.51(d)	0.12(c)	20.92	2.39
10 years	1.86(d)	0.12(c)	15.50	1.74
Outer cities				
5 years	4.68*(c)	0.23*(c)	20.35	4.45
6 years	3.39(c)	0.21(c)	16.14	3.18
7 years	3.69(c)	0.2(c)	18.45	3.49
8 years	3.87(c)	0.23(c)	16.83	3.64
9 years	2.33(d)	0.17(c)	13.71	2.16
10 years	1.78(c)	0.09(c)	19.78	1.69
Remote/very remote				
5 years	4.61*(c)	0.35*(c)	13.17	4.26
6 years	4.29*(c)	0.29*(c)	14.79	4.00
7 years	4.66*(d)	0.34*(c)	13.71	4.32
8 years	4.13(d)	0.36(c)	11.47	3.77
9 years	3.37(d)	0.22(c)	15.32	3.15
10 years	1.46(d)	0.12(c)	12.17	1.34

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Rate ratio is Indigenous: non-Indigenous.

(b) Rate difference is Indigenous minus non-Indigenous.

(c) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

(d) Estimate has a relative standard error of 25% to 50% and should be used with caution.

Source: AIHW Dental Statistics Research Unit.

The mean dmft of Indigenous and non-Indigenous children aged 5–10 years by the SEIFA Index of Relative Advantage/Disadvantage is presented in Table 1.11.10.

- Indigenous children had higher mean dmft scores than non-Indigenous children for all 5 categories of disadvantage, except for those aged 8 to 10 years in the least disadvantaged category.
- Indigenous children in the most disadvantaged category had likely higher dmft than Indigenous children who were less disadvantaged.
- Across all age groups, the dmft of Indigenous children from the most advantaged areas were less than the dmft of non-Indigenous children from the most disadvantaged areas. The dmft difference among Indigenous and non-Indigenous children decreased with increasing age.

Table 1.11.10: Mean dmft for Indigenous and non-Indigenous children aged 4–10 years by SEIFA Index of Relative Disadvantage(a), NSW (2007), SA (2008), NT (2008) and Tas (2008)

	SEIFA index	Indigenous	Non-Indigenous
5 years	1	4.60*(b)	2.26*
	2	3.25(b)	1.95
	3	2.91(b)	1.47
	4	1.86(b)	1.25
	5	2.25(b)	0.67
6 years	1	3.63(b)	2.20
	2	3.39*(b)	1.6*4
	3	2.64(b)	1.69
	4	2.43(b)	1.24
	5	0.39(c)	1.11
7 years	1	4.25*(b)	2.51*
	2	2.31(b)	1.90
	3	3.16(b)	1.72
	4	1.66(b)	1.20
	5	2.51*(b)	0.98*
8 years	1	3.82*(c)	2.25*
	2	3.07(b)	1.90
	3	2.33(b)	1.98
	4	2.16(b)	1.74
	5	0.38(c)	1.09
9 years	1	2.72(c)	2.23
	2	2.10(b)	1.85
	3	2.30(c)	1.76
	4	4.16*(b)	1.66*
	5	0.42(c)	1.10
10 years	1	1.99(c)	1.48
	2	2.18(c)	1.35
	3	1.42(c)	1.15
	4	0.22*	1.12*
	5	1.04(b)	1.23

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) 1 =most disadvantaged and 5= least disadvantaged.

(b) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

Source: AIHW Dental Statistics Research Unit.

DMFT = 0

- At all ages, the proportion of Indigenous children in New South Wales, South Australia, the Northern Territory and Tasmania free of caries in their deciduous teeth (dmft = 0) was lower than the proportion for non-Indigenous children (Table 1.11.11).
- The proportion of children aged 5–10 years with dmft = 0 by residential location is presented in Table 1.11.12. Across all age groups and residential location, a higher proportion of non-Indigenous children had caries experience in their deciduous teeth than Indigenous children.

Table 1.11.11: Proportion of children aged 5–10 years with no decayed, missing or filled deciduous teeth (dmft = 0), by age and Indigenous status, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	New South Wales		South Australia		Northern Territory		Tasmania		NSW, SA, Tas & NT			
Age	Indig. %	Non-Indig. %	Indig. %	Non-Indig. %	Indig. %	Non-Indig. %	Indig. %	Non-Indig. %	Indig. %	Non-Indig. %	Rate ratio(a)	Rate difference(b)
						Decayed						
5 years	40.4*	66.2*	40.3*	66.1*	57.6*	83.0*	60.6	65.6	43.8*	66.5*	0.7*	–22.7*
6 years	46.5*	67.7*	38.9*	62.7*	56.3*	78.0*	38.4*	61.6*	47.0*	66.7*	0.7*	–19.7*
7 years	50.2	66.7	47.2*	62.4*	50.4*	91.0*	46.5*	62.7*	49.8*	66.1*	0.8*	–16.3*
8 years	40.4*	67.3*	47.0*	62.5*	42.4*	74.7*	41.1*	61.3*	41.4*	66.2*	0.6*	–24.8*
9 years	47.8	63.5	51.5*	63.3*	60.3*	91.7*	39.9*	64.8*	50.1*	64.0*	0.8*	–13.9*
10 years	49.6	68.5	59.6*	71.3*	71.4*	82.2*	72.1	72.0	54.3*	69.5*	0.8*	–15.2*
						Missing						
5 years	90.4	96.9	87.3*	94.8*	75.9*	83.0*	83.3	88.4	87.4*	95.8*	0.9*	–8.4*
6 years	90.3*	97.6*	80.7*	92.2*	77.7*	96.1*	65.7	72.7	86.6*	95.2*	0.9*	–8.6*
7 years	92.8	94.7	86.8*	90.7*	84.4*	91.0*	65.0	60.4	89.4	91.8	1.0	–2.5
8 years	88	94.1	80.1*	89.5*	90.5	90.3	66.9	66.3	87.1	91.5	1.0	–4.5
9 years	92.3	95.6	87.6*	90.6*	94.8*	97.4*	79.0*	71.7*	91.9	93.2	1.0	–1.3
10 years	94.3	97.1	93.9	93.9	94.2*	98.5*	77.3	78.4	93.8	95.4	1.0	–1.5
						Filled						
5 years	84.8	88.8	77.21	79.67	63.3*	58.8*	78.8	77.7	80.1	86.0	0.9	–5.9
6 years	79.3	84.9	61.0*	69.5*	49.3*	78.8*	68.1	70.7	72.2*	81.4*	0.9*	–9.2*
7 years	70.2	82.3	60.8	62.0	41.7*	60.3*	50.5*	63.9*	61.8	77.3	0.8	–15.6
8 years	70.7	75	47.5*	54.8*	53.6*	36.3*	54.3	57.1	65.3	69.5	0.9	–4.3
9 years	68.3	74.1	45.1*	52.4*	43.3*	53.0*	47.1*	56.6*	61.0	68.8	0.9	–7.7
10 years	77.7	75.8	56.9	58.5	62.3*	72.0*	66.3	59.8	73.2	71.6	1.0	1.6

(continued)

Table 1.11.11 (continued): Proportion of children aged 5–10 years with no decayed, missing or filled deciduous teeth (dmft = 0), by age and Indigenous status, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	New South Wales		South Australia		Northern Territory		Tasmania		NSW, SA, Tas & NT			
Age	Indig. %	Non-Indig. %	Indig. %	Non-Indig. %	Indig. %	Non-Indig. %	Indig. %	Non-Indig. %	Indig. %	Non-Indig. %	Rate ratio(a)	Rate difference(b)
						Decayed, missing & filled (dmft)						
5 years	35.5*	61.1*	29.5*	56.3*	27.2*	43.2*	50.1	51.2	33.7*	59.3*	0.6*	–25.6*
6 years	34.8*	63.8*	25.5*	48.5*	26.9*	60.7*	25.8*	37.4*	32.3*	59.6*	0.5*	–27.3*
7 years	30.7*	58.2*	33.8*	43.8*	12.9*	56.9*	*307	29.5*	31.5*	53.9*	0.6*	–22.4*
8 years	38.9*	54.9*	24.8*	39.5*	23.5	25.9	22.0*	29.4*	28.7*	50.0*	0.6*	–21.3*
9 years	42.9	51.4	23.3*	38.2*	18.2*	47.8*	18.6*	32.9*	36.0*	47.8*	0.8*	–11.8*
10 years	43.6	56.2	36.8*	46.9*	40.9*	63.5*	37.8	39.5	42.5	53.6	0.8	–11.1

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Rate ratio is Indigenous: non-Indigenous.

(b) Rate difference is Indigenous minus non-Indigenous.

Source: AIHW Dental Statistics Research Unit.

Table 1.11.12: Proportion of Indigenous and non-Indigenous children aged 5–10 years with dmft = 0 by residential location, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous %	Non-Indigenous %
Major cities		
5 years	40.2*	63.2*
6 years	43.8	63.3
7 years	34.8	58.3
8 years	31.7	53.8*
9 years	48.4	52.8
10 years	45.5	54.9
Inner cities		
5 years	62.4	52.4
6 years	39.3	54.6
7 years	52.6	48.8
8 years	36.2	45.8
9 years	36.4	40.3
10 years	34.0	51.5
Outer cities		
5 years	12.7*	48.2*
6 years	18.9*	45.9*
7 years	18.9	37.9
8 years	21.0	36.7
9 years	21.6	36.1
10 years	44.3	50.9
Remote/very remote		
5 years	19.8	51.4
6 years	28.7*	57.3*
7 years	14.3*	40.8*
8 years	19.6*	44.4*
9 years	14.3*	36.2*
10 years	47.7	50.0

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Source: AIHW Dental Statistics Research Unit.

d/dmft

- The d/dmft ratio refers to the proportion of untreated teeth with decay in the population. It shows that Indigenous children have a greater unmet need for dental treatment than non-Indigenous children. Indigenous children had higher levels of untreated decay as a percentage of total caries experience than non-Indigenous children across all age groups (Table 1.11.13). Across all age groups, Indigenous children in Outer cities and remote/very remote areas had markedly higher proportions of d/dmft than non-Indigenous counterparts in Major cities and Inner cities areas.

Table 1.11.13: Children aged 5–10 years with decayed deciduous teeth as a proportion of total children with decayed, missing or filled deciduous teeth (d/dmft), by age and Indigenous status, metropolitan and rural areas, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous	Non-Indigenous
	mean % d/dmft	
Major cities		
5 years	49.8*	28.6*
6 years	41.5	25.4
7 years	49.7*	25.4*
8 years	48.4*	23.9*
9 years	29.8	26.8
10 years	39.3	23.7
Inner cities		
5 years	29.3	31.6
6 years	41.0	29.4
7 years	28.0	29.5
8 years	36.2	27.4
9 years	37.4	29.8
10 years	39.6	22.9
Outer cities		
5 years	70.9	30.2
6 years	54.8	32.1
7 years	36.3	26.4
8 years	45.3*	21.9*
9 years	36.4	22.2
10 years	30.2	17.4
Remote/very remote		
5 years	40.9	26.5
6 years	33.5	17.3
7 years	47.6*	22.3*
8 years	37.8*	17.2*
9 years	43.1	20.4
10 years	27.1	16.7

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Source: AIHW Dental Statistics Research Unit.

Permanent teeth

Mean DMFT

- In New South Wales, South Australia and the Northern Territory, the mean numbers of decayed, filled and missing permanent teeth for Indigenous children aged 6–15 years were higher than for non-Indigenous children at all ages except at age 15 years for filled teeth (Table 1.11.14).
- As with deciduous teeth, children in New South Wales had likely lower mean numbers of decayed, filled or missing permanent teeth than children in South Australia and the Northern Territory.
- Among New South Wales, South Australia and the Northern Territory, Indigenous children in the South Australia had the highest mean number of decayed teeth, while Indigenous children in the Northern Territory had the highest mean number of filled teeth.

Table 1.11.14: Mean number of decayed, missing and filled permanent teeth for children aged 6–15 year, by age and Indigenous status, NSW (2007), SA (2008) and NT (2008)

	New South Wales		South Australia		Northern Territory		NSW, SA & NT	
Age	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
				Decayed				
6 years	0.07	0.08	0.11*	0.04*	0.11	0.03	0.08	0.07
7 years	0.24	0.18	0.18	0.13	0.17	0.09	0.22	0.17
8 years	0.43	0.17	0.35*	0.15*	0.44*	0.07*	0.42*	0.17*
9 years	0.38	0.22	0.46*	0.17*	0.29	0.18	0.37	0.22
10 years	0.56	0.31	0.4*	0.21*	0.27	0.17	0.51	0.29
11 years	0.69	0.32	0.5*	0.28*	0.44*	0.08*	0.64	0.32
12 years	0.66	0.40	0.82*	0.36*	0.51	0.32	0.64	0.41
13 years	. .	. .	0.99*	0.45*	0.97(a)	0.02	0.99(a)	0.48
14 years	. .	. .	1.59*	0.58*	1.06(a)	0.32	1.21(a)	0.62
15 years	. .	. .	1.3*	0.7*	2.2*(b)	0.37*(a)	1.99*(a)	0.74*
				Filled				
6 years	0.01	0.00	0.01	0.01	0.01	0.27	0.00	0.00
7 years	0.02	0.05	0.06	0.03	0.24	0.49	0.08	0.00
8 years	0.04	0.11	0.14	0.08	0.40	0.37	0.05	0.00
9 years	0.12*	0.14*	0.21	0.19	1.10	0.59	0.06	0.01
10 years	0.19	0.23	0.46	0.27*	0.99	1.24	0.02	0.02
11 years	0.47	0.31	0.45	0.40	1.40	1.34	0.08	0.02
12 years	0.43	0.28	0.68	0.59	1.50(a)	1.33(a)	0.06	0.04
13 years	. .	. .	0.72	0.72	1.86(b)	1.66(a)	0.19	0.07

(continued)

Table 1.11.14 (continued): Mean number of decayed, missing and filled permanent teeth for children aged 6–15 year, by age and Indigenous status, NSW (2007), SA (2008) and NT (2008)

	New South Wales		South Australia		Northern Territory		NSW, SA & NT	
Age	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
14 years	. .	. .	1.40	0.89*	1.37(a)	2.31(b)	0.08	0.08
15 years	. .	. .	1.19	1.12	1.44(a)	2.07(b)	0.07	0.10
Missing								
6 years	4.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
7 years	0.13	0.01	0.01	0.00	0.00	0.00	0.08	0.05
8 years	0.06	0.00	0.02	0.00	0.00	0.08	0.12	0.11
9 years	0.07	0.01	0.06	0.00	0.00	0.03	0.30	0.16
10 years	0.02	0.01	0.03	0.01	0.03	0.10	0.33	0.26
11 years	0.08	0.02	0.04	0.02	0.06	0.00	0.60	0.35
12 years	0.03	0.03	0.05	0.04	0.16	0.10	0.69	0.38
13 years	. .	. .	0.05	0.03	0.26	0.55(a)	1.48(a)	0.77
14 years	. .	. .	0.15	0.07	0.03	0.03	1.35	0.96
15 years	. .	. .	0.07	0.06	0.06	0.27	1.36(a)	1.18
Decayed, missing & filled (DMFT)								
6 years	4.00	0.08	0.12	0.05	0.13	0.29	0.09	0.08
7 years	0.39	0.23	0.25*	0.16*	0.41	0.58	0.38	0.23
8 years	0.53	0.28	0.50*	0.24*	0.84	0.52	0.59	0.28
9 years	0.57	0.37	0.74*	0.36*	1.38(a)	0.80	0.73*	0.39*
10 years	0.77	0.55	0.89*	0.50*	1.29	1.51	0.86	0.57
11 years	1.23	0.65	0.99*	0.70*	1.90(a)	1.42	1.32*	0.69*
12 years	1.12	0.72	1.54*	0.99*	2.17(a)	1.76(a)	1.4*	0.82*

(continued)

Table 1.11.14 (continued): Mean number of decayed, missing and filled permanent teeth for children aged 6–15 year, by age and Indigenous status, NSW (2007), SA (2008) and NT (2008)

	New South Wales		South Australia		Northern Territory		NSW, SA & NT	
Age	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
13 years	. .	. .	1.76*	1.20*	3.09[(a)]	2.23[(a)]	2.66*[(b)]	1.33*
14 years	. .	. .	3.15*[(a)]	1.54*	2.46[(b)]	2.65[(b)]	2.65*[(a)]	1.66*
15 years	. .	. .	2.56*[(a)]	1.88*	3.71[(b)]	2.71[(b)]	3.43*[(a)]	2.02*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

Source: AIHW Dental Statistics Research Unit.

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- The mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by residential location is presented in Table 1.11.15. Indigenous children had higher DMFT than non-Indigenous children across all age groups and residential location except children aged 6 and12 years in Inner cities, and children aged 14 years in remote/very remote area.
- Across all age groups, Indigenous children in Outer and Remote/very remote area had greater DMFT than their counterparts in Major and Inner cities. The mean DMFT increased with increasing age for all children.

Table 1.11.15: Mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by residential location, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous	Non-Indigenous	Rate ratio[(a)]	Rate difference[(b)]
Major cities				
6 years	0.08	0.06	1.3	0.0
7 years	0.32	0.22	1.5	0.1
8 years	0.63[(c)]	0.25	2.5	0.4
9 years	0.38	0.35	1.1	0.0
10 years	0.67*[(c)]	0.54*	1.2*	0.1*
11 years	1.18[(c)]	0.65	1.8	0.5
12 years	1.08[(c)]	0.76	1.4	0.3
13 years	1.77[(c)]	1.14	1.6	0.6
14 years	2.98*[(c)]	1.36*	2.2*	1.6*
15 years	1.77[(c)]	1.69	1.0	0.1
Inner cities				
6 years	0.02	0.13	0.2	–0.1
7 years	0.23	0.21	1.1	0.0
8 years	0.39	0.36	1.1	0.0
9 years	0.61	0.45	1.4	0.2
10 years	0.97[(c)]	0.58	1.7	0.4
11 years	1.20[(c)]	0.69	1.7	0.5
12 years	0.73	0.83	0.9	–0.1
13 years	1.48[(c)]	1.36	1.1	0.1
14 years	2.77[(d)]	1.73	1.6	1.0
15 years	2.96[(d)]	2.20	1.3	0.8
Outer cities				
6 years	0.13	0.12	1.1	0.0
7 years	0.55	0.31	1.8	0.2
8 years	0.47	0.31	1.5	0.2
9 years	1.15[(c)]	0.40	2.9	0.8
10 years	0.76	0.68	1.1	0.1
11 years	1.82*[(c)]	0.93*	2.0*	0.9*
12 years	1.75[(c)]	1.07	1.6	0.7
13 years	3.58[(d)]	1.60	2.2	2.0
14 years	3.03[(d)]	1.99	1.5	1.0
15 years	3.66[(d)]	2.20	1.7	1.5

(continued)

Table 1.11.15 (continued): Mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by residential location, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous	Non-Indigenous	Rate ratio[(a)]	Rate difference[(b)]
Remote/very remote				
6 years	0.15	0.09	1.7	0.1
7 years	0.50	0.44	1.1	0.1
8 years	0.99	0.45	2.2	0.5
9 years	1.43*[(c)]	0.6*	2.4*	0.8*
10 years	1.45*	0.68*	2.1*	0.8*
11 years	1.27[(c)]	1.09	1.2	0.2
12 years	2.39[(c)]	2.08[(c)]	1.1	0.3
13 years	2.64[(d)]	1.59[(c)]	1.7	1.1
14 years	2.42[(d)]	2.57[(d)]	0.9	–0.2
15 years	3.78[(d)]	3.00[(d)]	1.3	0.8

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Rate ratio is Indigenous: non-Indigenous.

(b) Rate difference is Indigenous minus non-Indigenous.

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(d) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

Source: AIHW Dental Statistics Research Unit.

The mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by the SEIFA Index of Relative Advantage/Disadvantage is presented in Table 1.11.16.

- There was no clear pattern in mean DMFT by index of disadvantage among Indigenous children aged 6–14 years, however many of the DMFT scores presented in Table 1.11.6 have high Relative Standard Errors due to small numbers and should be treated with caution.
- Across most age groups, Indigenous children had higher mean DMFT than non-Indigenous children in the most disadvantaged categories, while the reverse was true for the least disadvantaged category (SEIFA Category 5).

Table 1.11.16: Mean DMFT for Indigenous and non-Indigenous aged 6–14 years children by SEIFA Index of Relative Advantage/Disadvantage[(a)], NSW (2007), SA (2008), NT (2008) and Tas (2008)

Age	SEIFA index	Indigenous	Non-Indigenous
6 years	1	0.14	0.07
	2	0.03	0.10
	3	0.09	0.08
	4	0.03	0.10
	5	0.00	0.05
7 years	1	0.44	0.30
	2	0.35	0.23
	3	0.43	0.25
	4	0.03	0.14
	5	0.00	0.17
8 years	1	0.88[(b)]	0.38
	2	0.40	0.28
	3	0.45	0.27
	4	0.54[(b)]	0.26
	5	0.02*	0.22*
9 years	1	0.75	0.52
	2	0.79	0.42
	3	0.59[(b)]	0.38
	4	1.45[(c)]	0.34
	5	0.01*	0.24*
10 years	1	0.66	0.67
	2	1.26[(b)]	0.57
	3	0.86[(b)]	0.55
	4	0.94[(c)]	0.55
	5	0.00	0.49
11 years	1	1.31	0.84
	2	1.33[(b)]	0.77
	3	1.46*[(b)]	0.59*
	4	1.11[(c)]	0.61
	5	0.65[(c)]	0.63
12 years	1	1.75[(b)]	0.98
	2	1.27[(b)]	0.87
	3	1.30[(b)]	0.79
	4	0.47[(b)]	0.81
	5	0.50[(b)]	0.65

(continued)

Table 1.11.16 (continued): Mean DMFT for Indigenous and non-Indigenous aged 6–14 years children by SEIFA Index of Relative Disadvantage[(a)], NSW (2007), SA (2008), NT (2008) and Tas (2008)

Age	SEIFA index	Indigenous	Non-Indigenous
13 years	1	2.63(c)	1.51
	2	1.84(c)	1.33
	3	3.57(c)	1.36
	4	2.99*(c)	1.23*
	5	1.33(c)	0.91
14 years	1	2.46(b)	1.88
	2	2.87(c)	1.70
	3	3.27(c)	1.78
	4	4.30(c)	1.33
	5	0.95(b)	1.10

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) 1 = most disadvantaged and 5 = least disadvantaged.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

Source: AIHW Dental Statistics Research Unit.

DMFT= 0

- The proportion of Indigenous children in New South Wales, South Australia, the Northern Territory and Tasmania free of caries in their permanent teeth decreased with increasing age. At each age level, fewer Indigenous children had no caries experience than non-Indigenous children (Table 1.11.17).
- Across all age groups the proportion of children with no evidence of dental disease experience in their permanent teeth was highest among non-Indigenous groups in major cities and among Indigenous in Inner cities (Table 1.11.18). The highest proportion of children who were caries-free in their permanent teeth was non-Indigenous children aged 6 years in outer cities (98.3%). The proportion of children with DMFT = 0 generally decreased with increasing age across Indigenous and non-Indigenous groups.

Table 1.11.17: Proportion of children aged 6–14 years with no decayed, missing or filled permanent teeth (DMFT= 0), by age and Indigenous status, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	New South Wales		South Australia		Northern Territory		Tasmania		NSW, SA, Tas & NT	
Age	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
					No decayed, missing & filled (DMFT= 0)					
6 years	93.58	94.95	92.83*	96.41*	96.17*	86.55*	92.94	94.75	93.89	95.03
7 years	69.43	85.89*	83.21*	89.37*	79.33*	75.69*	70.94*	86.11*	73.42*	86.35*
8 years	75.52	84.00	72.48*	85.11*	68.6*	78.82*	54.48*	79.41*	73.56	83.81
9 years	69.77	78.75	63.11*	78.31*	52.06*	66.33*	62.24*	74.62*	65.83*	78.2*
10 years	60.51	68.77	53.88*	72.4*	41.28*	53.13*	55.40*	68.3*	56.89	69.09
11 years	47.52	68.12	49.67*	65.21*	46.66	48.36	45.06*	57.04*	47.51*	66.49*
12 years	59.53	66.16	41.57*	54.96*	36.7*	48.89*	35.75*	48.58*	52.54	62.59
13 years	n.a.	n.a.	39.27*	51.04*	33.72	32.43	30.08*	46.90*	34.92*	48.98*
14 years	n.a.	n.a.	24.02*	45.63*	38.65	36.85	33.13*	42.89*	34.75	44.47
15 years	n.a.	n.a.	24.69*	39.69*	6.14*	40.72*	19.93*	34.04*	11.19*	38.39*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Source: AIHW Dental Statistics Research Unit.

Table 1.11.18: Proportion of Indigenous and non-Indigenous children aged 6–14 years with DMFT= 0 by residential location NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous	Non-Indigenous
Major cities		
6 years	93.89	95.96
7 years	73.20	86.25
8 years	73.58	85.57
9 years	65.92	79.04
10 years	56.89	68.29
11 years	47.46	68.08
12 years	52.43	63.78
13 years	34.94*	52.22*
14 years	34.75*	49.96*
15 years	11.23	41.68
Inner cities		
6 years	92.53	93.30
7 years	73.49	87.34
8 years	78.37	79.45
9 years	79.02	76.04
10 years	67.33	70.94
11 years	52.20	66.59
12 years	63.43	62.61
13 years	35.49	48.60
14 years	19.53	42.16
15 years	35.09	36.66
Outer cities		
6 years	98.32	92.89
7 years	78.91	84.21
8 years	75.93	84.71
9 years	60.02*	79.71*
10 years	51.67	69.35
11 years	51.54*	58.07*
12 years	69.80	56.99
13 years	50.14*	44.05*
14 years	31.25	39.32
15 years	20.08*	35.35*

(continued)

Table 1.11.18 (continued): Proportion of Indigenous and non-Indigenous children aged 6–14 years with DMFT= 0 by residential location NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous	Non-Indigenous
Remote/very remote		
6 years	91.29	94.93
7 years	63.17	86.12
8 years	69.21	73.90
9 years	52.24	67.87
10 years	53.32*	73.30*
11 years	25.81	56.86
12 years	28.39	41.70
13 years	16.60	44.97
14 years	30.16	33.28
15 years	3.14	34.40

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Source: AIHW Dental Statistics Research Unit.

D/DMFT

- At all ages between 6 and 14 years, there was a higher proportion of Indigenous children with untreated permanent decayed teeth as a percentage of those with decayed, missing or filled teeth (D/DMFT) than non-Indigenous children, except children 6 years in inner cities and children 13 year in remote/very remote area (Table 1.11.19). The differences between Indigenous and non-Indigenous children with untreated permanent decayed teeth were most marked in outer cities.

Table 1.11.19: Children aged 6–14 years with decayed deciduous teeth as a proportion of total children with decayed, missing or filled permament teeth (D/DMFT), by age and Indigenous status, metropolitan and rural areas, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous	Non-Indigenous
Major cities		
6 years	7.47	3.69
7 years	16.55*	10.92*
8 years	18.05*	9.49*
9 years	17.66	14.00
10 years	29.77	16.83
11 years	25.21	15.53
12 years	22.94	18.08
13 years	29.37*	16.18*
14 years	24.08	16.83
15 years	36.69*	19.51*
Inner cities		
6 years	1.42*	6.21*
7 years	20.43	9.67
8 years	20.17	12.56
9 years	23.83	14.19
10 years	29.15	15.35
11 years	20.68	17.8
12 years	20.12	18.18
13 years	29.22	21.51
14 years	39.94	23.33
15 years	32.36	24.71
Outer cities		
6 years	7.64	5.01
7 years	17.92	10.50
8 years	17.84	8.46
9 years	26.73	7.97
10 years	22.42	10.97
11 years	36.61*	15.57*
12 years	35.96*	14.04*
13 years	28.92	15.34
14 years	23.00	22.71
15 years	39.24	19.89

(continued)

Table 1.11.19 (continued): Children aged 6–14 years with decayed deciduous teeth as a proportion of total children with decayed, missing or filled permament teeth (D/DMFT), by age and Indigenous status, metropolitan and rural areas, NSW (2007), SA (2008), NT (2008) and Tas (2008)

	Indigenous	Non-Indigenous
Remote/very remote		
6 years	4.70	0.91
7 years	11.94	2.50
8 years	15.41	13.04
9 years	10.34	6.36
10 years	16.20	6.79
11 years	8.70	5.75
12 years	15.48	13.43
13 years	15.67	15.86
14 years	19.72	16.01
15 years	53.38*	9.06*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Source: AIHW Dental Statistics Research Unit.

dmft and DMFT scores of Indigenous children in remote communities

Data on the oral health of Indigenous children in remote communities come from a study undertaken in 2000–2003 by the Australian Research Centre for Population Oral Health in collaboration with the Far West Area Health Service (New South Wales), the remote Indigenous communities of Nganampa lands (South Australia), and various remote communities around Alice Springs (Northern Territory). There was a total of 831 children in the sample, whose ages ranged from 2 to 16 years.

The mean dmft and DMFT scores of Indigenous children in remote locations by age group are presented in Table 1.11.20. Overall, the mean DMFT score for Indigenous children aged 6–15 years was 1.89 and the mean dmft score for Indigenous children aged 5–10 years was 3.74.

Indigenous children aged 6–9 years had lower mean DMFT score than those in older age groups (0.76 of aged 6–9 years compared with 2.18 and 3.78 of ages 10–14 years and 15 years respectively).

Table 1.11.20: Mean dmft and DMFT scores of remote Indigenous children, by age group, 2008

	Age group			
	5–10 years	**10–14 years**	**15 years**	**All children (5–10 years)**
Mean dmft score (baby teeth)	3.74	n.a.	n.a.	3.74
	6–9 years	**10–14 years**	**15 years**	**All children (6–15 years)**
Mean DMFT score (permanent teeth)	0.76	2.18	3.78	1.89

Notes

1. mean dmft is calculated for children from 5–10 year old children.
2. mean DMFT is calculated for children from 6 and greater than 6 year olds children.

Source: AIHW Dental Statistics Research Unit.

Comparison of remote Indigenous child oral health and state/territory and national dental disease levels

A comparison of caries experience of remote Indigenous children compared with children in South Australia, the Northern Territory and total Australia is shown in Table 1.11.21.

Dental disease experience in primary teeth was greater for remote Indigenous children (dmft = 4.25 for 5–6 years) compared with children in South Australia, the Northern Territory and total Australia (dmft = 2.13 to 2.23 for 5–6 years). The proportion of children with caries in both deciduous and permanent teeth was greater for children living in remote Indigenous communities.

Table 1.11.21: Caries experience of remote Indigenous children compared with South Australia, the Northern Territory and total Australia child populations

Population	mean dmft (5–6 years old)	% dmft > 0 (5–6 year old)	DMFT (12–15 year old)	% DMFT > 0 (12–15 year old)
Remote Indigenous[(a)]	4.25	73.96	2.77	66.58
SA	2.13	48.61	1.43	52.71
NT	2.23	52.78	2.60	65.95
Australia	2.15	49.81	1.46	49.90

(a) Includes remote or very remote.

Source: AIHW Dental Statistics Research Unit.

Comparison of remote Indigenous child oral health and state/territory Indigenous oral health

Indigenous children aged 6 years in remote communities had lowest dmft levels (dmft = 2.34) than non-remote Indigenous children in New South Wales, the Northern Territory and South Australia (Table 1.11.22). However, average DMFT level for Indigenous children aged 12 years in remote communities was highest at 3.82, compared with those in the Northern Territory (DMFT = 2.17), in south Australia (DMFT = 1.54) and lowest among those in New South Wales (DMFT = 1.12).

Table 1.11.22: Remote and state/territory caries experience of Indigenous children

Population	dmft (6 years old)	% dmft > 0	DMFT (12 years old)	% DMFT> 0
Remote Indigenous[(a)]	2.34	68.7	3.82	59.89
NSW Indigenous	2.74	65.2	1.12	40.50
SA Indigenous	4.90	74.5	1.54	58.43
NT Indigenous	3.90	73.1	2.17	63.30

(a) Estimate for remote indigenous is not including NSW.

Source: AIHW Dental Statistics Research Unit.

Dental characteristics of Indigenous children in remote communities

Data on the oral health of Indigenous children in remote communities come from a study undertaken in 2000–2003 by the Australian Research Centre for Population Oral Health in collaboration with the Far West Area Health Service (New South Wales), the remote Indigenous communities of Nganampa lands (South Australia), and various remote communities around Alice Springs (Northern Territory).

Dental characteristics of remote Indigenous children are presented in Table 1.11.23. Almost one-third were classified as 'high caries risk' and just over one-fifth were in the 'moderate' gingivitis risk group. One-quarter had 'moderate' hypoplasia on permanent teeth and one-quarter had 'mild' fluorosis on permanent teeth.

Table 1.11.23: Dental characteristics of remote Indigenous children, 2000–2003

	Number	Per cent
Caries risk status		
Low	366	44.0
Moderate	193	23.2
High	265	31.9
Gingivitis risk status		
Low	541	65.1
Moderate	171	20.6
High	56	6.7
Hypoplasia on permanent teeth		
None	92	25.4
Mild	127	35.1
Moderate	88	24.3
Severe	55	15.2
Fluorosis on permanent teeth		
None	120	58.3
Mild	50	24.3
Moderate	33	16.0
Severe	3	1.5

Source: Jamieson et al. 2007.

Dental characteristics of remote Indigenous children by age group are presented in Table 1.11.24. Less than 4% of children aged less than 5 years brushed their teeth at home, compared with almost one-quarter of those aged 10–14 years (23%). Children aged less than 5 years and 5–9 years were at the highest caries risk (37% and 39% respectively), and those aged 15–16 years were at the highest gingivitis risk (25%). The prevalence of hypoplasia and fluorosis on permanent teeth was higher among children in the older age groups.

Table 1.11.24: Dental characteristics of remote Indigenous children, by age group, 2000–2003

	< 5 years		5–9 years		10–14 years		15–16 years	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Brush teeth school	11	21.2	78	20.5	52	14.6	5	20.8
Brush teeth home	2	3.8	79	20.7	80	22.5	3	12.5
Caries risk status								
Low	28	53.8	130	34.1	192	54.1	10	41.7
Moderate	5	9.6	98	25.7	76	21.4	8	33.3
High	19	36.5	150	39.4	84	23.7	6	25.0
Gingivitis risk status								
Low	38	73.1	290	76.1	198	55.8	8	33.3
Moderate	3	5.8	56	14.7	97	27.3	10	41.7
High	—	—	10	2.6	39	11.0	6	25.0
Hypoplasia on permanent teeth								
None	3	100.0	49	26.1	31	20.0	3	42.9
Mild	—	—	72	38.3	54	34.8	1	14.3
Moderate	—	—	45	23.9	42	27.1	1	14.3
Severe	—	—	22	11.7	28	18.1	2	28.6
Fluorosis on permanent teeth								
None	3	100.0	55	61.8	55	54.5	—	—
Mild	—	—	21	23.6	26	25.7	2	40.0
Moderate	—	—	11	12.4	19	18.8	3	60.0
Severe	—	—	2	2.2	1	1.0	—	—

Source: Jamieson et al. 2007.

Hospitalisations for dental problems

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 66,968 hospitalisations for dental problems, of which 3,224 (5%) were Aboriginal and Torres Strait Islander people.
- Indigenous children aged 0–4 and 5–14 years had higher hospitalisation rates for dental problems (dental caries and tooth extractions) than non-Indigenous children of the same age. Between the ages of 15–24 years and 35–44 years, the hospitalisation rate for dental problems among Indigenous Australians was similar to that of non-Indigenous Australians. Non-Indigenous Australians aged 45 years and over had a higher hospitalisation rate than Indigenous Australians (Table 1.11.25).
- After adjusting for differences in age structure between the two population groups, Indigenous and non-Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised at similar rates for dental problems, 2 per 1,000 and 1.6 per 1,000, respectively (the Crude rates were respective at 3.1 per 1,000 and 1.6 per 1,000) (Table 1.11.25).

Table 1.11.25: Age-specific hospitalisation rates (separations per 1,000 population) for dental problems, by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)]

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+	All ages	
									Crude	Age std.[(d)]
Males										
Indigenous	10.1	6.7	0.5	0.6	0.6	0.5	0.5	0.4	3.2	2.0
Non-Indigenous	4.4	4.5	0.6	0.7	0.8	0.9	1.2	1.1	1.5	1.6
Rate ratio[(e)]	2.3	1.5	0.8	0.8	0.8	0.5	0.4	0.4	2.1	1.3
Rate difference[(f)]	5.8	2.2	–0.1	–0.1	–0.2	–0.4	–0.7	–0.7	1.7	0.4
Females										
Indigenous	8.6	6.3	0.7	0.8	0.8	0.7	0.4	0.2	2.9	1.9
Non-Indigenous	4.1	4.3	0.8	0.7	0.9	1.2	1.3	1.0	1.6	1.6
Rate ratio[(e)]	2.1	1.5	0.9	1.1	0.9	0.6	0.3	0.2	1.9	1.2
Rate difference[(f)]	4.5	2.0	–0.1	0.1	–0.1	–0.5	–0.9	–0.8	1.4	0.3
Persons										
Indigenous	9.4	6.5	0.6	0.7	0.7	0.6	0.4	0.3	3.1	2.0
Non-Indigenous	4.2	4.4	0.7	0.7	0.8	1.0	1.2	1.0	1.6	1.6
Rate ratio[(e)]	2.2	1.5	0.8	1.0	0.8	0.5	0.4	0.3	2.0	1.2
Rate difference[(f)]	5.2	2.1	–0.1	0.0	–0.1	–0.5	–0.8	–0.7	1.5	0.4

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(d) Directly age-standardised using the Australian 2001 standard population.

(e) Rate ratio Indigenous: non-Indigenous Australians.

(f) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Northern Territory Emergency Response Child Health Check Initiative

Over the course of the CHCI (CtG) Program (August 2007 to 30 June 2012), 17,169 dental clinic services were provided through CHCI and then the CHCI (CtG) Program. A total of 9,281 children received dental services, which is approximately 57% of the Indigenous population aged under 16 in the Northern Territory prescribed areas (AIHW 2012).

About 20% of these children's families did not give consent for sharing information with the AIHW, and this accounts for about 13% of services provided. Data are presented for the 7,376 children who received services for whom consent was provided.

Forty-eight per cent of all children, accounting for around one-quarter of all occasions of service, received one dental service (Table 1.11.26). A further 52% of children received two or more occasions of dental services, accounting for around three quarters of total occasions of service.

Table 1.11.26: Number of dental services per child, Indigenous children who had a dental service, August 2007 to June 2012

	Dental services		Children	
Dental services per child with consent	Number	Per cent of all services	Number	Per cent of children
1 dental service[(a)]	3,569	23.8	3,569	48.4
2 or more dental services	11,396	76.2	3,807	51.6
Total services with consent	**14,965**	**100.0**	**7,376**	**100.0**

(a) Where invalid or missing HRN, reported as 1 dental service received.

Note: Data is presented only for children whose families provided consent for sharing detailed information with the AIHW.

Source: AIHW analysis of Child Health Check dental dataset for dental services provided on or before 30 June 2012.

Children aged 6–11 accounted for more than half (55%) of those who received a dental service, as they were more easily accessible through local schools (Table 1.11.27). Less than a quarter of services were provided to very young children (0–5 years), while only a very small proportion of children were aged 16 and over. A similar proportion of males and females received dental services.

Table 1.11.27: Number of Indigenous children who received dental services, by age and sex, August 2007 to June 2012

	Number	Per cent
Age group (years)		
0–5	1,615	21.9
6–11	4,068	55.2
12–15	1,472	20.0
16+	183	2.5
Not recorded	38	0.5
Total	**7,376**	**100.0**
Sex		
Male	3,633	49.3
Female	3,736	50.7
Not recorded	7	0.1
Total	**7,376**	**100.0**

Note: Data is presented only for children whose families provided consent for sharing detailed information with the AIHW. This table reflects the age of children at their most recent dental service.

Source: AIHW analysis of Child Health Check dental dataset for dental services provided on or before 30 June 2012.

Type of dental clinical management

Of the children who attended a dental service, 96% received a diagnostic service. About 79% of children received a preventive service, restorative services (47%) and dental surgery (17%). Only a very small proportion of children received endodontic (2%), periodontic (1%) or other services (<1%). Around one in three children (28%) still required follow-up and/or ongoing clinical services to manage and treat existing dental conditions when they received last dental services in the CHCI (CtG) Program (Table 1.11.28).

Table 1.11.28: Type of clinical dental management received by Indigenous children (per cent), August 2007 to June 2012

Dental services provided	Per cent
Diagnostic	96
Health preventative	79
Restorative	47
Surgery	17
Surgery under general anaesthetic	*4*
Endodontic	2
Periodontic	1
Require follow-up dental services	28
Other	1
Total number of children	**100**

Notes

1. Data include cases where Hospital Record Number (HRN) is unknown.
2. This is a multiple response item. Children may have received more than one treatment.
3. Surgery under general anaesthetic is a subset of surgery.
4. Data is presented only for those children whose parent or guardian provided consent for sharing information with AIHW.

Source: AIHW analysis of Child Health Check dental dataset for dental services provided on or before 30 June 2012.

Oral health problems treated

Among the 7,376 children who received a dental service, 4,393 (60%) were treated for at least one oral health problem. Untreated caries was the most prominent oral health condition, requiring treatment in 52% of children (Table 1.11.29). Mouth infections or sores were treated in 5% of children, as were dental abscesses. Treatments for conditions such as gum disease, abnormal teeth growth, broken or chipped teeth due to trauma and missing teeth were less common. Other dental problems accounted for 15% of treatments provided.

Table 1.11.29: Types of dental problems of Indigenous children that were treated at their last dental check, August 2007 to June 2012

	Total number of children	
Problem treated	**Number**	**Per cent**
Untreated caries	3,863	52.4
Dental abscess	383	5.2
Mouth infection or mouth sore	366	5.0
Gum disease	175	2.4
Broken or chipped teeth due to trauma	88	1.2
Abnormal teeth growth	83	1.1
Missing teeth[(a)]	15	0.2
Other	1,075	14.6
Sub-total number of children treated for at least one dental problem during dental service[(b)]	*4,393*	*59.6*
Sub-total number of children who did not received treatment or no dental health problem diagnosed during dental service	*2,983*	*40.4*
Total number of children who received dental service	**7,376**	**100.0**

(a) Missing teeth are reported as a type of dental problem rather than a problem treated as missing teeth are not replaced.

(b) The sum of the columns does not add up to the sub-total because one child can receive treatment for multiple conditions.

Note: Data is presented only for children whose families provided consent for sharing detailed information with the AIHW.

Source: AIHW analysis of Child Health Check dental dataset for dental services provided on or before 30 June 2012.

Changes in oral health conditions over time

Table 1.11.30 shows changes in the prevalence of the most common oral health conditions among children who received two or more courses of dental care.

- About 52% of children who had more than one course of dental care had at least one oral health problem diagnosed during their first course of care, and this had decreased to 41% by the last course of care.
- At their last course of care, there was a decrease of 12 percentage points for untreated caries and about 5 percentage points for mouth infections or mouth sores. Furthermore, the prevalence of no oral health conditions increased by 12 percentage points between the first and last dental checks.

Table 1.11.30: Changes in oral health conditions among children who received two or more courses of dental care, August 2007 to June 2012

	First course of dental care[a]		Last course of dental care[b]		
Oral health condition[c]	**Number of children**	**Per cent**	**Number of children**	**Per cent**	**Change in prevalence**
Children who received two or more courses of dental care	1,916	100.0	1,916	100.0	n.a.
Children with at least one dental problem	1,003[d]	52.3	778[d]	40.6	–11.7
Untreated caries	961	50.2	733	38.3	–11.9
Mouth infection or mouth sores	118	6.2	24	1.3	–4.9
Other oral health conditions	119	6.2	127	6.6	0.4
Children with no oral health conditions	913	47.7	1,138	59.4	11.7
Total[d]	**1,916**	**100.0**	**1,916**	**100.0**	**n.a.**

(a) Refers to a child’s first dental service and all other services received within 90 days of the first service.

(b) Refers to a child’s last dental service and all other services received up to 90 days prior to the latest service.

(c) Refers to oral health condition treated during any occasion of service in one course of dental care.

(d) Children can be treated for more than one oral health condition, therefore the sum of oral health conditions does not add up to the total of children with at least one oral health condition.

Note: Data is presented only for children whose families provided consent for sharing detailed information with the AIHW.

Source: AIHW analysis of Child Health Check dental dataset for dental services provided on or before 30 June 2012.

Adult oral health

The National Survey of Adult Oral Health collected information on the oral health status, dental care and oral health perceptions of Indigenous and non-Indigenous Australians. This information is presented below.

Oral health status

In 2004–06, approximately 12% of Indigenous persons aged 15 years and over wore dentures, 57% reported untreated coronal decay (compared with 25% of non-Indigenous persons), 8% had untreated root decay and only 4% had no dental decay (compared with 10% of non-Indigenous persons). In addition, 21% of Indigenous persons reported having periodontitis, 21% reported periodontal pockets of depth of 4 mm and 27% reported gingival inflammation (Table 1.11.31).

Table 1.11.31: Oral health status of persons aged 15 years and over, Australia, 2004–06

	Indigenous	Non-Indigenous
	Per cent	
Fewer than 21 teeth[(a)]	10.4[(b)]	11.4
Wear dentures[(a)]	11.5[(b)]	15.0
Untreated coronal decay[(a)]	57.0[(b)]	25.1
Untreated root decay[(a)]	7.7[(c)]	6.7
One or more filled teeth[(a)]	82.5	83.9
No dental decay[(a)]	3.8[(c)]	10.0
Moderate or severe periodontitis[(d)]	29.0[(b)]	22.9
Periodontitis[(d)]	21.2[(b)]	19.0
4mm periodontal pocket depth[(d)]	21.4[(b)]	19.7
2+mm gingival recession[(d)]	56.1[(b)]	52.8
Gingival inflammation[(d)]	26.8[(b)]	19.6

(a) Excludes those with no natural teeth.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

(d) Includes those who were periodontally examined only.

Source: Roberts-Thomson & Do 2007.

DMFT

- In 2004–06, the mean number of decayed, missing or filled teeth for Indigenous adults aged 15 years and over was 14.8, compared with 12.8 for non-Indigenous persons of the same age. The mean numbers of decayed and missing teeth were higher for Indigenous adults across all age groups from 15 to 74 years, and the mean number of filled teeth was higher for non-Indigenous adults in the age groups 35–54 and 55–74 years (Table 1.11.32).
- Overall, a higher percentage of Indigenous persons aged 15 years and over had no natural teeth (7.9%) than non-Indigenous persons aged 15 years and over (6.4%) (Table 1.11.33). This difference is observed in all age groups over 35 years of age and is particularly marked in the 35–54 age group where Indigenous adults were around five times as likely to have no natural teeth as non-Indigenous adults.

Table 1.11.32: Mean number of decayed, missing or filled teeth for adults, by age group and Indigenous status, 2004–06

	Age group				
	15–34	**35–54**	**55–74**	**> 75+**	**All ages (15+)**
Mean no. of decayed teeth					
Indigenous	1.7[(a)]	4.1[(a)]	1.4[(a)]	n.p.	2.7[(a)]
Non-Indigenous	0.9	0.8	0.5	0.6[(b)]	0.8
Mean no. of missing teeth					
Indigenous	4.0[(b)]	7.4[(b)]	13.1[(b)]	n.p.	7.4
Non-Indigenous	3.5	5.3	10.2	14.2	6.1
Mean no. of filled teeth[(c)]					
Indigenous	1.3	4.3	8.8	n.p.	4.7
Non-Indigenous	0.1	8.2	11.5	9.6	5.9
Mean no. of filled tooth surfaces					
Indigenous	8.0[(a)]	15.9[(b)]	26.5[(b)]	n.p.	16.6[(b)]
Non-Indigenous	5.6	24.5	34.7	30.3	19.9
Mean no. of decayed, missing or filled teeth					
Indigenous	7.0[(a)]	15.8	23.3	n.p.	14.8
Non-Indigenous	4.5	14.3	22.2	24.4	12.8

(a) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) No relative standard error estimates for mean number of filled teeth available.

Note: Excludes those with no natural teeth.

Source: Roberts-Thomson & Do 2007.

Table 1.11.33: Persons aged 15 years and over with no natural teeth (complete tooth loss), by Indigenous status, 2004–06

	Indigenous	**Non-Indigenous**
15–34	0.0	0.0
35–54	7.6	1.6
55–74	20.8	13.8
75+	40.4	35.7
Total	**7.9**	**6.4**

Source: Roberts-Thomson & Do 2007.

Dental care

Information on the dental care of Indigenous and non-Indigenous Australians is presented in Table 1.11.34.

- In 2004–06, approximately 51% of Indigenous persons aged 15 years and over reported they had visited a dentist in the last 12 months and 15% reported their last dental visit was at least 5 years ago compared with 60% and 12% of non-Indigenous Australians respectively.
- Indigenous persons were less likely to have attended a private dental practice at the last dental visit (66%), to have paid for their last dental visit (80%), to usually visit a dentist at least once a year (43%), to have a regular dentist (72%) and to usually visit a dentist for a check-up (45%) than non-Indigenous persons (83%, 92%, 53%, 79% and 56% respectively).
- Indigenous Australians were more likely to report that they had avoided or delayed dental care (38%), that cost had prevented recommended dental treatment (34%) and that they would have a lot of difficulty paying a $100 dental bill (27%) than non-Indigenous Australians.

Table 1.11.34: Dental care of Indigenous and non-Indigenous adults, 2004–06

	Indigenous	Non-Indigenous
	Per cent	
Visit dentist in last 12 months	50.7	59.5
Last dental visit at least 5 years ago	14.5[(a)]	11.8
Attended private dental practice at last dental visit	66.2	83.4
Paid for last dental visit[(b)]	79.8	91.5
Usually visit dentist at least once a year[(c)]	43.4	53.3
Have a regular dentist[(d)]	72.1	78.7
Usually visit dentist for check-up	44.6	56.4
Avoided or delayed dental care	37.7	29.9
Reported cost had prevented recommended dental treatment[(e)]	33.7[(a)]	20.5
Would have a lot of difficulty paying $100 dental bill	26.9[(a)]	18.1

(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) People who visited dentist within last 5 years.

(c) Excludes those with no natural teeth.

(d) People who visited dentist in last 5 years. Excludes those with no natural teeth.

(e) People who visited dentist within last 2 years.

Source: Spencer & Harford 2007.

Oral health perceptions

Information on the dental care of Indigenous and non-Indigenous Australians is presented in Table 1.11.35.

- In 2004–06, Indigenous persons were more likely than non-Indigenous Australians to report their oral health as fair or poor (25% compared with 16%), to experience toothache (27% compared with 15%), to need dentures (16% compared with 7%), to need an extraction or filling (49% compared with 33%) and to need oral treatment within 3 months (83% compared with 69%).

Table 1.11.35: Oral health perceptions of Indigenous and non-Indigenous adults, 2004–06

	Indigenous	Non-Indigenous
	Per cent	
Avoid foods due to dental problems	34.9	17.1
Self-assessed fair/poor oral health[(a)]	25.1[(b)]	16.3
Experiences toothache[(a)]	27.0[(b)]	15.0
Experiences orofacial pain	27.1[(b)]	22.5
Needs dentures	15.8[(b)]	7.1
Need an extraction or filling[(a)]	48.8	32.6
Perceive a need for a check-up[(a)]	58.1	59.6
Perceive need for treatment within 3 months[(a)(c)]	82.9	69.1

(a) Excludes those with no natural teeth.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) People who need an extraction or filling.

Source: Harford & Spencer 2007.

NATSIH data

Dental consultations and oral health actions

Information on the dentist consultations and oral health actions of Indigenous Australians was also collected in the 2004–05 NATSIHS and yielded similar findings to the Adult Dental Health Survey. This information is summarised below.

- In 2004–05, approximately 4% of Indigenous Australians and 6% of non-Indigenous Australians aged 2 years and over reported they had visited a dentist in the last two weeks.
- Approximately 89% of Indigenous Australians aged 15 years and over reported they had visited a health professional about their teeth at some point in their lives. A higher proportion of Indigenous people living in remote areas had visited a health professional about their teeth than Indigenous people living in non-remote areas (94% compared with 76%).
- In 2004–05, approximately 10% of Indigenous Australians aged 15 years and over reported wearing dentures and 6% reported they required dentures. A higher proportion of Indigenous Australians in non-remote areas reported wearing dentures than those living in remote areas (12% compared with 5%), whereas a higher proportion of Indigenous people in remote areas reported they required dentures (8%) than those living in non-remote areas (6%).

For more detailed information on oral health actions of Indigenous Australians from the NATSIHS, see the 2006 edition of this report (detailed analyses).

Western Australian Aboriginal Child Health Survey

Dental health problems of Aboriginal children

Information on dental problems among Aboriginal children was collected in the Western Australian Aboriginal Child Health Survey between 2001 and 2002. Carers of Aboriginal children were asked whether their child currently had a number of dental problems including cavities and dental fillings.

- Overall, carers assessed approximately 38% of Aboriginal children aged 0–17 years as having one or more dental problems (tooth decay, tooth removals or fillings). Almost half of children aged 4–17 years had experienced one or more dental problems at the time of the survey (47%). The proportion of children who had dental problems varied by level of relative isolation, with children living in Perth metropolitan areas twice as likely to have tooth decay, a tooth removal or filling (52%) than children living in areas of extreme isolation (25%).
- Carers assessed approximately 19% of Aboriginal children aged 0–17 years as having holes in their teeth. Prevalence of cavities was lowest for children aged 0–3 years (8%) and highest for children aged 4–7 years (31%).
- Around 9% of Aboriginal children were reported to have ever had a tooth removed. Children aged over 3 years were more likely to have had a tooth extraction for dental decay.
- Over one-quarter (28%) of children aged 0–17 years were reported to have had dental fillings. A greater proportion of older children were reported to have ever had a tooth filled than younger children. Less than 1% of children aged 0–3 years had ever had a dental filling compared with around 40% of children aged 8–11 years and 12–17 years.
- An estimated 6% of Aboriginal children aged 0–17 years were reported to have a problem with sore and bleeding gums. The prevalence of sore and bleeding gums was highest for children aged 12–17 years (8%).

Water fluoridation and children's oral health

Water fluoridation is the process of adjusting the level of fluoride in drinking water to achieve a concentration of approximately 1 part per million (ppm). That concentration is effective in preventing decay but it does not cause appreciable levels of dental fluorosis, a discolouration of the enamel that, in severe cases, creates a chalky appearance on the tooth surface. Fluoride reduces dental decay by making teeth less susceptible to the acids formed by micro-organisms living on and around the teeth. Fluoride can also assist in reversing the process of decay once it has begun. Some small communities in Australia have drinking water that contains naturally occurring fluoride in a concentration of around 1 ppm; that concentration is achieved by water fluoridation in most larger communities and cities (Jamieson et al. 2007).

Non-fluoridated water supplies are more likely in rural and remote areas, where a significant proportion of the population is Indigenous, and there is evidence that children in these areas are more likely to have poorer dental health (Armfield 2006). Data from the Child Dental Health Survey showed that children from fluoridated areas had less dental decay than children from non-fluoridated areas (Jamieson et al. 2007). Within each jurisdiction, children from areas with fluoride concentrations at or above 0.7 ppm had fewer dmft per child, on average, than did children residing in areas with relatively low fluoride concentrations. The proportion of Australians who had access to fluoridated water in 2006 ranged from 5% in Queensland to 100% in the Australian Capital Territory (Australian Dental Association 2006).

International comparisons

Information is available on the oral health of Maori children in New Zealand, First Nation children in Canada and Native American children in the United States of America.

Indigenous child oral health in New Zealand

There is no national survey data that describe the oral health status of Maori children in New Zealand. However, regional studies suggest that Maori children experience higher levels of dental disease than non-Maori children (Thomson 1993, cited in Jamieson et al. 2007), and that this disparity is widening (Lee & Dennison 2004; Thomson et al. 2002, cited in Jamieson et al. 2007). In a survey of 3,283 5-year-olds in one region, the proportion of Maori children identified as having dental caries severe enough to warrant treatment under a general anaesthetic was over twice that of non-Maori children (Thomson 1993, cited in Jamieson et al. 2007). Another report found that 66% of children receiving dental care under a general anaesthetic in one region were Maori, and that demand for this form of care was increasing (Broughton 2000; Thomson 1994, cited in Jamieson et al. 2007).

Indigenous child oral health in Canada

Although dental health is improving among Canadian children in the general population, the same cannot be said for First Nation Canadian children. A comparison of two national oral health surveys of First Nation Canadian children conducted in 1990–91 and 1996–97 respectively showed that deft (decayed, extracted, filled deciduous teeth) scores for 6-year-old children had increased from 8.2 to 8.7, and mean dmft scores had increased from 0.7 to 0.8. This was in contrast to the overall Canadian child population in these age groups, where a decrease in dental disease experience was noted (Peressini et al. 2004, cited in Jamieson et al. 2007). Other regional reports of First Nation Canadian child oral health show similar trends (Harrison & Davis 1993; Harrison & White 1997; Klooz 1988, cited in Jamieson et al. 2007).

Indigenous child oral health in the United States of America

Findings from the 1991 Indian Health Service Patient Oral Health Status and Treatment Needs Survey revealed that Native American children experienced a much higher prevalence of dental caries in their primary and permanent teeth than the general US child population (Niendorff & Jones 2000, cited in Jamieson et al. 2007). Grim et al. (1994) reported that of 1,667 public school students dentally examined in Oklahoma, Native American children had over double the dmfs (decayed, missing, and filled surfaces) and DMFS scores of their non-Native American counterparts. The mean dmfs for children aged 5–6 years was 10.4 for Native American children and 5.1 for non-Native American children, and the mean DMFS for children aged 15–17 years was 10.1 for Native American children and 6.0 for non-Native American children (Jamieson et al. 2007). A review of several large-scale oral health epidemiologic surveys found that Native American children had greater caries experience than non-Native American children, with risk factors including rural residence, minimal exposure to fluoride, and coming from less educated or poorer families (Caplan & Weintraub 1993, cited in Jamieson et al. 2007).

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

Child Dental Health Survey

The Child Dental Health Survey monitors the dental health of children enrolled in school dental services that health departments or authorities in each state and territory operate. Therefore, this survey will miss those children not attending these programs. There are some variations among state and territory programs with respect to priority age groups and the nature of the services provided, such as dental examinations, preventive services and restorative treatment. Caution is required in interpreting statistics for those over the age of 12 years, as many programs only include primary school children.

Children in the CDHS were sampled by a number of strategies, using systematic sampling based on selecting children with certain birth dates. The sample has not been specifically designed to measure Indigenous children and therefore caution is needed in interpreting the results. Data on Indigenous status are collected from the patient's treatment card or medical history. Problems have been identified in the accurate recording of Indigenous status in this data (Armfield et al. 2003).

Indigenous status is obtained for all children except those from Western Australia, and the Australian Capital Territory because of incomplete 'Indigenous status' data collected in these jurisdictions. Although Queensland and Victoria collect information on Indigenous status, the small numbers of Aboriginal and Torres Strait Islander children sampled in Victoria and the poor compliance with collection of Indigenous status in Queensland meant that these states were unable to provide reliable statistics. For these reasons, analyses of Aboriginal and Torres Strait Islander and non-Aboriginal and Torres Strait Islander children were confined to collections from New South Wales, South Australia, Tasmania and the Northern Territory only. It is important to note that there was no service provision for pre-school children for South Australia and the Northern Territory.

The latest available data for Indigenous children is for 2007 for New South Wales and 2008 for South Australia, Tasmania and the Northern Territory.

Indigenous Child Oral Health in Remote Communities Study

Indigenous child oral health data were collected from remote Indigenous communities in all jurisdictions in the 2000–2003 period. Dental health professionals providing services to these communities collected the data. Because of issues of confidentiality, specific location details were unable to be included in the analysis. The sample included 831 Indigenous children aged 2–16 years. The sample was equally distributed by sex.

National Survey of Adult Oral Health

The 2004–06 National Survey of Adult Oral Health included computer-assisted telephone interviews with 14,123 people aged 15–97 years, 5,505 of which were also dentally examined. The survey included 229 people who identified as Aboriginal or Torres Strait Islander (1.6%). Indigenous identity was based on responses to the question 'Are you of Aboriginal or Torres Strait Islander origin?' People who responded 'yes, Aboriginal', 'yes, Torres Strait Islander' or 'yes, Torres Strait Islander & Aboriginal' were classified as Indigenous. People who responded 'no' were classified as non-Indigenous. Twelve interviewees did not respond or said 'don't know' and they were excluded from estimates for the two subgroups. Results of Indigenous Australians should be interpreted with care because of the small sample size.

Under-identification

Also, the survey had a higher percentage of people that identified themselves as non-Indigenous compared to the general population. This is explained by the fact that a greater percentage of respondents did not state their Indigenous identity.

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas.

The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

Northern Territory Emergency Response Child Health Check Initiative – dental data collection

Data coverage for the CHCI Dental data collection is limited to data collected from the dental services provided by the NT DHF and six Aboriginal Community Controlled Health Organisations (ACCHOs) that received funding from the Australian government. However, the data from ACCHOs has not been complete. Furthermore, the scope of this collection is limited to children between the ages of 0 and 15 at the time of their dental check, unless they had received a previous health check at which they had been aged 15 years or less.

It should be also noted that some children who received the dental services did not give consent for sharing their oral health information with the AIHW. As such, the NTER CHCI data in this indicator are only derived from dental service information for which consent was obtained.

When interpreting data from this collection, it should be noted that the children who received a dental check were not a random sample. Firstly, dental checks were only provided to children who volunteered for them. Secondly, although all Indigenous children in prescribed areas of the Northern Territory were eligible to receive a CHCI Dental check, children with dental referrals from the CHC data collection were targeted for follow-up by the dental outreach teams. Thus, the findings from the Dental data collection are not representative of the Northern Territory Indigenous child population or the Indigenous population of children within prescribed areas of the NTER CHCI. More information about data quality and interpretation can be found in Appendix G of *Northern Territory Emergency Response Child Health Check Initiative: follow-up services for oral and ear health, final report, August 2007–June 2012* (AIHW 2012).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially ‘as reported’ by respondents. The Australian Bureau of Statistics (ABS) makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators.

Nevertheless, imperfect recall or individual interpretation of survey questions may affect some responses.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities* and *Regional and remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.

In remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

Western Australian Aboriginal Child Health Survey

Survey data are subject to sampling and non-sampling errors. Confidence intervals are published with the data to provide a guide to the reliability of the estimates. Non-sampling errors can occur in surveys owing to questionnaire design problems, respondent difficulty recalling information/lack of appropriate records, and errors made in the recording and processing of the data. Every effort was made to minimise non-sample errors in this survey.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

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1.12 HIV/AIDS, hepatitis and sexually transmissible infections

The rate of notified sexually transmissible infections (STIs) for chlamydia, gonorrhoea, syphilis, hepatitis C, hepatitis B and HIV/AIDS for Aboriginal and Torres Strait Islander people expressed as a rate by age group, sex, age-standardised rate and ratio

Data sources

Data are available from the National Notifiable Diseases Surveillance System held at the Department of Health and Ageing, and the National AIDS Registry. The National HIV database was held at the Kirby Institute for Infection and immunity in society which was formerly known as National Centre in HIV Epidemiology and Clinical Research (NCHECR).

National Notifiable Diseases Surveillance System

A set of 65 diseases and conditions are notifiable nationally to the National Notifiable Diseases Surveillance System (NNDSS), which is managed by the Australian Government Department of Health and Ageing.

Although data on hepatitis C is included in this indicator, sexual transmission is not considered the main route of transmission, hepatitis C primarily occurs among those with a history of injecting drug use. Data for hepatitis C included in this indicator are for 'newly acquired' and 'unspecified' notifications.

Three years have been combined for reporting due to the small number of Indigenous and non-Indigenous notifications for some STIs each year.

Other Australians includes notifications for non-Indigenous Australians and those for whom Indigenous status is not stated.

National Centre in HIV Epidemiology and Clinical Research

Notifications of HIV infections are forwarded to the National Centre in HIV Epidemiology and Clinical Research (NCHECR).

Notifications for which Indigenous status was not reported have been included with notifications data for non-Indigenous people under the 'other' category.

Data are presented for the 3-year period 2008–2010 because notifications of some diseases are too small to present for a single year.

Analyses

Age-standardised rates and ratios have been used as a measure of morbidity in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of other Australians, taking into account differences in age distributions.

Notification rates by age and sex

Chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B

Age-specific notification rates for chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B are presented in Table 1.12.1.

- During the 3-year period, from 2009–2011, there were approximately 19,000 notifications for Chlamydia, approximately 1,000 notifications for syphilis , and approximately 11,000 notifications for Gonorrhoea among Indigenous Australians in the jurisdictions with adequate Indigenous identification for these diseases. For the same period, there were approximately 500 new notifications for hepatitis B and 700 notifications for hepatitis C among Indigenous Australians.
- For the 3-year period 2009–2011, in states/territories where Indigenous status for chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B patients were available and significant to report, the notification rates among Indigenous persons were higher than among other persons across all age groups, except for rates of gonorrhoea in females aged 65+, hepatitis C in males aged 65+ and females aged 0–14, and hepatitis B in males aged 0–14.
- Among these diseases, chlamydia was the most frequently reported condition among Indigenous and other persons for the 3-year period 2009–2011.
- Rates for chlamydia and gonorrhoea were highest among persons aged 15–24 years for both Indigenous and other Australians. Rates of syphilis were highest among those aged 35–44 years, and rates of hepatitis B were highest among those aged 25–34 years for both Indigenous and other Australians. Rates of hepatitis C were highest among Indigenous persons aged 55–64, and among other Australians were highest among those aged 25–34 years.
- Rate ratios between Indigenous and Other Australians were generally highest among males and females aged 0–14 years for chlamydia, syphilis and gonorrhoea. Chlamydia notification rates among Indigenous males and females aged 0–14 years were respectively 28 and 16 times the rates for other males and females; syphilis notification rates were respectively 18 and 44 times as high; gonorrhoea notification rates were respective 112 and 122 times as high. For hepatitis C among females and hepatitis B among males, a higher rate for other Australians than Indigenous Australians was observed for the 0–14 year age group.
- Rate differences were highest among Indigenous males and females aged 15–24 years for Chlamydia and Gonorrhoea. For syphilis, rate differences were highest among Indigenous males and females aged 35–44 years.

Table 1.12.1: Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B, by Indigenous status and sex, 2009–2011(a)(b)

	Males				Females				Persons			
	Indig.	Other(c)	Rate ratio(d)(e)	Rate difference(d)	Indig.	Other(c)	Rate ratio(d)(e)	Rate difference(d)	Indig.	Other(c)	Rate ratio(d)(e)	Rate difference(d)
						Chlamydia(f)						
0–14	68.3	2.5	27.5*	65.8*	322.2	19.6	16.4*	302.6*	192.8	10.9	17.7*	181.9*
15–24	3,597.9	1,003.8	3.6*	2,594.1*	7,351.7	2,052.5	3.6*	5,299.2*	5,433.8	1,514.4	3.6*	3,919.4*
25–34	1,651.9	593.0	2.8*	1,058.9*	2,519.8	592.4	4.3*	1,927.4*	2,087.8	593.9	3.5*	1,493.9*
35–44	535.8	181.3	3.0*	354.5*	708.2	125.0	5.7*	583.2*	625.0	153.2	4.1*	471.8*
45–54	192.8	83.2	2.3*	109.6*	182.7	33.2	5.5*	149.5*	187.6	58.1	3.2*	129.5*
55–64	82.1	34.6	2.4*	47.5*	60.7	8.9	6.9*	51.8*	70.7	21.7	3.3*	49.0*
65+	43.5	9.0	4.8*	34.5*	22.8	1.6	14.1*	21.2*	31.6	5.2	6.0*	26.4*
Total age standardised(c)(m)	**863.6**	**263.4**	**3.3***	**600.2***	**1,565.3**	**394.7**	**4.0***	**1,170.6***	**1,208.2**	**327.3**	**3.7***	**880.9***
						Syphilis(g)						
0–14	2.0	0.1	17.5*	1.9*	4.5	0.1	43.7*	4.4*	3.4	0.1	31.2*	3.3*
15–24	71.3	10.8	6.6*	60.5*	79.9	3.3	24.5*	76.6*	75.8	7.2	10.5*	68.6*
25–34	109.7	26.3	4.2*	83.4*	79.6	7.6	10.5*	72.0*	94.6	17.1	5.5*	77.5*
35–44	143.0	30.2	4.7*	112.8*	89.0	5.5	16.2*	83.5*	114.9	17.9	6.4*	97.0*
45–54	128.0	24.0	5.3*	104.0*	84.7	3.3	25.4*	81.4*	105.4	13.6	7.7*	91.8*
55–64	94.7	14.4	6.6*	80.3*	97.5	3.0	32.7*	94.5*	97.3	8.7	11.2*	88.6*
65+	110.3	12.5	8.8*	97.8*	77.8	5.8	13.4*	72.0*	91.8	8.9	10.4*	82.9*
Total age standardised(c)(m)	**88.8**	**16.2**	**5.5***	**72.6***	**68.0**	**3.9**	**17.6***	**64.1***	**78.0**	**10.0**	**7.8***	**68.0***

(continued)

Table 1.12.1 (continued): Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B, by Indigenous status and sex, 2009–2011[a][b]

	Males				Females				Persons			
	Indig.	Other[c]	Rate ratio[d][e]	Rate difference[d]	Indig.	Other[c]	Rate ratio[d][e]	Rate difference[d]	Indig.	Other[c]	Rate ratio[d][e]	Rate difference[d]
						Gonorrhoea[h]						
0–14	42.7	0.4	112.3*	42.3*	184.3	1.5	122.3*	182.8*	112.1	1.0	117.7*	111.1*
15–24	2,363.8	94.5	25.0*	2,269.3*	3,181.0	46.4	68.6*	3,134.6*	2,763.9	71.5	38.7*	2,692.4*
25–34	1,752.8	98.4	17.8*	1,654.4*	1,596.8	21.1	75.6*	1,575.7*	1,675.3	60.4	27.8*	1,614.9*
35–44	665.9	59.8	11.1*	606.1*	473.1	8.6	54.9*	464.5*	566.1	34.2	16.6*	531.9*
45–54	232.9	34.6	6.7*	198.3*	109.7	4.2	26.0*	105.5*	168.7	19.3	8.7*	149.4*
55–64	81.0	17.2	4.7*	63.8*	21.0	2.1	10.1*	18.9*	49.3	9.6	5.1*	39.7*
65+	6.2	3.9	1.6	2.3	0.0	0.5	0.0	–0.5	2.6	2.0	1.3	0.6
Total age standardised[c][m]	**727.5**	**43.0**	**16.9***	**684.5***	**791.8**	**11.9**	**66.7***	**779.9***	**757.1**	**27.6**	**27.4***	**729.5***
						Hepatitis C[i][j]						
0–14	4.9	0.8	6.2*	4.1*	0.0	1.0	0.0*	–1.0	2.5	0.9	2.8*	1.6*
15–24	174.3	27.0	6.5*	147.3*	105.8	29.7	3.6*	76.1*	140.8	28.3	5.0*	112.5*
25–34	319.5	93.3	3.4*	226.2*	212.5	59.8	3.6*	152.7*	265.7	77.0	3.5*	188.7*
35–44	343.8	102.5	3.4*	241.3*	181.8	50.0	3.6*	131.8*	260.1	76.5	3.4*	183.6*
45–54	179.0	102.4	1.7*	76.6*	126.1	48.0	2.6*	78.1*	151.5	75.2	2.0*	76.3*
55–64	68.7	41.6	1.7	27.1	55.0	17.2	3.2*	37.8*	61.4	29.4	2.1*	32.0*
65+	0.0	8.3	0.0	–8.3	9.0	5.9	1.5	3.1	5.2	7.0	0.8	–1.8
Total age standardised[c][m]	**155.2**	**52.5**	**3.0***	**102.7***	**97.6**	**29.6**	**3.3***	**68.0***	**126.0**	**41.2**	**3.1***	**84.8***

(continued)

Table 1.12.1 (continued): Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B, by Indigenous status and sex, 2009–2011[(a)(b)]

	Males				Females				Persons			
	Indig.	Other[(c)]	Rate ratio[(d)(e)]	Rate difference[(d)]	Indig.	Other[(c)]	Rate ratio[(d)(e)]	Rate difference[(d)]	Indig.	Other[(c)]	Rate ratio[(d)(e)]	Rate difference[(d)]
						Hepatitis B[(k)(l)]						
0–14	1.9	5.2	0.4	–3.3	6.0	3.5	1.7	2.5	3.9	4.4	0.9	–0.5
15–24	58.7	33.3	1.8*	25.4*	50.0	27.5	1.8*	22.5*	54.5	30.6	1.8*	23.9*
25–34	146.8	69.1	2.1*	77.7*	83.9	64.8	1.3	19.1	115.3	67.0	1.7*	48.3*
35–44	192.3	53.2	3.6*	139.1*	108.9	33.5	3.2*	75.4*	149.2	43.4	3.4*	105.8*
45–54	156.4	38.6	4.1*	117.8*	99.2	22.4	4.4*	76.8*	126.6	30.5	4.2*	96.1*
55–64	214.3	23.3	9.2*	191.0*	191.4	13.0	14.8*	178.4*	202.2	18.1	11.2*	184.1*
65+	247.0	9.7	25.4*	237.3*	160.3	5.5	29.0*	154.8*	196.6	7.5	26.3*	189.1*
Total age standardised[(c)(m)]	**132.2**	**32.8**	**4.0***	**99.4***	**88.7**	**24.1**	**3.7***	**64.6***	**109.1**	**28.5**	**3.8***	**80.6***

* Represents results with statistically significant differences in the Indigenous/Other Australian comparisons at the $p < 0.05$ level.

(a) Calender year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.

(c) Includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.

(d) Rate ratio is Indigenous: Other. Rate difference is Indigenous: Other.

(e) Because of the very high rates of syphilis and gonorrhoea in the Indigenous population and low rates of these STIs in the other population, rate ratios are large and may vary between reports, as fairly minor changes in rates can result in large changes in the resulting ratios.

(f) Data are reported for Vic, Qld, WA, SA, Tas and the NT. These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(g) Data are reported for Australia. All eight jurisdictions are considered to have adequate levels of Indigenous identification in these data. NSW syphilis data excludes the category < 2 years duration due to low completeness of Indigenous status for this data category.

(h) Data are reported for Vic, Qld, WA, SA, Tas, the ACT and the NT. These seven jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(i) Data are reported for WA, SA, Tas and the NT. These four jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(j) Hepatitis C data includes 'newly acquired' and 'unspecified' infections identified under two disease codes '040' and '053'.

(k) Data are reported for WA, SA, Tas, the ACT and the NT. These five jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(l) Hepatitis B data includes 'newly acquired' and 'unspecified' infections identified under two disease codes '039' and '052'.

(m) Directly age-standardised using the Australian 2001 standard population using age 5 year age groups up to 65+.

Source: AIHW analyses of NNDSS data.

Notification rates by state/territory

Notification rates for chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B for the period 2009–2011 for selected states and territories with adequate identification of Indigenous notifications are presented in Table 1.12.2.

Chlamydia

- For the period 2009–2011, there were 161,055 notifications of chlamydia in Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, 11.6% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people ranged from less than 1% in Victoria to 57% in the Northern Territory.
- Notification rates of chlamydia among Indigenous persons were about four times that of other persons.
- Notification rates of Chlamydia were highest for Indigenous persons in the Northern territory followed Western Australia and Queensland.
- Rate ratios for chlamydia were highest in Queensland and Western Australia for both males (3.4 in Western Australia, 3.3 in Queensland) and females (4.0 in Western Australia, 4.1 in Queensland), and lowest in Tasmania (0.2 for males and 0.4 for females).

Syphilis

- For the period 2009–2011, there were 7,648 notifications of syphilis in Australia, 14% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people was largest in the Northern Territory (75%).
- The notification rate for syphilis among Indigenous persons was nearly 8 times the rate for other persons.
- Notification rates for syphilis were highest for Indigenous persons in the Northern territory (177 per 100,000) followed by Queensland (123 per 100,000) and Western Australia (73 per 100,000).
- The rates for syphilis among Indigenous males and females were higher than those among other males and females in all states/territories, except males in Tasmania. Rate ratios were highest in South Australia for males (14.5) and females (36).
- Notification rates for syphilis among Indigenous males and females were close (89 and 68 per 100,000 respectively); however the notification rate for other males was four times the rate for other females (16.2 compared with 3.9). This, in general, indicates that syphilis infections occur predominately through heterosexual contact in the Indigenous population, whereas in the other population transmission is generally through men who have sex with men (NCHECR 2010).

Gonorrhoea

- For the period 2009–2011, there were 23,390 notifications of gonorrhoea in Victoria, Queensland, Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory combined, 48% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people was largest in the Northern Territory (92%) followed by Western Australia (63%).

- Notification rates of gonorrhoea among Indigenous males and females were 17 and 67 times the rates of other males and females respectively.
- Notification rates for gonorrhoea were highest for Indigenous persons in the Northern territory (2,001 per 100,000) followed by Western Australia (1,008 per 100,000).
- Rates of gonorrhoea among Indigenous females were much higher than among other females in Western Australia and South Australia (87 times as high). Rate ratios for males were 28 and 26 for these jurisdictions respectively.
- Notification rates for gonorrhoea among Indigenous males and females were close (728 and 792 per 100,000 respectively); however the notification rate for other males was around four times the rate for other females (43 compared with 12). This, in general, indicates that gonorrhoea infections occur predominately through heterosexual contact in the Indigenous population, whereas in the other population transmission is generally through men who have sex with men (NCHECR 2010).

Hepatitis C

- For the period 2009–2011, there were 6,159 notifications of hepatitis C in Western Australia, South Australia, Tasmania and the Northern Territory combined, 11.4% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people was largest in the Northern Territory (18%).
- Indigenous males and females were around 3 times as likely to contract hepatitis C as other males and females.
- Notification rates for hepatitis C were highest for Indigenous persons in South Australia (194 per 100,000) followed by Western Australia (185 per 100,000).
- Rate ratios of hepatitis C notifications were highest in South Australia for both males and females (5.9 7.4 respectively).

Hepatitis B

- For the period 2009–2011, there were 4,527 notifications of hepatitis B in Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory combined, 10% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people was largest in the Northern Territory (48%).
- Indigenous males and females were around 4 times as likely to contract hepatitis B as other males and females.
- Notification rates for hepatitis B were highest for Indigenous persons in the Northern Territory (161 per 100,000) followed by South Australia (117 per 100,000).
- Rate for hepatitis B among Indigenous males and females were higher than those among other males and females an all states/territories, except females in Tasmania.

Table 1.12.2: Notification rates for Chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B, by Indigenous status and state/territory, 2009–2011[a][b]

				Males				**Females**				**Persons**			
		Proportion		**Rate per 100,000[c]**				**Rate per 100,000[c]**				**Rate per 100,000[c]**			
	No.	**Indig.**	**Other[d]**	**Indig.**	**Other[d]**	**Rate ratio[e][f]**	**Rate difference[e]**	**Indig.**	**Other[d]**	**Rate ratio[e][f]**	**Rate difference[e]**	**Indig.**	**Other[c]**	**Rate ratio[e][f]**	**Rate difference[e]**
								Chlamydia[g]							
Vic	49,516	0.7	99.3	158.1	241.2	0.7*	–83.1*	280.1	337.9	0.8*	–57.8*	219.6	288.6	0.8*	–69.0*
Qld	54,559	15.7	84.3	893.9	270.1	3.3*	623.7*	1,784.0	431.8	4.1*	1,352.1*	1,329.7	349.1	3.8*	980.7*
WA	30,689	14.5	85.5	1,068.1	316.3	3.4*	751.8*	1,845.3	457.2	4.0*	1,388.1*	1,444.4	383.5	3.8*	1,060.8*
SA	13,214	5.9	94.1	526.9	212.0	2.5*	315.0*	815.4	326.4	2.5*	489.0*	670.6	267.5	2.5*	403.1*
Tas	5,244	2.1	97.9	60.0	276.2	0.2*	–216.2*	184.5	510.7	0.4*	–326.2*	121.5	391.4	0.3*	–269.9*
NT	7,833	56.7	43.3	1,307.7	527.6	2.5*	780.1*	2,175.3	804.6	2.7*	1,370.7*	1,735.6	657.5	2.6*	1,078.1*
Vic, Qld, WA, SA, Tas & NT	**161,055**	**11.6**	**88.4**	**863.6**	**263.4**	**3.3***	**600.2***	**1,565.3**	**394.7**	**4.0***	**1,170.6***	**1,208.2**	**327.3**	**3.7***	**880.9***
								Syphilis[h]							
NSW	2,428	3.8	96.2	29.9	18.6	1.6*	11.3*	22.2	3.5	6.3*	18.7*	25.8	11.0	2.3*	14.7*
Syphilis < 2 years	*1,370*	*1.7*	*98.3*	*n.p.*	*n.p.*	*n.p.*	..	*n.p.*	*n.p.*	*n.p.*	..	*n.p.*	*n.p.*	*n.p.*	*n.p.*
Syphilis > 2 years or unspecified duration	*1,048*	*6.5*	*93.5*	*22.0*	*5.9*	*3.7**	*16.0**	*18.7*	*3.0*	*6.2**	*15.7**	*20.1*	*4.5*	*4.5**	*15.6**
Vic	2,542	0.9	99.1	35.8	23.6	1.5	12.2	17.9	6.2	2.9*	11.7*	28.8	14.9	1.9*	13.9*
Qld	1,441	32.9	67.1	147.1	11.8	12.5*	135.3*	101.8	3.0	33.6*	98.7*	123.2	7.4	16.7*	115.8*
WA	562	25.6	74.4	79.9	9.5	8.4*	70.4*	66.9	2.8	23.7*	64.0*	72.6	6.2	11.7*	66.3*
SA	130	20.8	79.2	51.0	3.5	14.5*	47.5*	26.0	0.7	36.0*	25.2*	38.0	2.1	17.9*	35.9*
Tas	75	5.3	94.7	0.0	7.9	0.0	–7.9	16.2	2.3	7.1*	14.0*	8.8	5.1	1.7	3.7
ACT	95	4.2	95.8	26.1	12.7	2.0*	13.3*	41.8	4.4	9.5	37.4	33.1	8.5	3.9*	24.6*
NT	375	74.7	25.3	191.9	26.8	7.2*	165.1*	165.2	9.9	16.6*	155.3*	177.3	19.0	9.3*	158.3*

(continued)

Table 1.12.2 (continued): Notification rates for Chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B, by Indigenous status and state/territory, 2009–2011[a][b]

				Males				Females				Persons			
		Proportion		Rate per 100,000[c]				Rate per 100,000[c]				Rate per 100,000[c]			
	No.	Indig.	Other[d]	Indig.	Other[d]	Rate ratio[e][f]	Rate difference[e]	Indig.	Other[d]	Rate ratio[e][f]	Rate difference[e]	Indig.	Other[c]	Rate ratio[e][f]	Rate difference[e]
Syphilis[h]															
Australia	**7,648**	**13.7**	**86.3**	**88.8**	**16.2**	**5.5***	**72.6***	**68.0**	**3.9**	**17.6***	**64.1***	**78.0**	**10.0**	**7.8***	**68.0***
Gonorrhoea[i]															
Vic	5,114	0.7	99.3	35.3	50.3	0.7	–14.9	21.6	9.9	2.2*	11.7*	28.3	30.3	0.9	–1.9
Qld	6,605	38.3	61.7	355.9	45.9	7.8*	310.0*	444.6	16.1	27.6*	428.4*	398.9	31.2	12.8*	367.7*
WA	4,554	63.8	36.2	1,014.4	36.3	28.0*	978.2*	1,008.1	11.6	87.2*	996.6*	1,008.6	24.3	41.6*	984.3*
SA	1,281	47.8	52.2	575.7	22.2	25.9*	553.4*	573.3	6.6	87.4*	566.7*	573.0	14.5	39.7*	558.6*
Tas	60	1.7	98.3	2.1	7.6	0.3	–5.5	0.0	1.4	0.0	–1.4	1.1	4.5	0.3	–3.4
ACT	239	2.5	97.5	72.5	33.0	2.2*	39.5*	0.0	6.0	0.0	–6.0	37.5	19.7	1.9*	17.8*
NT	5,537	91.7	8.3	1,908.2	117.6	16.2*	1,790.6*	2,111.7	63.2	33.4*	2,048.5*	2,000.8	91.9	21.8*	1,909.0*
Vic, Qld, WA, SA, Tas, ACT & NT	**23,390**	**47.7**	**52.3**	**727.5**	**43.0**	**16.9***	**684.5***	**791.8**	**11.9**	**66.7***	**779.9***	**757.1**	**27.6**	**24.7***	**729.4***
Hepatitis C[j][k]															
WA	3,293	12.8	87.2	246.3	55.1	4.5*	191.2*	123.0	30.4	4.0*	92.6*	184.5	42.9	4.3*	141.6*
SA	1,543	9.9	90.1	215.9	36.3	5.9*	179.6*	172.0	23.4	7.4*	148.7*	193.9	29.8	6.5*	164.1*
Tas	774	4.4	95.6	75.1	72.6	1.0	2.5	60.9	40.3	1.5	20.6	67.6	56.1	1.2	11.4
NT	549	17.5	82.5	51.0	113.2	0.5*	–62.2*	52.1	52.5	1.0	–0.4	51.9	84.5	0.6*	–32.6*
WA, SA, Tas & NT	**6,159**	**11.4**	**88.6**	**155.2**	**52.5**	**3.0***	**102.7***	**97.6**	**29.6**	**3.3***	**68.0***	**126.0**	**41.2**	**3.1***	**84.8***

(continued)

Table 1.12.2 (continued): Notification rates for Chlamydia, syphilis, gonorrhoea, hepatitis C and hepatitis B, by Indigenous status and state/territory, 2009–2011(a)(b)

				Males				Females				Persons			
		Proportion		Rate per 100,000(c)				Rate per 100,000(c)				Rate per 100,000(c)			
	No.	Indig.	Other(d)	Indig.	Other(d)	Rate ratio(e)(f)	Rate difference(e)	Indig.	Other(d)	Rate ratio(e)(f)	Rate difference(e)	Indig.	Other(c)	Rate ratio(e)(f)	Rate difference(e)
								Hepatitis B(l)(m)							
WA	2,235	6.4	93.6	130.0	37.5	3.5*	92.5*	55.9	25.1	2.2*	30.9*	90.8	31.4	2.9*	59.5*
SA	1,300	5.5	94.5	147.3	28.2	5.2*	119.1*	91.1	24.9	3.7*	66.3*	116.8	26.5	4.4*	90.3*
Tas	195	2.6	97.4	17.7	16.7	1.1	1.0	4.4	13.0	0.3	–8.6	10.8	14.9	0.7	–4.1
ACT	296	2.0	98.0	40.9	29.9	1.4	11.1	24.7	22.3	1.1	2.4	33.4	26.1	1.3	7.3
NT	501	47.9	52.1	170.0	59.2	2.9*	110.9*	151.5	40.9	3.7*	110.6*	160.5	50.5	3.2*	110.0*
WA, SA, Tas, ACT & NT	**4,527**	**10.3**	**89.7**	**132.2**	**32.8**	**4.0***	**99.4***	**88.7**	**24.1**	**3.7***	**64.6***	**109.1**	**28.5**	**3.8***	**80.6***

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the p < 0.05 level.

(a) Calender year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.

(c) Directly age-standardised using the Australian 2001 standard population using age 5 year age groups up to 65+.

(d) Includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.

(e) Rate ratio is Indigenous: Other. Rate difference is Indigenous: Other.

(f) Because of the very high rates of syphilis and gonorrhoea in the Indigenous population and low rates of these STIs in the other population, rate ratios are large and may vary between reports, as fairly minor changes in rates can result in large changes in the resulting ratios.

(g) Data are reported for Vic, Qld, WA, SA, Tas and the NT. These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure

(h) Data are reported for Australia. All eight jurisdictions are considered to have adequate levels of Indigenous identification in these data. NSW syphilis data excludes the category < 2 years duration due to low completeness of Indigenous status for this data category.

(i) Data are reported for Vic, Qld, WA, SA, Tas, the ACT and the NT. These seven jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(j) Data are reported for WA, SA, Tas and the NT. These four jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(k) Hepatitis C data includes 'newly acquired' and 'unspecified' infections identified under two disease codes '040' and '053'.

(l) Data are reported for WA, SA, Tas, the ACT and the NT. These five jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(m) Hepatitis B data includes 'newly acquired' and 'unspecified' infections identified under two disease codes '039' and '052'.

Source: AIHW analyses of NNDSS data.

Time series analysis

Notification rates, rate ratios and rate differences between Indigenous and other Australians for syphilis, chlamydia and gonorrhoea for the period 1994–1996 to 2009–2011, hepatitis C for the period 1995–1996 to 2009–2011 and hepatitis B for the period 2005–2006 to 2009–2011 are presented in the following tables and figures. Data are presented in 2- to 3-year groupings because of the small number of notifications each year.

In interpreting these data it is important to note that changes in notifications over time may not solely reflect changes in disease prevalence or incidence. Changes in testing policies; screening programs, including the preferential testing of high risk populations; the use of less invasive and more sensitive diagnostic tests; and periodic awareness campaigns, may influence the number of notifications that occur over time.

Chlamydia

- During the period 1994–1996 to 2009–2011 in Western Australia, South Australia and the Northern Territory combined, there were significant increases in notification rates for chlamydia among Indigenous Australians. An average yearly increase in the age-standardised rate of around 64 per 100,000 was observed. This is equivalent to a 212% increase in the age-standardised rate over the period (Table 1.12.3). Significant increases in age-standardised rates for chlamydia were evident for both Indigenous males and females.
- There were also significant increases in notification rates for chlamydia among other Australian males and females during the same period (605% increase for males and 637% increase for females) (Table 1.12.3).
- Notification rate ratios between Indigenous and other Australians for chlamydia decreased significantly around 0.4 annually over the period. This is equivalent to a 67% decrease (Figure 1.12.1).
- Although rate ratios showed a decrease over the period, the difference in notification rates between Indigenous and other Australians increased significantly for both males and females.

Table 1.12.3: Age-standardised notification rates, rate ratios and rate differences for Chlamydia[(a)], WA, SA and NT, 1994–96 to 2009–11

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	2009–2011	Annual change[(b)]	% change over period[(c)]
Indigenous notifications								
Males	822	1,327	1,704	2,520	3,220	3,536	191*	395.2*
Females	1,671	2,379	3,160	4,472	5,252	6,129	307*	312.2*
Persons	2,495	3,706	4,864	6,992	8,472	9,665	498*	339.2*
Other Australian notifications[(d)]								
Males	1,915	3,720	4,784	7,740	12,895	17,829	1,048*	930.4*
Females	3,299	5,322	6,623	10,766	17,941	24,241	1,397*	720.0*
Persons	5,248	9,053	11,417	18,513	30,836	42,071	2,443*	791.5*
Indigenous crude rate per 100,000								
Males	429.4	645.2	772.5	1,074.7	1,299.8	1,350.9	65.5*	259.2*
Females	862.6	1,146.6	1,420.7	1,889.4	2,098.2	2,318.9	101.0*	199.0*
Persons	647.8	897.0	1,097.9	1,483.9	1,701.1	1,837.2	83.3*	218.6*
Indigenous age-standardised rate per 100,000								
Males	365.4	542.1	657.4	908.4	1,074.0	1,069.1	51.1*	237.7*
Females	666.7	908.9	1,126.7	1,498.0	1,647.2	1,793.4	78.3*	199.6*
Persons	515.6	725.1	891.5	1,200.9	1,355.0	1,424.7	64.2*	211.8*
Other Australian age-standardised rate per 100,000[(e)]								
Males	35.6	69.7	90.7	143.9	225.4	285.8	16.9*	805.2*
Females	64.3	105.1	131.0	208.3	330.5	419.8	24.1*	637.1*
Persons	49.9	86.9	110.3	175.1	276.0	350.1	20.3*	692.5*
Rate ratio[(f)]								
Males	10.3	7.8	7.2	6.3	4.8	3.7	–0.4*	–67.2*
Females	10.4	8.6	8.6	7.2	5.0	4.3	–0.4*	–66.9*
Persons	10.3	8.3	8.1	6.9	4.9	4.1	–0.4*	–67.1*
Rate difference[(g)]								
Males	329.7	472.4	566.7	764.4	848.5	783.3	34.2*	176.5*
Females	602.4	803.8	995.7	1,289.7	1,316.8	1,373.6	54.2*	152.9*
Persons	465.8	638.2	781.2	1,025.8	1,079.0	1,074.6	43.9*	160.3*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2009–2011.

(a) The supplied data for Chlamydia diseases for NT is for genital infections only.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 1994–1996 and 2009–2011 based on the annual rate of change over the period.

(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

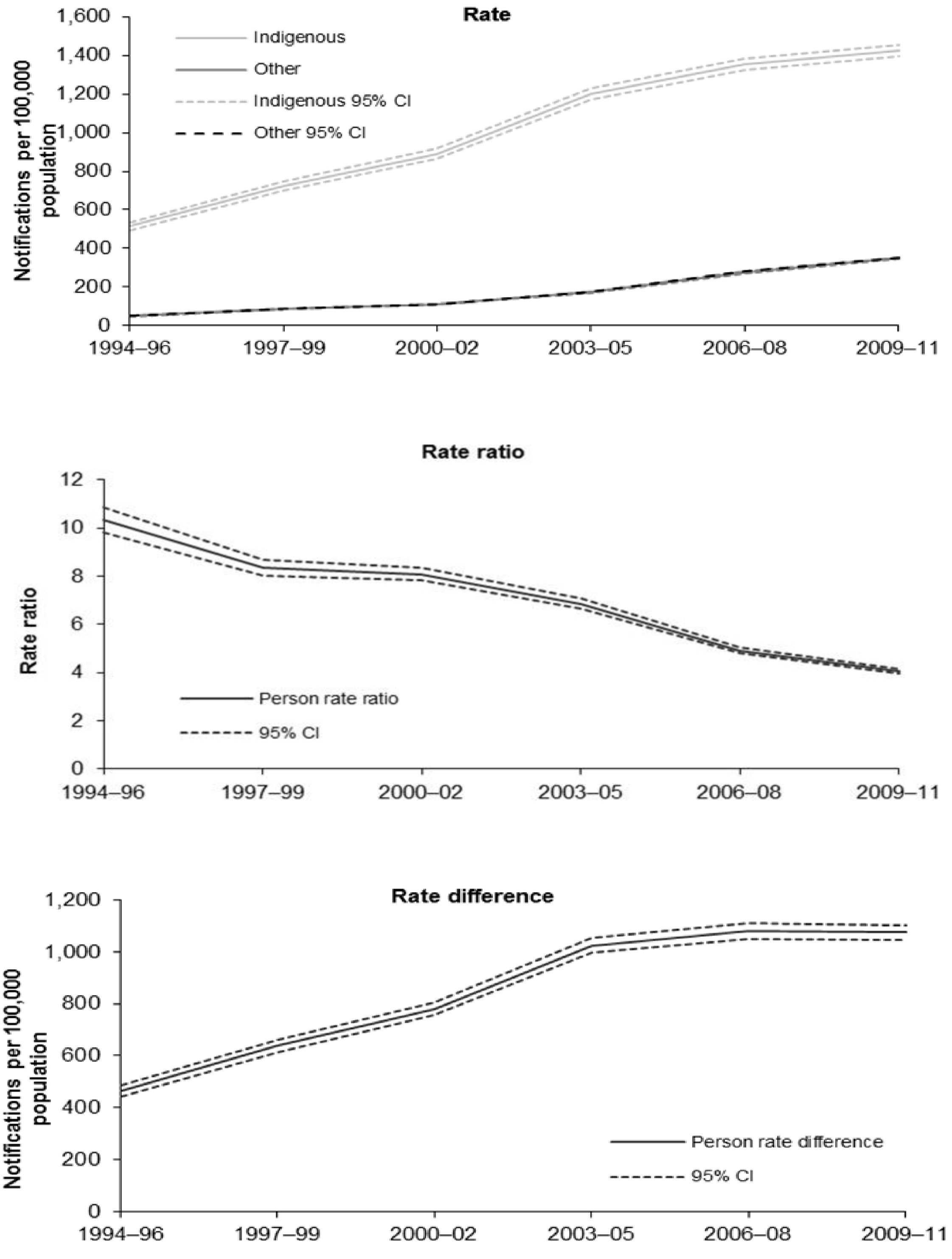
(e) Directly age-standardised using the Australian 2001 standard population using age 5 year age groups up to 65+.

(f) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Note: Rates have been directly age-standardised using the 2001 Australian population.

Source: AIHW analyses of NNDSS data.



Source: AIHW analyses of NNDSS data.

Figure 1.12.1: Age-standardised notification rates, rate differences and rate ratios for chlamydia, WA, SA and NT, 1994–1996 to 2009–2011

Syphilis

- Over the period 1994–1996 to 2009–20011 in Western Australia, South Australia and the Northern Territory combined, there were significant decreases in notification rates for syphilis among Indigenous Australians. The fitted trend line shows an average yearly decline in the age-standardised rate of around 13 per 100,000 which is equivalent to a 71% reduction in the rate over the period (Table 1.12.4).
- There were significant increases in notification rates for syphilis only among other Australians during the same period. The fitted trend line showed an average yearly increase in the rate of around 0.2 per 100,000 which was equivalent to a 141% increase in the rate over the period (Table 1.12.4 and Figure 1.12.2).
- There were significant declines in notification rate ratios and rate differences between Indigenous and other Australians for syphilis. The rate ratio decreased from 147 to 21, with an average yearly decline of around 8. The rate difference decreased from 347 to 103, with an average yearly decline of 13 per 100,000.

Table 1.12.4: Age-standardised notification rates, rate ratios and rate differences for syphilis, WA, SA and NT, 1994–96 to 2009–11

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	2009–2011	Annual change[(a)]	% change over period[(b)]
Indigenous notifications								
Males	674	570	700	564	530	235	–23*	–58.9*
Females	651	533	672	566	563	216	–21*	–54.5*
Persons	1,328	1,104	1,374	1,130	1,094	451	–44*	–56.8*
Other Australian notifications[(c)]								
Males	138	193	252	237	468	482	24*	296.8*
Females	99	79	113	100	109	134	2*	41.2*
Persons	237	273	369	337	577	616	26*	189.6*
Indigenous crude rate per 100,000								
Males	352.1	277.1	317.3	240.5	213.9	89.8	–15.0*	–72.6*
Females	336.1	256.9	302.1	239.1	224.9	81.7	–13.6*	–68.9*
Persons	344.8	267.2	310.1	239.8	219.7	85.7	–14.4*	–70.8*
Indigenous age-standardised rate per 100,000								
Males	377.5	336.1	377.7	301.9	285.5	119.1	–14.5*	–65.2*
Females	324.3	251.2	313.8	265.8	255.8	98.7	–11.1*	–58.0*
Persons	349.3	291.1	343.5	281.4	267.4	107.9	–12.8*	–62.1*
Other Australian age-standardised rate per 100,000[(c)]								
Males	2.8	3.7	4.8	4.3	8.2	7.9	0.4*	223.8*
Females	2.0	1.5	2.2	1.9	2.0	2.3	0.0	20.7
Persons	2.4	2.7	3.5	3.1	5.1	5.1	0.2*	140.9*
Rate ratio[(d)]								
Males	135.8	90.7	78.7	69.8	34.8	15.1	–7.4*	–93.0*
Females	163.4	162.3	143.6	139.5	131.0	42.8	–6.7*	–69.4*
Persons	147.1	109.8	97.2	90.4	52.4	21.1	–7.7*	–89.1*
Rate difference[(e)]								
Males	374.7	332.4	372.9	297.6	277.3	111.3	–14.8*	–67.3*
Females	322.3	249.7	311.6	263.9	253.9	96.4	–11.1*	–58.5*
Persons	347.0	288.5	340.0	278.3	262.3	102.8	–13.0*	–63.5*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2009–2011.

(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(b) Per cent change between 1994–1996 and 2009–2011 based on the annual rate of change over the period.

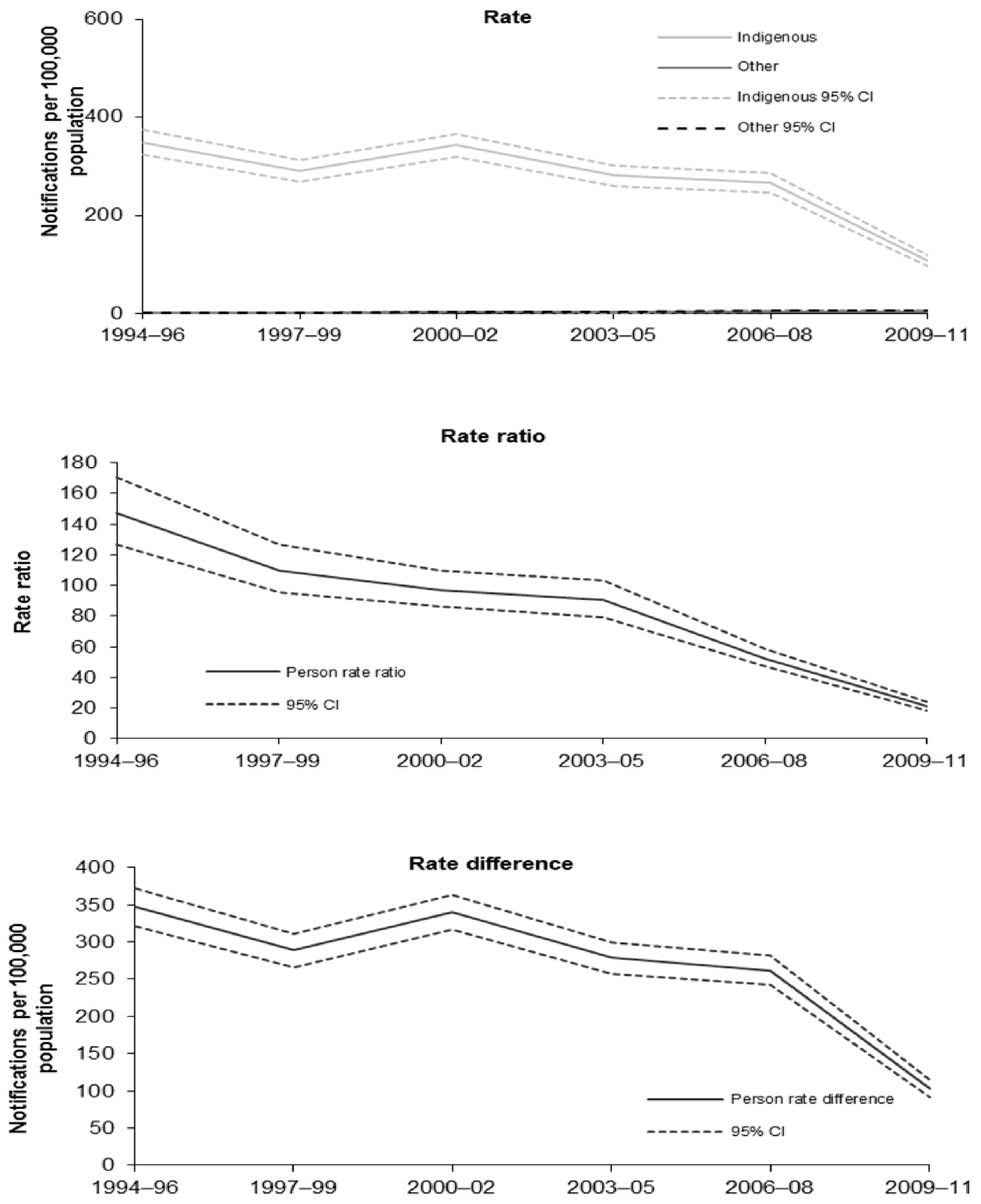
(c) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(d) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

(e) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Note: Rates have been directly age-standardised using the 2001 Australian population.

Source: AIHW analyses of NNDSS data.



Source: AIHW analyses of NNDSS data.

Figure 1.12.2: Age-standardised notification rates, rate differences and rate ratios for syphilis, WA, SA and NT, 1994–1996 to 2009–2011

Gonorrhoea

- During the period 1994–1996 to 2009–2011 in Western Australia, South Australia and the Northern Territory combined, there were significant increases in notification rates for gonorrhoea among Indigenous Australians. The fitted trend line shows an average yearly increase in the age-standardised rate of around 28 per 100,000 which is equivalent to a 48% increase in the rate over the period (Table 1.12.5). There were significant increases in the age-standardised rates for both Indigenous males and females.
- There was also significant increase in notification rates for gonorrhoea among other males during the same period. There were no significant changes for other females.
- Notification rate ratios between Indigenous and other Australians for gonorrhoea showed no significant changes for males or females over the 17-year period (Table 1.12.5 and Figure 1.12.3).
- There were significant increases in the notification rate differences between Indigenous and other Australians for gonorrhoea over the period, with an average yearly increase in the rate difference of around 27 per 100,000 (47% increase). These increases were only statistically significant for females, but not for males.

Table 1.12.5: Age-standardised notification rates, rate ratios and rate differences for gonorrhoea, WA, SA and NT, 1994–96 to 2009–11

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	2009–2011	Annual change[(a)]	% change over period[(b)]
Indigenous notifications								
Males	2,587	2,772	3,049	3,763	4,347	4,051	122*	79.9*
Females	1,848	2,954	3,408	4,210	4,598	4,544	183*	168.3*
Persons	4,446	5,727	6,457	7,973	8,945	8,595	304*	116.2*
Other Australian notifications[(c)]								
Males	968	1,515	1,599	1,736	1,915	2,106	67*	117.5*
Females	388	830	793	578	631	670	6	25.0
Persons	1,368	2,359	2,400	2,316	2,547	2,777	72*	89.1*
Indigenous crude rate per 100,000								
Males	1,351.4	1,347.8	1,382.2	1,604.8	1,754.7	1,547.6	23.1*	29.0*
Females	954.0	1,423.7	1,532.2	1,778.7	1,836.9	1,719.2	50.6*	90.1*
Persons	1,154.4	1,386.2	1,457.5	1,692.2	1,796.0	1,633.8	36.8*	54.2*
Indigenous age-standardised rate per 100,000								
Males	1,197.2	1,184.0	1,216.3	1,381.9	1,520.0	1,289.6	15.6*	22.1
Females	772.0	1,165.9	1,246.2	1,428.2	1,496.4	1,368.6	39.6*	87.2*
Persons	981.0	1,171.2	1,228.4	1,400.4	1,503.2	1,324.6	27.5*	47.6*
Other Australian age-standardised rate per 100,000[(c)]								
Males	18.5	28.7	30.1	32.1	33.6	34.4	0.9*	84.4*
Females	7.5	16.2	15.5	11.2	11.7	11.6	0.0	5.0
Persons	13.2	22.6	22.9	21.8	22.8	23.2	0.5	61.3
Rate ratio[(d)]								
Males	64.7	41.3	40.4	43.0	45.2	37.5	–1.2	–30.5
Females	102.4	71.8	80.5	127.6	128.3	117.9	2.8	46.5
Persons	74.5	51.8	53.6	64.3	65.9	57.0	–0.3	–7.5
Rate difference[(e)]								
Males	1,178.7	1,155.3	1,186.2	1,349.7	1,486.4	1,255.2	14.7	21.1
Females	764.5	1,149.6	1,230.7	1,417.1	1,484.7	1,357.0	39.6*	88.0*
Persons	967.8	1,148.6	1,205.5	1,378.7	1,480.4	1,301.3	27.0*	47.4*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2009–2011.

(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(b) Per cent change between 1994–1996 and 2009–2011 based on the annual rate of change over the period.

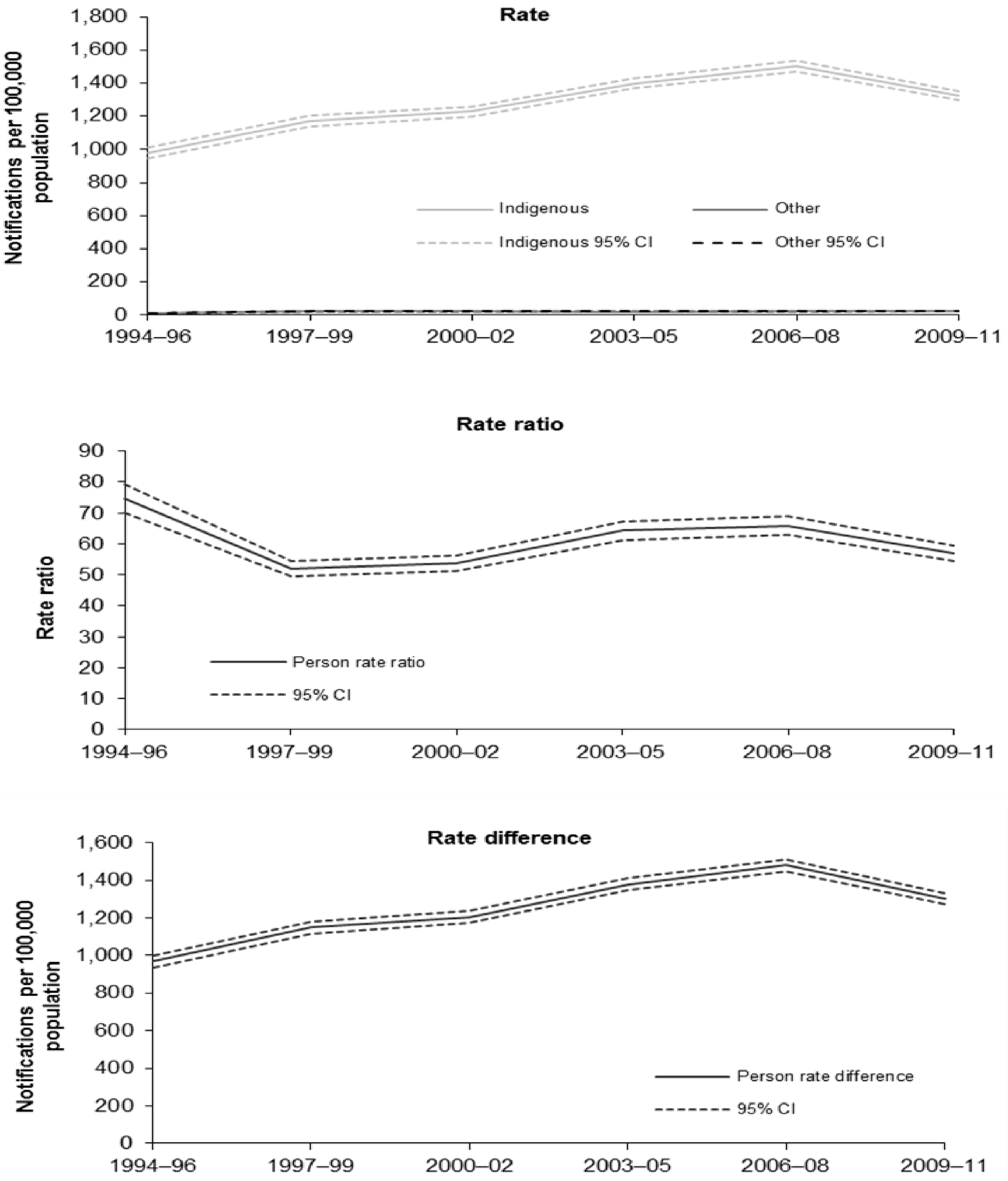
(c) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(d) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

(e) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Note: Rates have been directly age-standardised using the 2001 Australian population.

Source: AIHW analyses of NNDSS data.



Source: AIHW analyses of NNDSS data.

Figure 1.12.3: Age-standardised notification rates, rate differences and rate ratios for gonorrhoea, WA, SA and NT, 1994–1996 to 2009–2011

Hepatitis C

Time trends data for hepatitis C notifications are presented for the period 1995–1996 to 2009–2011, as complete and consistent data on hepatitis C notifications are not available before 1995 in the three states and territories.

- During the period 1995–1996 to 2009–2011 in Western Australia, South Australia and the Northern Territory combined, there were no significant changes in the age-standardised notification rates for hepatitis C among Indigenous Australians (Table 1.12.6).
- Over the same period there was a significant decrease in notification rates for hepatitis C for both other Australian males and females.
- There was a significant increase in notification rate ratios between Indigenous and other Australians for hepatitis C for males or females over the 16-year period (Table 1.12.6 and Figure 1.12.4).
- There was also a significant increase in the notification rate difference between Indigenous and other Australians for hepatitis C over the period, with an average yearly increase in the rate difference of around 4 per 100,000 (218% increase).

Table 1.12.6: Age-standardised notification rates, rate ratios and rate differences for hepatitis C[(a)], WA, SA and NT, 1995–96 to 2009–11[(b)]

	1995–1996	1997–1999	2000–2002	2003–2005	2006–2008	2009–2011	Annual change[(c)]	% change over period[(d)]
Indigenous notifications								
Males	253	336	364	391	362	414	9*	55.4*
Females	111	222	271	259	270	257	8*	118.3*
Persons	365	558	635	650	632	671	17*	74.1*
Other Australian notifications[(e)]								
Males	4,855	5,389	4,209	3,403	3,576	3,037	–151*	–49.6*
Females	2,354	2,909	2,360	1,985	1,962	1,674	–66*	–44.6*
Persons	7,217	8,333	6,585	5,389	5,538	4,714	–218*	–48.2*
Indigenous crude rate per 100,000								
Males	195.9	163.4	165.0	166.7	146.1	158.2	–2.3*	–18.6*
Females	84.9	107.0	121.8	109.4	107.9	97.2	0.5	8.5
Persons	140.4	135.1	143.3	138.0	126.9	127.5	–0.9*	–10.5*
Indigenous age-standardised rate per 100,000								
Males	188.0	154.1	169.1	167.0	154.9	164.0	–1.1	–9.5*
Females	83.2	98.7	115.0	108.0	111.9	101.9	1.2	22.9
Persons	136.6	126.2	141.2	137.1	133.0	132.6	0.0	–0.3
Other Australian age-standardised rate per 100,000[(e)]								
Males	141.6	103.3	80.0	63.3	63.4	50.5	–5.7*	–64.6*
Females	69.7	56.6	45.6	37.7	35.6	28.5	–2.7*	–61.6*
Persons	105.8	80.4	63.0	50.6	49.6	39.6	–4.2*	–63.7*
Rate ratio[(f)]								
Males	1.3	1.5	2.1	2.6	2.4	3.2	0.1*	152.7*
Females	1.2	1.7	2.5	2.9	3.1	3.6	0.2*	213.7*
Persons	1.3	1.6	2.2	2.7	2.7	3.3	0.1*	170.2*
Rate difference[(g)]								
Males	46.4	50.7	89.1	103.7	91.5	113.5	4.6*	158.4*
Females	13.5	42.1	69.4	70.3	76.2	73.4	3.9*	458.1*
Persons	30.7	45.8	78.2	86.4	83.4	93.0	4.2*	218.0*

* Represents results with statistically significant increases or declines at the p < 0.05 level over the period 1995–1996 to 2009–2011.

(a) Hepatitis C data includes 'newly acquired' and 'unspecified' infections identified under two disease codes '040' and '053'.

(b) Complete and consistent data on hepatitis C notifications are not available before 1995.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1995–1996 and 2009–2011 based on the annual rate of change over the period.

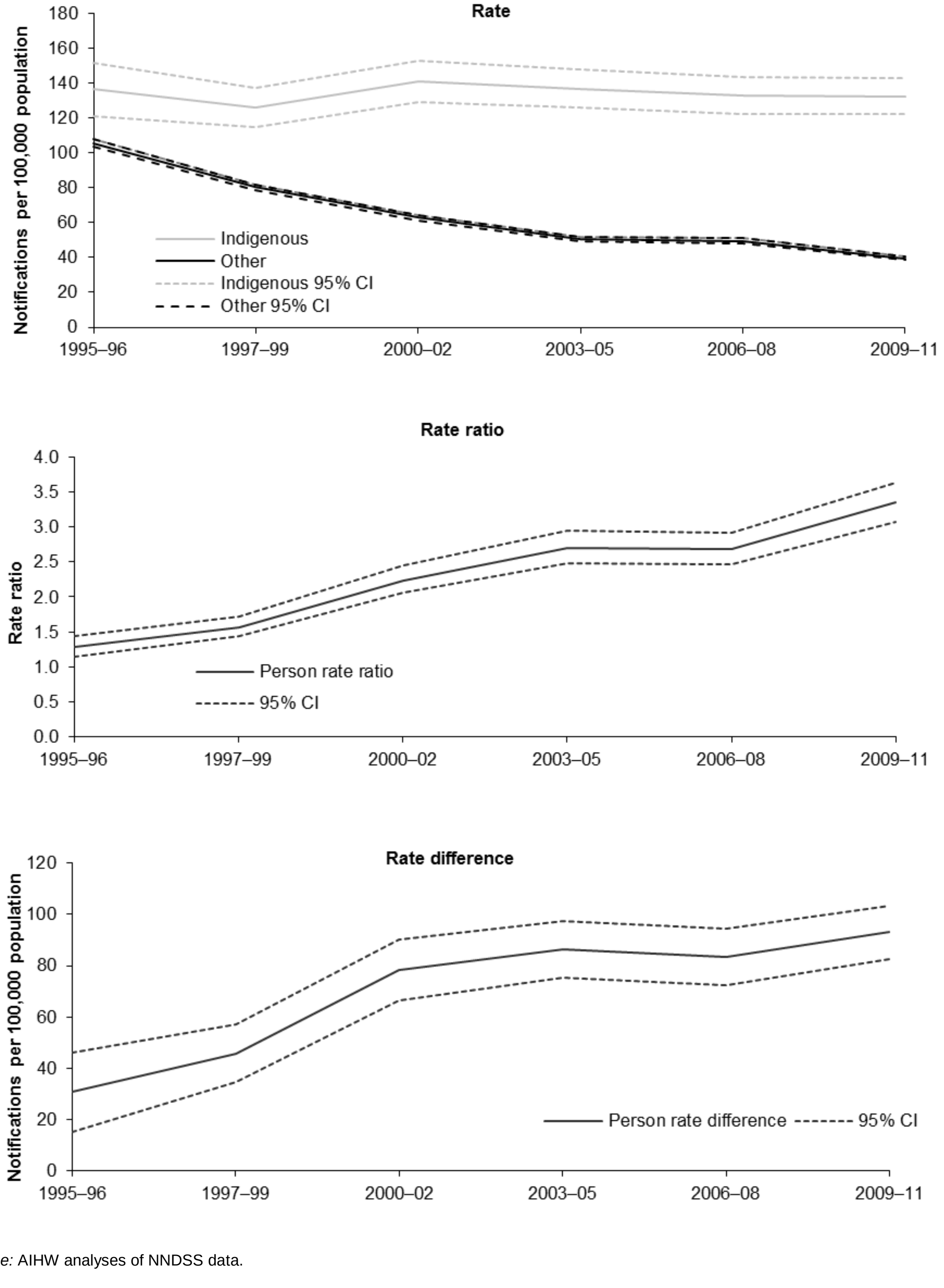
(e) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(f) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Note: Rates have been directly age-standardised using the 2001 Australian population.

Source: AIHW analyses of NNDSS data.



Source: AIHW analyses of NNDSS data.

Figure 1.12.4: Age-standardised notification rates, rate differences and rate ratios for hepatitis C, WA, SA and NT, 1995–1996 to 2009–2011

Hepatitis B

Time trends data for hepatitis B notifications are presented for the period 2005–2006 to 2009–2011, as complete and consistent data on hepatitis B notifications are not available before 2005 in the three states and territories.

- During the period 2005–2006 to 2009–2011 in Western Australia, South Australia and the Northern Territory combined, there was a significant decrease in the age-standardised notification rate for hepatitis B among Indigenous Australians. The fitted trend line shows an average yearly decrease in the age-standardised rate of 23 per 100,000 which is equivalent to a 62% decrease in the rate over the period. There were significant decreases in the age-standardised rate for both Indigenous males and females (Table 1.12.7 and Figure 1.12.5).
- Over the same period there was a significant increase in notification rates for hepatitis B for other Australian males, but no significant change for other Australian females.
- There was a significant decrease in notification rate ratios between Indigenous and other Australians for hepatitis B for males or females over the six-year period (Table 1.12.7 and Figure 1.12.5).
- There was also a significant decrease in the notification rate difference between Indigenous and other Australians for hepatitis B over the period, with an average yearly increase in the rate difference of around 25 per 100,000 (73% decrease).

Table 1.12.7: Age-standardised notification rates, rate ratios and rate differences for hepatitis B[(a)], WA, SA and NT, 2005–06 to 2009–11[(b)]

	2005–2006	2007–2008	2009–2011	Annual change[(c)]	% change over period[(d)]
Indigenous notifications					
Males	335	260	262	–16	–27.8
Females	196	180	193	0	–1.3
Persons	531	440	455	–16	–18.0
Other Australian notifications[(e)]					
Males	918	1,249	2,099	266*	173.6*
Females	698	1,036	1,482	174*	149.9*
Persons	1,616	2,285	3,581	440*	163.4*
Indigenous crude rate per 100,000					
Males	208.5	156.0	100.1	–24.0*	–69.1*
Females	120.8	106.9	73.0	–10.7*	–53.3*
Persons	164.4	131.3	86.5	–17.3*	–63.3*
Indigenous age-standardised rate per 100,000					
Males	312.1	237.3	148.4	–36.4*	–69.9*
Females	150.5	143.0	98.3	–11.9*	–47.3*
Persons	224.2	185.0	121.0	–23.0*	–61.7*
Other Australian age-standardised rate per 100,000[(e)]					
Males	25.2	32.8	34.8	2.1*	49.7*
Females	19.8	28.2	25.6	1.2	36.2
Persons	22.5	30.5	30.3	1.6	43.7
Rate ratio[(f)]					
Males	12.4	7.2	4.3	–1.8*	–86.3*
Females	7.6	5.1	3.8	–0.8*	–64.9*
Persons	9.9	6.1	4.0	–1.3*	–78.5*
Rate difference[(g)]					
Males	286.9	204.5	113.6	–38.4*	–80.4*
Females	130.7	114.8	72.7	–13.1*	–59.9*
Persons	201.7	154.5	90.8	–24.7*	–73.4*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2005–2006 to 2009–2011.

(a) Hepatitis B data includes 'newly acquired' and 'unspecified' infections identified under two disease codes '039' and '052'.

(b) Complete and consistent data on hepatitis B notifications are not available before 2005.

(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 2005–2006 and 2009–2011 based on the annual rate of change over the period.

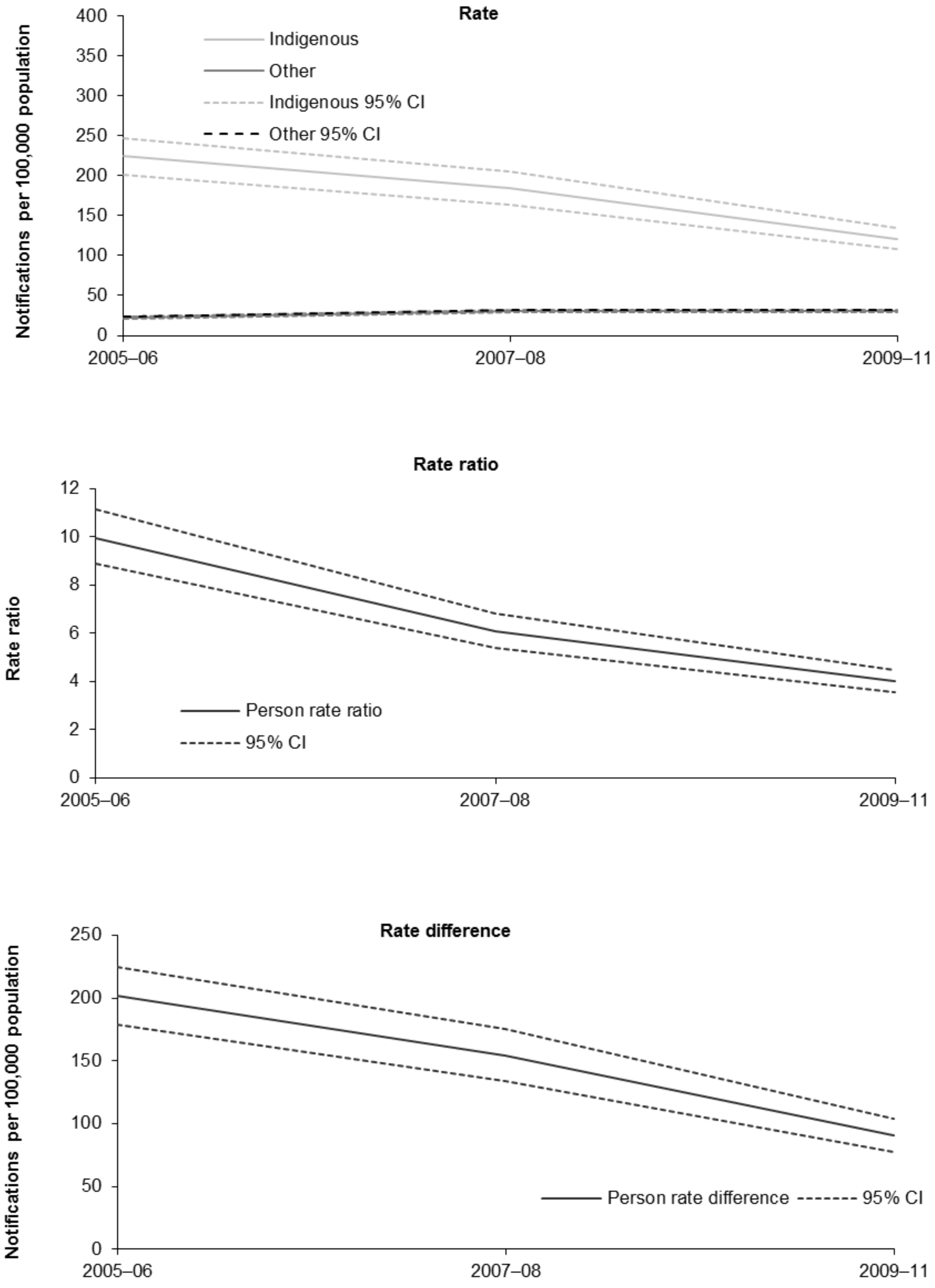
(e) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(f) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Note: Rates have been directly age-standardised using the 2001 Australian population.

Source: AIHW analyses of NNDSS data.



Source: AIHW analyses of NNDSS data.

Figure 1.12.5: Age-standardised notification rates, rate differences and rate ratios for hepatitis B, WA, SA and NT, 2005–2006 to 2009–2011

HIV and AIDS

- Over the period 2008–2010, there were 2,949 HIV notifications in Australia (excluding Tasmania), 2% of which were notifications of Indigenous Australians. There were 418 AIDS notifications, less than 5 of which were for Indigenous Australians (Table 1.12.9).
- After adjusting for differences in age structure, notification rates for HIV were similar among Indigenous males and other males for the period 2008–10. HIV notification rates for Indigenous females were around twice those for other females over the same period

Notification rates by age and sex

Age-specific notification rates for AIDS and HIV are presented in Table 1.12.8 below.

- For the period 2008–2010, the rates of newly diagnosed HIV infections were similar for Indigenous and other persons across all age groups. The notification rate for Indigenous females was significantly higher than for other Australian females in the 35–44 year age group.
- Between 2008 and 2010, notification rates for AIDS for Indigenous males and females were similar to the notification rates for other Australians males and females, respectively.

Table 1.12.8: Age-specific notification rates per 100,000 for HIV and AIDS, by Indigenous status and sex, 2008–2010(a)(b)

	Males				Females				Persons			
	Indig.	**Other(c)**	**Rate ratio(d)**	**Rate difference(e)**	**Indig.**	**Other(c)**	**Rate ratio(d)**	**Rate difference(e)**	**Indig.**	**Other(c)**	**Rate ratio(d)**	**Rate difference(e)**
						HIV(f)						
0–14	0.0	0.2	0.0	–0.2	0.0	0.2	0.0	–0.2	0.0	0.2	0.0	0
15–24	3.6	5.2	0.7	–1.6	0.0	1.4	0.0	–1.4	1.9	3.4	0.5	–1.5
25–34	11.7	17.4	0.7	–5.6	6.3	3.7	1.7	2.6	9.0	10.6	0.8	–1.6
35–44	20.0	17.8	1.1	2.1	5.8	2.1	2.7*	3.7*	12.6	9.9	1.3	2.7
45–54	11.5	10.0	1.2	1.5	2.6	0.8	3.3	1.8	6.9	5.4	1.3	1.5
55–64	0.0	4.9	0.0	–4.9	0.0	0.4	0.0	–0.4	0.0	2.7	0.0	–2.7
65+	0.0	1.5	0.0	–1.5	0.0	0.0	0.0	0.0	0.0	0.7	0.0	–0.7
Total crude	**5.8**	**7.9**	**0.7**	**–2.2**	**1.9**	**1.2**	**1.5**	**0.7**	**3.8**	**4.6**	**0.8**	**–0.8**
Total age-standardised(g)	**6.8**	**8.0**	**0.8**	**–1.2**	**2.2**	**1.3**	**1.8***	**0.9***	**4.4**	**4.7**	**0.9**	**–0.3**
						AIDS(h)						
Total crude rate	**0.9**	**1.1**	**0.7**	**–0.3**	**0.2**	**0.1**	**1.9**	**0.1**	**0.5**	**0.6**	**0.9**	**–0.1**

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level.

(a) Calender year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Age-specific rates are calculated using the average Indigenous June population for the relevant years.

(c) Includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.

(d) Rate ratio Indigenous: other.

(e) Rate difference is Indigenous minus Other

(f) Excludes data from Tasmania, data not available due to incompleteness.

(g) Directly age-standardised using the Australian 2001 standard population using age 5 year age groups up to 65+.

(h) Since the numbers for Indigenous are very small, rates by age-groups and age-standardised totals are not calculated.

Source: AIHW analyses of National AIDS Registry and National HIV database.

Notification rates by state/territory

Table 1.12.9 presents HIV and AIDS notifications for each state/territory over the period 2008–2010.

- New South Wales is the only state/territory for which numbers of HIV notifications are large enough to report rates for Indigenous Australians. Over the period 2008–2010, HIV was notified at a rate of 6 per 100,000 among Indigenous Australians in New South Wales, which was similar to the rate among other Australians in New South Wales.
- Over the period 2008–2010, there were nine cases of AIDS among Indigenous Australians, six of which were in New South Wales.

Table 1.12.9: Notification rates for HIV and AIDS, by Indigenous status, sex and state/territory, 2008–2010[a]

				Males				Females				Persons			
		Proportion (%)[b]		No. per 100,000[c]				No. per 100,000[c]				No. per 100,000[c]			
	No.	Indig.	Other[d]	Indig.	Other[d]	Ratio[e]	Rate difference[f]	Indig.	Other[d]	Ratio[e]	Rate difference[f]	Indig.	Other[d]	Ratio[e]	Rate difference[f]
							HIV								
NSW	966	2.4	97.6	9.6	8.3	1.2	1.3	. .	0.9	. .	. .	5.9	4.6	1.3	1.3
Vic	855	0.4	99.6	. .	9.4	. .	. .	. .	1.2	. .	. .	. .	5.3	. .	. .
Qld	651	2.6	97.4	. .	8.5	. .	. .	. .	1.5	. .	. .	. .	5.0	. .	. .
WA	272	3.3	96.7	. .	5.8	. .	. .	. .	2.3	. .	. .	. .	4.1	. .	. .
SA	141	5.0	95.0	. .	5.1	. .	. .	. .	0.8	. .	. .	. .	2.9	. .	. .
NT	33	6.1	93.9	. .	8.9	. .	. .	. .	3.2	. .	. .	. .	6.3	. .	. .
ACT	31	0.0	100.0	. .	4.7	. .	. .	. .	1.0	. .	. .	. .	2.8	. .	. .
Total[g]	**2,949**	**2.1**	**97.9**	**6.8**	**8.0**	**0.8**	**–1.2**	**2.2**	**1.3**	**1.8***	**0.9***	**4.4**	**4.7**	**0.9**	**–0.3**
							AIDS								
NSW	134	4.5	95.5	. .	1.1	. .	. .	. .	. .	. .	. .	. .	0.6	. .	. .
Vic	155	n.p.	n.p.	. .	1.8	. .	. .	. .	. .	. .	. .	. .	1.0	. .	. .
Qld	59	0.0	100.0	. .	0.8	. .	. .	. .	. .	. .	. .	. .	0.5	. .	. .
WA	40	n.p.	n.p.	. .	1.0	. .	. .	. .	. .	. .	. .	. .	0.6	. .	. .
SA	15	0.0	100.0	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
NT	n.p.	n.p.	n.p.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Tas	0	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
ACT	n.p.	n.p.	n.p.	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Australia	**413**	**2.2**	**97.8**	**. .**	**1.1**	**. .**	**. .**	**. .**	**0.1**	**. .**	**. .**	**. .**	**0.6**	**. .**	**. .**

(continued)

Table 1.12.9 (continued): Notification rates for HIV and AIDS, by Indigenous status, sex and state/territory, 2008–2010[(a)]

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level.

(a) Calender year reporting. Data are presented in 3-year groupings because of small numbers each year.
(b) Rate are calculated using the sum of notifications divided by the sum of the populations for the relevant years.
(c) Directly age-standardised using the Australian 2001 standard population using 5 year age groups up to 65+.
(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.
(e) Rate ratio Indigenous: other.
(f) Rate difference is Indigenous minus Other.
(g) Excludes data from Tasmania, data not available due to incompleteness.

Note: Where the number of notifications were less than 20 age standardised rates were not calculated.

Source: AIHW analyses of National AIDS Registry and National HIV database.

Exposure categories

Table 1.12.10 presents HIV and AIDS notifications in Australia by exposure category over the period 2008–2010.

- For the period 2008–2010, the most common way of contracting HIV among Indigenous Australians was male homosexual/bisexual contact (49%) followed by injecting drug use (20%), and heterosexual contact (16%). The most common ways of contracting HIV among other Australians was male homosexual/bisexual contact (63%) and heterosexual contact (26%).

Table 1.12.10: Exposure categories for HIV/AIDS, by Indigenous status, 2008–2010[(a)]

	Number		Per cent[(b)]		No. per 100,000[(b)]			
Exposure category	**Indigenous**	**Other[(c)]**	**Indigenous**	**Other[(c)]**	**Indigenous**	**Other[(c)]**	**Ratio[(d)]**	**Rate difference[(d)]**
				HIV				
Male homosexual/bisexual contact	30	1,837	49.2	63.0	2.0	2.9	0.7	–0.9
Male homosexual/bisexual contact and injecting drug use	n.p.	85	n.p.	2.9	. .	0.1	. .	. .
Heterosexual contact	10	762	16.4	26.1	. .	1.2	. .	. .
Injecting drug use	12	64	19.7	2.2	. .	0.1	. .	. .
Mother with/at risk of HIV infection	0	22	0.0	0.8	. .	0.0	. .	. .
Other[(e)]	n.p.	147	n.p.	5.0	. .	0.2	. .	. .
Total	**61**	**2,917**	**100.0**	**100.0**	**4.1**	**4.6**	**0.9**	**–0.5**
				AIDS				
Male homosexual/bisexual contact	n.p.	225	n.p.	55.6	. .	0.4	. .	. .
Male homosexual/bisexual contact and injecting drug use	n.p.	17	n.p.	4.2	. .	. .	. .	. .
Heterosexual contact	n.p.	109	n.p.	26.9	. .	0.2	. .	. .
Injecting drug use	n.p.	13	n.p.	3.2	. .	. .	. .	. .
Mother with/at risk of HIV infection	0	5	0.0	1.2	. .	. .	. .	. .
Other[(e)]	n.p.	36	n.p.	8.9	. .	0.1	. .	. .
Total	**9**	**405**	**100.0**	**100.0**	**. .**	**0.6**	**. .**	**. .**

(continued)

Table 1.12.10 (continued): Exposure categories for HIV/AIDS, by Indigenous status, 2008–2010[(a)]

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the p < 0.05 level.

(a) Calender year reporting. Data are presented in 3-year groupings because of small numbers each year.
(b) Directly age-standardised using the Australian 2001 standard population using age 5 year age groups up to 65+.
(c) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.
(d) Rate ratio Indigenous: other. Rate difference Indigenous: other.
(e) Includes: Haemophilia/coagulation disorder, receipt of blood/tissue, and exposure category undetermined.

Source: AIHW analyses of National AIDS Registry and National HIV database.

Time series analysis

HIV and AIDS notifications for the period 1998–2000 to 2008–10 are also presented below. Data are presented in 2 or 3-year groupings because of the small number of notifications in single years.

HIV

- Over the period 1998–2000 to 2008–2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there was no significant change in the rate of HIV notifications among Indigenous Australians. Over the same period, there was a significant increase in the notification rate for other Australians (31%) (Table 1.12.11, Figure 1.12.6).
- There were no significant changes in the notification rate ratios and rate differences between Indigenous and other Australians for HIV between 1998–2000 and 2008–10.

Table 1.12.11: Crude and age-standardised notification rates, rate ratios and rate differences for HIV(a), NSW, Vic, Qld, WA, SA and NT combined 1998–2000 to 2008–2010

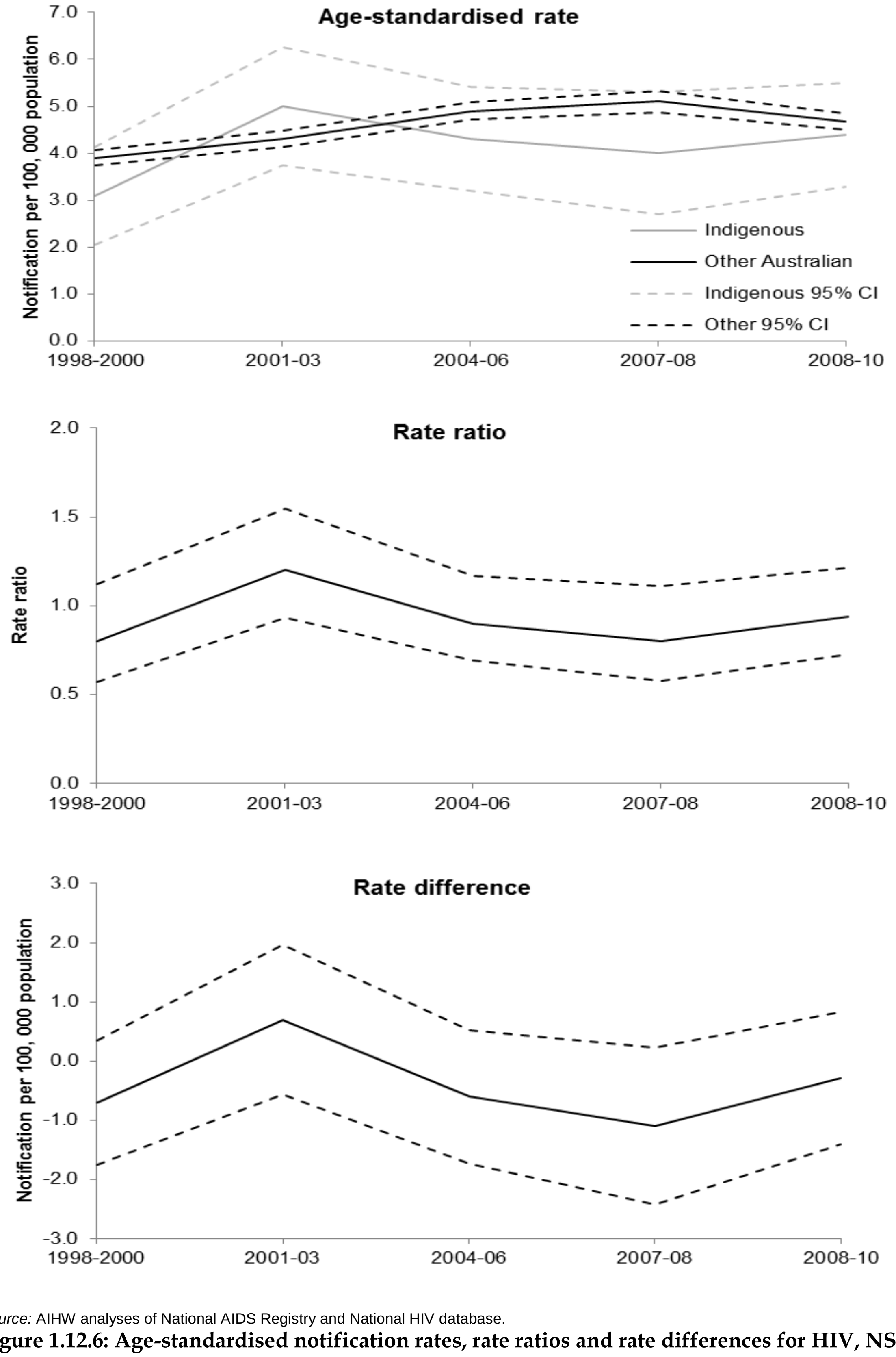
	1998–2000	2001–03	2004–06	2007–08	2008–10	Annual change(b)	% change over period(c)
Indigenous notifications	34	61	58	36	61	1.1	38.5
Other Australian notifications(d)	2,082	2,388	2,766	1,984	2,850	41.5	23.9
Indigenous crude rate per 100,000	2.7	4.5	4	3.5	3.9	0.1	26.6
Indigenous age-standardised rate per 100,000	3.1	5	4.3	4	4.4	0.1	25.8
Other Australian age-standardised rate per 100,000(d)	3.9	4.3	4.9	5.1	4.7	0.1*	30.8*
Rate difference(e)	–0.7	0.7	–0.6	–1.1	–0.3	0.0	71.8
Rate ratio(f)	0.8	1.2	0.9	0.8	0.9	0.0	–7.3

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–2000 to 2008–2010.

(a) Calender year reporting. Data are presented in 2 or 3-year groupings because of small numbers each year.
(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
(c) Per cent change between 1998–2000 and 2008–2010 based on the annual rate of change over the period
(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.
(e) Notification rate for Indigenous Australians minus the notification rate for other Australians.
(f) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

Note: Rates have been directly age-standardised using the 2001 Australian population.

Source: AIHW analyses of National AIDS Registry and National HIV database.



Source: AIHW analyses of National AIDS Registry and National HIV database.

Figure 1.12.6: Age-standardised notification rates, rate ratios and rate differences for HIV, NSW, Vic, Qld, WA, SA and NT combined, 1998–2000 to 2008–2010

AIDS

- Over the period 1998–2000 to 2008–10 in Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined there was no significant change in the age standardised AIDS notification rate among Indigenous Australians (Table 1.12.12, Figure 1.12.7).
- Over the period 1998–2000 to 2008–10, there was significant decrease in notification rates for AIDS among other Australians. The average yearly increase in the age-standardised rate was around 0.02 per 100,000 which is equivalent to a 31% decrease in the rate.
- There were non-significant changes in both the rate ratio and rate difference between Indigenous and other Australians for AIDS between 1998–2000 and 2008–10.

Table 1.12.12: Age-standardised notification rates, rate ratios and rate differences for AIDS, Vic, Qld, WA, SA and NT, 1998–2000 to 2008–10(a)

	1998–2000	2001–03	2004–06	2007–08	2008–10	Annual change(b)	% change over period(c)
Indigenous crude rate per 100,000	1.4	1.5	1.5	0.4	0.3	–0.1*	–105.8*
Indigenous age-standardised rate per 100,000	1.5	1.6	1.9	0.4	n.p.	–0.1	–106.1
Other Australian age-standardised rate per 100,000(d)	0.9	0.9	0.8	0.7	0.7	–0.02*	–31.3*
Rate difference(e)	0.6	0.7	1.1	–0.3	n.p.	–0.05	–105.2
Rate ratio(f)	1.6	1.8	2.4	0.6	n.p.	–0.04	–33.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–2000 to 2008–2010.

(a) Calender year reporting. Data are presented in 2 or 3-year groupings because of small numbers each year.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 1998–2000 and 2008–2010 based on the annual rate of change over the period.

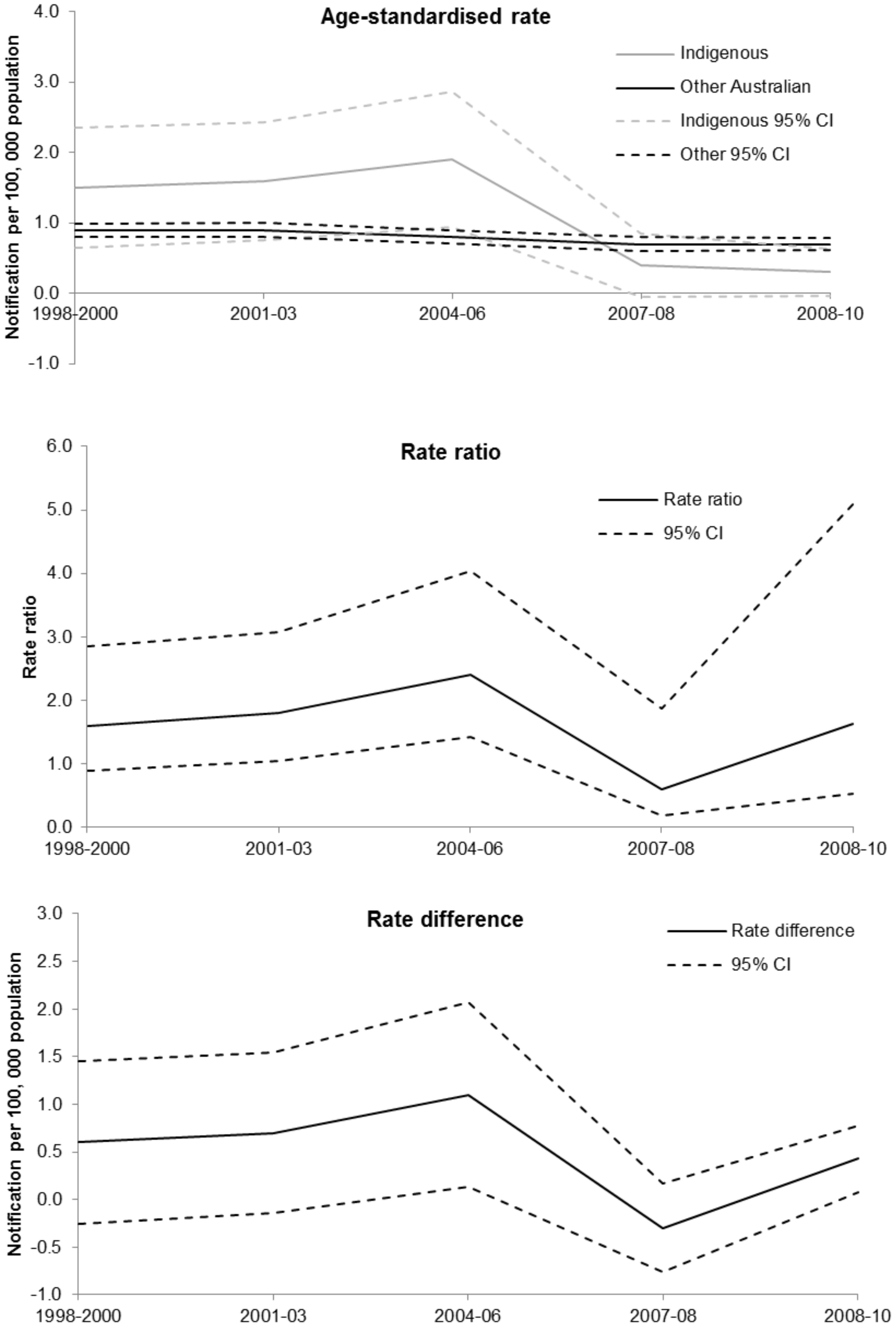
(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Notification rate for Indigenous Australians minus the notification rate for other Australians.

(f) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

Note: Rates have been directly age-standardised using the 2001 Australian population.

Source: AIHW analyses of National AIDS Registry and National HIV database.



Source: AIHW analyses of National AIDS Registry and National HIV database.

Figure 1.12.7: Age-standardised notification rates, rate ratios and rate differences for AIDS, Vic, Qld, WA, SA and NT, 1998–2000 to 2008–10

Data quality issues

National Notifiable Diseases Surveillance System

Notifications

Incidence of sexually transmissible infections is one indicator of unsafe sexual practices. It does not measure all cases, just those involving sexually transmissible infections.

Notification statistics do not measure the incidence or prevalence of these infections in the community. Under-reporting of these infections can occur at a number of stages:

- a person infected may not have symptoms
- a person may not seek medical care
- no testing performed
- a false negative result may occur
- there may be a positive test result but for some reason a notification may not occur
- the case may not be reported to the NNDSS (for more information see Figure 1 in NNDSS 2008).

The level of under-reporting can vary by disease, jurisdiction and by time. The method of surveillance can vary between jurisdictions with different requirements for notification by medical practitioners, laboratories and hospitals. These can also change over time.

Notification statistics can provide insights into the health of the population which has been diagnosed with a notifiable illness and changes over time.

Notification statistics do not necessarily capture the mode of transmission, NNDSS data on the diseases discussed in this indicator are known to include infections acquired through non-sexual modes of transmission. For example, although data on hepatitis C is included in this indicator, sexual transmission is not considered the main route of transmission, hepatitis C primarily occurs among those with a history of injecting drug use.

Due to the high proportion of asymptomatic presentations of STI infections, diagnoses are heavily influenced by testing patterns. High rates of STI diagnoses in Indigenous populations may be due to higher levels of screening and not necessarily associated with increased levels of transmission among Indigenous persons.

Under-identification

The incompleteness of Indigenous identification means the number of notifications recorded as Indigenous is likely to be an under-estimate of Aboriginal and Torres Strait Islander notifications rates.

The completeness of Indigenous identification in notifiable disease registries varies between the states and territories and by disease. Information on the occurrence of sexually transmitted infections is included in this indicator if information on Indigenous status was reported for at least 50% of diagnoses in a state or territory health jurisdiction for the period 2009–2011. Based on this cut-off, Western Australia, South Australia, Tasmania and the Northern Territory were assessed to have adequate identification for chlamydia, syphilis, gonorrhoea, hepatitis B and hepatitis C. Of the remaining states/territories, Queensland and Victoria had adequate identification for syphilis, gonorrhoea and chlamydia; the Australian Capital Territory had adequate identification for syphilis, gonorrhoea and hepatitis B; and New South Wales had adequate identification for syphilis only.

Numerator and denominator

Rate and ratio calculations rely on good population estimates. The changes in the completeness of identification of Indigenous people in notification records may take place at different rates from changes in the identification of Indigenous people in the population estimates. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

AIDS and HIV notifications

Notifications of HIV infections and AIDS are forwarded to the National Centre in HIV Epidemiology and Clinical Research (NCHECR).

Information on Aboriginal and Torres Strait Islander status was routinely sought at diagnosis of HIV infection and AIDS in the Northern Territory, Queensland, South Australia, Tasmania and Western Australia. Information on Aboriginal and Torres Strait Islander status was available for cases of HIV infection and AIDS newly diagnosed in New South Wales from January 1992 and from June 1998 in Victoria. Information on Aboriginal and Torres Strait Islander status was available for cases of HIV/AIDS diagnosed in the Australian Capital Territory from January 2005. Nationally, information on Aboriginal and Torres Strait Islander status at HIV/AIDS diagnosis was sought prospectively from May 1995. For HIV/AIDS diagnoses prior to 1995, Aboriginal and Torres Strait Islander status was obtained retrospectively through State/Territory health authorities. In 1997 – 2006, Aboriginal and Torres Strait Islander status was reported at HIV diagnosis by State/Territory health authorities other than the Australian Capital Territory prior to January 2005 and Victoria prior to June 1998 in 98% of Australian born cases (NCHECR 2010).

The level of completeness of HIV and AIDS notifications is not known however recording of Indigenous status in the NCHECR data is considered reliable in all states and territories.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2009. Experimental estimates and projections, Aboriginal and Torres Strait Islander Australians, 1991 to 2021. Cat. no. 3238.0. Canberra: ABS.

National Centre in HIV Epidemiology and Clinical Research (NCHECR) 2010. Bloodborne viral and sexually transmitted infections in Aboriginal and Torres Strait Islander people: Surveillance and Evaluation Report 2010. Sydney: National Centre in HIV Epidemiology and Clinical Research, The University of New South Wales.

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1.13 Community functioning

Analysis of factors to describe community functioning for Aboriginal and Torres Strait Islander people

Data sources

Data for this measure come from the 2008National Aboriginal and Torres Strait Islander Social Survey.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Analyses

Measures of community functionality

This indicator is defined as the ability and freedom of Aboriginal and Torres Strait Islander community members and communities to determine the context of their lives (for example social, cultural, spiritual and organisational aspects) and to translate their knowledge, skills, and understanding (capabilities) into positive actions towards a valued life. It incorporates a range of methods and analyses:

- A qualitative method to determine thematic descriptors of functionality that Aboriginal and Torres Strait Islander people developed. Each measure of functionality was given a numeric value, with the total sum of community functionality themes equalling 100. Subsequent to this, a similar qualitative process was undertaken to weight data items derived from the 2008 NATSISS within each theme, that is data items within each measure of functionality were to add to 100 but some items were given more weight than others.
- Collated survey results of community functionality measures to show the number and proportion of people who were affirmative in their response to the data items within

each measure of functionality e.g. 72% of Aboriginal and Torres Strait Islander people recognise their homelands.

- Presentation of the distribution of community functioning scores, which vary by age groups, remoteness, state/territory and gender.
- Summary survey results of community functioning themes for ages 0–14 years and over 15 years, showing the number and proportion of Aboriginal and Torres Strait Islander people who were affirmative in their responses to selected data, by gender, age groups, remoteness, state/territory.

Development of community functionality themes

Workshops drawing together Aboriginal and Torres Strait Islander participants from across Australia were held in 2008 and 2010 to develop key features of functioning in families and communities. Participants were invited from all jurisdictions and a range of sectors to enhance diversity of participants. Participants at the workshops described the various factors they believed were necessary for Aboriginal and Torres Strait Islander people to have functioning families and communities. At the workshops in 2008 and 2010 similar themes were identified as being important to community functionality (Box 13.1.1). Following the 2010 workshop, survey data were mapped with the themes in order to create the indicator of community functioning.

For detailed specifications of the performance measure see <www.health.gov.au/indigenous-hpf>.

The major difference in results between the 2008 and 2010 workshops was the mapping of available data to the themes. At the workshops in 2008 the data were sourced from the 2002 NATSISS and the Community Housing Infrastructure Needs Survey (CHINS). The workshops in 2010 focused on 2008 NATSISS data. Despite these differences, the fundamental elements described by participants were similar.

Box 1.13.1: Community functioning themes identified at workshops

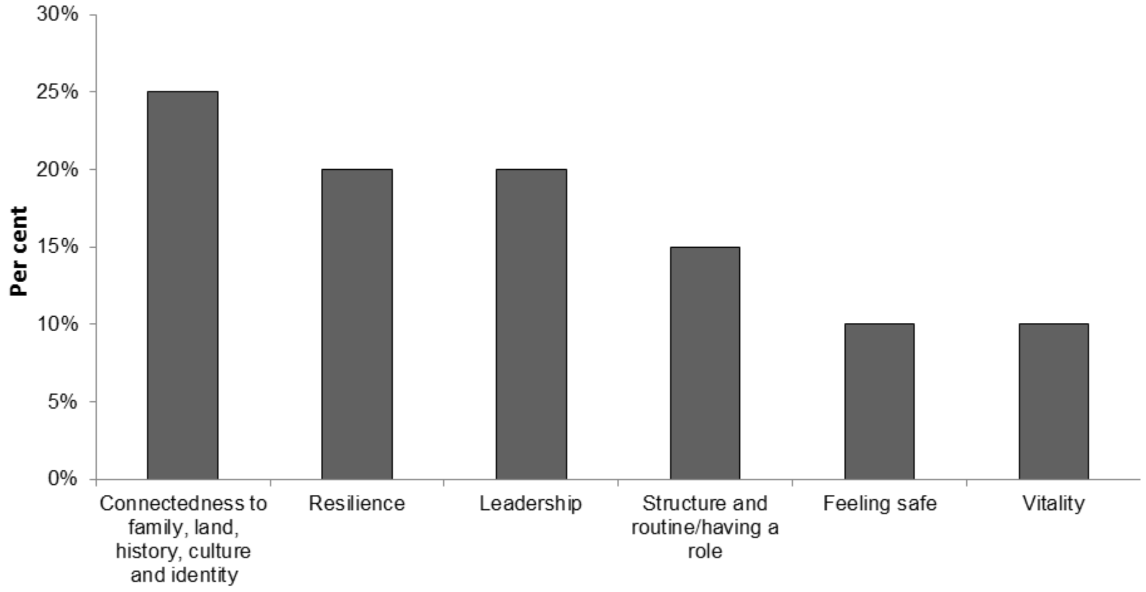
2008 workshop themes

- Power to control choices and options
- Connectedness to family, land, and history
- Health, chronic disease and substance use
- Culture, identity
- Employment, education, income
- Infrastructure and community
- Coping with the internal and external world
- Structure and routine

2010 workshop themes

- Connectedness to country, land and history; culture; identity
- Resilience
- Leadership
- Having a role, structure and routine
- Feeling safe
- Vitality

Workshop participants ranked measures of functionality in order of importance, then a weight was applied to each theme in order to produce a score out of 100. Within each theme, each data item available was also given a weight (out of 100) to produce overall 'scores' for community functioning. The weighting of each measure of functionality is important to consider in interpreting prevalence of an issue in comparison to how it contributes to the measure of community functionality. For example, 72% of Aboriginal and Torres Strait Islander people recognise their homelands. This data item sits within the measure of 'connectedness to family, land, history, culture and identity' which contributes 25% of the weight to a score of community functioning. Therefore, the contribution of this data item to the weighted community functioning scores is much greater than the strength of standard measures of socioeconomic disadvantage/advantage such as income, which sit within the theme of 'vitality' (weighted at 10%). Note that the community functioning theme 'leadership' is given with a weighting of 20%, however as there were no suitable data items for persons aged 15 years and over, this theme was measured for children only.



Source: ABS analysis of 2008 NATSISS.

Figure 1.13.1: Themes contributing to community functioning for Aboriginal and Torres Strait Islander persons, Australia 2008

Table 1.13.1: Description of themes contributing to community functionality for Aboriginal and Torres Strait Islander persons, Australia 2008

Measure of functioning	Descriptor	Weight
Connectedness to country, land and history; culture; identity	• Being connected to country, land, family and spirit. • Strong and positive social networks with Aboriginal and Torres Strait Islander people. • Strong sense of identity and being part of a collective (i.e. knowing where you are from, who is your family). • Sharing; giving and receiving; trust; love; looking out for others. • Engaged/communicative.	25%
Resilience	• Coping with the internal and external world. • Power to control choices and options. • Ability to proceed in public without shame. • Optimising what you have. • Challenge injustice and racism, stand up when required. • Cope well with difference, flexibility and accommodating. • Ability to walk in two worlds. • Engaged in decision making. • External social contacts.	20%
Leadership	• Strong Elders in family and community, both male and female. • Role models both male and female. • Strong direction, vision. • The ‘rock’, someone who has time to listen and advise.	20%
Having a role, structure and routine	• Having a role for self: participation, contributing through paid and unpaid roles. • Capabilities and skills derived through social structures and experience through non-formal education. • Knowing boundaries and acceptable behaviours. • Sense of place—knowing your place in family and society. • Being valued and acknowledged. • Disciplined.	15%
Feeling safe	• Lack of physical and lateral violence. • Safe places. • Emotional security. • Cultural competency. • Relationships that can sustain disagreement.	10%
Vitality	• Infrastructure of community. • Access to services. • Education. • Health. • Income. • Employment.	10%

Selected findings

Within each theme of functionality, a range of data is available to describe capabilities contributing to the community functionality scores. A summary of select findings from tables 1.13.2 to 1.13.7 are outlined below:

Connectedness to country, land and history, culture, identity

- 72% of Aboriginal and Torres Strait Islander people aged 15 years and over recognised their homelands.
- 62% identified with a clan or language group, up from 54% in 2002.
- 89% 'feel able to have a say with family and friends' some, most or all of the time.
- 94% had contact with family or friends outside the household at least once per week.
- 75% had friends to confide in.
- 51% provided support to relatives outside the household.
- 63% had attended a cultural event in the last 12 months.

Resilience

- 69% of Aboriginal and Torres Strait Islander people aged 15 years and over reported that they did not avoid situations due to past discrimination.
- 80% agreed that their doctor can be trusted and 69% agreed that the local school could be trusted.
- 89% felt they were able to find general support from outside the household.
- 56% had provided support to someone outside their household in the last four weeks.
- 89% had participated in sport, social or community activities in the three months prior to the survey.
- 54% in non-remote areas knew someone in an organisation they would feel comfortable contacting.
- 44% of employed people said work allowed them to fulfil cultural responsibilities.

Leadership

- 42% of children aged 3 to 14 years had spent time with an Indigenous leader or Elder in the last week. In remote areas this increased to 63%.

Having a role, structure and routine

- 78% of Aboriginal and Torres Strait Islander people had lived in only one dwelling in the last 12 months.
- 73% were in household that had not experienced cash flow problems in the last 12 months.
- 86% were in households in which there had been no days without money for basic living expenses in the last two weeks.
- Most children aged 0 to 14 years (94%) had participated in informal learning activities with their main carer.

Feeling safe

- 75% of Aboriginal and Torres Strait Islander people had not experienced physical and/or threatened violence in the last 12 months.
- 80% felt safe at home alone after dark.
- In the five years prior to the survey, 97% of Aboriginal and Torres Strait Islander people had not been incarcerated (91% had never been incarcerated in their lifetime).

Vitality

- Half of Aboriginal and Torres Strait Islander people aged 15 years and over had no disability or long-term health condition.
- 68% of those aged 15 years and over had experienced low/moderate levels of psychological distress in the four weeks prior to the survey.
- 76% of children aged 0 to 14 years did not have problems sleeping.
- 74% of children aged 4 to 14 years spent at least 60 minutes every day being physically active.
- 74% of people aged 15 years and over said they can easily get to places as needed.
- 41% of those aged 15 years and over (who were not currently studying) intended to study in the future.
- Education was the main purpose of internet use for children (54%), while 30% of those aged 15 years and over reported using the internet for education of study.

Community and individual aspects contributing to community functionality scores

Table 1.13.2: Variables contributing to community functionality measure 'Connectedness to family, land and history, culture, identity' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Connectedness to family land and history, culture, identity		2008 No.	2008 (%)	2002 (%)
Access to traditional lands	Recognises homelands	234,383	72	70
	Lives in homelands	82,607	25	22
Removal	Respondent not removed from natural family	293	90	87
	Relatives not removed from natural family	157,767	48	44
	Has seen relatives since being removed from family	22,337	7	. .
Protection and maintenance of culture	Main language spoken at home is Aboriginal language/Torres Strait Islander language	37,552	12	12
	Speaks an Aboriginal/Torres Strait Islander language	62,629	19	21
Participation in cultural events	Attended Aboriginal and Torres Strait Islander cultural event in last 12 months:	205,674	63	68
	– Attended ceremony	52,435	16	24
	– Attended NAIDOC week activities	116,849	36	. .
	– Attended sports carnival (excluding NAIDOC week activities)	79,658	24	30
	– Attended festival/carnival involving arts, crafts, music or dance	75,272	23	36
	– Involved with Aboriginal/Torres Strait Islander organisation	59,516	18	. .
	– Funerals/Sorry business	126,693	39	47
Identity	Identifies with clan group or language group	203,106	62	54
Sense of efficacy	Feels able to have a say with family and friends some, most or all of the time	292,375	89	. .
	Feels able to have a say within community on important issues some, most or all of the time	157,312	48	. .
Social networks	Contact with family or friends outside household at least once per week	307,515	94	. .
	Face-to-face contact with family or friends outside household at least once a week	274,681	84	. .
	Made other types of contact with family or friends outside household in the last 3 months:	294,163	90	. .
	– Landline phone	183,766	56	. .
	– Mobile phone for calls	230,008	70	. .
	– Mobile phone for SMS	151,134	46	. .
	– Internet	88,840	27	. .
	– Mail or fax	28,211	9	. .
	– Other forms of contact	1,508	1	. .
	Has family members can confide in outside household	251,534	77	. .
	Has friends can confide in	246,649	75	. .

(continued)

Table 1.13.2 (continued): Variables contributing to community functionality measure 'Connectedness to family, land and history, culture, identity' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Connectedness to family land and history, culture, identity		2008 No.	2008 (%)	2002 (%)
Social support (See also 'Resilience')	Able to get support in time of crisis from outside household—from family member	261,506	80	. .
	Provides support to relatives outside household	166,892	51	. .
	Provides support to anyone outside household in last 4 weeks—type of support for example:			
	– Provided transport or running errands	95,786	29	. .
	– Unpaid child care	53,471	16	. .
	– Emotional support	93,700	29	. .
Used informal child care in last week (0–12 years) (See also 'Resilience')	Used informal child care in last week 0–12 years—carer who usually looks after child for example:	83,971	50	. .
	Mother living elsewhere	3,757	5	. .
	Father living elsewhere	10,147	12	. .
	Grandparent	43,984	52	. .
	Brother or sister	7,523	9	. .
	Any other relative	25,880	31	. .
Education—child (2–14 years)	Types of assistance that would help child in secondary school complete Year 12 for example:			
	– A relative to support if goes away to boarding school	4,100	12	. .

(a) Ages 15 and over unless otherwise stated.

Source: ABS analysis of 2008 NATSISS.

Table 1.13.3: Variables contributing to community functionality measure 'Resilience' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Resilience		2008 No.	2008 (%)	2002 (%)
Power to control choices and options	Did not feel discriminated against in last 12 months	237,812	73	. .
	Did not avoid situations due to past discrimination	225,507	69	. .
	Can visit homelands	146,017	45	46
	Involvement with Aboriginal/Torres Strait Islander organisation	59,516	18	26
	Work allows for cultural responsibilities—can meet responsibilities	75,028	23	22
	Used strategies to meet living expenses	119,147	36	49
Household finances	Has a bank account	309,547	95	94
	Could raise $2,000 within a week	150,004	46	41
Community problems	No community problems reported	84,327	26	25
	Community problems reported, but less than three types:	73,788	23	. .
	– No problems reported for theft	192,535	59	57
	– No problems reported for alcohol	192,138	59	67
	– No problems reported for illicit drugs	208,039	64	68
	– No problems reported for family violence	245,938	75	79
	– No problems reported for assault	253,009	77	80
	– No problems reported for sexual assault	288,926	88	92
	Total persons who reported a community problem	232,592	71	74
Stressors	No stressors reported in last 12 months	74,413	23	18
	Less than three types of stressors reported in the last 12 months:	116,369	36	. .
	– No stressors reported for death of a family member or close friend	200,011	61	54
	– No stressor reported for serious disability	305,205	93	. .
	– No stressor reported for serious illness	233,202	71	. .
	– No stressors reported for not able to get a job	255,386	78	73
	– No stressors reported for witness to violence	299,054	91	84
	– No stressors reported for member of family sent to jail/currently in jail	287,458	88	81
	Total persons who reported a stressor	252,503	77	82
Trust	Agrees that most people can be trusted	118,975	36	. .
	Agrees that their doctor can be trusted	260,777	80	. .
	Agrees that the hospital can be trusted	204,189	62	. .
	Agrees that police in the local area can be trusted	170,317	52	. .
	Agrees that police outside the local area can be trusted	133,362	41	. .
	Agrees that the local school can be trusted	224,734	69	. .

(continued)

Table 1.13.3 (continued): Variables contributing to community functionality measure 'Resilience' for Aboriginal and Torres Strait Islander persons, Australia 2008 and 2002

Resilience		**2008 No.**	**2008 (%)**	**2002 (%)**
Sense of efficacy	Does know a member of parliament/comfortable contacting	65,670	20	. .
	Knows someone in organisation/comfortable contacting	132,011	54	. .
	Types of organisations would feel comfortable contacting—non-remote only:			
	– State or territory government department	32,644	13	. .
	– Federal government department	18,952	8	. .
	– Local council	38,606	16	. .
	– Legal system	35,824	15	. .
	– Healthcare	51,057	21	. .
	– Trade union	13,296	5	. .
	– Political party	11,681	5	. .
	– Media	12,732	5	. .
	– University/TAFE/Business college	34,805	14	. .
	– Religious/Spiritual group	29,822	12	. .
	– School-related group	33,766	14	. .
	– Big business	14,447	6	. .
	– Small business	31,418	13	. .
Social contact (See also 'Structure and routine/having a role')	Adult participated in sport/social/community activities in last 3 months for example:	289,381	89	. .
	– Attended sporting event as a spectator	127,180	39	. .
	– Recreational or cultural group	46,263	14	. .
	– Attended a native title meeting	18,504	6	. .
	– Community or special interest group activities	42,274	13	. .
	– Church or religious activities	49,393	15	24
	– Went out to a cafe, restaurant or bar	171,233	52	57
	– Visited library, museum or art gallery	85,306	26	. .
	– Attended movies, theatre or concert	102,056	31	. .
	– Visited park, botanic gardens, zoo or theme park	101,152	31	. .
	– Watched Indigenous TV	177,695	54	. .
	– Listened to Indigenous radio	85,682	26	. .

(continued)

Table 1.13.3 (continued): Variables contributing to community functionality measure 'Resilience' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Resilience		2008 No.	2008 (%)	2002 (%)
Social support (See also 'Connectedness')	Able to get general support from outside household	291,459	89	. .
	Able to get support in time of crisis from outside household—source of support for example:	290,463	89	. .
	– Friend	208,326	64	. .
	– Neighbour	90,117	28	. .
	– Work colleague	62,338	19	. .
	– Community, charity or religious organisation	42,538	13	. .
	– Local council or other government service	19,708	6	. .
	– Health, legal or financial professional	29,798	9	. .
	Provides support to anyone outside household in last 4 weeks	184,537	57	. .
	– Domestic work, home maintenance or gardening	80,045	25	. .
	– Teaching, coaching or practical advice	37,496	12	. .
	– Other support	20,543	6	. .
Health—child (0–14 years)	No selected stressors experienced by children aged 0–3 years in last 12 months	30,146	56	. .
	No selected stressors experienced by children aged 4–14 years in the last 12 months	49,058	35	. .
Used Informal Child care in last week (0–12 years) (See also 'Connectedness')	Used informal child care in last weeks—carer who usually looks after child:			
	– Family friend	5,292	6	. .
	– Baby sitter	368	0.5	. .
	– Nanny	n.p.	n.p.	. .
	– Neighbour	999	1	. .
	– Any other person	733	1	. .
	– An organisation (other than formal care)	482	1	. .
Education—child (2–14 years)	Child usually attends school	138,426	83	. .
	– Children aged 2–4 years	13,964	36	. .
	– Children aged 5–14 years	124,462	98	. .
	Did not miss days at school/preschool/kindergarten in last week	99,913	60	. .
	Types of assistance that would help child in secondary school complete Year 12:			
	– Support from family, friends and school	28,273	83	. .
	– Provision of coaches or mentors	8,104	24	. .
	– Career guidance	12,341	36	. .
	– Assistance for students with a disability	2,711	8	. .
	– Support networks	8,575	25	. .

(a) Ages 15 and over unless otherwise stated.

Source: ABS analysis of 2008 NATSISS.

Table 1.13.4: Variables contributing to community functionality measure 'Having a role, structure and routine' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Structure and routine/having a role		**2008 No.**	**2008 (%)**	**2002 (%)**
Structure and routine	Can communicate with English speakers without difficulty (Indigenous language is main language spoken at home)	27,179	8	. .
	In the last 12 months, has lived in only one dwelling	255,157	78	69
	No days without money for basic living expenses in the last 12 months	233,805	72	56
	No days without money for basic living expenses in the last 2 weeks	281,429	86	68
	Did not have a cash flow problem	238,750	73	46
Social contact	Adult participated in sport/social/community activities in last 3 months:			
(See also 'Resilience')	– Coach, instructor or teacher	28,152	9	. .
	– Referee, umpire or official	15,218	5	. .
	– Committee member or administrator	22,850	7	. .
	– Took part in sport or physical activities	82,227	25	60
Education—child	Activities were undertaken with child doing informal learning activities in the last week	180,736	94	. .
	Types of assistance that would help child in secondary school complete Year 12:			
	– More discipline	5,354	16	. .
Health—child	Child cleans teeth once or twice per day (children aged 0–14 years)	137,034	71	. .

(a) Ages 15 and over unless otherwise stated.

Source: ABS analysis of 2008 NATSISS

Table 1.13.5: Variables contributing to community functionality measure 'Leadership' for Aboriginal and Torres Strait Islander persons aged 0–14 years, Australia 2008 and 2002

Leadership		**2008 No.**	**2008 (%)**	**2002 (%)**
Social contact	Child spent time with an Indigenous leader or elder in last week (children aged 3–14 years)	65,035	42	. .
Education—child	Types of assistance that would help child in secondary school complete Year 12:			
	– Encouragement from elders and council (children aged 2–14 years)	7,504	22	. .

Source: ABS analysis of 2008 NATSISS.

Table 1.13.6: Variables contributing to community functionality measure 'Feeling safe' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Feeling safe		**2008 No.**	**2008 (%)**	**2002 (%)**
Safety	Felt safe at home alone during the day	305,892	94	. .
	Felt safe at home alone after dark	261,414	80	. .
	Felt safe walking alone in local area after dark	172,047	53	. .
Crime and justice	Not a victim of physical or threatened violence in the last 12 months	246,372	75	76
	Has not been a victim of physical violence in last 12 months	278,880	85	. .
	Has not been a victim of threatened physical violence in last 12 months	267,344	82	. .
	Did not use legal services in the last 12 months	269,938	83	80
	Not arrested by police in the last 5 years	277,702	85	84
	Not incarcerated in the last 5 years	316,033	97	93
	Has never been incarcerated in lifetime	297,030	91	. .
Cultural identification, participation and education	Indigenous culture taught at school (children aged 2–14 years)	87,833	53	. .
	Was taught Indigenous culture at school or as part of further studies	148,592	45	. .
	Where Indigenous cultural education was received:			
	– Primary school	81,630	25	. .
	– Secondary school	88,285	27	. .
	– University/Other higher education	15,586	5	. .
	– TAFE/Technical college	14,682	5	. .
	– Business college	136	0	. .
	– Adult or community education centre	2,576	1	. .
	– Industry skills centre	417	0.1	. .
	– Other organisation	4,993	2	. .
	– None of the above	998	0.3	. .
	Learnt about own Indigenous clan / language	55,947	17	. .
Education—child	Child neither bullied nor treated unfairly at school because Indigenous (children aged 2–14 years)	112,159	81	. .

(a) Ages 15 and over unless otherwise stated.

Source: ABS analysis of 2008 NATSISS.

Table 1.13.7: Variables contributing to community functionality measure 'Vitality' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Vitality		2008 No.	2008 (%)	2002 (%)
Child health	Not concerned about child's learning due to health (1–14 years)	153,971	86	. .
	Child does not have eye or sight problems (0–14 years)	177,125	92	. .
	Child does not have ear or hearing problems (0–14 years)	175,065	91	. .
	Child does not have teeth or gum problems (0–14 years)	121,177	63	. .
	Child born on time (37–41 weeks) (0–3 years)	29,998	56	. .
	Child weighed between 2,500 grams and 4,500 grams at birth (0–3 years)	39,560	73	. .
	Child's mother had regular check-ups while pregnant (0–3 years)	47,014	87	. .
	Child's mother did not have diabetes or sugar problems (0–3 years)	47,149	88	. .
	Child's mother did not have high blood pressure (0–3 years)	43,806	81	. .
	Child's mother took folate prior to and during pregnancy (0–3 years)	8,257	15	. .
	Child's mother took medications or supplements during pregnancy (0–3 years)	22,381	42	. .
	Child's mother did not drink alcohol during pregnancy (0–3 years)	34,359	64	. .
	Child's mother did not smoke/chew tobacco during pregnancy (0–3 years)	24,781	46	. .
	Child's mother did not use illicit drugs/substances during pregnancy (0–3 years)	40,649	75	. .
	Child was breastfed (0–3 years)	40,696	76	. .
	Child usually eats two or more serves of fruit per day—non Remote —(1–14 years)	82,580	60	. .
	Child usually eats five or more serves of vegetables per day—non Remote —(1–14 years)	6,979	5	. .
	Child does not spend more than 2 hours per day being inactive (5–14 years)	42,887	34	. .
	Child spent 60 minutes or more per day being physically active in last week (4–14 years)	103,279	74	. .
	Child did not have problems sleeping in last 4 weeks (0–14 years)	146,366	76	. .
Adult health, social and emotional wellbeing, chronic disease and substance use	Self-assessed health status excellent or very good	143,004	44	44
	Has no disability or long-term health condition	164,157	50	64
	Has not consumed alcohol in last 12 months at risky/high-risk levels	266,458	82	84
	Has not used substances illicitly in last 12 months	228,799	70	71
	Does not have an education restriction due to disability	142,632	46	. .
	Does not have an employment restriction due to disability	125,599	40	. .
	Low/ moderate level of psychological distress (5–11 K5 score)	221,717	68	. .
Smoking	Not a regular smoker	176,408	54	51
	– Tried to quit smoking	39,539	12	. .
	– Tried to reduce smoking	26,313	8	. .
	– Tried both	27,069	8	. .
	No current daily smoker(s) in household—all ages	171,617	33	. .
	No household members smoke inside the house—all ages	372,379	72	. .
Continuing employment	Employed	169,098	52	. .
	2 years or more in current job	90,372	28	. .
	Current job is permanent	129,786	40	. .

(continued)

Table 1.13.7 (continued): Variables contributing to community functionality measure 'Vitality' for Aboriginal and Torres Strait Islander persons(a), Australia 2008 and 2002

Vitality		2008 No.	2008 (%)	2002 (%)
Unemployed and main difficulty finding work	Transport problems/distance	4,674	14	15
	No jobs at all	2,739	8	11
	No jobs in local area or line of work	4,908	15	11
	Insufficient education, training, skills	6,214	19	26
	Own ill health or disability	2,328	7	6
	Racial discrimination(b)	1,466	4	2
	Age(b)	589	2	6
	Have criminal record	811	2	. .
	Don't have driver's licence	2,214	7	. .
	Unable to find suitable child care	979	3	. .
	Total with difficulties	29,679	89	91
Unemployed and use of employment support services in last 12 months	Used services	22,402	67	68
	Did not use services	10,994	33	32
	Needed services	2,482	7	9
	Did not need services	8,512	26	23
Education	Year 12 highest year of school completed, not currently attending secondary school	66,220	20	18
	Total persons 15 years and over not at school	299,689	92	. .
	Has a non-school qualification (persons aged 25–64)	83,257	40	32
Education—adult	Intends to study in the future and currently not studying	109,245	41	. .
	Reasons for future educational intentions:			
	– To gain a promotion	5,874	2	. .
	– To get a better job	32,528	10	. .
	– To get a job	23,693	7	. .
	– Requirement of current job	3,576	1	. .
	– Update training	12,505	4	. .
	– Improve knowledge or skills	47,768	15	. .
	– Improve qualifications	34,584	11	. .
	– Interest	15,568	5	. .
Education—child (2–14 years)	Types of assistance that would help child in secondary school complete Year 12 (cont.) eg:			
	– Greater access to apprenticeships	8,391	25	. .
	– More individual tutoring	11,064	32	. .
	– Schools suitable for culture and/or beliefs	5,901	17	. .
	– Suitable or reliable transport	5,048	15	. .
	– Accessible secondary schools	3,505	10	. .
	– Subsidies or grants to help affordability	8,667	25	. .

(continued)

Table 1.13.7 (continued): Variables contributing to community functionality measure 'Vitality' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Vitality		2008 No.	2008 (%)	2002 (%)
Used child care(informal and formal care) in last week (0–12 years)		93,838	56	. .
	Used formal child care in last week 0–4 years	14,356	22	. .
	Used formal child care in last week 5–12 years	9,389	9	. .
	Total used formal child care in last week (0–12 years)	23,745	14	. .
Main reasons attends child care	Parental work commitments	12,408	52	. .
	Parental study commitments	977	4	. .
	Parent looking for work	537	2	. .
	Parental sport/social/volunteer/community activities	319	1	. .
	To give parent a break or some time alone	2,352	10	. .
	A good way to prepare child for school	1,665	7	. .
	Good for child's intellectual or language development	739	3	. .
	Good for child's social development	3,930	17	. .
Housing (all age groups)	Living in a dwelling that has no major structural problems	370,606	71	60
	Dwelling not overcrowded (Canadian National Occupancy Standard)	375,341	72	74
	Working household facilities for:			
	– Washing people	507,710	98	99
	– Washing clothes and bedding	483,623	93	98
	– Storing/preparing foods	473,942	91	92
	– Sewerage facilities	508,071	98	98
Communication services	Household members used telephone(s) in last month	317,203	97	. .
	Used computer in last 12 months	218,006	67	56
	Used Internet in last 12 months	192,852	59	41
Information Technology—adult	Working computer in home—all ages	299,854	58	. .
	Computer connected to Internet—all ages	224,024	43	. .
	Reasons for using computer in last 12 months—persons aged 15 years and over:			
	– Work or business	95,495	29	. .
	– Education or Study	75,712	23	. .
	– Volunteer or community group activities	14,795	5	. .
	– Personal or private	187,012	57	. .
	Purpose of Internet use in last 12 months—persons aged 15 years and over:			
	– Work/business	79,101	17	. .
	– To pay bills	51,434	11	. .
	– Education/study	135,646	30	. .
	– Volunteer/community groups	12,404	3	. .
	– Buying goods online new/used goods	48,457	11	. .
	– Entertainment or leisure online or general browsing	154,270	34	. .
	– Talking/ communicating with people emails/chat rooms	125,142	28	. .
	– Personal/ private reasons	88,461	20	. .

Table 1.13.7 (continued): Variables contributing to community functionality measure 'Vitality' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Vitality		2008 No.	2008 (%)	2002 (%)
Information Technology—child	Reasons for using computer in last 12 months—child (5–14 years):			
	– School work	98,030	77	. .
	– Playing games	82,542	65	. .
	– Hobbies/non-school activities	36,054	29	. .
	Purpose of Internet use in last 12 months children (5 to 14 years):			
	– Education/ study	68,072	54	. .
	– Entertainment or leisure on-line or general browsing	52,450	41	. .
	– Talking/communicating with people emails/chat rooms	22,729	18	. .
	– Personal/ private reasons	12,420	10	. .
	Total used Internet all persons	281,009	62	. .
Transport	Has access to motor vehicles whenever needed	215,689	66	55
	Holds a current driver's licence—18+ years	184,117	63	. .
	Can easily get to places needed	241,481	74	70
	Used transport in last 2 weeks	317,084	97	. .
	Used public transport in last 2 weeks	91,673	28	. .
	Main reasons for not using public transport:			
	– Prefer to use own transport (or walk)	100,311	31	29
	– No service available (to destination)	3,509	1	. .
	– No service available/convenient time	10,495	3	4
	– Cost considerations	2,819	1	1
	– Takes too long	3,461	1	. .
	– Health reasons	3,106	1	. .
Income	Equivalised gross household income 3rd quintile or above	92,063	35	25
Main current source of personal income	CDEP	15,023	5	10
	Other wages/salaries	131,781	40	29
	Government pensions and allowances	132,841	41	50
	Other sources	6,948	2	. .
	Total in labour force	202,511	62	60
Total persons aged 15 years and over		327,001	100	. .

(a) Ages 15 and over unless otherwise stated.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS analysis of 2008 NATSISS.

Score distribution

Figures 1.13.2 through to 1.13.9 show the distribution of the calculated community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years of age and 15 years and over. The total area under the curve is 100, whereby the weight for each theme and the weight of data items within each theme have been taken into account. The greater the score, the stronger the community's functioning. Medians have been noted in text to illustrate the midpoint of a distribution.

- Community functioning scores vary by age, with the strongest scores being in the 35 to 54 year age group (median score 45).
- Community functioning scores do not have major differences by sex for persons aged 0 to 14 years (median score 20 for male, 21 for females), and for persons aged 15 years and over (median score 44 for males, 43 for females).
- Community functioning scores are greater for persons aged 0 to 14 years in *Remote* (median score 23) than in non-remote areas (median score 20), and are slightly greater for persons aged 15 years and over in remote areas (median score 44) than in non-remote area (median score 43).
- Community functioning scores vary by jurisdiction. Scores are strongest for persons age 0 to 14 years in the Northern Territory (median score 23) and strongest in the Australian Capital Territory (median score 49) for persons aged 15 years and over.

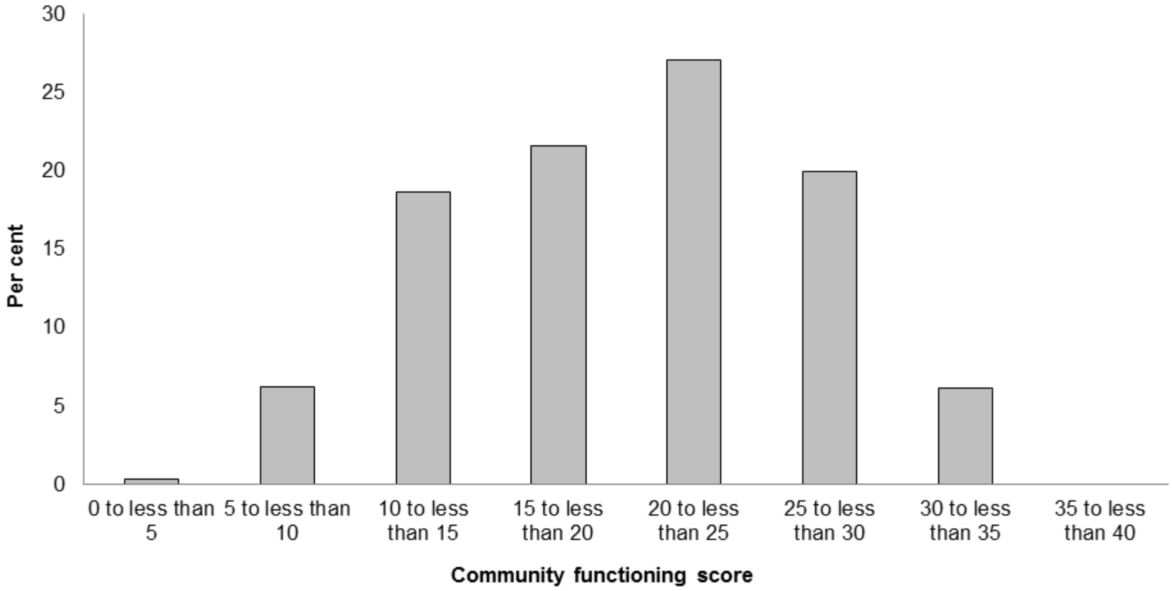
Select variables contributing to community functioning scores for 0–14 year olds and for persons aged 15 years and over are provided in tables 1.13.9 to 1.13.12.

Table 1.13.8: Median community functioning scores for Aboriginal and Torres Strait Islander persons, by age group, Australia 2008

Median score by sex	0–14	15+	Median score by age group	
Male	20	44	0–14	21
Female	21	43	15–34	43
			35–54	45
			55+	42

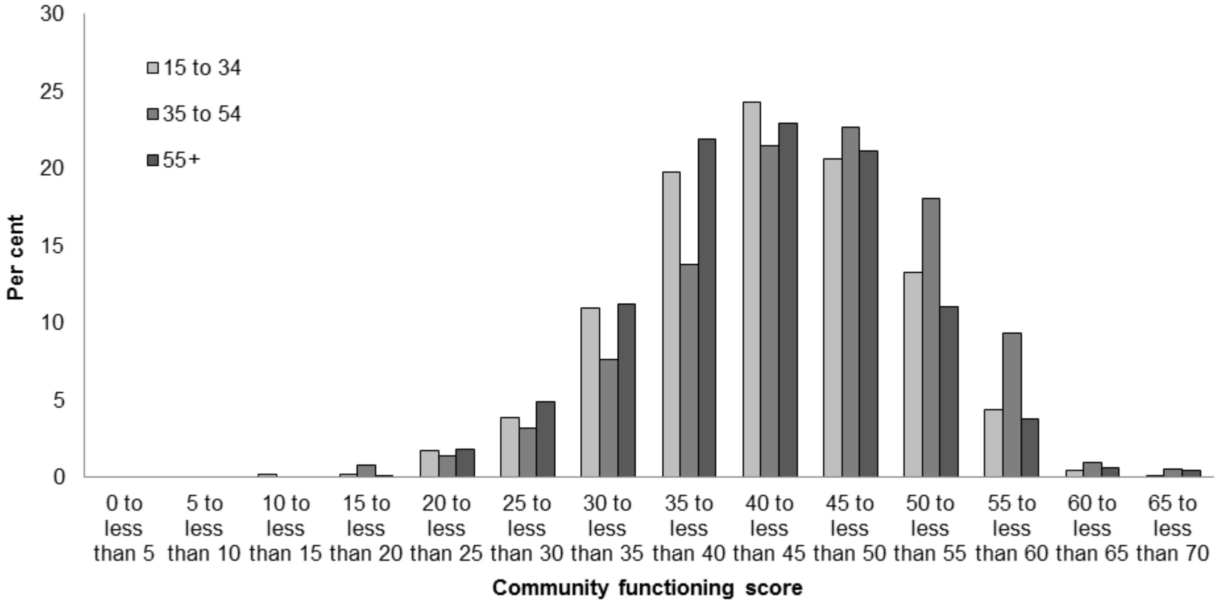
Median score by state	0–14	15+	Median score by remoteness	0–14	15+
New South Wales	20	42	*Major cities* of Australia	20	44
Victoria	19	44	*Inner regional* Australia	20	43
Queensland	21	44	*Outer regional* Australia	20	43
South Australia	21	44	*Remote* Australia	22	44
Western Australia	20	44	*Very remote* Australia	23	45
Tasmania	19	43	Non-remote	20	43
Northern Territory	23	45	Remote	23	44
Australian Capital Territory	21	49			

Source: ABS analysis of 2008 NATSISS.



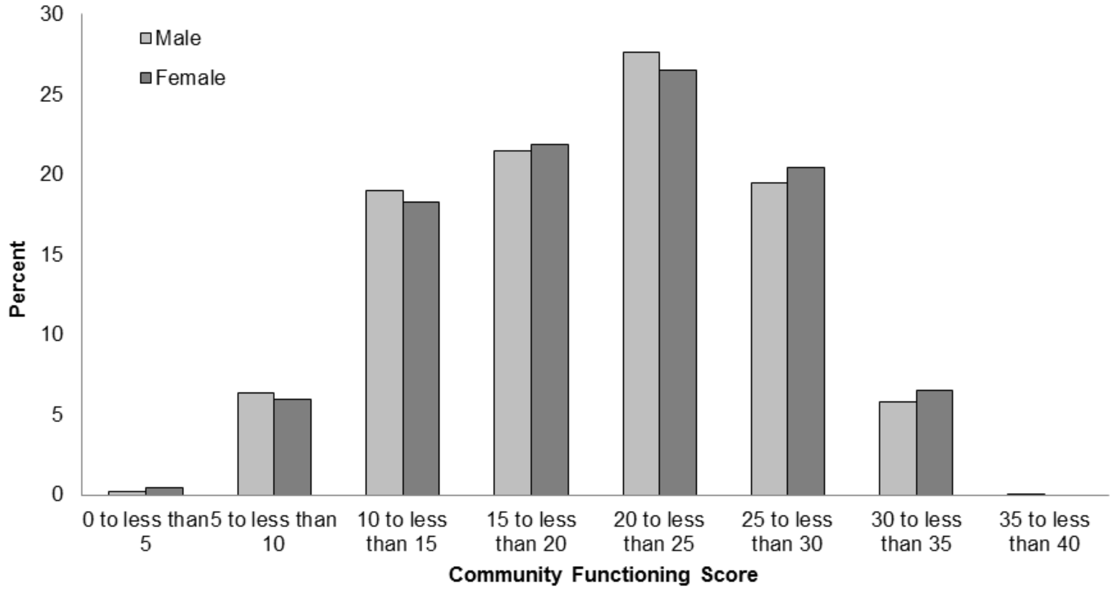
Source: ABS analysis of 2008 NATSISS.

Figure 1.13.2: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years, Australia 2008



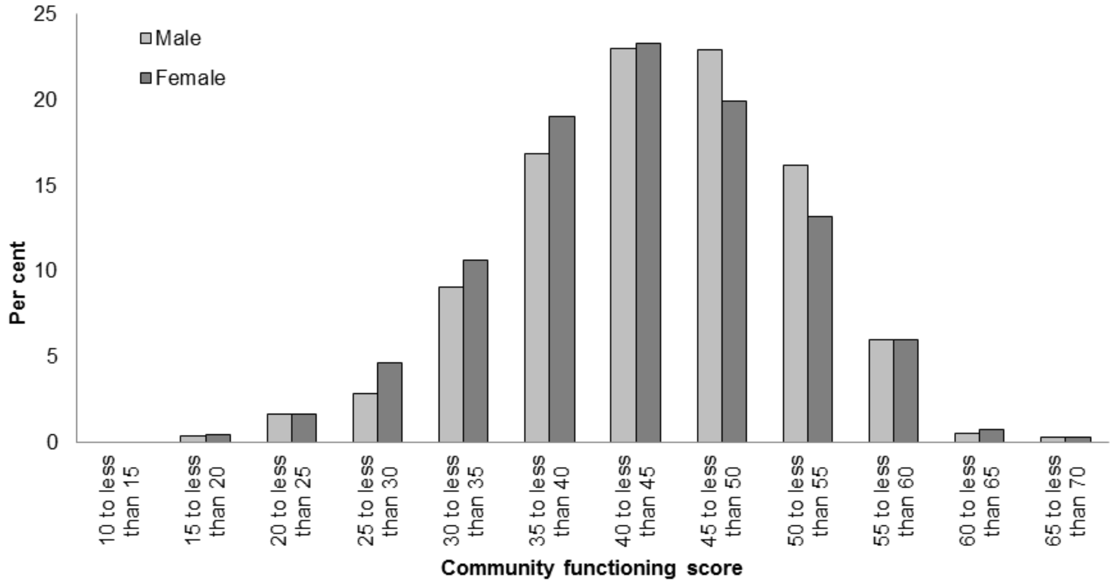
Source: ABS analysis of 2008 NATSISS.

Figure 1.13.3: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 15 years and over, Australia 2008



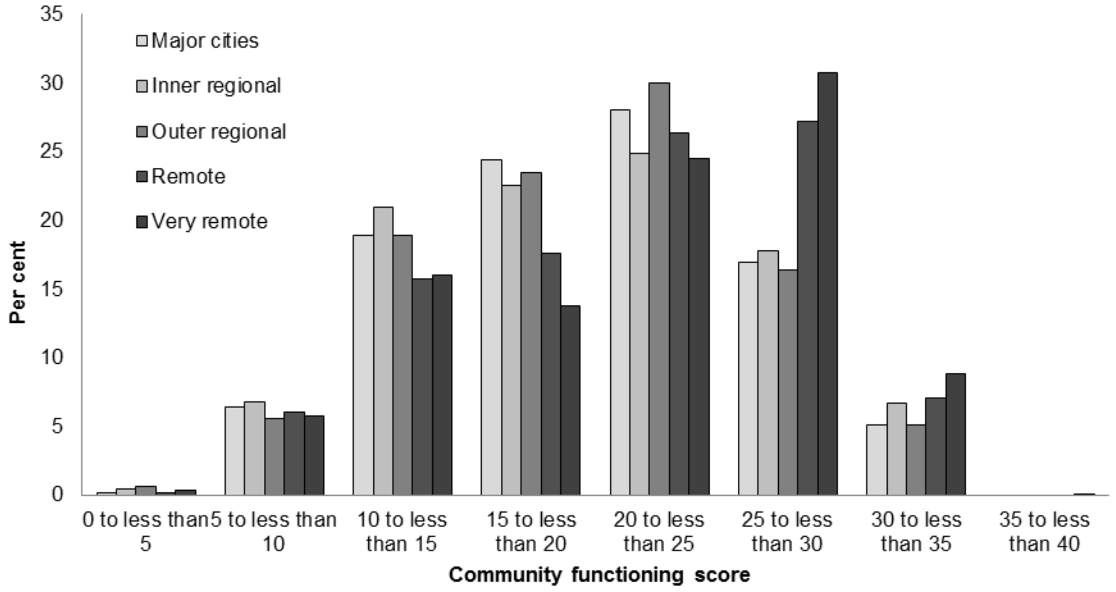
Source: ABS analysis of 2008 NATSISS.

Figure 1.13.4: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years, by sex, Australia 2008



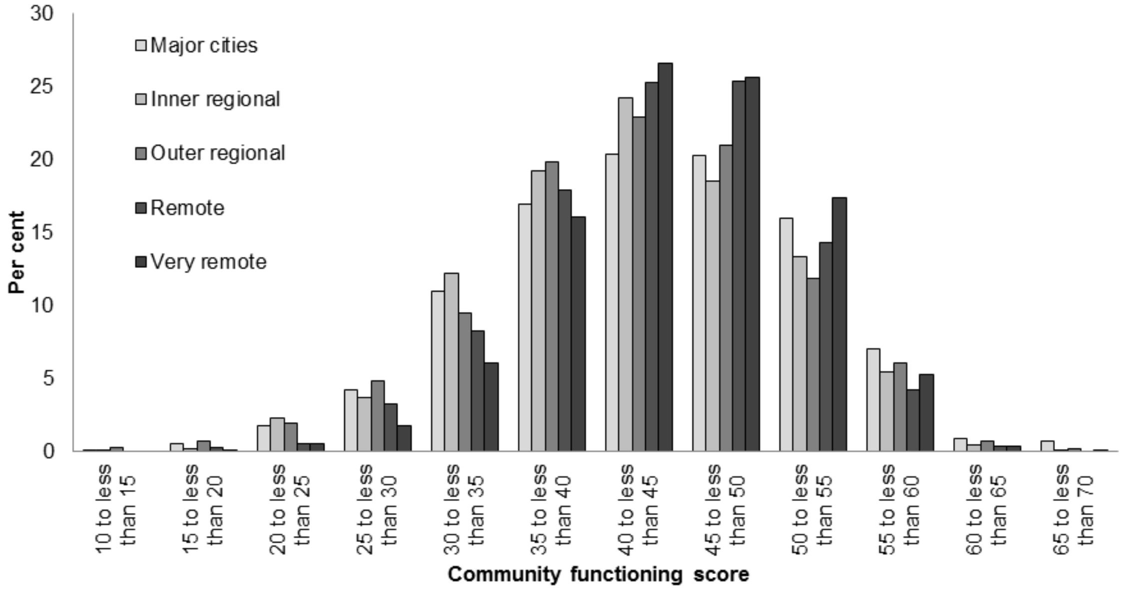
Source: ABS analysis of 2008 NATSISS.

Figure 1.13.5: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 15 years and over, by sex, Australia 2008



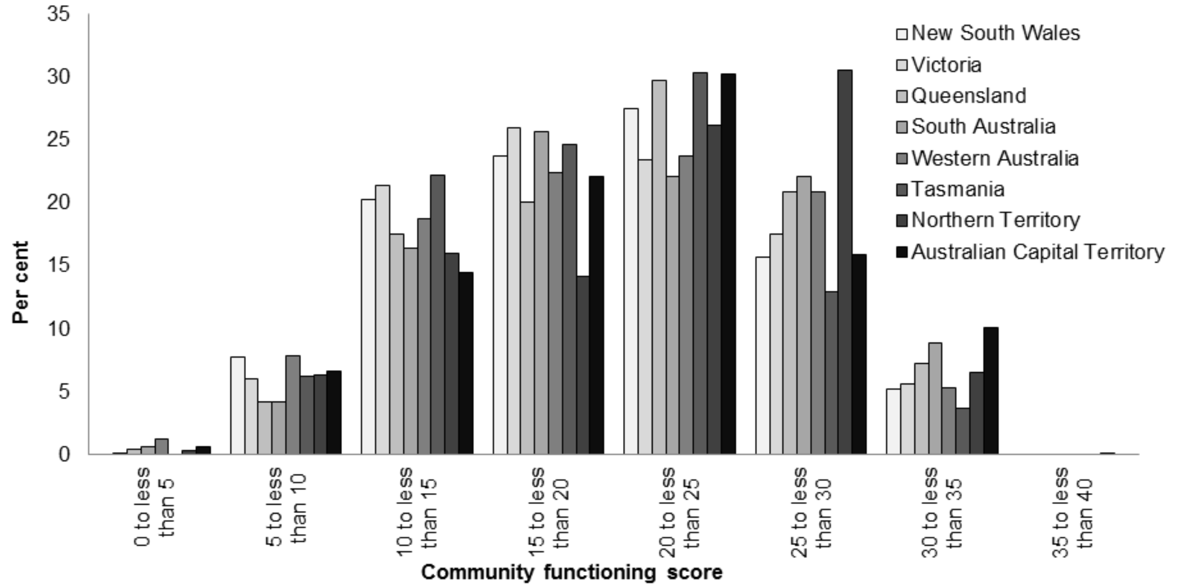
Source: ABS analysis of 2008 NATSISS.

Figure 1.13.6: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years, by remoteness, Australia 2008



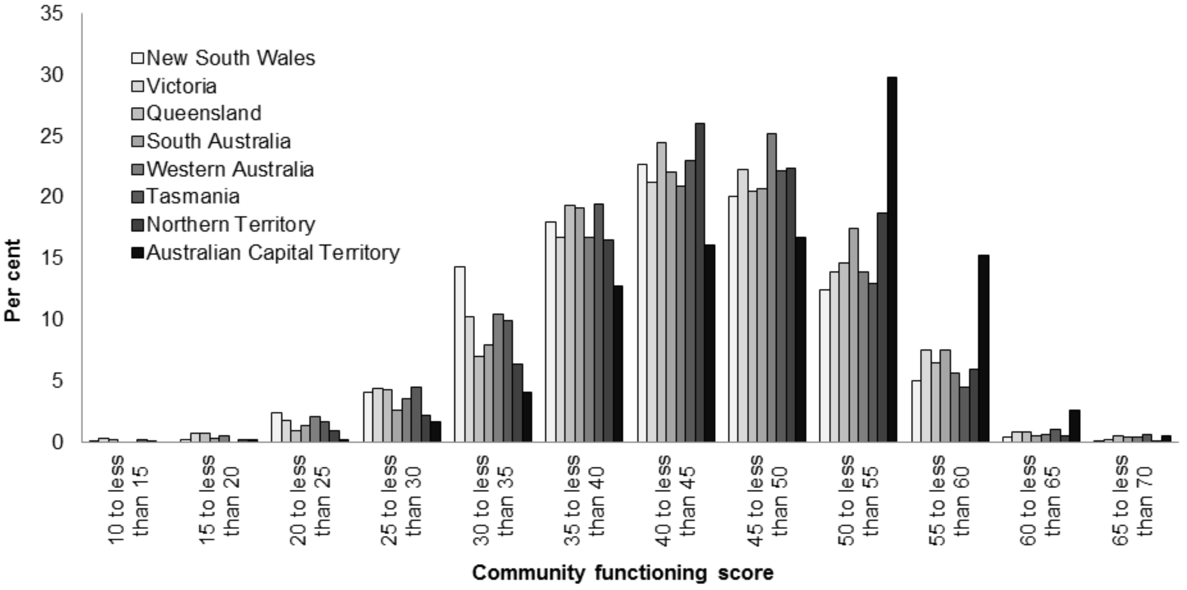
Source: ABS analysis of 2008 NATSISS

Figure 1.13.7: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 15 years and over, by remoteness, Australia 2008



Source: ABS analysis of 2008 NATSISS

Figure 1.13.8: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years, by state/territory, Australia 2008



Source: ABS analysis of 2008 NATSISS

Figure 1.13.9: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 15 years and over, by state/territory, Australia 2008

Table 1.13.9: Community functioning for Aboriginal and Torres Strait Islander persons, by age group, Australia 2008

	15 to 34		35 to 54		55 and over		Total 15+	
	No.	%	No.	%	No.	%	No.	%
Connectedness to family land and history, culture, identity								
Recognises homelands	113,764	66	87,918	79	32,700	77	234,383	72
Speaks an Aboriginal/Torres Strait Islander language	29,738	17	23,105	21	9,787	23	62,629	19
Attended Aboriginal and Torres Strait Islander cultural event in last 12 months	108,638	63	72,084	65	24,952	59	205,674	63
Identifies with clan group or language group	97,157	56	77,812	70	28,138	66	203,106	62
Feels able to have a say with family and friends some, most or all of the time	153,957	89	100,991	91	37,427	88	292,375	89
Contact with family or friends outside household at least once per week	166,284	96	102,217	92	39,014	92	307,515	94
Has friends can confide in	136,084	78	80,530	73	30,034	71	246,649	75
Able to get support in time of crisis from outside household—from family member	141,102	81	88,227	80	32,177	76	261,506	80
Provides support to relatives outside household	74,459	43	71,281	64	21,152	50	166,892	51
Resilience								
Did not feel discriminated against in last 12 months	125,838	72	77,102	70	34,872	82	237,812	73
Did not avoid situations due to past discrimination	119,322	69	72,855	66	33,330	78	225,507	69
Can visit homelands(a)	67,801	70	56,649	73	21,566	77	146,017	72
Involvement with Aboriginal/Torres Strait Islander organisation	23,361	13	27,545	25	8,611	20	59,516	18
Work allows for and can meet cultural responsibilities(b)	35,923	41	32,534	47	6,571	55	75,028	44
Used strategies to meet living expenses	71,078	41	37,359	34	10,711	25	119,147	36
No community problems reported	46,208	27	24,621	22	13,498	32	84,327	26
No problems reported for alcohol	101,512	58	61,953	56	28,674	67	192,138	59
No problems reported for illicit drugs	109,330	63	68,697	62	30,012	70	208,039	64
No problems reported for family violence	132,287	76	80,209	72	33,442	79	245,938	75
No problems reported for sexual assault	154,233	89	95,411	86	39,281	92	288,926	88
Agrees that most people can be trusted	62,102	36	40,184	36	16,689	39	118,975	36
Agrees that their doctor can be trusted	138,253	80	86,543	78	35,980	84	260,777	80
Agrees that the hospital can be trusted	114,324	66	61,636	56	28,229	66	204,189	62
Agrees that police in the local area can be trusted	88,337	51	57,187	52	24,793	58	170,317	52
Agrees that police outside the local area can be trusted	72,504	42	43,389	39	17,470	41	133,362	41

(continued)

Table 1.13.9 (continued): Community functioning for Aboriginal and Torres Strait Islander persons, by age group, Australia 2008

	15 to 34		35 to 54		55 and over		Total 15+	
	No.	%	No.	%	No.	%	No.	%
Agrees that the local school can be trusted	120,787	70	76,510	69	27,437	64	224,734	69
Knows someone in organisation/comfortable contacting	59,944	35	53,218	48	18,849	44	132,011	40
Adult participated in sport/social/community activities in last 3 months	156,169	90	97,358	88	35,855	84	289,381	89
Leadership								
Child spent time with an Indigenous leader or elder in last week (children aged 3–14 years)	. .	. .	. .	. .	. .	. .	65,035	42
Encouragement from elders and council would help child (2–14 years) complete Year 12	. .	. .	. .	. .	. .	. .	7,504	5
Structure and routine/having a role								
Can communicate with English speakers without difficulty (Indigenous language is main language spoken at home)	13,999	8	9,020	8	4,159	10	27,179	8
In the last 12 months, has lived in only one dwelling	124,532	72	92,545	84	38,080	89	255,157	78
Activities were undertaken with child doing informal learning activities in the last week (0–14 years)	. .	. .	. .	. .	. .	. .	180,736	94
Feeling safe								
Felt safe at home alone during the day	162,309	93	103,883	94	39,701	93	305,892	94
Felt safe at home alone after dark	133,812	77	93,873	85	33,729	79	261,414	80
Felt safe walking alone in local area after dark	95,346	55	59,863	54	16,838	40	172,047	53
Not a victim of physical or threatened violence in the last 12 months	121,750	70	85,553	77	39,069	92	246,372	75
Indigenous culture taught at school (2–14 years attending school)	. .	. .	. .	. .	. .	. .	87,833	63
Was taught Indigenous culture at school or as part of further studies	102,907	59	39,118	35	6,567	15	148,592	45
Learnt about own Indigenous clan / language	35,203	20	17,818	16	2,926	7	55,947	17
Child neither bullied nor treated unfairly at school because Indigenous (2–14 years attending school excl. home school)	. .	. .	. .	. .	. .	. .	112,159	81
Vitality								
Self-assessed health status excellent or very good	95,001	55	38,609	35	9,394	22	143,004	44
Has no disability or long term-health condition	107,629	62	46,932	42	9,597	23	164,157	50
Does not have an education restriction due to disability[(c)]	60,671	92	63,065	99	19,965	99	143,701	96
Does not have an employment restriction due to disability[(c)]	56,721	86	52,128	82	17,831	88	126,681	84
Low/ moderate level of psychological distress (5–11 K5 score)	119,341	69	73,076	66	29,301	69	221,717	68

(continued)

Table 1.13.9 (continued): Community functioning for Aboriginal and Torres Strait Islander persons, by age group, Australia 2008

	15 to 34		35 to 54		55 and over		Total 15+	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Employed[d]	87,546	78	69,604	89	11,948	96	169,098	84
Living in a dwelling that has no major structural problems	121,544	70	79,248	72	32,160	75	232,951	71
Household members used telephone(s) in last month	169,038	97	107,196	97	40,968	96	317,203	97
Used computer in last 12 months	134,313	77	70,066	63	13,627	32	218,006	67
Used Internet in last 12 months	122,876	71	60,184	54	9,793	23	192,852	59
Has access to motor vehicles whenever needed	98,481	57	88,115	80	29,093	68	215,689	66
Can easily get to places needed	122,099	70	86,247	78	33,135	78	241,481	74
Equivalised gross household income in 3rd quintile or above	85,690	49	48,259	44	25,313	59	159,261	49
Total persons aged 15 years and over	**173,711**	**100**	**110,763**	**100**	**42,627**	**100**	**327,101**	**100**

(a) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders who identify with a clan group.

(b) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders who are employed.

(c) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders who have a disability.

(d) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders in the labour force.

Source: ABS analysis of 2008 NATSISS.

Table 1.13.10: Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over[(a)(b)], by sex, Australia 2008

	Males		Females		Total	
	No.	%	No.	%	No.	%
Connectedness to family land and history, culture, identity						
Recognises homelands	114,402	73	119,981	70	234,383	72
Speaks an Aboriginal/Torres Strait Islander language	31,994	21	30,636	18	62,629	19
Attended Aboriginal and Torres Strait Islander cultural event in last 12 months	91,804	59	113,871	67	205,674	63
Identifies with clan group or language group	98,781	63	104,325	61	203,106	62
Feels able to have a say with family and friends some, most or all of the time	138,155	89	154,220	90	292,375	89
Contact with family or friends outside household at least once per week	144,391	93	163,124	95	307,515	94
Has friends can confide in	114,720	74	131,929	77	246,649	75
Able to get support in time of crisis from outside household—from family	122,982	79	138,523	81	261,506	80
Provides support to relatives outside household	77,654	50	89,238	52	166,892	51
Resilience						
Did not feel discriminated against in last 12 months	112,582	72	125,230	73	237,812	73
Did not avoid situations due to past discrimination	107,002	69	118,505	69	225,507	69
Can visit homelands[(c)]	70,387	71	75,629	72	146,017	72
Involvement with Aboriginal/Torres Strait Islander organisation	24,411	16	35,105	21	59,516	18
Work allows for cultural responsibilities—can meet responsibilities[(d)]	41,488	44	33,541	45	75,028	44
Used strategies to meet living expenses	53,036	34	66,112	39	119,147	36
No community problems reported	42,324	27	42,003	25	84,327	26
No problems reported for alcohol	90,537	58	101,601	59	192,138	59
No problems reported for illicit drugs	98,665	63	109,374	64	208,039	64
No problems reported for family violence	119,543	77	126,395	74	245,938	75
No problems reported for sexual assault	138,589	89	150,337	88	288,926	88
Agrees that most people can be trusted	62,527	40	56,448	33	118,975	36
Agrees that their doctor can be trusted	122,755	79	138,022	81	260,777	80
Agrees that the hospital can be trusted	103,454	66	100,735	59	204,189	62
Agrees that police in the local area can be trusted	79,367	51	90,950	53	170,317	52
Agrees that police outside the local area can be trusted	64,110	41	69,251	41	133,362	41
Agrees that the local school can be trusted	107,062	69	117,672	69	224,734	69
Knows someone in organisation/comfortable contacting	60,920	39	71,091	42	132,011	40
Adult participated in sport/social/community activities in last 3 months	136,826	88	152,555	89	289,381	89

(continued)

Table 1.13.10 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over[(a)(b)], by sex, Australia 2008

	Males		Females		Total	
	No.	%	No.	%	No.	%
Leadership						
Child spent time with an Indigenous leader or elder in last week (children aged 3–14 years)	33,483	43	31,552	42	65,035	42
Encouragement from elders and council would help child (2–14 years)complete year 12	3,623	4	3,881	5	7,504	5
Structure and routine/having a role						
Can communicate with English speakers without difficulty (Indigenous language is main language spoken at home)	12,962	8	14,217	8	27,179	8
In the last 12 months, has lived in only one dwelling	121,703	78	133,454	78	255,157	78
Feeling safe						
Felt safe at home alone during the day	150,733	97	155,159	91	305,892	94
Felt safe at home alone after dark	142,431	91	118,983	70	261,414	80
Felt safe walking alone in local area after dark	112,743	72	59,305	35	172,047	53
Not a victim of physical or threatened violence in the last 12 months:	117,868	76	128,504	75	246,372	75
Was taught Indigenous culture at school or as part of further studies	69,089	44	79,504	47	148,592	45
Learnt about own Indigenous clan / language	25,817	17	30,129	18	55,947	17
Vitality						
Self-assessed health status excellent or very good	72,507	47	70,497	41	143,004	44
Has no disability or long term-health condition	80,396	52	83,761	49	164,157	50
Does not have an education restriction due to disability[(e)]	67,946	96	75,754	95	143,701	96
Does not have an employment restriction due to disability[(e)]	58,482	83	68,198	86	126,681	84
Low/ moderate level of psychological distress (5–11 K5 score)	111,245	71	110,473	65	221,717	68
Employed[(f)]	94,464	84	74,633	83	169,098	84
Living in a dwelling that has no major structural problems	112,896	72	120,056	70	232,951	71
Household members used telephone(s) in last month	151,574	97	165,629	97	317,203	97
Used computer in last 12 months	98,348	63	119,659	70	218,006	67
Used Internet in last 12 months	87,879	56	104,973	61	192,852	59
Has access to motor vehicles whenever needed	105,546	68	110,142	64	215,689	66
Can easily get to places needed	118,978	76	122,503	72	241,481	74
Equivalised gross household income in 3rd quintile or above	70,680	45	88,582	52	159,261	49
Total persons aged 15 years and over	**156,052**	**100**	**171,049**	**100**	**327,101**	**100**

(a) Unless otherwise indicated, data are for Aboriginal and Torres Strait Islander population aged 15 years and over.

(b) Unless otherwise indicated, proportions are of the estimated total Aboriginal and Torres Strait Islander population aged 15 years and over. Where another population is indicated, this has been used to calculate proportions.

(c) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who identify with a clan group.

(d) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who are employed.

(e) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who have a disability.

(f) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over in the labour force.

Source: ABS analysis of 2008 NATSISS.

Table 1.13.11: Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over(a)(b), by remoteness, Australia, 2008

	Major cities		Inner regional		Outer regional		Non remote		Remote		Very remote		Total Remote		Australia	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Connectedness to family land and history, culture, identity																
Recognises homelands	70,638	67	42,750	63	50,847	70	164,235	67	23,877	80	46,271	90	70,148	86	234,383	72
Speaks an Aboriginal/Torres Strait Islander language	8,274	8	2,373	4	8,369	12	19,017	8	9,406	32	34,207	66	43,613	54	62,629	19
Attended Aboriginal and Torres Strait Islander cultural event in last 12 months	59,370	56	35,423	53	45,307	62	140,100	57	22,393	75	43,181	84	65,574	81	205,674	63
Identifies with clan group or language group	60,403	57	35,259	52	42,008	58	137,670	56	21,372	72	44,065	85	65,437	80	203,106	62
Feels able to have a say with family and friends some, most or all of the time	95,217	91	62,342	93	64,657	89	222,216	91	26,512	89	43,647	85	70,159	86	292,375	89
Contact with family or friends outside household at least once per week	98,999	94	63,159	94	68,578	94	230,735	94	28,391	95	48,389	94	76,779	94	307,515	94
Has friends can confide in	85,855	82	54,594	81	55,993	77	196,442	80	21,871	73	28,336	55	50,207	62	246,649	75
Able to get support in time of crisis from outside household—from family member	83,858	80	53,940	80	56,615	78	194,413	79	25,763	86	41,330	80	67,092	82	261,506	80
Provides support to relatives outside household	52,796	50	28,219	42	36,624	50	117,639	48	17,728	59	31,525	61	49,253	60	166,892	51
Resilience																
Did not feel discriminated against in last 12 months	75,139	71	50,498	75	52,115	71	177,752	72	20,913	70	39,148	76	60,060	74	237,812	73
Did not avoid situations due to past discrimination	71,270	68	48,861	73	49,053	67	169,185	69	19,746	66	36,576	71	56,322	69	225,507	69
Can visit homelands(c)	58,248	96	23,890	68	30,581	73	112,719	82	13,672	64	19,626	45	33,297	51	146,017	72

(continued)

Table 1.13.11 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over(a)(b), by remoteness, Australia 2008

	Major cities		Inner regional		Outer regional		Non remote		Remote		Very remote		Total Remote		Australia	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Involvement with Aboriginal/Torres Strait Islander organisation	22,346	21	12,277	18	12,280	17	46,903	19	5,051	17	7,563	15	12,613	16	59,516	18
Work allows for cultural responsibilities—can meet responsibilities(d)	21,091	35	11,840	36	14,683	41	47,614	37	7,508	54	19,906	75	27,414	68	75,028	44
Used strategies to meet living expenses	40,081	38	22,070	33	25,663	35	87,815	36	12,816	43	18,517	36	31,333	38	119,147	36
No community problems reported	22,107	21	20,618	31	22,745	31	65,469	27	5,993	20	12,864	25	18,857	23	84,327	26
No problems reported for alcohol	64,327	61	46,305	69	43,932	60	154,564	63	12,834	43	24,741	48	37,575	46	192,138	59
No problems reported for illicit drugs	64,970	62	46,642	69	49,584	68	161,196	66	16,913	57	29,930	58	46,843	58	208,039	64
No problems reported for family violence	82,384	78	55,264	82	56,829	78	194,477	79	18,707	63	32,754	63	51,461	63	245,938	75
No problems reported for sexual assault	92,713	88	62,427	93	65,184	89	220,324	90	25,505	86	43,096	83	68,601	84	288,926	88
Agrees that most people can be trusted	37,951	36	22,682	34	23,487	32	84,120	34	11,431	38	23,424	45	34,855	43	118,975	36
Agrees that their doctor can be trusted	85,133	81	56,331	84	56,829	78	198,293	81	23,214	78	39,270	76	62,484	77	260,777	80
Agrees that the hospital can be trusted	62,001	59	41,123	61	41,062	56	144,185	59	20,145	68	39,859	77	60,004	74	204,189	62
Agrees that police in the local area can be trusted	55,047	52	35,192	52	32,474	45	122,713	50	15,888	53	31,716	61	47,604	58	170,317	52
Agrees that police outside the local area can be trusted	45,966	44	29,363	44	24,705	34	100,034	41	10,498	35	22,829	44	33,327	41	133,362	41

(continued)

Table 1.13.11 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over[(a)(b)], by remoteness, Australia 2008

	Major cities		Inner regional		Outer regional		Non remote		Remote		Very remote		Total Remote		Australia	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Agrees that the local school can be trusted	69,805	66	42,575	63	48,244	66	160,625	65	21,607	72	42,503	82	64,110	79	224,734	69
Knows someone in organisation/comfortable contacting	57,279	54	34,891	52	39,841	55	132,011	54	. .	. .	. .	. .	. .	. .	132,011	40
Adult participated in sport/ social/community activities in last 3 months	92,036	88	59,611	88	63,525	87	215,172	88	27,128	91	47,081	91	74,209	91	289,381	89
Leadership																
Child spent time with an Indigenous leader or elder in last week (children aged 3–14 years)	16,218	33	13,334	38	12,616	38	42,167	36	7,773	52	15,094	70	22,867	63	65,035	42
Encouragement from elders and council would help child (2–14 years) complete year 12	2,556	5	1,262	3	1,273	4	5,090	4	635	4	1,779	8	2,414	6	7,504	5
Structure and routine/having a role																
Can communicate with English speakers without difficulty (Indigenous language is main language spoken at home)	524	1	119	0	2,408	3	3,051	1	4,015	14	20,113	39	24,127	30	27,179	8
In the last 12 months, has lived in only one dwelling	83,802	80	49,366	73	57,751	79	190,919	78	23,509	79	40,729	79	64,237	79	255,157	78
Feeling safe																
Felt safe at home alone during the day	97,045	92	62,775	93	68,344	94	228,164	93	28,191	95	49,537	96	77,729	95	305,892	94
Felt safe at home alone after dark	83,590	79	53,426	79	57,915	79	194,931	79	23,284	78	43,199	84	66,483	82	261,414	80

(continued)

Table 1.13.11 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over[(a)(b)], by remoteness, Australia 2008

	Major cities		Inner regional		Outer regional		Non remote		Remote		Very remote		Total Remote		Australia	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Felt safe walking alone in local area after dark	53,476	51	31,413	47	37,718	52	122,607	50	15,807	53	33,633	65	49,440	61	172,047	53
Not a victim of physical or threatened violence in the last 12 months	77,391	74	51,088	76	54,334	75	182,813	74	22,331	75	41,229	80	63,559	78	246,372	75
Was taught Indigenous culture at school or as part of further studies	47,953	46	29,875	44	30,048	41	107,877	44	12,782	43	27,933	54	40,716	50	148,592	45
Learnt about own Indigenous clan / language	12,621	12	7,763	12	9,433	13	29,816	12	6,777	23	19,353	38	26,130	32	55,947	17
Vitality																
Self-assessed health status excellent or very good	45,988	44	32,847	49	28,430	39	107,265	44	11,565	39	24,174	47	35,739	44	143,004	44
Has no disability or long term-health condition	48,867	46	36,272	54	37,262	51	122,402	50	14,333	48	27,422	53	41,755	51	164,157	50
Does not have an education restriction due to disability[(e)]	49,251	93	27,877	96	31,607	97	108,736	95	13,791	98	21,174	97	34,965	98	143,701	96
Does not have an employment restriction due to disability[(e)]	42,489	80	25,904	90	27,796	85	96,190	84	12,493	89	17,998	83	30,491	85	126,681	84
Low/ moderate level of psychological distress (5–11 K5 score)	71,015	68	47,349	70	48,290	66	166,654	68	19,981	67	35,082	68	55,063	68	221,717	68
Employed[(f)]	59,986	83	32,762	81	35,745	84	128,493	83	13,927	82	26,677	87	40,605	85	169,098	84
Living in a dwelling that has no major structural problems	79,594	76	54,273	81	49,679	68	183,546	75	19,667	66	29,738	58	49,405	61	232,951	71
Household members used telephone(s) in last month	104,137	99	67,080	100	71,694	98	242,911	99	27,686	93	46,606	90	74,291	91	317,203	97

(continued)

Table 1.13.11 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over[(a)(b)], by remoteness, Australia 2008

	Major cities		Inner regional		Outer regional		Non remote		Remote		Very remote		Total Remote		Australia	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Used computer in last 12 months	85,626	81	50,771	75	46,467	64	182,864	75	14,133	47	21,009	41	35,142	43	218,006	67
Used Internet in last 12 months	77,637	74	45,903	68	41,111	56	164,652	67	11,801	40	16,400	32	28,201	35	192,852	59
Has access to motor vehicles whenever needed	74,416	71	45,288	67	49,885	68	169,589	69	17,931	60	28,168	55	46,100	57	215,689	66
Can easily get to places needed	83,514	79	50,059	74	53,876	74	187,449	76	21,115	71	32,917	64	54,032	66	241,481	74
Equivalised gross household income in 3rd quintile or above	42,126	40	35,491	53	38,444	53	116,061	47	15,056	51	28,144	55	43,200	53	159,261	49
Total persons	**105,217**	**100**	**67,416**	**100**	**72,967**	**100**	**245,600**	**100**	**29,839**	**100**	**51,662**	**100**	**81,501**	**100**	**327,101**	**100**

(a) Unless otherwise indicated, data are for Aboriginal and Torres Strait Islander population aged 15 years and over.

(b) Unless otherwise indicated, proportions are of the estimated total Aboriginal and Torres Strait Islander population aged 15 years and over. Where another population is indicated, this has been used to calculate proportions.

(c) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who identify with a clan group.

(d) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who are employed.

(e) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who have a disability.

(f) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over in the labour force.

Source: ABS analysis of 2008 NATSISS.

Table 1.13.12: Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over(a)(b), by state/territory, Australia 2008

	NSW		Vic		Qld		SA		WA		Tas		ACT		NT		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Connectedness to family land and history, culture, identity																		
Recognises homelands	62,120	65	14,917	68	66,089	73	14,374	80	32,705	75	5,717	46	2,151	77	36,309	88	234,383	72
Speaks an Aboriginal/Torres Strait Islander language	3,056	3	1,342	6	17,316	19	4,648	26	9,907	23	198	2	326	12	25,837	63	62,629	19
Attended Aboriginal and Torres Strait Islander cultural event in last 12 months	53,100	55	11,711	53	59,051	65	11,665	65	30,673	70	3,887	32	2,033	72	33,554	81	205,674	63
Identifies with clan group or language group	49,842	52	12,952	59	58,122	64	13,046	73	27,325	62	4,571	37	1,983	71	35,265	85	203,106	62
Feels able to have a say with family and friends some, most or all of the time	87,059	90	19,578	89	82,323	91	16,095	90	39,019	89	11,536	93	2,658	95	34,107	83	292,375	89
Contact with family or friends outside household at least once per week	91,738	95	20,299	93	83,605	92	17,368	97	41,515	95	11,978	97	2,733	97	38,278	93	307,515	94
Has friends can confide in	78,095	81	17,501	80	70,146	77	13,845	77	30,901	71	10,324	84	2,334	83	23,503	57	246,649	75
Resilience																		
Did not feel discriminated against in last 12 months	72,679	75	15,874	72	64,923	72	12,149	68	29,042	66	11,205	91	1,803	64	30,136	73	237,812	73
Did not avoid situations due to past discrimination	70,442	73	14,709	67	61,503	68	11,128	62	26,719	61	10,837	88	1,662	59	28,508	69	225,507	69
Can visit homelands(c)	31,698	64	10,473	81	49,716	86	10,711	82	19,223	70	3,024	66	1,895	96	19,277	55	146,017	72
Involvement with Aboriginal/Torres Strait Islander organisation	16,907	18	5,954	27	16,493	18	3,880	22	7,143	16	1,084	9	1,169	42	6,886	17	59,516	18
Work allows for cultural responsibilities—can meet responsibilities(d)	16,923	39	3,831	33	21,573	42	4,396	49	12,558	53	1,488	21	797	40	13,462	67	75,028	44
Used strategies to meet living expenses	35,055	36	8,347	38	30,020	33	7,094	40	18,393	42	3,649	30	811	29	15,778	38	119,147	36
No community problems reported	22,155	23	5,572	25	26,566	29	4,354	24	10,116	23	3,369	27	717	26	11,478	28	84,327	26
No problems reported for alcohol	55,245	57	13,780	63	56,040	62	10,967	61	22,229	51	8,763	71	2,063	73	23,052	56	192,138	59

(continued)

Table 1.13.12 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over[(a)(b)], by state/territory, Australia 2008

	NSW		Vic		Qld		SA		WA		Tas		ACT		NT		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No problems reported for illicit drugs	56,777	59	14,575	66	60,459	67	11,917	66	25,281	58	8,707	71	2,120	75	28,203	68	208,039	64
No problems reported for family violence	71,788	75	17,662	81	72,392	80	13,847	77	28,906	66	10,909	88	2,422	86	28,012	68	245,938	75
No problems reported for sexual assault	83,117	86	19,885	91	80,626	89	16,341	91	38,433	88	11,746	95	2,642	94	36,136	88	288,926	88
Agrees that most people can be trusted	35,105	36	7,473	34	31,669	35	6,038	34	15,158	35	4,918	40	1,127	40	17,486	42	118,975	36
Agrees that their doctor can be trusted	79,460	83	17,622	80	71,202	79	14,253	79	34,625	79	10,882	88	2,333	83	30,399	74	260,777	80
Agrees that the hospital can be trusted	56,586	59	12,623	58	54,747	60	12,293	69	29,138	67	7,861	64	1,656	59	29,286	71	204,189	62
Agrees that police in the local area can be trusted	47,827	50	11,313	52	44,837	50	9,750	54	23,225	53	8,369	68	1,545	55	23,452	57	170,317	52
Agrees that police outside the local area can be trusted	38,633	40	9,249	42	34,923	39	6,686	37	18,771	43	7,588	61	1,078	38	16,434	40	133,362	41
Agrees that the local school can be trusted	61,921	64	14,170	65	61,065	67	11,906	66	32,502	74	8,478	69	1,816	65	32,877	80	224,734	69
Knows someone in organisation/comfortable contacting	45,275	47	14,109	64	36,582	40	8,667	48	13,358	31	7,080	57	1,711	61	5,228	13	132,011	40
Adult participated in sport/social/community activities in last 3 months	81,452	85	19,740	90	82,146	91	16,132	90	38,040	87	11,081	90	2,661	95	38,129	92	289,381	89
Leadership																		
Child spent time with an Indigenous leader or elder in last week (children aged 3–14 years)	15,914	35	3,627	37	18,549	41	4,135	51	10,183	50	1,219	23	513	42	10,895	62	65,035	42
Encouragement from elders and council would help child (2–14 years) complete year 12	1,545	3	542	5	1,843	4	451	5	1,574	7	248	4	37	3	1,264	7	7,504	5
Structure and routine/having a role																		
Can communicate with English speakers without difficulty (Indigenous language is main language spoken at home)	. .	. .	. .	. .	7,732	9	1,204	7	2,974	7	. .	. .	. .	. .	15,110	37	27,179	8
In the last 12 months, has lived in only one dwelling	77,568	81	17,242	79	67,796	75	14,060	78	33,537	77	9,853	80	2,302	82	32,798	80	255,157	78

(continued)

Table 1.13.12 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over(a)(b), by state/territory, Australia 2008

	NSW		Vic		Qld		SA		WA		Tas		ACT		NT		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Feeling safe																		
Felt safe at home alone during the day	89,826	93	20,290	93	85,420	94	16,510	92	40,690	93	11,773	95	2,643	94	38,739	94	305,892	94
Felt safe at home alone after dark	76,426	79	17,165	78	73,439	81	13,609	76	35,438	81	10,197	83	2,305	82	32,836	80	261,414	80
Felt safe walking alone in local area after dark	47,930	50	10,978	50	47,219	52	9,352	52	25,112	57	6,765	55	1,497	53	23,194	56	172,047	53
Not a victim of physical or threatened violence in the last 12 months	72,095	75	15,616	71	70,726	78	13,538	75	31,678	72	9,037	73	1,948	69	31,734	77	246,372	75
Was taught Indigenous culture at school or as part of further studies	43,392	45	9,418	43	36,090	40	8,535	48	20,770	47	6,315	51	1,326	47	22,747	55	148,592	45
Learnt about own Indigenous clan/language	11,505	12	3,361	15	12,211	14	3,658	20	8,293	19	932	8	313	11	15,673	38	55,947	17
Vitality																		
Self-assessed health status excellent or very good	41,492	43	10,489	48	39,433	44	6,778	38	17,407	40	6,591	53	1,297	46	19,517	47	143,004	44
Has no disability or long-term health condition	45,911	48	9,684	44	47,136	52	8,113	45	23,736	54	6,189	50	1,231	44	22,159	54	164,157	50
Does not have an education restriction due to disability(e)	43,524	95	10,838	95	38,549	96	8,673	95	17,944	97	5,344	94	1,437	96	17,392	98	143,701	96
Does not have an employment restriction due to disability(e)	40,353	88	9,514	84	32,463	81	7,632	84	15,856	86	4,876	86	1,153	77	14,832	84	126,681	84
Low/ moderate level of psychological distress (5–11 K5 score)	65,839	68	14,111	64	62,433	69	11,526	64	29,206	67	8,776	71	1,991	71	27,836	67	221,717	68
Employed(f)	43,857	79	11,503	83	51,785	87	8,894	81	23,775	83	7,101	89	1,969	90	20,215	83	169,098	84
Living in a dwelling that has no major structural problems	69,843	73	15,734	72	66,682	74	12,434	69	29,752	68	9,518	77	2,413	86	26,575	64	232,951	71

(continued)

Table 1.13.12 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over[(a)(b)], by state/territory, Australia 2008

	NSW		Vic		Qld		SA		WA		Tas		ACT		NT		Total	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Household members used telephone(s) in last month	95,488	99	21,595	98	87,635	97	17,555	98	42,253	96	12,307	100	2,796	100	37,573	91	317,203	97
Used computer in last 12 months	69,588	72	17,707	81	60,620	67	12,621	70	27,555	63	9,017	73	2,553	91	18,346	44	218,006	67
Used Internet in last 12 months	62,543	65	15,544	71	54,037	60	11,231	63	23,892	55	8,248	67	2,425	86	14,931	36	192,852	59
Has access to motor vehicles whenever needed	62,768	65	15,481	71	61,436	68	12,356	69	29,699	68	9,457	77	2,212	79	22,280	54	215,689	66
Can easily get to places needed	69,293	72	16,119	74	72,521	80	12,825	72	31,000	71	9,538	77	2,287	81	27,899	68	241,481	74
Equivalised gross household income in 3rd quintile or above	53,329	55	9,997	46	39,924	44	9,383	52	20,730	47	6,801	55	585	21	18,513	45	159,261	49
Total persons aged 15 years and over	**96,367**	**100**	**21,938**	**100**	**90,587**	**100**	**17,948**	**100**	**43,826**	**100**	**12,351**	**100**	**2,810**	**100**	**41,274**	**100**	**327,101**	**100**

(a) Unless otherwise indicated, data are for Aboriginal and Torres Strait Islander population aged 15 years and over.

(b) Unless otherwise indicated, proportions are of the estimated total Aboriginal and Torres Strait Islander population aged 15 years and over. Where another population is indicated, this has been used to calculate proportions.

(c) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who identify with a clan group.

(d) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who are employed.

(e) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over who have a disability.

(f) Proportions calculated in relation to number of Aboriginal and Torres Strait Islanders aged 15 years and over in the labour force.

Source: ABS analysis of 2008 NATSISS.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User’s guide (ABS 2010).

List of symbols used in tables

n.a.	not available
–	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' Guide. ABS Cat. no. 4720.0. Canberra: ABS.

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1.14 Disability

The prevalence of disability among Aboriginal and Torres Strait Islander people, including children with special needs, and users of disability support services

Data sources

Data for this measure come from the 2008 National Aboriginal and Torres Strait Islander Social Survey, the 2006 Census of Population and Housing, the 2009–10 Disability Services National Minimum Data Set and the Western Australian Aboriginal Child Health Survey.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Census of Population and Housing

The Census of Population and Housing is conducted by the ABS at 5-yearly intervals, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

The 2011 Census is the most recent, however data for the Indigenous population was not yet released at the time of writing this report. Therefore data included in this report come from the 2006 Census. In 2006, the ABS enhanced the sample for the Post-Enumeration Survey to include remote areas. The measured undercount for Indigenous Australians was 11.5%.

Disability Services National Minimum Data Set

The purpose of the Disability Services National Minimum Data Set (DS NMDS) collection is to facilitate the annual collation of nationally comparable data about disability services, and to obtain reliable, consistent data with minimal load on the disability services field. Under the National Disability Agreement (NDA), the Disability Administrators in all Australian jurisdictions are responsible for ensuring that DS NMDS information will be comparable across all jurisdictions and years.

Services within the scope of the collection are those for which funding has been provided, during the specified period, by a government organisation operating under the NDA.

Therefore, if a service type outlet did not receive NDA funding for the 2009–10 collection (i.e. its NDA funding dollars for the financial year are zero), then details of this outlet should not be included in the data collection.

A funded agency may receive funding from multiple sources. Where a funded agency is unable to differentiate service users and/or staff according to funding source (i.e. NDA or other), they are asked to provide details of all service users and staff (for each service type).

Most agencies funded under the NDA are asked to provide information about:

- each of the service types they are funded to provide (i.e. service type outlets they operate);
- all service users who received support over a specified reporting period; and
- the DS NMDS service type(s) the service user received.

The level of information a funded agency is asked to provide varies according to the particular service type (i.e. for each service type outlet).

Western Australian Aboriginal Child Health Survey

This survey was a large-scale investigation into the health of 5,289 Western Australian Aboriginal and Torres Strait Islander children aged 0–17 years. It was undertaken in 2001 and 2002 by the Telethon Institute for Child Health Research in conjunction with the Kulunga Research Network. The survey was the first to gather comprehensive health, educational and developmental information on a population-based sample of Aboriginal and Torres Strait Islander children and their families and communities.

The survey findings were published in four volumes between June 2004 and November 2006.

Analyses

NATSISS data

In the 2008 NATSISS, the questions used to ascertain disability status differed for people living in remote and non-remote areas. In remote areas, the wording of questions to establish disability status was less detailed and people were not specifically asked whether they had any mental illness for which help or supervision was required.

Responses provided about the type/s of condition/s, whether any condition restricted everyday activities and whether help or supervision was ever required were used to categorise a person by disability status. In non-remote areas people who nominated the condition 'any mental illness for which help or supervision is required' were also included.

The NATSISS included the following categories for disability status:

- profound or severe core-activity limitation - a specified condition for which the person requires help or supervision in one or more core activities (e.g. self-care, mobility or communication);
- unspecified limitation or restriction - a specified condition that may or may not have restricted the person's everyday activities; or
- no disability or long-term health condition - the person does not have any of the specified conditions.

Other than people with a profound or severe core-activity limitation, the severity of restrictions for people with a disability or long term health condition was not determined.

Non-Indigenous comparisons are available through the 2007–08 National Health Survey (NHS). The 2007–08 NHS collected information on persons aged 18 years and over and included data on psychological disability in line with the non-remote data collected in the 2008 NATISS, therefore comparisons between Indigenous and non-Indigenous Australians are limited to those aged 18 years and over in non-remote areas.

Disability status

- In 2008, an estimated 162,900 (50%) of Indigenous Australians aged 15 years and over reported having a disability or a long-term health condition. The proportion of Indigenous Australians with a disability or long-term health condition, was similar for males (49%) and females (51%) (Table 1.14.1).
- Approximately 8% of Indigenous males and females aged 15 years and over had a profound or severe core-activity limitation in 2008.
- Comparable data on the disability status of non-Indigenous Australians is only available for non-remote areas. In 2008, after adjusting for differences in age-structure, Indigenous Australians were 1.4 times as likely as non-Indigenous Australians to have a disability or long-term health condition, and more than twice as likely to have a profound or severe core-activity limitation (Table 1.14.4).

Table 1.14.1: Disability status, by sex, Indigenous persons aged 15 years and over, 2008

Disability status	Male	Female	Persons
		Per cent	
Has profound or severe core-activity limitation	7.8	8.1	7.9
Has unspecified limitation or restriction	40.7	43.0	41.9
Total with disability or long-term health condition	*48.5*	*51.0*	*49.8*
Has no disability or long-term health condition	51.5	49.0	50.2
Total	**100.0**	**100.0**	**100.0**
Total number	**156,052**	**171,048**	**327,101**

Source: AIHW analysis of 2008 NATSISS.

Disability status by age

- The rate of reported disability or long-term health condition increased with age. Approximately 78% of people aged 55 years and over had a disability or long-term health condition in 2008 (Table 1.14.2). This proportion was 32% for Indigenous Australians aged 15 to 18 years (Table 1.14.3).
- Indigenous Australians in non-remote areas had a higher rate of profound and severe core-activity limitation than non-Indigenous Australians across all age groups (Table 1.14.4).

Table 1.14.2: Disability type[(a)], by age group, Indigenous persons aged 15 years and over, 2008

Disability status	15–24 years	18–24 years	25–34 years	35–44 years	45–54 years	55 years and over	Total (15+)	Total (18+)
				Per cent				
Has profound or severe core-activity limitation	5.0	5.8	5.6	6.6	10.0	18.7	7.9	8.5
Has unspecified limitation or restriction	30.0	32.3	36.9	44.7	56.3	58.8	41.9	43.9
Total with disability or long-term health condition	*35.1*	*38.1*	*42.5*	*51.3*	*66.2*	*77.5*	*49.8*	*52.4*
Has no disability or long-term health condition	65.0	61.9	57.5	48.7	33.8	22.5	50.2	47.6
Total[(b)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**103,780**	**67,616**	**69,931**	**63,851**	**46,912**	**42,627**	**327,101**	**290,937**

(a) Excluding psychological disability.

(b) Includes disability type not specified. Note that more than one disability type may be reported and thus the sum of the components may add to more than the total.

Source: AIHW analysis of 2008 NATSISS.

Table 1.14.3: Disability status, Indigenous persons aged 15–18 years, 2008

Disability status	Number	Proportion
Has profound or severe core-activity limitation	2,206	4.5
Has unspecified limitation or restriction	13,612	27.7
Total with disability or long-term health condition	*15,818*	*32.1*
Has no disability or long-term health condition	33,392	67.9
Total	**49,210**	**100.0**

Source: AIHW analysis of 2008 NATSISS.

Table 1.14.4: Disability status, by Indigenous status and age group, persons aged 15 years and 18 years and over, non-remote only, 2008[(a)(b)]

Disability status		Profound/severe core-activity limitation	Has unspecified limitation or restriction	Total with disability or long-term health condition	No disability or long-term health condition	Total number
				Per cent		
15–24	Indigenous	5.3*	32.2*	37.5*	62.5*	80,759
	Non-Indig.	2.5*	19.6*	22.1*	77.9*	2,756,721
18–24	Indigenous	6.3*	35.0*	41.3*	58.7*	50,947
	Non-Indig.	3.0*	21.5*	24.4*	75.6*	1,940,093
25–34	Indigenous	6.2*	37.2*	43.4*	56.6*	49,599
	Non-Indig.	2.4*	25.8*	28.2*	71.8*	2,778,351
35–44	Indigenous	6.2*	44.6*	50.9*	49.1*	48,391
	Non-Indig.	3.0*	30.7*	33.7*	66.3*	2,958,313
45–54	Indigenous	10.2*	56.0*	66.2*	33.8*	35,701
	Non-Indig.	4.1*	38.3*	42.4*	57.6*	2,813,981
55 and over	Indigenous	17.7*	60.1*	77.8*	22.2*	31,151
	Non-Indig.	8.5*	53.3*	61.8*	38.2*	4,871,400
Total (18+)	**Indigenous**	**8.6***	**44.8***	**53.3***	**46.7***	***215,788***
Total 18+ age-standardised[(b)]	**Indigenous**	**10.3***	**48.6***	**58.9***	**41.1***	**215,788**
	Non-Indig.	**4.7***	**36.5***	**41.2***	**58.8***	**15,362,137**
Rate ratio		2.2	1.3	1.4	0.7	. .
Rate difference		5.6	12.1	17.7	–17.7	. .
Total (15+)	**Indigenous**	**8.0***	**42.7***	**50.6***	**49.4***	***245,600***
Total 15+ age-standardised[(b)]	**Indigenous**	**9.9***	**47.4***	**57.3***	**42.7***	**245,600**
	Non-Indig.	**4.5***	**35.4***	**40.0***	**60.0***	**16,178,766**
Rate ratio		2.2	1.3	1.4	0.7	. .
Rate difference		5.4	12.0	17.3	–17.3	. .

* Differences between Indigenous and non-Indigenous rates are statistically significant at the $p < 0.05$ level for all categories.

(a) Includes psychological disability.

(b) Directly age-standardised proportions.

Notes

1. This variable is only appropriate for comparison with other surveys where the population is limited to non-remote areas, where questions on mental illness were included.
2. Non-Indigenous data are from the 2007–08 NHS.

Source: NATSISS 2008 and NHS 07–08.

Disability status by remoteness

- In 2008, there was little difference between the proportion of Indigenous Australians aged 15 years and over reporting a disability or long-term condition in non-remote and remote areas (50% and 49% respectively) (Table 1.14.5).
- The proportion of Indigenous Australians reporting a profound or severe core-activity limitation also did not vary much by remoteness ranging from 6.7% in *Remote* areas to 9.0% in *Major cities*.
- Of Indigenous Australians aged 18 years and over in non-remote areas who reported a disability or long-term health condition, 19% living in *Major cities*, 16% in *Inner regional*, and 15% in *Outer regional* areas, had a profound or severe core-activity limitation. This compared with 11%, 11% and 13% for non-Indigenous Australians living in these areas respectively (Table 1.14.6).

Table 1.14.5: Disability status, by remoteness, Indigenous persons aged 15 years and over, 2008

Disability status	Major cities		Inner regional		Outer regional		Sub-total non-remote		Remote		Very remote		Sub-total remote	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Has profound or severe core-activity limitation	9,419	9.0	4,690	7.0	5,268	7.2	**19,377**	**7.9**	1,999	6.7	4,593	8.9	**6,593**	**8.1**
Has unspecified limitation or restriction	46,931	44.6	26,454	39.2	30,436	41.7	**103,821**	**42.3**	13,506	45.3	19,647	38.0	**33,153**	**40.7**
Total with disability or long-term health condition	*56,350*	*53.6*	*31,144*	*46.2*	*35,704*	*48.9*	*123,198*	*50.2*	*15,506*	*52.0*	*24,240*	*46.9*	*39,746*	*48.8*
Has no disability or long-term health condition	48,867	46.4	36,272	53.8	37,262	51.1	**122,402**	**49.8**	14,333	48.0	27,422	53.1	**41,755**	**51.2**
Total	**105,217**	**100.0**	**67,416**	**100.0**	**72,967**	**100.0**	**245,600**	**100.0**	**29,839**	**100.0**	**51,662**	**100.0**	**81,501**	**100.0**

Note: This variable is only appropriate for Indigenous persons. Even then, the population is limited to the criteria used to identify disability in remote area (no questions on mental illness).

Source: NATSISS 2008.

Table 1.14.6: Disability status, by Indigenous status, persons aged 18 years and over, non-remote areas, age-standardised per cent, 2008

	Major cities				Inner regional				Outer regional				Sub-total non-remote			
	Indig.	**Non-Indig.**	**Rate ratio**	**Rate difference**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**
Has profound or severe core activity restriction (%)	18.8	10.5	1.8	8.3	16.1	11.1	1.5	5.0	14.6	13.0	1.1	1.6	16.7	10.8	1.5	5.9
Disability/restriction not defined (%)	81.2	89.5	0.9	–8.3	83.9	88.9	0.9	–5.0	85.4	87.0	1.0	–1.6	83.3	89.2	0.9	–5.9
Total with disability or long-term health condition (%)	**100.0**	**100.0**	**. .**	**. .**	**100.0**	**100.0**	**. .**	**. .**	**100.0**	**100.0**	**. .**	**. .**	**100.0**	**100.0**	**. .**	**. .**
Total number with disability or long-term health condition	**52,037**	**4,269,634**	**. .**	**. .**	**28,785**	**1,568,924**	**. .**	**. .**	**34,270**	**638,190**	**. .**	**. .**	**115,092**	**6,476,749**	**. .**	**. .**

Source: NATSISS 2008 and NHS 07–08.

Disability status by state/territory

- In 2008, Indigenous Australians aged 18 years and over in non-remote areas had higher rates of disability or long-term health conditions than non-Indigenous Australians in all states and territories (rate ratios of between 1.2 and 1.6) (Table 1.14.7).
- Indigenous Australians also had higher rates of profound or severe core activity limitation than non-Indigenous Australians in all states and territories for which data were available. The greatest disparity was in Tasmania (rate ratio of 3.3; rate difference of 10.9%) (Table 1.14.7).

Table 1.14.7: Disability status (age standardised), by Indigenous status and state/territory, persons aged 18 years and over in non-remote areas, 2008

			Profound/ severe core activity limitation	Has unspecified limitation or restriction	*Total with disability or long-term health condition*	No disability or long-term health condition	Total number ('000)
NSW	Indig.	%	10.9	48.5	59.5	40.5	80
	Non-Indig.	%	4.5*	35.1*	39.6*	60.4	5,093
	Rate ratio[(a)]		2.4	1.4	1.5	0.7	. .
	Rate difference[(b)]		6.4	13.4	19.9	–19.9	. .
Vic	Indig.	%	11.0	51.1	62.1	37.9	19
	Non-Indig.	%	4.9*	36.3*	41.2*	58.8*	3,967
	Rate ratio[(a)]		2.2	1.4	1.5	0.6	. .
	Rate difference[(b)]		6.1	14.8	20.9	–20.9	. .
Qld	Indig.	%	7.5	45.6	53.1	46.9	62
	Non-Indig.	%	4.5	39.9*	44.5*	55.5*	3,017
	Rate ratio[(a)]		1.7	1.1	1.2	0.8	. .
	Rate difference[(b)]		3.0	5.7	8.6	–8.6	. .
WA	Indig.	%	8.0	44.3	52.3	42.7	22
	Non-Indig.	%	4.9	34.0*	38.9*	61.1*	1,485
	Rate ratio[(a)]		1.6	1.3	1.3	0.7	. .
	Rate difference[(b)]		3.1	10.3	13.4	–18.4	. .
SA	Indig.	%	12.5	50.5	63.0	37.0	13
	Non-Indig.	%	5.0*	37.2*	42.3*	57.7*	1,146
	Rate ratio[(a)]		2.5	1.4	1.5	0.6	. .
	Rate difference[(b)]		7.5	13.3	20.7	–20.7	. .
Tas	Indig.	%	15.6	45.8	57.2	42.8	10
	Non-Indig.	%	4.7*	37.8*	42.5*	57.5*	345.3
	Rate ratio[(a)]		3.3	1.2	1.3	0.7	. .
	Rate difference[(b)]		10.9	8.0	14.7	–14.7	. .
ACT	Indig.	%	12.4	50.5	62.9	37.1	3
	Non-Indig.	%	n.p.	n.p.	43.0*	57.0*	255.7
	Rate ratio[(a)]		n.a	n.a	1.5	0.7	. .
	Rate difference[(b)]		n.a	n.a	19.9	–19.9	. .
NT	Indig.	%	n.a	44.8	56.0	44.0	8
	Non-Indig.	%	n.p.	n.p.	35.7*	64.3	88.7
	Rate ratio[(a)]		n.a	n.a	1.6	0.7	. .
	Rate difference[(b)]		n.a	n.a	20.3	–20.3	. .

(continued)

Table 1.14.7 (continued): Disability status (age-standardised), by Indigenous status and state/territory, persons aged 18 years and over in non-remote areas, 2008

			Profound/ severe core activity limitation	Has unspecified limitation or restriction	*Total with disability or long-term health condition*	No disability or long-term health condition	Total number ('000)
Australia	Indig.	%	9.9	47.4	57.3	42.7	215.8
	Non-Indig.	%	4.7	36.5*	41.2*	58.8*	15,398
	Rate ratio[(a)]		2.1	1.3	1.4	0.73	. .
	Rate difference[(b)]		7.8	46.1	55.9	42.0	. .

* Differences between Indigenous and non-Indigenous rates are statistically significant at the $p < 0.05$ level for these categories.

(a) Rate ratio is Indigenous/non-Indigenous.

(b) Rate difference is Indigenous minus non-Indigenous.

Notes

1. Proportions are age-standardised.
2. This variable is only appropriate for comparison with other surveys where the population is limited to non-remote areas, where questions on mental illness were included.

Source: NATSISS 2008 and NHS 07–08.

Disability type

Disabilities and long-term health conditions have been grouped into broad disability types: physical, sensory/speech (sight, hearing or speech) and intellectual.

- In 2008, 33% of Indigenous Australians aged 15 years and over had a physical disability, 17% had a sensory/speech disability and 8% had an intellectual disability (Table 1.14.8).
- The proportions of Indigenous Australians with a sensory/speech or physical disability were higher in the older age groups. In the 55 years and over age group, 31% of Indigenous Australians reported a sensory/speech disability, 59% reported a physical disability and 6% reported an intellectual disability (Table 1.14.8).

Table 1.14.8: Disability type[(a)], by age group, Indigenous persons aged 15 years and over, 2008

Disability type	**15–24 years**	**18–24 years**	**25–34 years**	**35–44 years**	**45–54 years**	**55 years and over**	**Total (15+)**	**Total (18+)**
				Per cent				
Sight, hearing, speech	9.7	10.3	12.5	17.1	27.1	30.9	17.0	18.1
Physical	18.5	22.0	25.5	34.8	47.4	59.3	32.6	35.2
Intellectual	9.2	9.4	6.3	6.2	9.7	6.1	7.7	7.5
Total with a disability or long-term health condition[(b)]	*35.1*	*38.1*	*42.5*	*51.3*	*66.2*	*77.5*	*49.8*	*52.4*
Total with no disability or long-term health condition	65.0	61.9	57.5	48.7	33.8	22.5	50.2	47.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**103,780**	**67,616**	**69,931**	**63,851**	**46,912**	**42,627**	**327,101**	**290,937**

(a) Excluding psychological disability.

(b) Includes disability type not specified. Note that more than one disability type may be reported and thus the sum of the components may add to more than the total.

Source: AIHW analysis of 2008 NATSISS.

Disability status by selected population characteristics

Data on disability status of Indigenous Australians aged 15 years and over in non-remote areas with selected population characteristics are presented in Tables 1.14.9 and 1.14.10. Data are based on the broader criteria used to identify persons with a disability in non-remote areas. Table 1.14.9 presents distributions of disability status (“Has disability or long-term health condition” or “Has no disability or long-term health condition”) among the sub-categories for each of the selected population characteristic category, while Table 1.14.10 presents proportions of disability status by sub-categories of the selected population characteristics.

- In 2008, in non-remote areas, around 62% of Indigenous Australians aged 15 years and over with a disability or long-term condition did not have a non-school qualification. Around 44% of Indigenous Australians with a disability reported the highest year of school completed was Year 9 or below (Table 1.14.9).
- Approximately 53% of Indigenous Australians in non-remote areas with a disability or long-term health condition had household income in the lowest quintile, and for 55% their principal source of income was government cash, pensions or allowances (Table 1.14.9).
- Approximately 88% of Indigenous Australians in non-remote areas with a disability or long-term health condition reported they had been involved in social activities in the last 3 months and 87% were able to get support in a time of crisis. Around 61% of Indigenous Australians with a disability or long-term condition had been removed, or had a relative that had been removed, from their natural family and 25% currently lived on their homelands (Table 1.14.9).
- Indigenous Australians with a disability or long-term health condition were more likely than those without a disability or long-term health condition to be in the lowest income quintile, have competed year 9 as the highest year of school completed, to be not in the labour force and to have difficulty getting to places when needed (Table 1.14.9).
- In 2008, in non-remote areas, around 63% of Indigenous Australians aged 15 years and over who reported completing Year 9 as their highest year of schooling completed had a disability or long-term condition. This compared with 41% of Indigenous Australians who reported completing Year 12 as their highest year completed (Table 1.14.10).
- Approximately 59% of Indigenous Australians aged 15 years and over in non-remote areas who were not in the labour force had a disability or long-term condition. This compared with 44% of Indigenous Australians who were employed (Table 1.14.10).

Table 1.14.9: Proportion of selected population characteristics by disability status, Indigenous persons aged 15 years and over, non-remote areas, 2008

	Has disability or long-term health condition	Has no disability or long-term health condition
	Per cent	
Education		
Attending post-school education institution	10.1	11.2
Non-school qualification[(a)]		
Has a non-school qualification	38.0	42.8
Does not have a non-school qualification	62.0	57.2
Highest school qualification attained[(b)]		
Completed Year 12	15.6	24.6
Completed Year 10/11	40.5	47.7
Completed Year 9 or below	43.9	27.7
Household income		
1st quintile	52.8	41.2
5th quintile	7.6	12.2
Total	60.4	53.4
Principle source of personal income		
Community Development Employment Program (CDEP)	4.3	6.2
Employee income	37.9	54.5
Government cash, pensions, allowances	55.0	37.3
Unincorporated business income	0.7	0.4
Other sources of income	2.1	1.7
Subtotal received income[(c)]	*94.1*	*89.7*
Did not receive personal income	5.9	10.3
Employment		
Employed		
Full time	26.5	32.3
Part time	7.7	8.4
Casual	9.3	14.6
Shiftwork	1.3	1.9
Not known	0.5	0.7
Total employed	45.4	58.0
Unemployed	9.6	10.8
Not in the labour force	45.0	31.2

(continued)

Table 1.14.9 (continued): Proportion of selected population characteristics by disability status, Indigenous persons aged 15 years and over, non-remote areas, 2008

	Has disability or long-term health condition	Has no disability or long-term health condition
	Per cent	
Transport access		
Can easily get to places needed	69.1	78.5
Sometimes has difficulty getting to the places needed	17.0	13.0
Cannot, or often has difficulty, getting to places needed	13.3	8.4
Never go out and housebound	0.6	0.2
Family and culture		
Involved in social activities in last 3 months	87.6	89.3
Able to get support in time of crisis from someone outside the household	86.7	90.9
Has been removed from natural family	11.1	5.8
Relatives removed from natural family	49.7	39.1
Currently lives in homelands	25.4	25.1
Attended cultural event(s) in last 12 months	60.4	59.7
Total	**100.0**	**100.0**
Total number	**162,944**	**164,157**

(a) Rate for persons aged 25–64 years.

(b) Excludes persons still at school.

(c) Includes both positive and negative income.

Note: Data based on the broader criteria for disability.

Source: AIHW analysis of 2008 NATSISS.

Table 1.14.10: Proportion of disability status, by selected population characteristics, Indigenous persons aged 15 years and over, non-remote areas, 2008

	Has disability or long-term health condition	Has no disability or long-term health condition	Total number
	Per cent		
Education			
Attending post-school education institution[(a)]	47.1	52.9	34,801
Non-school qualification[(b)]			
Has a non-school qualification	51.9	48.1	83,257
Does not have a non-school qualification	56.8	43.2	124,085
Highest school qualification attained[(c)]			
Completed Year 12	40.8	59.2	52,774
Completed Year 10/11	48.0	52.0	116,479
Completed Year 9 or below[(d)]	63.2	36.8	95,635
Principle source of personal income			
Community Development Employment Program (CDEP)	42.3	57.7	15,023
Employee income	42.2	57.8	131,781
Government cash, pensions, allowances	60.8	39.2	132,841
Unincorporated business income	63.8	36.2[(e)]	1,507
Other sources of income	57.6	42.4	5,441
Did not receive personal income	36.6	63.4	25,163
Employment			
Employed	43.7	56.3	169,098
Full time	44.1	55.9	102,767
Part time	43.2	56.8	66,330
Unemployed	46.9	53.1	33,414
Not in the labour force	58.9	41.1	124,590
Perceived level of difficulty with transport			
Can easily get to places needed	46.6	53.4	241,481
Sometimes have difficulty getting to the places needed	56.5	43.5	48,942
Cannot, or often has difficulty, getting to places needed	61.2	38.8	35,322
Never go out and housebound	75.5	n.p.	1,356[(e)]
Family and culture			
Participated in social activities in last 3 months	49.3	50.7	289,381
Able to get support in time of crisis from someone outside the household	48.6	51.4	290,463
Has been removed from natural family	65.4	34.6	26,885
Relatives removed from natural family	55.6	44.4	125,710
Currently lives in homelands	50.2	49.8	82,607
Participated in cultural activities in last 12 months	50.1	49.9	196,428
Total persons aged 15 years and over	**162,944**	**164,157**	**327,101**

(continued)

Table 1.14.10 (continued): Disability status, by selected population characteristics, Indigenous persons aged 15 years and over, 2008

(a) Includes university/other higher institution; TAFE/Technical college; business college, industry skills centre; other organisations.

(b) Rate for persons aged 25–64 years.

(c) Excludes persons still at school.

(d) Includes persons who never attended school.

(e) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Note: Data based on the broader criteria for disability.

Source: 2008 NATSISS.

Census data

The 2006 Census collected data on one element of disability, those reporting the need for assistance with core activities.

Disability status

- According to the 2006 Census, 19,613 Indigenous Australians (4% of the total Indigenous population) had a core-activity need for assistance. After adjusting for differences in the age structures of the Indigenous and non-Indigenous populations, Indigenous Australians were almost twice as likely as non-Indigenous Australians to have a core-activity need for assistance in 2006 (Table 1.14.11).

Disability status by age and sex

- The prevalence of core-activity need for assistance increased noticeably with the increasing of age from about 35 years of age onwards for both Indigenous men and women. The disability rate ranged from 1.1% of Indigenous children aged 0–4 years to 38% of Indigenous people aged 75 years and over (Table 1.14.11).
- Indigenous Australians had a higher rate of core-activity need for assistance than non–Indigenous Australians across all age groups. The greatest disparities occurred in the age groups 50–54 years and 65–69, where Indigenous Australians reported a core-activity need for assistance around three times the rate of non-Indigenous Australians (Table 1.14.11).
- Indigenous males were more likely than Indigenous females to have a core-activity need for assistance (4.5% compared with 4.1%). In comparison, non-Indigenous females were more likely than non-Indigenous males to have a core-activity need for assistance (4.6% compared with 3.9%) (Table 1.14.11).

Table 1.14.11: Persons with core activity need for assistance, by Indigenous status, sex and age group, 2006

	Indigenous						Non-Indigenous											
Age group (yrs)	**Males**		**Females**		**Persons**		**Males**		**Females**		**Persons**		**Rate ratio**			**Rate difference**		
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
0–4	388	1.4	238	0.9	628	1.1	6,421	1.1	3,828	0.7	10,249	0.9	1.2	1.3	1.2	0.3	0.2	0.2
5–9	963	3.3	525	1.9	1,487	2.6	16,422	2.7	8,017	1.4	24,439	2.1	1.2	1.3	1.2	0.6	0.5	0.5
10–14	970	3.3	556	2.0	1,528	2.7	15,799	2.5	8,175	1.4	23,974	1.9	1.3	1.5	1.4	0.8	0.6	0.8
15–19	697	2.8	422	1.8	1,117	2.3	11,191	1.8	7,081	1.2	18,272	1.5	1.6	1.5	1.5	1.0	0.6	0.8
20–24	461	2.5	318	1.7	779	2.1	8,464	1.4	6,403	1.1	14,867	1.2	1.8	1.6	1.8	1.1	0.6	0.9
25–29	381	2.6	308	1.9	688	2.2	7,759	1.3	6,272	1.1	14,031	1.2	1.9	1.8	1.8	1.3	0.8	1.0
30–34	482	3.2	351	2.1	833	2.6	9,404	1.5	7,979	1.2	17,383	1.3	2.1	1.8	2.0	1.7	0.9	1.3
35–39	572	4.0	562	3.4	1,135	3.7	11,819	1.8	10,428	1.5	22,247	1.6	2.2	2.3	2.3	2.2	1.9	2.1
40–44	711	5.6	689	4.8	1,400	5.2	14,661	2.2	13,328	1.9	27,989	2.0	2.6	2.5	2.6	3.4	2.9	3.2
45–49	742	6.9	786	6.6	1,527	6.8	17,062	2.6	16,780	2.4	33,842	2.5	2.7	2.7	2.7	4.3	4.2	4.3
50–54	773	9.0	817	8.7	1,590	8.8	19,558	2.8	19,617	3.1	39,175	3.2	2.8	2.8	2.8	6.2	5.6	5.6
55–59	796	12.7	787	11.3	1,583	12.0	27,660	4.8	23,793	4.1	51,453	4.4	2.6	2.8	2.7	7.9	7.2	7.6
60–64	688	16.3	717	15.1	1,405	15.6	29,695	6.6	22,383	5.0	52,078	5.8	2.5	3.0	2.7	9.7	10.1	9.8
65–69	500	18.5	578	17.4	1,077	17.9	23,405	6.7	22,483	6.3	45,888	6.5	2.8	2.8	2.8	11.8	11.1	11.4
70–74	382	21.6	581	25.0	962	23.5	24,813	9.1	30,308	10.1	55,121	9.6	2.4	2.5	2.4	12.5	14.9	13.9
75 and over	642	33.3	1232	40.3	1,874	37.6	108,098	22.7	221,711	32.1	329,809	28.2	1.5	1.3	1.3	10.6	8.2	9.4
Total (crude)	**10,147**	**4.5**	**9,468**	**4.1**	**19,613**	**4.3**	**352,231**	**3.9**	**428,586**	**4.6**	**780,817**	**4.3**	**1.2**	**0.9**	**1.0**	**0.6**	**–0.5**	**0.0**
Total—age-standardised[(a)]	**. .**	**7.5**	**. .**	**7.2**	**. .**	**7.4**	**. .**	**3.9**	**. .**	**4.2**	**. .**	**4.1**	**1.9**	**1.7**	**1.8**	**3.6**	**3.0**	**3.3**

(a) Age-standardised to the 2001 Australian standard population.

Source: ABS & AIHW analysis of 2006 Census data; ABS & AIHW 2008.

Disability status by remoteness

- In 2006, rates of core-activity need for assistance were higher among Indigenous Australians living in *Major cities* and *Inner regional* areas (around 5%), than among Indigenous Australians living in *Remote* (3.7%) and *Very remote* (3.1%) areas (Table 1.14.12).
- After adjusting for differences in age structure, in 2006, Indigenous Australians had higher rates of core-activity need for assistance than non-Indigenous Australians across all remoteness categories. The proportion of Indigenous Australians with core-activity need for assistance was 2.5 times that of non-Indigenous Australians in *Very remote* areas (Table 1.14.12).

Disability status by state/territory

- Rates of core-activity need for assistance among Indigenous Australians ranged from 3.3% in the Northern Territory to 5.3% in Victoria.
- In 2006, after adjusting for differences in age structure, Indigenous Australians had higher rates of core-activity need for assistance than non-Indigenous Australians in all states and territories. The proportion of Indigenous Australians with core-activity need for assistance ranged from 1.7 times (Queensland and Tasmania) to 2.2 times (Northern Territory) that for non-Indigenous Australians (Table 1.14.13).

Table 1.14.12: Persons with core-activity need for assistance, by Indigenous status and remoteness, 2006

	Indigenous			Non-Indigenous				
	Number	Per cent	Age standardised proportion[(a)]	Number	Per cent	Age standardised proportion[(a)]	Age standardised rate ratio	Age standardised rate difference
Major cities	7,007	4.8	7.5	520,953	4.1	4.0	1.8	3.5
Inner regional	4,824	4.9	7.7	175,193	4.8	4.3	1.8	3.4
Outer regional	4,105	4.2	7.1	74,279	4.5	4.1	1.8	3.0
Remote	1,466	3.7	7.3	7,212	3.1	3.3	2.3	4.0
Very remote	2,127	3.1	6.7	1,711	2.3	2.7	2.5	4.0
Australia[(b)]	**19,613**	**4.3**	**7.4**	**780,817**	**4.3**	**4.1**	**1.8**	**3.3**

(a) Age-standardised to the 2001 Australian standard population.

(b) Australia total includes No Usual Address.

Source: ABS & AIHW analysis of 2006 Census data.

Table 1.14.13: Persons with core-activity need for assistance, by Indigenous status and state/territory, 2006

	Indigenous			Non-Indigenous				
	Number	**Per cent**	**Age standardised proportion[(a)]**	**Number**	**Per cent**	**Age standardised proportion[(a)]**	**Age standardised rate ratio**	**Age standardised rate difference**
NSW	6,907	5.0	7.7	263,724	4.4	4.1	1.9	3.6
Vic	1,588	5.3	7.8	201,714	4.4	4.1	1.9	3.7
Qld	4,812	3.8	6.7	146,041	4.1	4.0	1.7	2.7
WA	2,278	3.9	7.5	64,471	3.6	3.6	2.1	3.9
SA	1,250	4.9	8.1	70,397	5.0	4.4	1.8	3.7
Tas	871	5.2	7.7	21,735	5.0	4.5	1.7	3.2
ACT	150	3.9	6.8	9,897	3.2	3.7	1.8	3.1
NT	1,750	3.3	7.2	2,795	2.3	3.3	2.2	3.9
Australia[(b)]	**19,613**	**4.3**	**7.4**	**780,817**	**4.3**	**4.1**	**1.8**	**3.3**

(a) Age-standardised to the 2001 Australian standard population.

(b) Australia total includes other territories.

Source: ABS & AIHW analysis of 2006 Census data.

Prevalence of disability among Indigenous children

- In 2006, approximately 2.2% of Indigenous children aged 0–18 years had a core activity need for assistance.
- Among Indigenous children aged 0–18 years, a higher proportion of males than females required assistance with core activities (Table 1.14.14).
- Indigenous children aged 0–4 years were more likely to have a core-activity need for assistance than non-Indigenous children of the same age (ratios of 1.2 for males and 1.3 for females).
- Approximately 2.6% of Indigenous children aged 5–18 years had a core-activity need for assistance. Indigenous males and females in this age group were 1.3 and 1.5 times as likely to have a profound or severe disability as non-Indigenous males and females of the same age.

Table 1.14.14: Indigenous children aged 0–18 years with a core-activity need for assistance, by sex, 2006

Age group (years)	Males		Females		Persons		Indigenous to non-Indigenous rate ratios		
	Number	Per cent	Number	Per cent	Number	Per cent	Males	Females	Persons
0–4	388	1.4	238	0.9	626	1.2	1.2	1.3	1.2
5–18	2,526	3.2	1,436	1.9	3,962	2.6	1.3	1.5	1.4
0–18	2,914	2.7	1,674	1.6	4,588	2.2	1.3	1.4	1.3

Note: Data exclude those for whom whether needed assistance with core activities was not stated (7% for Indigenous and 2% for non-Indigenous all ages).

Source: ABS & AIHW analysis of 2006 Census data; ABS & AIHW 2008.

Data relating to disability in Indigenous children were also collected in the Western Australia Aboriginal Child Health Survey of Aboriginal children and a small number of Torres Strait Islander children in Western Australia over 2001 and 2002. Parents and carers were asked a number of questions in relation to their child's health and special needs.

An estimated 2% of Indigenous children aged 4–17 years in Western Australia needed help with activities of daily living such as eating, dressing, bathing and going to the toilet. Four per cent of children of the same age experienced limitations in vigorous activity. Approximately 8% of Indigenous children did not have normal vision in both eyes, and 7% did not have normal hearing in both ears (ABS & AIHW 2005).

Disability status by labour force status

- In 2006, approximately 80% of Indigenous Australians aged 15–64 years reporting core activity restrictions were not in the labour force, compared with 38% of those not reporting core activity restrictions (Table 1.14.15).

Table 1.14.15: Indigenous persons aged 15–64 years, by whether has core-activity need for assistance and labour force status, 2006

	Needs assistance with core activities	
	Per cent	**No.**
Employed	12.5	1,502
Unemployed	3.3	394
In the labour force	*15.7*	*1,896*
Not in the labour force	80.4	9,698
Total[(a)]	**100.0**	**12,058**
Unemployment rate[(b)]	20.8	. .
	Does not need assistance with core activities	
	Per cent	**No.**
Employed	49.7	118,318
Unemployed	9.1	21,690
In the labour force	*58.8*	*140,008*
Not in the labour force	38.1	90,714
Total[(a)]	**100.0**	**237,955**
Unemployment rate[(b)]	15.5	. .

(a) Includes persons for whom labour force status was not known.

(b) Unemployed persons as a proportion of those in the labour force.

Source: ABS & AIHW analysis of 2006 Census data; ABS & AIHW 2008.

Living arrangements for those with a disability

- Approximately 10% of Indigenous Australians who needed assistance with a core activity were living in a hospital, a residential care facility, hostel for the disabled or another non-private dwelling, compared with 19% of non-Indigenous Australians (Table 1.14.16).

Table 1.14.16: Persons with core-activity need for assistance, by Indigenous status and living arrangements, 2006

	Indigenous		Non-Indigenous	
	No.	**Per cent**	**No.**	**Per cent**
Private dwellings	17,691	90.2	630,208	80.7
Non-private dwellings				
Hospital	380	1.9	15,797	2.0
Nursing home or accommodation for the retired or aged (not self-contained)	954	4.9	119,157	15.3
Hostel for the disabled	194	1.0	7,655	1.0
Other non-private dwelling	391	2.0	7,934	1.0
Total	*1,919*	*9.8*	*150,543*	*19.3*
Total[(a)]	**19,616**	**100.0**	**480,817**	**100.0**

(a) Includes persons in offshore and migratory CDs.

Source: ABS & AIHW analysis of 2006 Census data; ABS & AIHW 2008.

Disability support service use

Tables 1.14.17 to 1.14.24 present data from the 2009–10 Disability Services National Minimum Data Set on the use of disability support services by Indigenous and non-Indigenous Australians aged less than 65 years.

- In 2009–10, Indigenous Australians aged less than 65 years used disability support services at around twice the rate of non-Indigenous Australians of the same age (28 per 1,000 compared with 13 per 1,000) (Table 1.14.17).

Users of disability support services by age and sex

- In 2009–10, Indigenous males had higher rates of disability support service use than Indigenous females (33 compared with 22 per 1,000).
- Indigenous males and females had higher rates of using disability support services than non-Indigenous males and females across all age groups (Table 1.14.17).
- The greatest ratio in rates of using disability support services between Indigenous and non-Indigenous Australians occurred in the 55–64 year age group for both males (ratio of 2.6) and females (ratio of 2.7). The greatest rate difference was observed in the 45–54 year age group for males (22.7 per 1,000 population) and in the 55–64 year age group for females (17.8 per 1,000) (Table 1.14.17).

Table 1.14.17: Age specific rates of disability support service use by Indigenous status and sex, persons aged under 65 years, 2009–10

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	Age std. total
Males								
Indigenous	19.2	24.9	38.5	32.2	37.3	38.2	35.1	33.2
Non-Indigenous	17.3	16.5	18.6	15.6	15.5	15.5	13.4	16.1
Rate ratio	1.1	1.5	2.1	2.1	2.4	2.5	2.6	2.1
Rate difference	1.9	8.4	19.9	16.6	21.8	22.7	21.7	17.1
Females								
Indigenous	11.8	13.0	22.9	20.2	26.0	28.3	27.9	22.0
Non-Indigenous	9.1	7.7	11.4	10.0	11.3	13.6	10.2	10.6
Rate ratio	1.3	1.7	2.0	2.0	2.3	2.1	2.7	2.1
Rate difference	2.7	5.3	11.4	10.2	14.7	14.7	17.8	11.4
Persons								
Indigenous	15.6	19.1	30.9	26.2	31.4	33.1	31.3	27.6
Non-Indigenous	13.3	12.2	15.2	12.8	13.4	14.6	11.8	13.4
Rate ratio	1.2	1.6	2.0	2.0	2.3	2.3	2.7	2.1
Rate difference	2.3	6.9	15.8	13.4	18.0	18.5	19.5	14.2

Notes

1. Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.
2. Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.
3. Total is directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group.

Source: Unpublished data from the 2009–10 Disability Services National Minimum Data Set.

Users of disability support services by state/territory

- The Northern Territory had the highest rate (178 per 1,000) and the Australian Capital Territory had the lowest rate (2 per 1,000) of Indigenous Australians using disability support services in 2009–10 (Table 1.14.18).
- In all states and territories except for Tasmania and the Australian Capital Territory, rates of disability support service use were higher than Indigenous than non-Indigenous Australians (Table 1.14.18). The greatest difference in rates between Indigenous and non-Indigenous Australians was observed in the Northern Territory (rate difference of 175 per 1,000 population; rate ratio of 82.3).

Users of disability support services by remoteness

- In 2009–10, rates of Indigenous Australians aged under 65 years using disability support services were highest in *Inner regional* areas (34 per 1,000) and lowest in *Very remote* areas (11 per 1,000) (Table 1.14.19).
- Indigenous Australians were more likely to use disability support services than non-Indigenous Australians in all remoteness categories. The greatest disparity was observed in *Major cities*, where Indigenous Australians used disability support services at almost 3 times the rate of non-Indigenous Australians, and a rate difference of 24 per 1,000 (Table 1.14.19).

Users of disability support services by primary disability group

- In 2009–10, for both Indigenous and non-Indigenous Australians who were users of disability support services, the top three most common primary disability groups were Intellectual (9 and 4 per 1,000 population, respectively), physical (6 and 2 per 1,000, respectively) and psychiatric (5 and 3 per 1,000, respectively) (Table 1.14.20).
- Rates of Indigenous Australians were higher than those of non-Indigenous Australians across all primary disability groups, except for Autism (rate difference –0.1) (Table 1.14.20).

Table 1.14.18: Users of disability support services, by Indigenous status, state/territory and sex, persons aged under 65 years, 2009–10

	Indigenous					Non-Indigenous					
	Number	Crude no. per 1,000	Age std. no. per 1,000	LCL 95%	UCL 95%	Number	Age std. no. per 1,000	LCL 95%	UCL 95%	Rate ratio	Rate difference
NSW											
Males	2,894	36.6	35.1	33.8	36.4	45,659	15.2	15.0	15.3	2.3*	19.9*
Females	1,736	22.1	22.0	20.9	23.0	28,584	9.5	9.4	9.6	2.3*	12.4*
Persons	4,631	29.4	28.5	27.7	29.3	74,251	12.4	12.3	12.5	2.3*	16.1*
Vic											
Males	1,536	88.2	99.7	94.7	104.7	46,907	19.8	19.6	20.0	5.0*	79.9*
Females	1,020	58.3	67.6	63.4	71.7	32,594	13.7	13.6	13.9	4.9*	53.8*
Persons	2,557	73.3	83.5	80.3	86.7	79,551	16.8	16.7	16.9	5.0*	66.7*
Qld											
Males	1,686	21.9	25.5	24.3	26.7	23,849	12.6	12.4	12.8	2.0*	12.9*
Females	1,063	13.8	16.3	15.3	17.3	15,576	8.3	8.2	8.5	2.0*	8.0*
Persons	2,750	17.9	20.8	20.0	21.6	39,451	10.5	10.4	10.6	2.0*	10.3*
WA											
Males	1,147	31.0	31.7	29.8	33.5	12,468	12.8	12.6	13.0	2.5*	18.8*
Females	778	21.5	23.8	22.1	25.4	7,584	8.2	8.0	8.3	2.9*	15.6*
Persons	1,925	26.3	27.8	26.6	29.0	20,052	10.6	10.4	10.7	2.6*	17.2*
SA											
Males	647	44.9	50.3	46.4	54.1	14,440	21.2	20.9	21.6	2.4*	29.0*
Females	383	26.1	29.6	26.6	32.5	9,600	14.0	13.8	14.3	2.1*	15.5*
Persons	1,030	35.4	39.6	37.2	42.0	24,040	17.7	17.5	17.9	2.2*	22.0*

(continued)

Table 1.14.18 (continued): Users of disability support services, by Indigenous status, state/territory and sex, persons aged under 65 years, 2009–10

	Indigenous					Non-Indigenous					
	Number	Crude no. per 1,000	Age std. no. per 1,000	LCL 95%	UCL 95%	Number	Age std. no. per 1,000	LCL 95%	UCL 95%	Rate ratio	Rate difference
Tas											
Males	188	19.5	20.2	17.3	23.1	4,683	23.3	22.6	24.0	0.9	–3.1*
Females	115	12.0	12.3	10.0	14.5	2,991	14.8	14.3	15.4	0.8*	–2.5*
Persons	303	15.8	16.1	14.3	17.9	7,674	19.1	18.7	19.5	0.8*	–3.0*
ACT											
Males	114	49.8	43.2	35.3	51.1	3,119	21.0	20.2	21.7	2.1*	22.2*
Females	49	21.5	17.9	12.9	23.0	1,758	11.8	11.3	12.4	1.5*	6.1*
Persons	163	35.7	30.1	25.5	34.7	4,877	16.5	16.0	17.0	1.8*	13.6*
NT											
Males	354	10.8	12.8	11.5	14.1	390	5.0	4.5	5.5	2.6*	7.8*
Females	303	9.1	11.0	9.7	12.2	296	4.2	3.7	4.6	2.6*	6.8*
Persons	657	10.0	11.9	11.0	12.8	686	4.6	4.2	4.9	2.6*	7.3*
Australia											
Males	8,472	31.4	33.2	32.5	33.9	150,896	16.1	16.0	16.2	2.1*	17.1*
Females	5,398	20.1	22.0	21.4	22.5	98,614	10.6	10.5	10.7	2.1*	11.4*
Persons	13,873	25.8	27.6	27.1	28.0	249,594	13.4	13.3	13.5	2.1*	14.2*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Notes

1. Residential postcode used to define state territory of disability service user.
2. Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.
3. Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.
4. Rates are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group.

Source: Unpublished data from the 2009–10 Disability Services National Minimum Data Set.

Table 1.14.19: Users of disability support services, by Indigenous status and remoteness, persons aged under 65 years, 2009–10

	Indigenous					Non-Indigenous					
	Number	Crude no. per 1,000	Age std. no. per 1,000	LCL 95%	UCL 95%	Number	Age std. no. per 1,000	LCL 95%	UCL 95%	Rate ratio	Rate difference
Major cities	5,456	33.8	36.9	35.8	37.9	160,667	13.1	13.0	13.2	2.8*	23.8*
Inner regional	3,771	35.1	37.7	36.4	39.1	59,322	18.1	17.9	18.2	2.1*	19.7*
Outer regional	2,691	24.5	27.7	26.6	28.9	22,023	14.2	14.0	14.3	2.0*	13.6*
Total non-remote	*11,918*	*31.5*	*34.4*	*33.7*	*35.1*	*242,012*	*14.1*	*14.0*	*14.1*	*2.4**	*20.4**
Remote	835	18.0	20.8	19.3	22.4	2,039	8.7	8.3	9.1	2.4*	12.1*
Very remote	857	11.2	13.9	12.8	14.9	486	6.6	6.0	7.2	2.1*	7.2*
Total remote	*1,692*	*13.8*	*16.5*	*15.6*	*17.3*	*2,525*	*8.2*	*7.9*	*8.5*	*2.0**	*8.3**
Total[(a)]	**13,873**	**27.7**	**30.4**	**29.8**	**31.0**	**249,594**	**14.3**	**14.2**	**14.3**	2.1*	16.1*

(a) Includes service users whose remoteness area is unknown (service user postcodes provided by all services attended were not stated or not collected).

Notes

1. Residential postcode used to define remoteness area of disability service user.
2. Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.
3. Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.
4. Rates are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group.
5. Rates for Indigenous are calculated using the 2006 population estimates based on the 2006 Census (Series B).

Source: Unpublished data from the 2009–10 Disability Services National Minimum Data Set.

Table 1.14.20: Users of disability support services, by Indigenous status and primary disability group, persons aged under 65 years, 2009–10

	Indigenous					Non-Indigenous					
	Number	Crude no. per 1,000	Age std. no. per 1,000	LCL 95%	UCL 95%	Number	Age std. no. per 1,000	LCL 95%	UCL 95%	Rate ratio	Rate difference
Intellectual	4,762	8.8	8.6	8.4	8.9	75,512	4.1	4.0	4.1	2.1*	4.6*
Specific learning/ADD	667	1.2	1.0	0.9	1.1	9,811	0.5	0.5	0.5	1.9*	0.5*
Autism	673	1.2	0.9	0.8	1.0	17,902	1.0	1.0	1.0	0.9*	–0.1*
Physical	2,352	4.4	5.7	5.5	5.9	43,636	2.3	2.3	2.3	2.5*	3.4*
Acquired brain injury	748	1.4	1.9	1.7	2.0	9,374	0.5	0.5	0.5	3.8*	1.4*
Neurological	459	0.9	1.0	0.9	1.1	10,722	0.6	0.6	0.6	1.8*	0.4*
Deaf/blind	31	0.1	0.1	0.0	0.1	492	0.0	0.0	0.0	2.1*	0.03*
Vision	219	0.4	0.5	0.4	0.6	5,966	0.3	0.3	0.3	1.6*	0.2*
Hearing	233	0.4	0.5	0.4	0.6	4,593	0.2	0.2	0.2	2.0*	0.2*
Speech	208	0.4	0.3	0.2	0.3	2,958	0.2	0.2	0.2	1.6*	0.1*
Psychiatric	2,234	4.1	5.4	5.2	5.6	46,317	2.5	2.4	2.5	2.2*	2.9*
Developmental delay	539	1.0	0.6	0.6	0.7	8,190	0.5	0.5	0.5	1.3*	0.2*
Total	**13,125**	**24.4**	**26.4**	**26.0**	**26.9**	**235,473**	**12.6**	**12.6**	**12.7**	**2.1***	**13.8***
Presence of additional disability											
Yes	6,452	12.0	13.1	12.8	13.4	109,082	5.8	5.8	5.9	2.2*	7.3*
No	6,673	12.4	13.3	13.0	13.6	126,391	6.8	6.7	6.8	2.0*	6.5*
Not stated	748	1.4	1.1	1.1	1.2	14,121	0.8	0.8	0.8	1.5*	0.4*

(continued)

Table 1.14.20 (continued): Users of disability support services, by Indigenous status and primary disability group, persons aged under 65 years, 2009–10

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Notes

1. Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.
2. Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.
3. Rates are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group.
4. Disability groups defined by the DS NMDS 2009–10 Data guide page 67.
5. Presence of additional disability refers to a yes in one or more of the categories listed for "other significant disability group(s)",DS NMDS 2009–10 Data guide page 70.

Source: Unpublished data from the 2009–10 Disability Services National Minimum Data Set.

Users of disability support services by service group

- In 2009–10, the most common disability support services used by Indigenous Australians were community support (14 per 1,000) followed by employment (9 per 1,000) (Table 1.14.21).
- For all disability service groups, the usage rate was higher for Indigenous Australians than for non-Indigenous Australians. The greatest difference in rates was for community support (rate difference of 7 per 1,000) for which usage rate was over twice as high for Indigenous Australians. Usage rate for accommodation support for Indigenous Australians was 2.6 times as high as for non-Indigenous Australians (Table 1.14.21).

Users disability support services by labour force status

- In 2009–10, of Indigenous Australians aged 15–64 years, those who were unemployed or not in the labour force had higher usage rates of disability support services than those employed (12 and 11 per 1,000 compared with 6 per 1,000 respectively) (Table 1.14.22).
- Across all labour force status types, Indigenous Australians had higher rates of use of disability support services than non-Indigenous Australians. The greatest disparity was for Australians not in the labour force (rate difference of 7.2 per 1,000; rate ratio of 2.9) (Table 1.14.22).

Users of disability support services by main source of income

- In 2009–10 the main sources of income for both Indigenous and non-Indigenous users of disability support services aged 16 to 64 years were the Disability Support Pension (19 and 8 per 1,000, respectively), other pension or benefit (6.2 and 2.6 per 1,000, respectively) and paid employment (1.5 and 1.2 per 1,000, respectively) (Table 1.14.23).
- Indigenous users of disability support services were over twice as likely as non-Indigenous users to report having no income.

Cessation of using disability support services

- In 2009–10, Indigenous Australians aged less than 65 years were over twice as likely to have ceased using disability support services as non-Indigenous Australians of the same age (Table 1.14.24).
- For both Indigenous and non-Indigenous Australians 'no longer needs assistance' was the main reason for the cessation of use of disability support services in 2009–10 (3.1 and 1.4 per 1,000 respectively) (Table 1.14.24).

Table 1.14.21: Users of disability support services by Indigenous status, sex and service group, persons aged under 65 years, 2009–10

	Indigenous					Non-Indigenous					
	Number	**Crude no. per 1,000**	**Age std. no. per 1,000**	**LCL 95%**	**UCL 95%**	**Number**	**Age std. no. per 1,000**	**LCL 95%**	**UCL 95%**	**Rate ratio**	**Rate difference**
					Males						
Accommodation support	1,088	4.0	5.3	5.0	5.7	18,695	2.0	1.9	2.0	2.7*	3.4*
Community support	4,621	17.1	15.6	15.2	16.1	64,129	7.0	6.9	7.1	2.2*	8.6*
Community access	1,209	4.5	5.4	5.1	5.7	25,464	2.7	2.6	2.7	2.0*	2.7*
Respite	1,269	4.7	4.4	4.2	4.7	17,907	1.9	1.9	2.0	2.3*	2.5*
Total state/territory services	*5,973*	*22.2*	*21.9*	*21.3*	*22.4*	*92,072*	*10.0*	*9.9*	*10.0*	*2.2**	*11.9**
Employment	2,991	11.1	13.4	12.9	13.9	68,582	7.2	7.1	7.2	1.9*	6.2*
Total	**8,472**	**31.4**	**33.2**	**32.5**	**33.9**	**150,896**	**16.1**	**16.0**	**16.2**	**2.1***	**17.1***
					Females						
Accommodation support	794	2.9	3.7	3.4	4.0	13,987	1.5	1.4	1.5	2.5*	2.2*
Community support	2,819	10.5	10.1	9.7	10.5	39,938	4.4	4.4	4.5	2.3*	5.7*
Community access	907	3.4	3.9	3.6	4.1	19,454	2.1	2.0	2.1	1.9*	1.8*
Respite	839	3.1	3.1	2.9	3.3	12,382	1.4	1.3	1.4	2.3*	1.7*
Total state/territory services	*3,834*	*14.2*	*14.6*	*14.2*	*15.1*	*60,761*	*6.6*	*6.6*	*6.7*	*2.2**	*8.0**
Employment	1,873	7.0	8.6	8.2	9.0	44,138	4.6	4.6	4.7	1.9*	4.0*
Total	**5,398**	**20.1**	**22.0**	**21.4**	**22.5**	**98,614**	**10.6**	**10.5**	**10.7**	**2.1***	**11.4***

(continued)

Table 1.14.21 (continued): Users of disability support services by Indigenous status, sex and service group, persons aged under 65 years, 2009–10

	Indigenous					Non-Indigenous					
	Number	Crude no. per 1,000	Age std. no. per 1,000	LCL 95%	UCL 95%	Number	Age std. no. per 1,000	LCL 95%	UCL 95%	Rate ratio	Rate difference
					Persons						
Accommodation support	1,882	3.5	4.5	4.3	4.7	32,689	1.7	1.7	1.7	2.6*	2.8*
Community support	7,442	13.8	12.9	12.6	13.2	104,122	5.7	5.7	5.8	2.2*	7.1*
Community access	2,117	3.9	4.6	4.4	4.8	44,927	2.4	2.3	2.4	1.9*	2.2*
Respite	2,108	3.9	3.8	3.6	3.9	30,304	1.7	1.6	1.7	2.3*	2.1*
Total state/territory services	*9,810*	*18.2*	*18.2*	*17.9*	*18.6*	*152,917*	*8.3*	*8.3*	*8.4*	*2.2**	*9.9**
Employment	4,864	9.0	11.0	10.7	11.3	112,720	5.9	5.9	6.0	1.9*	5.1*
Total	**13,873**	**25.8**	**27.6**	**27.1**	**28.0**	**249,594**	**13.4**	**13.3**	**13.5**	**2.1***	**14.2***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Notes

1. Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.
2. Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.
3. Rates are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group.

Source: Unpublished data from the 2009–10 Disability Services National Minimum Data Set.

Table 1.14.22: Users of disability support services, by Indigenous status and labour force status, persons aged 15–64 years, 2009–10

	Indigenous					Non-Indigenous					
	Number	Crude no. per 1,000	Age std. no. per 1,000	LCL 95%	UCL 95%	Number	Age std. no. per 1,000	LCL 95%	UCL 95%	Rate ratio	Rate difference
Labour force status											
Employed	2,091	6.1	6.2	6.0	6.5	59,388	4.1	4.06	4.13	1.5*	2.1*
Unemployed	3,992	11.7	11.8	11.4	12.1	73,023	5.0	4.95	5.03	2.4*	6.8*
Not in the labour force	3,664	10.7	11.0	10.6	11.3	55,516	3.8	3.76	3.82	2.9*	7.2*
Total[(a)]	**9,747**	**28.6**	**29.0**	**28.4**	**29.6**	**187,927**	**12.9**	**12.82**	**12.93**	**2.3***	**16.1***
Service type											
Open employment	4,221	12.4	12.4	12.0	12.7	93,524	6.4	6.37	6.45	1.9*	5.9*
Supported employment	701	2.1	2.2	2.0	2.3	20,219	1.4	1.38	1.42	1.6*	0.8*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Excludes labour force status not stated.

Notes

1. Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.
2. Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.
3. Rates are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group.

Source: Unpublished data from the 2009–10 Disability Services National Minimum Data Set.

Table 1.14.23: Users of disability support services by Indigenous status and main source of income, persons aged 16– 64 years, 2009–10

	Indigenous					Non-Indigenous					
	Number	Crude no. per 1,000	Age std. no. per 1,000	LCL 95%	UCL 95%	Number	Age std. no. per 1,000	LCL 95%	UCL 95%	Rate ratio	Rate difference
Disability Support Pension	6,185	18.1	19.0	18.6	19.5	115,273	7.9	7.9	7.9	2.4	11.1
Other pension or benefit	2,129	6.2	6.3	6.0	6.5	37,807	2.6	2.6	2.6	2.4	3.7
Paid employment	527	1.5	1.5	1.4	1.7	17,552	1.2	1.2	1.2	1.3	0.3
Compensation payments	33	0.1	0.1	0.1	0.1	453	0.0	0.0	0.0	3.3	0.1
Other income	71	0.2	0.2	0.2	0.3	2,977	0.2	0.2	0.2	1.2	0.0
Nil income	354	1.0	0.9	0.8	1.0	5,513	0.4	0.4	0.4	2.3	0.5
Not known/stated/collected	813	2.4	2.1	1.9	2.2	16,606	1.1	1.1	1.2	1.8	0.9
Total	**10,112**	**29.6**	**30.1**	**29.5**	**30.7**	**196,181**	**13.4**	**13.4**	**13.5**	**2.2**	**16.7**

Notes

1. Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.
2. Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.
3. Rates are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group.

Source: Unpublished data from the 2009–10 Disability Services National Minimum Data Set.

Table 1.14.24: Service users with an exit date, main reason for cessation of services by Indigenous status, persons aged under 65 years, 2009–10

	Indigenous					Non-Indigenous					
Main reason for cessation of services	**Number**	**Crude no. per 1,000**	**Age std. no. per 1,000**	**LCL 95%**	**UCL 95%**	**Number**	**Age std. no. per 1,000**	**LCL 95%**	**UCL 95%**	**Rate ratio**	**Rate difference**
No longer needs assistance - moved to mainstream services	425	0.8	0.8	0.7	0.9	12,122	0.7	0.7	0.7	1.3*	0.2*
No longer needs assistance - other reason	1,161	2.2	2.3	2.2	2.5	13,690	0.8	0.7	0.8	3.1*	1.6*
Moved to residential institutional or supported accommodation setting	71	0.1	0.1	0.1	0.2	825	0.0	0.0	0.0	3.4*	0.1*
Needs have increased - other service type required	60	0.1	0.1	0.1	0.2	1,030	0.1	0.1	0.1	2.4*	0.1*
Services terminated due to budget/staffing constraints	78	0.1	0.2	0.11	0.2	1,681	0.1	0.1	0.1	2.1*	0.1*
Services terminated due to OHS reasons[(a)]	4	0.0	—	—	—	62	0.0	0.0	0.0	2.2	0.0
Service user moved out of area	255	0.5	0.5	0.5	0.5	2,677	0.1	0.1	0.2	3.1*	0.3*
Service user died	87	0.2	0.2	0.2	0.3	1,198	0.1	0.1	0.1	3.5*	0.2*
Service user terminated service	388	0.7	0.9	0.8	0.9	8,250	0.4	0.4	0.5	2.0*	0.4*
Other reason	2,368	4.4	4.7	4.5	4.9	39,491	2.2	2.1	2.2	2.2*	2.6*
Reason not stated	115	0.2	0.2	0.2	0.3	3,274	0.2	0.2	0.2	1.2	0.0
Total number of services uses with an exit date	**5,012**	**9.3**	**10.1**	**9.8**	**10.4**	**84,300**	**4.6**	**4.6**	**4.6**	**2.2***	**5.6***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

Notes

1. Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.
2. Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.
3. Rates are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group.

Source: Unpublished data from the 2009–10 Disability Services National Minimum Data Set.

Additional information

Indigenous carers

Information on Indigenous carers of persons with a disability, long-term health condition or problems related to old age is available from the 2006 Census. These data are presented below.

- In 2006, after adjusting for differences in the age structures of the Indigenous and non-Indigenous populations, Indigenous Australians were more likely than non-Indigenous Australians to be caring for another person with a disability, long-term illness or problems related to old age (Table 1.14.25).
- The median age of Indigenous carers was 37 years, compared with 49 years for non-Indigenous carers (ABS & AIHW 2008). The age group 45–54 years had the highest proportion of Indigenous carers and the age group 55–64 years had the highest proportion of non-Indigenous carers (Table 1.14.25).
- Indigenous Australians aged 15–34 years were over one and a half times as likely as non-Indigenous Australians of the same age to be carers in 2006. The proportion of persons aged 45 years and over who were carers was similar for Indigenous and non-Indigenous Australians (Table 1.14.25).

Table 1.14.25: Carers[(a)] by Indigenous status and age, 2006

Age group (years)	Indigenous	Non–Indigenous	Rate ratio	Rate difference
	Per cent			
15–24	7.9	4.5	1.7	3.4
25–34	12.1	7.5	1.6	4.6
35–44	14.7	11.2	1.3	3.5
45–54	15.3	15.0	1.0	0.3
55–64	14.0	16.5	0.9	–2.5
65 and over	10.4	10.4	1.0	0.0
Total[(b)]	**11.9**	**10.8**	**1.1**	**1.1**
Total—age-standardised[(c)]	**12.4**	**10.5**	**1.2**	**1.9**
Total carers[(a)]	**31,600**	**1,532,057**	. .	. .

(a) Persons aged 15 years and over living in private dwellings who provided unpaid care, help or assistance to another person because of their disability, long-term illness or problems related to old age.

(b) Rates are age-specific so will not add to 100%.

(c) Age-standardised to the 2001 final estimated resident population

Source: ABS & AIHW 2008.

Western Australian Aboriginal Child Health Survey

Information on the carers of Indigenous children with a disability, chronic illness or pain is available from the Western Australian Aboriginal Child Health Survey. In the survey, carers of Indigenous children were asked whether each child placed a burden on them and the family as a result of any disability, chronic illness or pain. Carers reported that around 5% of children placed a 'little or some' burden on their carers and families, and 3% children placed 'quite a lot or very much' burden on their carers and families. The experience of burden on carers and families declined with increasing level of relative isolation. Burden was reported to be particularly high in families where children were reported to have impairments in self-care (e.g. activities of daily living). Just over half of the carers of the 380 children who needed special help with eating, dressing, bathing or toileting reported that this placed 'quite a lot' or 'very much' burden on the family (Zubrick et al. 2004).

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User’s guide (ABS 2010).

Census of Population and Housing

The Census uses the National health data dictionary standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplainable growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself; for example, whether people are counted more than once, or are undercounted (ABS 1996).

Although the Census data are adjusted for undercounts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

Disability Services National Minimum Data Set (DS NMDS)

The DS NMDS collects information on services and clients where funding has been provided, during the specified period, by a government organisation operating under the NDA. The scope of services varies across jurisdictions for programs that receive NDA funding. For example, in 2009–10 in Victoria and Queensland, specialist psychiatric disability services were provided under the NDA. However, in all other jurisdictions specific mental health services were funded and provided under health, rather than disability, portfolios

A statistical linkage key enables the number of service users to be estimated from data collected from service type outlets and agencies. A statistical linkage key is a derived variable used to link data for statistical and research purposes that is generated from elements of an individual's personal demographic data and attached to de-identified data relating to the services received by that individual. A service type outlet is a unit of an agency that provides a particular NDA service type at, or from, a designated location. During any given financial year, a service user can receive services from more than one service type outlet, more than one agency, and multiple jurisdictions. In each of these cases, unique service user counts can be estimated by using the statistical linkage key.

Some of the data for which Indigenous status continues to be missing in the DS NMDS relate to service type 3.02 (recreational/holiday), for which Indigenous status of clients is not required to be collected.

In 2009–10, the proportion of not stated Indigenous status in the DS NMDS was 5.1% nationally. Work is under way to improve the identification of Indigenous clients in the DS NMDS.

Western Australian Aboriginal Child Health Survey

Survey data are subject to sampling and non-sampling errors. Confidence intervals are published with the data to provide a guide to the reliability of the estimates. Non-sampling errors can occur in surveys owing to questionnaire design problems, respondent difficulty recalling information/lack of appropriate records, and errors made in the recording and processing of the data. Every effort was made to minimise non-sample errors in this survey.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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List of tables

1.15 Ear health

This indicator includes a number of measures of children's hearing including prevalence rates and hospitalisation rates for diseases of the ear and mastoid process, and rates of ear and hearing problems managed at consultations with general practitioners

Data sources

Data for this measure come from the National Aboriginal and Torres Strait Islander Social Survey, the National Aboriginal and Torres Strait Islander Health Survey, the AIHW National Hospital Morbidity Database, Deadly ears program, the Bettering the Evaluation and Care of Health survey and data from the Northern Territory Emergency Response Child Health Check Initiative audiology and ENT follow-up services.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Deadly Ears Program in Queensland

Deadly Ears is a Queensland state-wide Aboriginal and Torres Strait Islander Ear Health Program managed from within the Children's Health Services District. It is a multi-disciplinary program targeting the prevention and management of ear disease and its associated impacts in Aboriginal and Torres Strait Islander children. The program has been screening Indigenous children across Queensland and collating the results since 2006. Data are collected on clients who report to outreach clinics after being identified as having ear health issues through screening or referrals from other health services.

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program . The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

Northern Territory Emergency Response Child Health Check Initiative (NTER CHCI)- audiology and ENT follow-up services

In response to the extensive ear and hearing problems found among Indigenous children in prescribed areas of the Northern Territory who received health checks as part of the Northern Territory Emergency Response (NTER) Child Health Check initiative (CHCI), the Australian Government funded the Northern Territory Government to provide follow-up audiology and ENT services from the middle of 2007. The audiology follow-up services assessed the middle ear condition of the child, tested for hearing loss and recommended rehabilitation. The ENT follow-up services comprised both consultation and surgery.

The focus of this program was to provide follow-up audiology and ENT services to children with a referral from their child health check (CHC). Although priority was given to such children, if possible and if funding allowed, services were also provided to other children in need or who sought services. Children living in prescribed areas of the NT were eligible for these services if they received a CHC or were under 16 years of age.

Since July 2009, the follow-up audiology and ENT services were funded as part of the Closing the Gap (CtG) initiatives of the Northern Territory National Partnership Agreement signed by the Australian and Northern Territory governments. Data reported in this indicator covers services provided under both the CHCI and CtG programs.

Analysis

Self-reported prevalence

Self-reported data from the National Aboriginal and Torres Strait Islander Social Survey (NATSISS) on the prevalence of diseases of the ear and mastoid are presented in Tables 1.15.1 to 1.15.4. Table 1.15.5 provides data using both the NATSIHS and NATSISS. Self-reported data from the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) on the prevalence of diseases of the ear and mastoid are presented in Tables 1.15.6 and 1.15.7.

Prevalence by sex

- In 2008, ear or hearing problems were reported for approximately 9% of Indigenous children aged 0–14 years. Around 3% of children had total or partial hearing loss, and 3% of children had otitis media (Table 1.15.1).
- The prevalence was similar (around 9%) for both Indigenous males and females.

Table 1.15.1: Proportion of Indigenous children reporting ear/hearing problems, by sex, 2008

Type of ear/hearing problem	Males	Females	Australia
		Per cent	
Total has ear/hearing problems[(a)]	*8.6*	*8.7*	*8.6*
Total or partial hearing loss	2.8	2.7	2.8
Runny ears or glue ear (otitis media)	3.2	2.9	3.1
Other	2.5	2.9	2.7
Does not have ear/hearing problems	91.4	91.3	91.4
Total[(b)]	**100.0**	**100.0**	**100.0**
Total number	**97,460**	**94,083**	**191,543**
Not known	1.0[(a)]	0.8[(a)]	0.9

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Excludes not known responses.

Source: AIHW analyses of 2008 NATSISS.

Prevalence by state/territory

- The Northern Territory had the highest proportion of Indigenous children reporting ear and hearing problems (12%), followed by New South Wales (10%) (Table 1.15.2).
- Victoria had the lowest proportion of Indigenous children reporting ear and hearing problems (6%).

Table 1.15.2: Proportion of Indigenous children reporting ear/hearing problems, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas/ACT	NT	Aust.
				Per cent				
Type of ear/hearing problem								
Total has ear/hearing problems[(a)]	*9.6*	*5.6*	*6.9*	*9.0*	*7.8*	*7.8*	*12.1*	*8.6*
Total or partial hearing loss	2.6	1.2(a)	3.0(a)	2.3(a)	2.7(a)	2.8(a)	3.9	2.8
Runny ears or glue ear (otitis media)	4.2	1.7(a)	1.9(a)	4.7	2.0(a)	2.4(a)	2.7(a)	3.1
Other	2.7	2.6(a)	2.3(a)	1.6(a)	2.8(a)	2.6(a)	4.5	2.7
Does not have ear/hearing problems	90.4	94.4	93.1	91.0	92.2	92.2	87.9	91.4
Total(c)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**57,708**	**12,186**	**55,688**	**25,395**	**10,246**	**8,343**	**21,977**	**191,543**
Not known	1.0(a)	1.3(a)	1.0(a)	0.7(a)	0.5(b)	0.1(b)	0.5(b)	0.9

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

(c) Excludes not known responses.

Source: AIHW analyses of 2008 NATSISS.

Prevalence by remoteness

Tables 1.15.3 and 1.15.4 present the proportion of Indigenous children with ear or hearing problems by remoteness. The type of ear or hearing problem is presented in Table 1.15.3 and the type of treatment received is presented in Table 1.15.4.

- In remote areas, 10% of Indigenous children aged 0–14 had some type of ear or hearing problem, compared with 8% in non-remote areas (Table 1.15.3).
- There was a significant difference between remote (4%) and non-remote (2%) areas for Indigenous children aged 0–14 years with total or partial hearing loss (Table 1.15.3).
- During 2008, in remote areas 23% of Indigenous children with an ear or hearing problem received treatment from a hearing specialist, compared with 40% in non-remote areas (Table 1.15.4).
- In remote areas, 16% of Indigenous children with ear or hearing problems did not receive treatment as it was either not sought, treatment was unavailable or too expensive. This is in comparison to 9% of Indigenous children with ear or hearing problems in non-remote areas of Australia (Table 1.15.4).

Table 1.15.3: Number and proportion of Indigenous children aged 0–14 years with reported ear or hearing problems, by type of ear or hearing problem and remoteness, 2008

	Non-remote		Remote		Australia	
Type of ear/hearing problem	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Total or partial hearing loss	3,503	2.4*	1,780	3.9*	5,283	2.8
Runny ears or glue ear (otitis media)	4,701	3.2	1,147	2.5	5,848	3.1
Other[(a)]	4,052	2.8	1,796	4.0	5,848	3.1
Total has ear/hearing problems[(b)]	*11,833*	*8.1*	*4,644*	*10.3*	*16,478*	*8.6*
Does not have ear/hearing problems	134,581	91.9	40,485	89.7	175,065	91.4
Total[(c)]	**146,414**	**100.0**	**45,129**	**100.0**	**191,543**	**100.0**
Total number	**147,946**	**. .**	**45,303**	**. .**	**193,249**	**. .**
Not known	1,532	. .	174	. .	1,706	. .

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Comprises tinnitus, otitis (external) and other hearing problems n.f.d.

(b) Total will be less than the sum of the components as a child may have had more than one type of ear/hearing problem.

(c) Excludes not known responses.

Source: AIHW analyses of 2008 NATSISS.

Table 1.15.4: Proportion of Indigenous children reporting ear/hearing problems who received treatment, by remoteness, 2008

Type of treatment received	**Non-remote**	**Remote**	**Australia**
		Per cent	
Medication (including eardrops)	45.7	48.9	46.6
Checked by an ear or hearing specialist	40.3	22.9	35.4
Surgery	25.6	18.6	23.6
Other	16.0	10.9[(a)]	14.6
Total received treatment	*91.2*	*83.7*	*89.1*
No treatment sought/unable to afford treatment/no treatment available	8.8[(a)]	16.3	10.9
Total who have ear/hearing problems	**100.0**	**100.0**	**100.0**
Total number	**11,833**	**4,644**	**16,478**

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

Source: AIHW analyses of 2008 NATSISS.

Time series

- In 2008, prevalence of diseases of the ear and mastoid process was higher among Indigenous children aged 0–14 years in remote areas (11% males and 10% females) than those in non-remote areas (8% for both males and females) (Table 1.15.5).
- Overall, there has been slight decrease in the prevalence of ear and hearing problems among Indigenous children aged 0–14 years between 2001 and 2008, in both remote and non-remote areas. The decline in remote areas over this period for Indigenous males was from 18% to 11%, and for Indigenous females it was from 18% to 10%.

Table 1.15.5: Indigenous children aged 0–14 years with ear/hearing problems, by remoteness, 1995, 2001, 2004–05, and 2008

	1995[(a)]			2001			2004–05			2008		
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
						Per cent						
Remote(b)(c)	n.a.	n.a.	n.a.	17.5	17.9	17.7	12.0	13.3	12.6	10.5	10.1	10.3
Non-remote	7.2	4.5	5.9	6.4(d)	10.8	8.5	8.7	8.3	8.5	7.9	8.3	8.1
Total(c)	**n.a.**	**n.a.**	**n.a.**	**9.6**	**12.9**	**11.2**	**9.6**	**9.5**	**9.5**	**8.5**	**8.7**	**8.6**
Total no.	**54,392**	**52,401**	**106,793**	**90,615**	**85,878**	**176,493**	**92,767**	**87,902**	**180,699**	**97,731**	**93,812**	**191,543**

(a) Data for the National Aboriginal and Torres Strait Islander Health Survey 1995 are available for non-remote areas only.

(b) Difference between 2001 and 2008 male rates is statistically significant at the $p < 0.05$ level.

(c) Difference between 2001 and 2008 female rates is statistically significant at the $p < 0.05$ level.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 1995 & 2001 NHS (Indigenous supplement), 2004–05 NATSIHS; and 2008 NATSISS.

Prevalence by selected population and health characteristics

Tables 1.15.6 and 1.15.7 present the proportion of Indigenous children aged 0–14 years who had ear or hearing problems by selected demographic characteristics and risk factors using data from the 2004–05 NATSIHS.

- In 2004–05, approximately 10% of Indigenous children aged 0–14 years reported having ear or hearing problems compared with 3% of non-Indigenous children of the same age (Table 1.15.6).
- Diseases of the ear and mastoid were more prevalent among Indigenous children aged 5–14 years (12%) than among Indigenous children aged 0–4 years (6%) (Table 1.15.6).
- Complete or partial deafness/ hearing loss and otitis media were both more prevalent among Indigenous children than among non-Indigenous children. Approximately 5% of Indigenous children aged 0–14 years reported complete or partial hearing loss or deafness compared with 1% of non-Indigenous children. Approximately 4% of Indigenous children of the same age reported otitis media compared with 2% of non-Indigenous children. Otitis media is infection and inflammation of the middle ear space and eardrum. Symptoms include earache, fever and, in some cases, diminished hearing.
- In 2004–05, among Indigenous children aged 0–14 years, a higher proportion of those who lived in households with regular smokers who smoked indoors at home reported having ear and hearing problems than those who did not live with regular smokers who smoked indoors at home (13% compared with 8%) (Table 1.15.7).
- Indigenous children who lived in overcrowded households or in lowest SES group where more likely to have ear and hearing problems (both 15%) than Indigenous children who did not live in overcrowded households (8%) or were in highest SES group (11%)(Table 1.15.7).
- A higher proportion (21% and 14%) of Indigenous children aged 12–14 years who reported they did not eat vegetables daily and/or did not eat fruit daily reported ear and hearing problems than Indigenous children who did eat fruit and vegetables daily (both 8%)(Table 1.15.7).
- Approximately 11% of Indigenous children whose last consultation with a GP or specialist was less than 3 months ago reported ear and hearing problems compared with 8% of Indigenous children who whose last GP or specialist consultation was 3 or more months ago (Table 1.15.7).

Table 1.15.6: Children reporting diseases of the ear and mastoid, by Indigenous status and age group, Australia, 2004–05(a)

Age (years)	0–4		5–14		0–14	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
			Per cent			
Complete or partial deafness/ hearing loss	2(b)	1(b)	6*	2*	5*	1*
Otitis media	4*	2*(b)	5*	1*	4*	2*
Other diseases of the ear and mastoid	—(b)	—(c)	2(b)	1	1(b)	—
Total(d)(e)	**6***	**2***	**12***	**3***	**10***	**3***
Total number	**60,183**	**1,198,038**	**120,486**	**2,561,973**	**180,669**	**3,760,010**

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Self-reported data from the National Aboriginal and Torres Strait Islander Health Survey 2004–05 and National Health Survey 2004–05.

(b) Estimates having a relative standard error of between 25% and 50% and should be used with caution.

(c) Estimate having a relative standard error greater than 50% are considered too unreliable for general use.

(d) Includes ‘Type of ear/hearing problem’ not known.

(e) Components may not add to total as persons may have reported more than one type of condition.

Source: ABS and AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey and 2004–05 National Health Survey.

Table 1.15.7: Proportion of Indigenous children aged 0–14 years with ear/hearing problems, by selected demographic characteristics and risk factors, 2004–05

	Has ear/ hearing problems	Does not have ear/ hearing problems
	Per cent	
Lives in households with regular smokers		
Yes	10.4	89.6
No	8.0	92.0
Lives in households with regular smokers who smoke at home indoors		
Yes	13.0	87.0
No	8.3	91.7
Overcrowding in housing		
Yes	14.5	85.5
No	8.3	92.0
SEIFA—index of socioeconomic status (SES)		
Lowest SES	14.7	85.3
Highest SES	10.6	89.4
Eats vegetables daily(a)		
Yes	7.7	92.3
No	20.8	79.2
Eats fruit daily(a)		
Yes	7.8	92.2
No	13.8	86.2
Time since consulted GP/specialist		
Less than 3 months	11.0	89.0
3 months or more	8.4	91.6
Total (per cent)	**9.5**	**90.5**
Total number	**17,097**	**163,572**

(a) Children aged 12–14 years.

Source: AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

Hospitalisations

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, there were 56,614 hospitalisations from diseases of the ear and mastoid process among children aged 0–14 years, around 6% of which were hospitalisations of Aboriginal and Torres Strait Islander children.
- Diseases of the ear and mastoid process accounted for 5% of total hospitalisations among Indigenous children aged 0–14 years.
- Indigenous children aged 0–14 years were hospitalised for diseases of the ear and mastoid at 1.3 times the rate of non-Indigenous children. For Indigenous persons aged 15 years and over, the rate ratio was also 1.3.

Hospitalisations by state/territory

Age-standardised rates and ratios have been used for this indicator as a measure of morbidity in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Table 1.15.8 presents hospitalisations for diseases of the ear and mastoid process for children aged 0–14 years for the 2-year period July 2008 to June 2010 by state and territory.

- The Northern Territory had the highest hospitalisation rates of Indigenous children aged 0–14 for diseases of the ear and mastoid process, followed by Western Australia.
- Indigenous persons were hospitalised for diseases of the ear and mastoid process at higher rates than non-Indigenous persons in New South Wales, Queensland, Western Australia, the Northern Territory and the Australian Capital Territory. The highest rate ratio between Indigenous and non-Indigenous hospitalisations was observed in the Northern Territory, at 5.6 times. The lowest rate ratio was in South Australia, at 0.7 times (Table 1.15.8). The Northern Territory also had the largest rate difference.

Table 1.15.9 presents hospitalisations for diseases of the ear and mastoid process for children aged 15 years and over for the 2-year period July 2008 to June 2010 by state and territory.

- The Northern Territory had the highest hospitalisation rates of Indigenous persons aged 15 years and over for diseases of the ear and mastoid process, followed by South Australia.
- In all states/territories except for Victoria, Indigenous persons aged 15 years and over were hospitalised for diseases of the ear and mastoid process at higher rates than non-Indigenous persons of the same age. The highest rate ratio between Indigenous and non-Indigenous hospitalisations was observed in the Northern Territory, at 3.3 times. The lowest rate ratio was in Victoria, at 0.8 times (Table 1.15.9). The Northern Territory also had the largest rate difference.

Table 1.15.8: Hospitalisations for diseases of the ear and mastoid process, for children aged 0–14 years, by Indigenous status and sex and jurisdiction, July 2008–June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
NSW						
Males	417	6.9	9,462	7.1	1.0	–0.2
Females	321	5.6	6,109	4.8	1.2*	0.8*
Persons	738	6.2	15,571	6.0	1.0	0.3
Vic						
Males	78	6.0	8,291	8.0	0.8*	–1.9*
Females	64	5.0	5,818	5.9	0.9	–0.9
Persons	142	5.5	14,112	7.0	0.8*	–1.4*
Qld						
Males	493	8.3	6,216	7.2	1.2*	1.1*
Females	354	6.2	4,020	4.9	1.2*	1.2*
Persons	847	7.2	10,236	6.1	1.2*	1.1*
WA						
Males	369	13.8	3,699	8.6	1.6*	5.2*
Females	281	11.0	2,480	6.1	1.8*	4.9*
Persons	650	12.5	6,179	7.4	1.7*	5.1*
SA						
Males	104	9.7	4,126	14.3	0.7*	–4.6*
Females	65	6.3	2,820	10.2	0.6*	–3.9*
Persons	169	8.0	6,946	12.3	0.7*	–4.2*
NT						
Males	429	18.5	133	4.1	4.5*	14.4*
Females	390	17.9	72	2.4	7.6*	15.5*
Persons	819	18.2	205	3.3	5.6*	14.9*
NSW, Vic, Qld, WA, SA and NT[(h)]						
Males	**1,890**	**9.8**	**31,927**	**8.0**	**1.2***	**1.8***
Females	**1,475**	**8.0**	**21,319**	**5.6**	**1.4***	**2.4***
Persons	**3,365**	**8.9**	**53,249**	**6.8**	**1.3***	**2.1***
Tas						
Males	17	2.4	236	2.5	1.0	–0.1
Females	9	1.4	185	2.1	0.7	–0.7
Persons	26	1.9	422	2.3	0.8	–0.4

(continued)

Table 1.15.8 (continued): Hospitalisations for diseases of the ear and mastoid process, for children aged 0–14 years, by Indigenous status and sex and jurisdiction, July 2008–June 2010[a][b][c][d]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[e]	Number	Rate per 1,000[e]	Ratio[f]	Difference[g]
ACT						
Males	7	4.5	192	2.9	1.6	1.7
Females	6	3.6	99	1.6	2.3	2.0
Persons	13	4.0	291	2.2	1.8*	1.8

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 1.15.9: Hospitalisations for diseases of the ear and mastoid process, for persons aged 15 years and over, by Indigenous status and sex and jurisdiction, July 2008–June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
NSW						
Males	115	1.1	6,524	1.2	0.9	–0.1
Females	152	1.6	7,213	1.2	1.4*	0.4*
Persons	267	1.4	13,737	1.2	1.2*	0.2*
Vic						
Males	9	0.4	5,617	1.3	0.3*	–0.9*
Females	43	1.8	7,121	1.5	1.2	0.3
Persons	52	1.1	12,738	1.4	0.8	–0.3
Qld						
Males	122	1.3	5,214	1.5	0.9	–0.2
Females	196	2.2	6,048	1.7	1.3*	0.5*
Persons	318	1.8	11,262	1.6	1.1	0.2
WA						
Males	62	1.5	2,414	1.4	1.1	0.1
Females	100	2.2	2,566	1.4	1.6*	0.8*
Persons	162	1.9	4,980	1.4	1.3*	0.5*
SA						
Males	30	3.8	1,902	1.4	2.7*	2.4*
Females	42	2.2	2,463	1.7	1.3	0.5
Persons	72	2.7	4,365	1.5	1.8*	1.2*
NT						
Males	**111**	**2.8**	**116**	**1.0**	**3.0***	**1.9***
Females	200	3.6	94	0.9	4.0*	2.7*
Persons	311	3.1	210	0.9	3.3*	2.2*
NSW, Vic, Qld, WA, SA and NT[(h)]						
Males	**449**	**1.5**	**21,787**	**1.3**	**1.2***	**0.2***
Females	**733**	**2.2**	**25,505**	**1.4**	**1.5***	**0.7***
Persons	**1,182**	**1.9**	**47,292**	**1.4**	**1.3***	**0.5***
Tas						
Males	10	0.8	206	0.5	1.5	0.3
Females	10	0.6	301	0.7	0.8	–0.1
Persons	20	0.7	507	0.6	1.1	0.1

(continued)

Table 1.15.9 (continued): Hospitalisations for diseases of the ear and mastoid process, for persons aged 15 years and over, by Indigenous status and sex and jurisdiction, July 2008–June 2010(a)(b)(c)(d)

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000(e)	Number	Rate per 1,000(e)	Ratio(f)	Difference(g)
ACT						
Males	0	0.0	178	0.7	. .	–0.7*
Females	5	1.4	204	0.7	1.9	0.7
Persons	5	0.7	382	0.7	1.0	0.0

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 1.15.10 presents hospitalisations for diseases of the ear and mastoid process for persons of all ages for the 2-year period July 2008 to June 2010.

- The Northern Territory had the highest hospitalisation rates of Indigenous persons for diseases of the ear and mastoid process, followed by Western Australia.
- In all states/territories except for Victoria, Indigenous persons were hospitalised for diseases of the ear and mastoid process at higher rates than non-Indigenous persons of the same age. The highest rate ratio between Indigenous and non-Indigenous person was observed in the Northern Territory, at 4.4 times. The lowest rate ratio was in Victoria and Australian Capital Territory, both at 0.8 times (Table 1.15.10).

Table 1.15.10: Hospitalisations for diseases of the ear and mastoid process, by Indigenous status and sex and jurisdiction, July 2008–June 2010[a][b][c][d]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[e]	Number	Rate per 1,000[e]	Ratio[f]	Difference[g]
NSW						
Males	532	2.3	15,986	2.4	1.0	–0.1
Females	473	2.4	13,322	1.9	1.3*	0.5*
Persons	1,005	2.4	29,308	2.2	1.1*	0.2*
Vic						
Males	87	1.5	13,908	2.7	0.6*	–1.1*
Females	107	2.5	12,939	2.4	1.0	0.1
Persons	194	2.0	26,850	2.6	0.8*	–0.5*
Qld						
Males	615	2.8	11,430	2.7	1.0	0.1
Females	550	3.0	10,068	2.4	1.3*	0.6*
Persons	1,165	2.9	21,498	2.5	1.1*	0.4*
WA						
Males	431	4.0	6,113	2.9	1.4*	1.2*
Females	381	4.0	5,046	2.4	1.7*	1.6*
Persons	812	4.1	11,159	2.6	1.5*	1.4*
SA						
Males	134	5.0	6,028	4.1	1.2	0.9
Females	107	3.0	5,283	3.4	0.9	–0.4
Persons	241	3.8	11,311	3.7	1.0	0.1
NT						
Males	540	6.0	249	1.6	3.8*	4.4*
Females	590	6.6	166	1.2	5.4*	5.4*
Persons	1,130	6.2	415	1.4	4.4*	4.8*
NSW, Vic, Qld, WA, SA and NT[h]						
Males	**2,339**	**3.2**	**53,714**	**2.7**	**1.2***	**0.5***
Females	**2,208**	**3.4**	**46,824**	**2.3**	**1.5***	**1.1***
Persons	**4,547**	**3.3**	**100,541**	**2.5**	**1.3***	**0.8***
Tas						
Males	27	1.1	442	0.9	1.2	0.2
Females	19	0.8	486	1.0	0.8	–0.2
Persons	46	0.9	929	1.0	1.0	0

(continued)

Table 1.15.10 (continued): Hospitalisations for diseases of the ear and mastoid process, by Indigenous status and sex and jurisdiction, July 2008–June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
ACT						
Males	7	0.9	370	1.1	0.8	–0.2
Females	11	1.9	303	0.9	2.1*	1
Persons	18	1.4	673	1.0	1.4	0.4

* Represents results with statistically significant differences at the p < 0.05 level in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by age and principal diagnosis

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 1,274 hospitalisations for diseases of the ear and mastoid process among Indigenous children aged 0–4 years, and 2,091 hospitalisations for these diseases among those aged 5–14 years. This represented 3.0% and 8.1% of total hospitalisations among Indigenous children respectively (Table 1.15.11).
- While Indigenous children aged 0–4 years were less likely to be hospitalised for diseases of the ear and mastoid process than non-Indigenous children, Indigenous children aged 5–14 years were twice as likely as to be hospitalised for these diseases.
- The large majority of hospitalisations of Indigenous children for diseases of the ear and mastoid process were for diseases of the middle ear and mastoid, which includes otitis media. Indigenous children aged 5–14 were hospitalised for these diseases at twice the rate of non-indigenous children of the same age.

Hospitalisations for tympanoplasty procedures

For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, rates of tympanoplasty procedures for hospitalisations with a principal diagnosis of otitis media were over 7 times higher for Indigenous children aged 0–14 years than for non-Indigenous children of the same age. Differences observed in hospitalisations from otitis media may be due to the chronic nature of the disease among Indigenous children resulting in greater damage to the eardrum.

Table 1.15.11: Hospitalisations for diseases of the ear and mastoid process, by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

	Number		Per cent(e)		Indigenous			Non-Indigenous				
	Indig.	Non-Indig.	Indig.	Non-Indig.	No. per 1,000(f)	LCL 95%(g)	UCL 95%(h)	No. per 1,000(f)	LCL 95%(g)	UCL 95%(h)	Rate ratio(i)	Rate difference(j)
Aged 0–4 years												
Diseases of middle ear and mastoid (H65–H75)	1,164	29,725	2.8	5.1	9.0	8.5	9.5	11.4	11.3	11.6	0.8*	–2.4*
Other disorders of ear (H90–H95)	56	1,448	0.1	0.2	0.4	0.3	0.5	0.6	0.5	0.6	0.8	–0.1*
Diseases of the external ear (H60–H62)	n.p.	515	n.p.	0.1	n.p.	0.3	0.5	0.2	0.2	0.2	n.p.	n.p.
Diseases of inner ear (H80–H83)	n.p.	39	n.p.	0.0	n.p.	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.
Total	**1,274**	**31,727**	**3.0**	**5.4**	**9.9**	**9.3**	**10.4**	**12.2**	**12.1**	**12.3**	**0.8***	**–2.3***
Aged 5–14 years												
Diseases of middle ear and mastoid (H65–H75)	1,956	19,521	7.6	4.6	7.9	7.5	8.2	3.9	3.8	3.9	2.0*	4.0*
Other disorders of ear (H90–H95)	70	921	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2	1.6*	0.1*
Diseases of the external ear (H60–H62)	n.p.	997	n.p.	0.2	n.p.	0.2	0.3	0.2	0.2	0.2	n.p.	n.p.
Diseases of inner ear (H80–H83)	n.p.	83	n.p.	0.0	n.p.	0.0	0.0	0.0	0.0	0.0	n.p.	n.p.
Total	**2,091**	**21,522**	**8.1**	**5.1**	**8.4**	**8.1**	**8.8**	**4.3**	**4.2**	**4.3**	**2.0***	**4.2***
Aged 0–14 years												
Diseases of middle ear and mastoid (H65–H75)	3,120	49,246	4.6	4.9	8.3	8.0	8.5	6.3	6.3	6.4	1.3*	1.9*
Other disorders of ear (H90–H95)	126	2,369	0.2	0.2	0.3	0.3	0.4	0.3	0.3	0.3	1.1	0.0
Diseases of the external ear (H60–H62)	113	1,512	0.2	0.2	0.3	0.2	0.4	0.2	0.2	0.2	1.5*	0.1*
Diseases of inner ear (H80–H83)	6	122	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Total	**3,365**	**53,249**	**5.0**	**5.3**	**8.9**	**8.6**	**9.2**	**6.8**	**6.8**	**6.9**	**1.3***	**2.1***

(continued)

Table 1.15.11 (continued): Hospitalisations for diseases of the ear and mastoid process, by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Number		Per cent[(e)]		Indigenous			Non-Indigenous				
	Indig.	Non-Indig.	Indig.	Non-Indig.	No. per 1,000[(f)]	LCL 95%[(g)]	UCL 95%[(h)]	No. per 1,000[(f)]	LCL 95%[(g)]	UCL 95%[(h)]	Rate ratio[(i)]	Rate difference[(j)]
Aged 15 years and over												
Diseases of middle ear and mastoid (H65–H75)	737	17,307	0.3	0.1	1.0	0.9	1.1	0.5	0.5	0.5	1.9*	0.5*
Other disorders of ear (H90–H95)	60	4,333	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.8	0.0
Diseases of the external ear (H60–H62)	243	9,447	0.1	0.1	0.4	0.4	0.5	0.3	0.3	0.3	1.5*	0.1*
Diseases of inner ear (H80–H83)	142	16,205	0.1	0.1	0.4	0.3	0.4	0.5	0.5	0.5	0.8*	–0.1*
Total	**1,182**	**47,292**	**0.4**	**0.4**	**1.9**	**1.7**	**2.0**	**1.4**	**1.4**	**1.4**	**1.3***	**0.5***
All ages												
Diseases of middle ear and mastoid (H65–H75)	3,857	66,553	1.2	0.5	2.5	2.4	2.6	1.7	1.7	1.7	1.4*	0.8*
Other disorders of ear (H90–H95)	186	6,702	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.9	0.0
Diseases of the external ear (H60–H62)	356	10,959	0.1	0.1	0.4	0.3	0.5	0.3	0.3	0.3	1.5*	0.1*
Diseases of inner ear (H80–H83)	148	16,327	0.0	0.1	0.3	0.2	0.3	0.4	0.4	0.4	0.8*	–0.1*
Total	**4,547**	**100,541**	**1.4**	**0.8**	**3.3**	**3.2**	**3.4**	**2.5**	**2.5**	**2.5**	**1.3***	**0.8***

(continued)

Table 1.15.11 (continued): Hospitalisations for diseases of the ear and mastoid process, by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

* Represents a statistically significant difference at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification of Health 2010); ICD-10-AM codes H60–95.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of total hospitalisations for Indigenous and non-Indigenous people in that age group for the period 2008–09 to 2009–10.

(f) Age specific rates for 0–4 and 5–14 years age groups. Age standardised rates for 0–14, 15 years and over and All ages, directly age standardised using the Australian 2001 standard population by five-year age groups to 75+.

(g) LCL = Lower confidence limit.

(h) UCL = Upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous minus non-Indigenous.

Notes

1. Population estimates are based on the 2006 Census (series B for Indigenous).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for diseases of the ear and mastoid process in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 1.15.12, covering the period July 2008 to June 2010.

- Hospitalisation rates for diseases of the ear and mastoid process were highest for Indigenous children aged 0–14 years living in very remote areas (at 17.6 per 1,000) and lowest in major cities (6.1 per 1,000). The same pattern was evident for all Indigenous persons and Indigenous persons aged 15 years and over.
- Indigenous persons had higher hospitalisation rates for diseases of the ear and mastoid process than non-Indigenous persons for all remoteness areas except for major cities where the ratio was 0.9. In remote and very remote areas, Indigenous persons were hospitalised at more than twice the rate of non-Indigenous persons for these diseases.

Table 1.15.12: Hospitalisations for diseases of the ear and mastoid process by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d][e][f]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000[g]	LCL 95%[h]	UCL 95%[i]	Number	No. per 1,000[g]	LCL 95%[h]	UCL 95%[i]	Ratio[j]	Difference[k]
					Persons aged 0–14 years					
Major cities	755	6.1	5.7	6.6	37,987	7.0	6.9	7.1	0.9*	–0.9*
Inner regional	645	7.8	7.2	8.4	10,436	7.0	6.8	7.1	1.1*	0.9*
Outer regional[l]	554	6.7	6.1	7.2	3,931	5.6	5.4	5.7	1.2*	1.1*
Remote[m]	450	13.0	11.8	14.2	647	5.6	5.2	6.0	2.3*	7.4*
Very remote	960	17.6	16.5	18.7	245	6.6	5.8	7.4	2.7*	11*
Total 0–14 years[n]	**3,365**	**8.9**	**8.6**	**9.2**	**53,249**	**6.8**	**6.8**	**6.9**	**1.3***	**2.1***
					Persons aged 15 years and over					
Major cities	233	1.3	1.1	1.4	32,826	1.4	1.4	1.4	0.9	–0.1
Inner regional	221	1.8	1.6	2.1	9,531	1.4	1.4	1.4	1.3*	0.4*
Outer regional[l]	220	1.6	1.4	1.9	4,120	1.3	1.3	1.4	1.2*	0.3*
Remote[m]	201	2.9	2.5	3.4	618	1.5	1.4	1.6	2.0*	1.5*
Very remote	306	2.4	2.1	2.7	183	1.4	1.2	1.6	1.8*	1*
Total 15 years and over[n]	**1,182**	**1.8**	**1.7**	**1.9**	**47,292**	**1.4**	**1.4**	**1.4**	**1.3***	**0.4***

(continued)

Table 1.15.12 (continued): Hospitalisations by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d][e][f]

	Indigenous				Non-Indigenous					
	Number	**No. per 1,000[g]**	**LCL 95%[h]**	**UCL 95%[i]**	**Number**	**No. per 1,000[g]**	**LCL 95%[h]**	**UCL 95%[i]**	**Ratio[j]**	**Difference[k]**
					All persons					
Major cities	988	2.3	2.1	2.4	70,813	2.5	2.5	2.6	0.9*	–0.3*
Inner regional	866	3.1	2.8	3.3	19,967	2.5	2.5	2.6	1.2*	0.5*
Outer regional[l]	774	2.7	2.4	2.9	8,051	2.2	2.2	2.2	1.2*	0.5*
Remote[m]	651	5.0	4.5	5.4	1,265	2.3	2.2	2.4	2.2*	2.7*
Very remote	1,266	5.5	5.2	5.9	428	2.5	2.2	2.7	2.3*	3.1*
Total all ages[n]	**4,547**	**3.3**	**3.2**	**3.4**	**100,541**	**2.5**	**2.5**	**2.5**	**1.3***	**0.8***

* Indicates a significant difference at the p <0.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification of Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) Directly age-standardised using the Australian 2001 standard population by five-year age groups to 65+.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: non-Indigenous.

(k) Rate difference Indigenous- non-Indigenous.

(l) Includes remote Victoria.

(m) Excludes remote Victoria.

(n) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 1998–99 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population (Table 1.15.13).

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2009–10 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Diseases of the ear and mastoid process—1998–99 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the ear and mastoid process over the period of 1998–99 to 2009–10 are presented in Table 1.15.13 and Figure 1.15.1. Data are presented for children aged 0–14; persons aged 15 years and over, and all persons.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there was no significant change in hospitalisation rates for diseases of the ear and mastoid process for Indigenous persons aged 0–14, 15 years and over or all ages during the period 1998–99 to 2009–10.
- Over the same period, there were significant declines in hospitalisation rates for diseases of the ear and mastoid process among non-Indigenous persons (20% decline for children aged 0–14; and 12% decline for all ages), resulting in a significant increase in the gap, as measured by the rate ratio and rate difference.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

Table 1.15.13: Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, by age group, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
							0–14 years							
Indigenous separations														
Males	556	568	574	520	469	532	490	504	472	511	688	707	7	14.7
Females	466	459	446	484	411	434	417	389	384	416	564	526	3	6.7
Persons	1,022	1,027	1,020	1,004	880	966	907	893	856	927	1,252	1,233	10	11
Non-Indigenous separations														
Males	7,257	7,235	7,348	6,968	6,907	6,790	6,842	6,821	6,534	6,575	7,387	6,787	–41	–6.1
Females	4,910	5,069	5,085	4,821	4,576	4,554	4,513	4,475	4,461	4,411	4,889	4,503	–45*	–10.2*
Persons	12,167	12,304	12,433	11,789	11,483	11,344	11,355	11,296	10,995	10,986	12,276	11,290	–86*	–7.8*
Indigenous rate per 1,000														
Males	9.9	10.1	10.0	8.9	8.0	9.0	8.3	8.5	7.9	8.6	11.5	11.7	0.1	7.2
Females	9.0	8.8	8.3	8.9	7.4	7.8	7.4	6.9	6.8	7.3	9.9	9.1	0.0	–3.4
Persons	9.5	9.4	9.2	8.9	7.7	8.4	7.9	7.7	7.4	7.9	10.7	10.4	0.0	2.1
Non-Indigenous rate per 1,000														
Males	10.2	10.1	10.3	9.7	9.6	9.4	9.4	9.2	8.7	8.5	9.2	8.3	–0.2*	–18.2*
Females	7.3	7.5	7.5	7.1	6.7	6.6	6.5	6.4	6.2	6.0	6.5	5.8	–0.1*	–21.4*
Persons	8.8	8.8	8.9	8.4	8.2	8.1	8.0	7.8	7.5	7.3	7.9	7.1	–0.2*	–19.5*
Rate ratio[(d)]														
Males	1.0	1.0	1.0	0.9	0.8	1.0	0.9	0.9	0.9	1.0	1.2	1.4	0.03*	30.0*
Females	1.2	1.2	1.1	1.3	1.1	1.2	1.1	1.1	1.1	1.2	1.5	1.6	0.0	20.4
Persons	1.1	1.1	1.0	1.1	0.9	1.0	1.0	1.0	1.0	1.1	1.4	1.5	0.02*	25.1*

(continued)

Table 1.15.13 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, by age group, Qld, WA, SA and NT, 1998–99 to 2009–10(a)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(b)	Per cent change(c)
Rate difference(e)														
Males	–0.3	–0.1	–0.3	–0.8	–1.6	–0.4	–1.1	–0.7	–0.7	0.1	2.3	3.4	0.2*	–991.7*
Females	1.7	1.3	0.8	1.8	0.7	1.1	0.9	0.5	0.5	1.3	3.4	3.3	0.1	71.3
Persons	0.7	0.6	0.3	0.4	–0.5	0.4	–0.1	–0.1	–0.1	0.7	2.8	3.4	0.2*	263.2*
							15 years and over							
Indigenous separations														
Males	103	116	94	113	94	106	109	109	118	169	155	170	5.9*	63.0*
Females	185	208	169	180	185	216	205	212	241	265	284	254	8.7*	51.8*
Persons	288	324	263	293	279	322	314	321	359	434	439	424	14.6*	55.8*
Non-Indigenous separations														
Males	4,012	3,979	4,043	4,039	3,928	4,101	4,147	4,412	4,342	4,641	4,688	4,958	83.9*	23.0*
Females	4,295	4,276	4,282	4,525	4,357	4,711	4,689	5,159	5,139	5,255	5,550	5,621	134.0*	34.3*
Persons	8,307	8,255	8,325	8,564	8,285	8,812	8,836	9,572	9,481	9,896	10,238	10,579	217.9*	28.8*
Indigenous rate per 1,000														
Males	1.3	1.8	1.3	1.5	1.1	1.5	1.3	1.1	1.3	2.2	1.5	2.3	0.0	37.9
Females	2.5	2.6	2.0	2.1	2.1	2.3	2.4	2.3	2.5	2.7	2.7	2.3	0.0	10.7
Persons	1.9	2.2	1.6	1.8	1.7	1.9	1.9	1.8	1.9	2.5	2.1	2.3	0.0	18.9
Non-Indigenous rate per 1,000														
Males	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.5	1.4	1.5	1.4	1.5	–0.01*	–5.6*
Females	1.6	1.6	1.5	1.6	1.5	1.6	1.5	1.6	1.6	1.6	1.6	1.6	0.0	4.9
Persons	1.6	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.6	0.0	–0.2

(continued)

Table 1.15.13 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, by age-group, Qld, WA, SA and NT, 1998–99 to 2009–10(a)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(b)	Per cent change(c)
Rate ratio(d)														
Males	0.9	1.2	0.8	1.0	0.8	1.0	0.9	0.8	0.9	1.5	1.0	1.6	0.0	46.7
Females	1.6	1.7	1.3	1.4	1.4	1.5	1.6	1.4	1.6	1.7	1.6	1.4	0.0	6.2
Persons	1.2	1.4	1.1	1.2	1.1	1.3	1.3	1.1	1.3	1.6	1.4	1.5	0.0	19.7
Rate difference(e)														
Males	–0.2	0.2	–0.3	0.0	–0.3	0.1	–0.1	–0.3	–0.1	0.7	0.1	0.8	0.1	–271.6
Females	0.9	1.0	0.5	0.6	0.7	0.8	0.9	0.7	0.9	1.2	1.0	0.7	0.0	21.4
Persons	0.4	0.6	0.1	0.3	0.2	0.4	0.4	0.2	0.4	0.9	0.6	0.7	0.0	103.0
							All ages							
Indigenous separations														
Males	659	684	668	633	563	638	599	613	590	680	843	877	13.3	22.2
Females	651	667	615	664	596	650	622	601	625	681	848	780	11.5*	19.5*
Persons	1,310	1,351	1,283	1,297	1,159	1,288	1,221	1,214	1,215	1,361	1,691	1,657	24.9*	20.9*
Non-Indigenous separations														
Males	11,269	11,214	11,391	11,007	10,835	10,891	10,989	11,233	10,876	11,216	12,075	11,745	43.3	4.2
Females	9,205	9,345	9,367	9,346	8,933	9,265	9,202	9,634	9,600	9,666	10,439	10,124	88.7*	10.6*
Persons	20,474	20,559	20,758	20,353	19,768	20,156	20,191	20,868	20,476	20,882	22,514	21,869	132.0*	7.1*
Indigenous rate per 1,000														
Males	3.1	3.5	3.1	3.0	2.5	3.0	2.8	2.6	2.6	3.5	3.5	4.3	0.1	17.8
Females	3.8	3.9	3.3	3.5	3.2	3.5	3.4	3.3	3.4	3.7	4.2	3.7	0.0	3.9
Persons	3.5	3.7	3.2	3.3	2.9	3.3	3.1	3.0	3.1	3.6	3.9	3.9	0.0	9.5

(continued)

Table 1.15.13 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, by age-group, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Non-Indigenous rate per 1,000														
Males	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	2.9	2.9	3.0	2.9	–0.04*	–13.5*
Females	2.8	2.8	2.7	2.7	2.5	2.6	2.5	2.6	2.5	2.5	2.6	2.5	–0.02*	–9.4*
Persons	3.1	3.0	3.0	2.9	2.8	2.8	2.8	2.8	2.7	2.7	2.8	2.7	–0.03*	–11.6*
Rate ratio[(d)]														
Males	0.9	1.1	0.9	1.0	0.8	1.0	0.9	0.9	0.9	1.2	1.2	1.5	0.03*	36.3*
Females	1.4	1.4	1.2	1.3	1.3	1.3	1.4	1.2	1.3	1.5	1.6	1.5	0.02*	14.0*
Persons	1.1	1.2	1.1	1.1	1.0	1.1	1.1	1.1	1.1	1.3	1.4	1.5	0.02*	23.4*
Rate difference[(e)]														
Males	–0.2	0.2	–0.3	–0.1	–0.6	0.0	–0.3	–0.4	–0.3	0.6	0.5	1.4	0.1*	439.4*
Females	1.1	1.1	0.5	0.8	0.7	0.8	0.9	0.7	0.9	1.2	1.5	1.2	0.0	38.3
Persons	0.4	0.6	0.2	0.3	0.1	0.4	0.3	0.2	0.3	0.9	1.0	1.3	0.1*	158.1*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

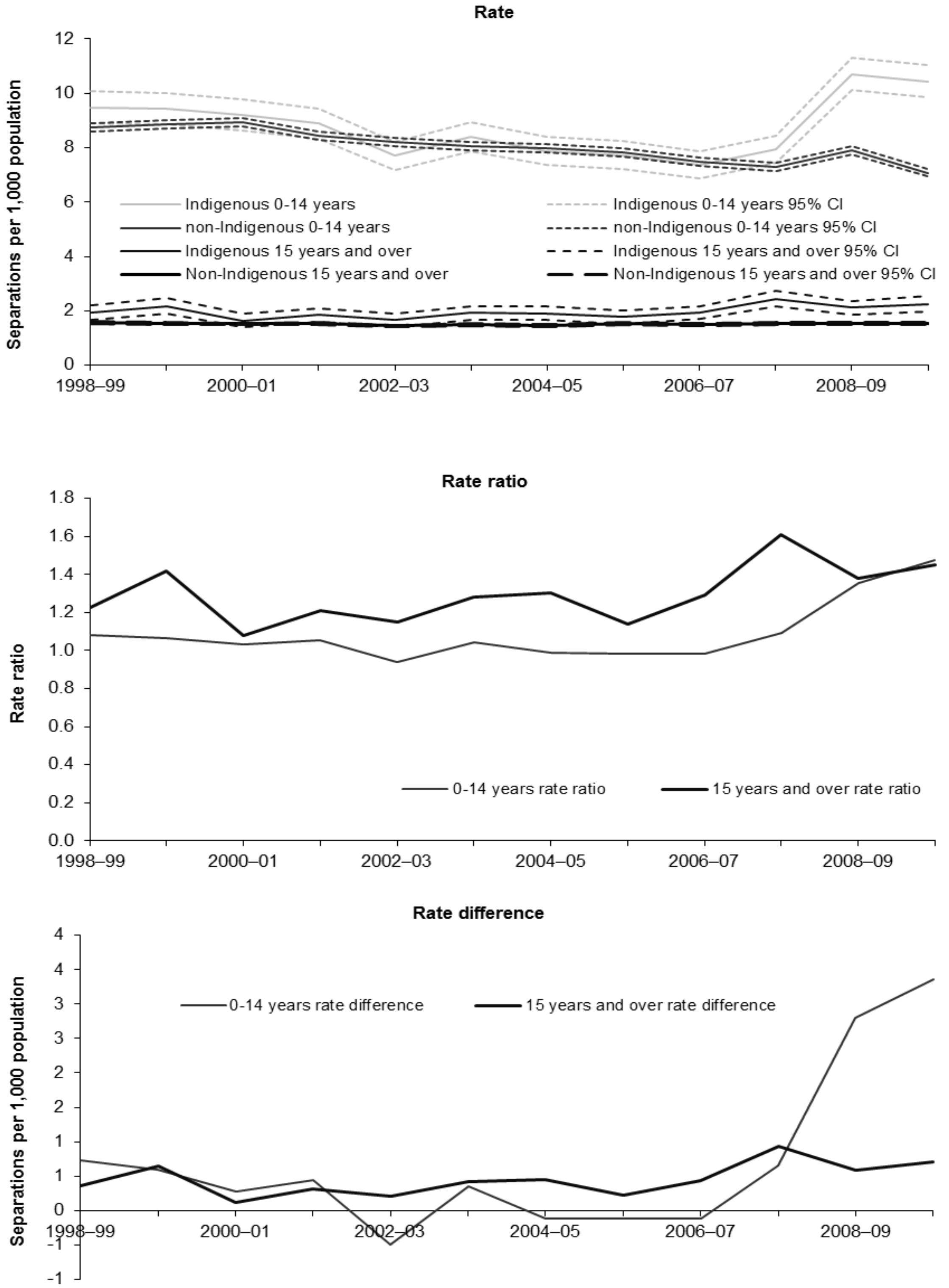
(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.15.1: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous persons aged 0–14years and 15 years and over from diseases of the ear and mastoid process, Qld, WA, SA and NT, 1998–99 to 2009–10

Diseases of the ear and mastoid process—2004–05 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the ear and mastoid process over the 6-year period 2004–05 to 2009–10 are presented in Table 1.15.14 and Figure 1.15.2. Data are presented for children aged 0–14; persons aged 15 years and over, and all persons.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant increases in hospitalisation rates for diseases of the ear and mastoid process among Indigenous children aged 0–14 years, for both males and females during the period 2004–05 to 2009–10. Overall, there was an average yearly increase in the rate of around 0.4 per 1,000 population, which was equivalent to a 32% increase in the rate over the period.
- Over the same period, there was a significant increase in hospitalisation rates for diseases of the ear and mastoid process among Indigenous Australians aged 15 years and over of 21%. The increase was significant for males but not for females.
- Between 2004–05 and 2009–10, there was no significant change in hospitalisation rates for diseases of the ear and mastoid process among non-Indigenous persons aged 0–14 years or 15 years and over. This resulted in a significant increase in the gap between Indigenous and non-Indigenous hospitalisation rates as measured by the rate ratio and rate difference.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

Table 1.15.14: Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
					0–14 years			
Indigenous separations								
Males	720	722	718	768	922	968	54*	37.5*
Females	594	563	563	607	750	725	36*	30.3*
Persons	1,314	1,285	1,281	1,375	1672	1693	90*	34.2*
Non-Indigenous Australian separations								
Males	16,264	15,406	14,721	15,143	16,318	15,609	–3	–0.1
Females	10,665	10,263	9,908	10,099	11032	10287	17	0.8
Persons	26,929	25,669	24,629	25,242	27350	25899	14	0.3
Indigenous rate (separations per 1,000)								
Males	7.6	7.6	7.5	8.0	9.6	9.9	0.5*	34.8*
Females	6.5	6.2	6.2	6.6	8.2	7.8	0.4*	27.9*
Persons	7.1	6.9	6.8	7.3	8.9	8.9	0.4*	31.7*
Non-Indigenous Australian rate (separations per 1,000)								
Males	8.7	8.2	7.7	7.8	8.2	7.7	–0.1	–7.8
Females	6.0	5.8	5.5	5.5	5.9	5.4	–0.1	–6.6
Persons	7.4	7.0	6.6	6.7	7.1	6.6	–0.1	–7.3
Rate ratio[(d)]								
Males	0.9	0.9	1.0	1.0	1.2	1.3	0.1*	47.3*
Females	1.1	1.1	1.1	1.2	1.4	1.5	0.1*	37.5*
Persons	1.0	1.0	1.0	1.1	1.3	1.4	0.1*	42.9*
Rate difference[(e)]								
Males	–1.2	–0.6	–0.2	0.2	1.3	2.2	0.7*	285.1*
Females	0.5	0.4	0.7	1.1	2.3	2.5	0.4*	429.4*
Persons	–0.3	–0.1	0.2	0.6	1.8	2.3	0.6*	804.4*
					15 years and over			
Indigenous separations								
Males	156	153	162	213	216	233	17.9*	57.2*
Females	288	277	320	331	380	353	18.4*	32.0*
Persons	444	430	482	544	596	586	36.3*	40.9*
Non-Indigenous Australian separations								
Males	9,699	10,270	10,218	10,491	10,675	11,112	244.4*	12.6*
Females	11,284	12,118	11,852	12,185	12439	13066	291.6*	12.9*
Persons	20,983	22,389	22,070	22,676	23114	24178	535.9*	12.8*

(continued)

Table 1.15.14 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[a]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[b]	Per cent change[c]
Indigenous rate (separations per 1,000)								
Males	1.2	1.1	1.1	1.6	1.3	1.7	0.1*	45.8*
Females	2.0	1.9	2.1	2.1	2.3	2.1	0.0	9.8
Persons	1.6	1.5	1.6	1.9	1.8	1.9	0.1*	20.9*
Non-Indigenous Australian rate (separations per 1,000)								
Males	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.5
Females	1.4	1.5	1.4	1.4	1.4	1.5	0.0	1.7
Persons	1.3	1.4	1.4	1.4	1.4	1.4	0.0	1.1
Rate ratio[d]								
Males	0.9	0.8	0.9	1.2	1.0	1.3	0.1*	44.2*
Females	1.4	1.3	1.5	1.5	1.6	1.4	0.0	7.9
Persons	1.2	1.1	1.2	1.4	1.3	1.4	0.05*	19.2*
Rate difference[e]								
Males	–0.1	–0.3	–0.2	0.3	0.0	0.4	0.1*	586.7*
Females	0.6	0.5	0.7	0.7	0.8	0.6	0.0	27.9
Persons	0.3	0.1	0.3	0.5	0.4	0.5	0.1*	113.3*
					All ages			
Indigenous separations								
Males	876	875	880	981	1138	1201	71.9*	41.0*
Females	882	840	883	938	1130	1078	54.4*	30.9*
Persons	1,758	1,715	1,763	1,919	2268	2279	126.3*	35.9*
Non-Indigenous Australian separations								
Males	25,963	25,676	24,939	25,634	26,993	26,721	241.0	4.6
Females	21,949	22,381	21,760	22,284	23471	23353	309.0*	7.0*
Persons	47,912	48,058	46,699	47,918	50464	50077	550.3*	5.7*
Indigenous rate (separations per 1,000)								
Males	2.5	2.4	2.4	2.9	3.0	3.4	0.2*	39.0*
Females	3.0	2.8	2.9	3.1	3.5	3.3	0.1*	18.0*
Persons	2.8	2.6	2.7	3.0	3.3	3.3	0.1*	26.6*
Non-Indigenous Australian rate (separations per 1,000)								
Males	2.8	2.7	2.6	2.6	2.7	2.6	0.0	–4.8
Females	2.4	2.4	2.2	2.3	2.3	2.3	0.0	–2.7
Persons	2.6	2.6	2.4	2.5	2.5	2.5	0.0	–3.9
Rate ratio[d]								
Males	0.9	0.9	0.9	1.1	1.1	1.3	0.1*	46.4*
Females	1.3	1.2	1.3	1.4	1.5	1.4	0.1*	21.1*
Persons	1.1	1.0	1.1	1.2	1.3	1.4	0.1*	31.7*

(continued)

Table 1.15.14 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10(a)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(b)	Per cent change(c)
Rate difference(e)								
Males	–0.3	–0.3	–0.2	0.3	0.3	0.8	0.2*	356.2*
Females	0.6	0.5	0.7	0.8	1.1	1.0	0.1*	98.6*
Persons	0.2	0.1	0.3	0.5	0.7	0.9	0.2*	522.6*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

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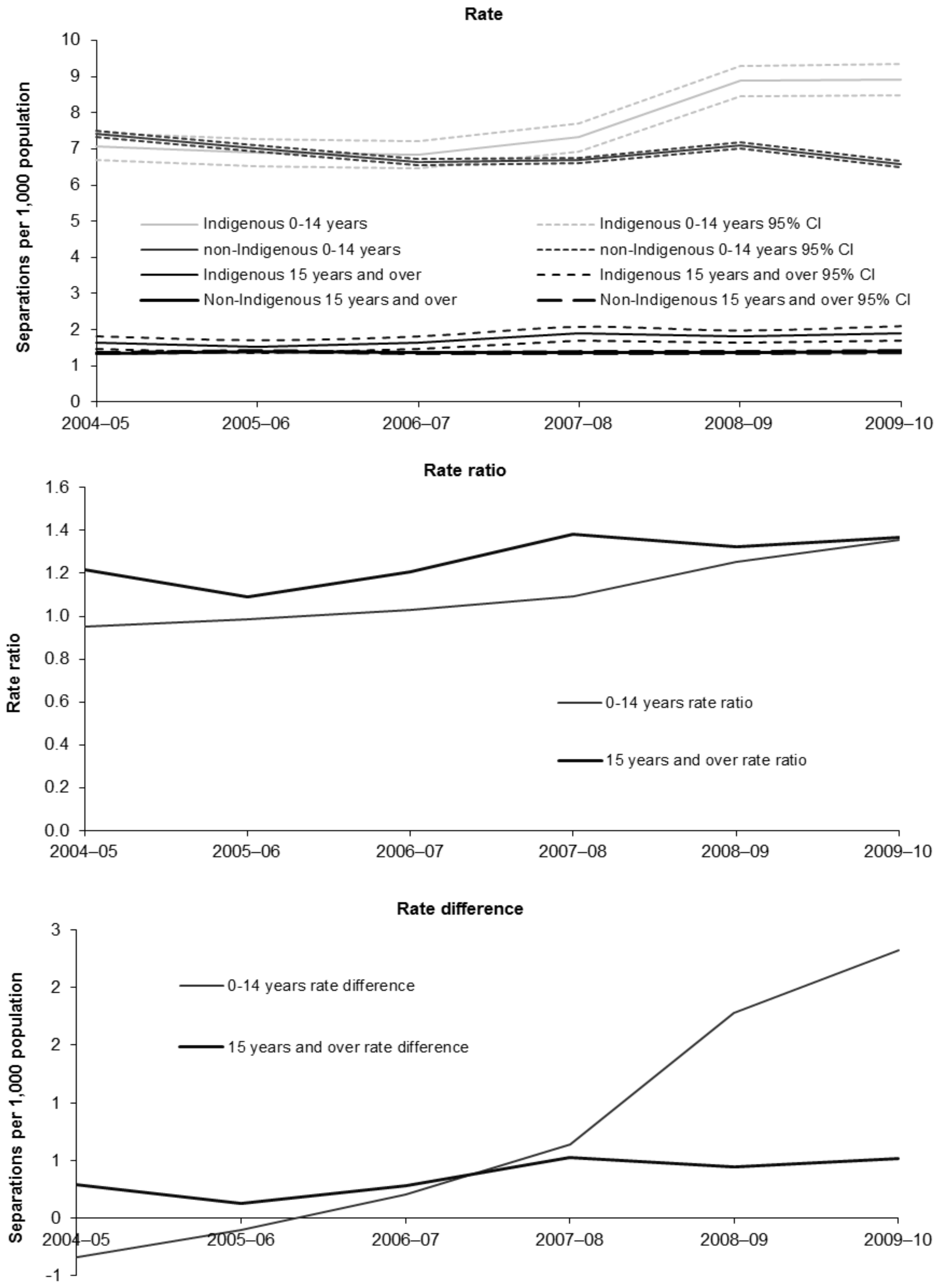

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.15.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous persons aged 0–14 years and 15 years and over from diseases of the ear and mastoid process, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10

Deadly Ears

Deadly Ears is a Queensland state-wide Aboriginal and Torres Strait Islander Ear Health Program targeting the prevention and management of ear disease and its associated impacts in Aboriginal and Torres Strait Islander children.

- In 2007–11, 33% of Indigenous children aged 0–4 years and 41% of Indigenous children aged 5–14 years reporting to Deadly Ears outreach clinics were assessed as having bilateral hearing loss (Table 1.15.15).
- In 2011, 25% of Indigenous children aged 0–4 years and 11% of Indigenous children aged 5–14 years reporting to Deadly Ears outreach clinics had Chronic suppuratives otitis media (Table 1.15.16).

Table 1.15.15: Proportion of Deadly Ears program clients by hearing loss and age group, 2007–2011

	Clients	Hearing within normal limits	Unilateral hearing loss	Bilateral hearing loss
Year	Number	Per cent	Per cent	Per cent
		0–4 years		
2007	n.a.	n.a.	n.a.	n.a.
2008	42	45	17	38
2009	117	59	14	26
2010	127	41	13	43
2011	120	64	7	28
Total	406	53	12	33
		5–14 years		
2007	n.a.	n.a.	n.a.	n.a.
2008	96	39	22	38
2009	238	38	23	39
2010	241	31	20	49
2011	354	41	21	38
Total	929	37	21	41

Source: Deadly Ears Program data.

Table 1.15.16: Proportion of Deadly Ears program clients with otitis media, by age, 2007–2011

	Clients	Chronic supporative otitis media	Otitis media
Year	Number	Per cent	Per cent
		0–4 years	
2008	183	21.5	43.2
2009	230	24.0	39.5
		5–14 years	
2008	394	19.0	24.7
2009	541	21.5	28.8

Source: Deadly Ears program data.

General practitioner encounters with children

Information about general practitioner (GP) encounters is available from the BEACH survey. Information is collected from a random sample of approximately 1,000 general practitioners from across Australia each year. A sample of 100 consecutive encounters is collected from each GP. Data for the 5-year BEACH reporting period April 2006–March 2007 to April 2010–March 2011 are presented in Table 1.15.17.

- In the period April 2006–March 2007 to April 2010–March 2011, ear and hearing problems were responsible for 9.5% of total problems managed among Indigenous patients aged 0–14 years and 8.5% of total problems managed among other patients of the same age.
- Ear and hearing problems were managed at GP encounters with Indigenous children aged 0–14 at a rate of 117.7 per 1,000 and with other children aged 0–14 at a rate of 99.7 per 1,000.
- Acute otitis media/myringitis was the most common ear and hearing problem managed at GP encounters with Indigenous children, responsible for 6.1% of total problems managed among Indigenous patients aged 0–14 years. It made up a greater proportion of problems managed in the 0–4 year age group (7.6%).
- Acute otitis media/myringitis, other infections of the ear and hearing loss were managed at GP encounters with Indigenous children at similar rates to other children.

Table 1.15.17: Ear and hearing problems[(a)] managed by general practitioners among children aged 1–14 years (by age group), by Indigenous status of patient, BEACH years April 2006–March 2007 to April 2010–March 2011[(b)(c)]

	Number		Per cent total problems[(d)]		Indigenous			Other[(e)]				
	Indig.	Other[(e)]	Indig.	Other[(e)]	Rate per 1,000 encounters[(f)]	95% LCL[(g)]	95% UCL[(h)]	Rate per 1,000 encounters[(f)]	95% LCL[(g)]	95% UCL[(h)]	Rate ratio[(i)]	Rate difference[(j)]
0–4 years (Indigenous n = 780; Non-Indigenous n = 35,073)												
Acute otitis media/ myringitis	59	2,395	7.6	6.8	93.7	67.6	119.7	80.5	76.6	84.3	1.2	13.2
Other infections of ear	13	374	1.7	1.1	20.6	8.2	33.1	12.6	11.1	14.0	1.6	8.0
Subtotal infections of ear	*72*	*2,769*	*9.2*	*7.9*	*114.3*	*88.1*	*140.5*	*93.0*	*88.9*	*97.1*	*1.2*	*21.3*
Hearing loss	0	14	0.0	0.0	0.0	0.0	0.0	0.5	0.2	0.7	0.0	–0.5
Other diseases of the ear	10	386	1.3	1.1	15.9	5.5	26.3	13.0	11.6	14.4	1.2	2.9
Total ear problems	**82**	**3,169**	**10.5**	**9.0**	**130.2**	**101.8**	**158.5**	**106.5**	**102.1**	**110.8**	**1.2**	**23.7**
5–14 years (Indigenous n = 678; Non-Indigenous n = 28,905)												
Acute otitis media/ myringitis	30	1,212	4.4	4.2	54.4	33.5	75.4	49.2	46.3	52.1	1.1	5.2
Other infections of ear	12	638	1.8	2.2	21.8	9.2	34.3	25.9	23.6	28.2	0.8	–4.1
Subtotal infections of ear	*42*	*1,850*	*6.2*	*6.4*	*76.2*	*53.3*	*99.2*	*75.1*	*71.5*	*78.8*	*1.0*	*1.1*
Hearing loss	1	24	0.1	0.1	1.8	0.0	5.4	1.0	0.6	1.4	1.8	0.8
Other diseases of the ear	14	379	2.1	1.3	25.4	10.1	40.7	15.4	13.8	16.9	1.6	10.0
Total ear problems	**57**	**2,253**	**8.4**	**7.8**	**103.4**	**72.6**	**134.3**	**91.5**	**87.5**	**95.5**	**1.1**	**11.9**

(continued)

Table 1.15.17 (continued): Ear and hearing problems(a) managed by general practitioners, by Indigenous status of patient, BEACH years April 2006–March 2007 to April 2010–March 2011(b)(c)

	Number		Per cent total problems(d)		Indigenous			Other(e)				
	Indig.	Other(e)	Indig.	Other(e)	Rate per 1,000 encounters(f)	95% LCL(g)	95% UCL(h)	Rate per 1,000 encounters(f)	95% LCL(g)	95% UCL(h)	Rate ratio(i)	Rate difference (j)
0–14 years (Indigenous n = 1,458; Non-Indigenous n = 63,978)												
Acute otitis media/ myringitis	89	3,607	6.1	5.6	75.4	58.8	91.9	66.3	63.7	68.9	1.1	9.1
Other infections of ear	25	1,012	1.7	1.6	21.2	12.6	29.8	18.6	17.3	19.9	1.1	2.6
Subtotal infections of ear	*114*	*4,619*	*7.8*	*7.2*	*96.5*	*80.2*	*112.9*	*84.9*	*82.0*	*87.8*	*1.1*	*11.6*
Hearing loss	1	38	0.1	0.1	0.8	0.0	2.5	0.7	0.5	0.9	1.1	0.1
Other diseases of the ear	24	765	1.6	1.2	20.3	11.1	29.5	14.1	13.0	15.1	1.4	6.2
Total ear problems	**139**	**5,422**	**9.5**	**8.5**	**117.7**	**98.4**	**137.0**	**99.7**	**96.6**	**102.8**	**1.2**	**18.0**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) ICPC–2 codes: H00–H99. Acute otitis media/myringitis = H71; other ear infections = H70, H72, H73, H74; hearing loss = H28, H84, H85, H86; other diseases of the ear = H01–H27, H29–H69, H75–H83, H87–H99.

(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

(c) Data for Indigenous and other Australians have not been weighted.

(d) Per cent of total problems within age group.

(e) 'Other' includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(f) Age-specific rate (no. per 100 encounters). Figures do not add to 100 as more than one problem can be managed at each encounter.

(g) LCL = lower confidence interval.

(h) UCL = upper confidence interval.

(i) Rate ratio Indigenous: Other.

(j) Rate difference Indigenous rate minus Other (non-Indigenous) rate.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Child hearing screening in the Northern Territory

Table 1.15.18 presents data derived from the Northern Territory Child Health Check Initiative audiology and ENT follow-up services data collections. Services include audiology services provided between August 2007 and June 2012, and ENT services provided between August 2007 and December 2010 as part of Child Health Check Initiative /Closing the Gap Program (CHCI (CtG)).

- During the course of the CHCI (CtG) Program, a total of 5,474 children received ENT consultations or audiology services. At least one type of middle ear condition was diagnosed in around 67% of children who received an audiology or ENT service. The most common middle ear condition was OME (26.1% of children), followed by dry perforation (14.5%) and CSOM (12.3%). Eleven per cent of children were diagnosed with eustachian tube dysfunction (ETD) and 6.9% were diagnosed with AOM (Table 1.15.18).

Table 1.15.18: Type of middle ear condition[(a)], Indigenous children in prescribed areas of the Northern territory who received an audiology or ENT service

Type of middle ear condition	Number	Per cent
At least one type of middle ear condition(b)	3,650	66.7
Otitis media with effusion (OME)	1,431	26.1
Dry perforation	791	14.5
Chronic suppurative otitis media (CSOM)	676	12.3
Eustachian tube dysfunction (ETD)	600	11.0
Acute otitis media (AOM)	380	6.9
Foreign body	55	1.0
Other	373	6.8
No middle ear condition(c)	1,691	30.9
Missing(d)	133	2.4
Total children who received an audiology or ENT service	**5,474**	**100.0**

(a) Middle ear condition at most recent ENT service or, if only received audiology service, most recent audiology service.

(b) Because one child can have more than one middle ear condition, the column does not add up to sub-total.

(c) Where no middle ear condition reported for both ears.

(d) Includes cases where there is a missing value for one ear, and no middle ear condition in the other ear. Missing includes not stated, unsure, invalid and not tested responses.

Notes

1. Data are only provided for services where children’s families have provided consent to share information with the AIHW.
2. Services include only those which were provided through the CHCI (CtG) Program.

Source: AIHW analysis of Child Health Check audiology and ENT dataset for audiology services provided on or before 30 June 2012 and ENT services provided on or before 31 December 2010.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all the interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The Australian Bureau of Statistics (ABS) makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, imperfect recall or individual interpretation of survey questions may affect some responses.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

Deadly Ears

Deadly Ears clients report to outreach clinics after they have already been identified as having ear health issues through screening or referrals from other health services. Deadly Ears data do not necessarily reflect population-level hearing statistics for the communities they work with.

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in *General practice in Australia, heath priorities and policies 1998 to 2008* (Britt & Miller 2009:101).

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

Northern Territory Emergency Response Child Health Check Initiative –audiology and ENT follow-up services data collections

Data coverage for the CHCI audiology data collection is limited to data collected from the audiology services provided through CHCI (CtG) Program which was funded by the Australian Government. Audiology services provided through other funding sources (for example services funded by the NT Government or private sector) are not included (except for a small amount of these services data in the audiology referral sections)

Some children who received these services did not give consent for sharing their hearing health information with the AIHW. As such, data reported in this indicator are only derived from service information for which consent was obtained.

When interpreting data from this collection, it should be noted that the children who received an audiology or ENT service were not a random sample. Firstly, audiology and ENT services were only provided to children who volunteered for them. Secondly, although all Indigenous children in prescribed areas of the Northern Territory were eligible to receive a CHCI (CtG) audiology or ENT service, children with referrals as a result of their CHC were targeted for follow-up by the outreach teams. Thus, the findings are not representative of the Northern Territory Aboriginal child population or the Aboriginal population of children within prescribed areas of the NTER CHCI. More information about data quality and interpretation can be found in Appendix G of *Northern Territory Emergency Response Child Health Check Initiative: follow-up services for oral and ear health*, final report, August 2007–June 2012 (AIHW 2012).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.16 Eye health

This indicator includes prevalence rates of eye health issues including low vision, blindness, refractive error, cataract, diabetic retinopathy and trachoma for Aboriginal and Torres Strait Islander people.

Data sources

Data for this measure come from the National Indigenous Eye Health Survey 2008, National Aboriginal and Torres Strait Islander Health Survey 2004–05, National Aboriginal and Torres Strait Islander Social Survey 2008, the Trachoma surveillance report 2010, the Bettering the Evaluation and Care of Health (BEACH) survey and the AIHW National Hospital Morbidity Database.

The National Indigenous Eye Health Survey

The National Indigenous Eye Health survey (NIEHS) was conducted in 2008 by the Indigenous Eye Health Unit at the University of Melbourne in collaboration with the Centre for Eye Research Australia and the Vision Cooperative Research Centre. The survey used a multi-stage, random cluster sampling methodology. The sample sites for the NIEHS were selected using the Australian Indigenous Geographical Classification, and were grouped according to the Accessibility/Remoteness Index of Australia into five categories; Major cities, Inner regional, Outer regional, Remote and Very remote (Fox *et al*. 2010). The Very remote category was divided into Very remote coastal and Very remote inland. Within each of the six categories, five sample areas were randomly selected to yield a total of 30 geographic areas each containing about 300 Indigenous Australians.

The survey was designed to assess the prevalence of the main eye conditions causing vision loss including cataract, diabetic retinopathy, refractive error and trachoma/ trichiasis, as well as the prevalence of glaucoma and age-related macular degeneration. An additional component of the examination was a self-administered questionnaire adapted from that used in The Vision Initiative to obtain demographic information and information about the utilization of eye care services.

At the time of the survey, an informal census was done to establish the size of the eligible population of Indigenous children aged 5 to 15 years and adults aged 40 years and above. Sources included community and local council housing lists, health service and hospital lists, Aboriginal housing or legal aid records, and local informants.

Standardised demographic data were collected, and a standardised eye examination was done on all participants. Overall, 1,694 children aged 5 to 15 years (84% of those eligible) and 1,189 adults aged 40 years and above (72% of those eligible) were examined.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of

Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Trachoma surveillance

In 2006 the Australian Government awarded a tender to the Centre for Eye Research Australia (CERA) to establish the National Trachoma Surveillance and Reporting Unit (NTSRU) with the responsibility of providing information on trachoma prevalence based on data received from state and territory jurisdictions. CERA presented three reports based on screening done between 2006 and 2008. In 2009, CERA sub-contracted with the Centre for Molecular, Environmental, Genetic and Analytic (MEGA) Epidemiology, School of Population Health, The University of Melbourne for the preparation of the 2009 report. Since the end of 2010, the NTSRU has been based at The Kirby Institute at the University of New South Wales (The Kirby Institute for infection and immunity in society 2010).

The latest report published in 2011, presents an overview from data collected from screening in remote Aboriginal communities during 2010 in the Northern Territory, South Australia and Western Australia where trachoma was identified by states and territory as present.

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Unit until 2008–09, and by the Family Medicine Research Centre, University of Sydney in collaboration with the AIHW in 2009–10 and 2010–11. On 30 June 2011, the AIHW ceased its involvement in the BEACH program and ceased publishing annual BEACH reports. The survey continues to be run and the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from a random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected from each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Before the late inclusion of a 'not stated' category of Indigenous status in 2001–02, 'not stated' responses were included with non-Indigenous encounters. Since then, GP encounters for which Indigenous status was not reported have been included with encounters for non-Indigenous people under the 'other' category.

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Data analysis

The World Health Organization (WHO) and the Australian Government have identified eye health as an important health area. Although often being undiagnosed, eye illnesses affect a large proportion of Australians of all ages (AIHW 2008). Indigenous Australian are reported to be at higher risk of vision loss than the general population since blindness rates among Indigenous population are six times those in mainstream Australian (AIHW 2011).

National Indigenous Eye Health Survey

The 2008 National Indigenous Eye Health Survey included a sample of 2,883 Indigenous adults and 62% of the sample from this survey was in remote areas. Due to the small sample size, survey results should be interpreted with caution. The survey found that about 9% of Indigenous adults had vision impairment and 2% suffered from blindness (Centre for Eye Research Australia 2009).

- The leading causes of vision loss for Indigenous adults were refractive error, cataract, and diabetic, the leading cause of blindness for Indigenous adults were cataract, optic atrophy, refractive error and diabetic retinopathy (Table 1.16.1).
- Cataract was the principal cause of vision loss in 3% of the Indigenous adults and results showed that 57% to 75% of those with vision loss from cataract had received surgery. Vision loss caused by cataract occurred more commonly in very remote areas (Very Remote Inland 5%; Very Remote Coastal 4%).
- Vision loss due to refractive error was the highest among Indigenous adults in remote Australia whilst vision loss due to cataract was the highest among Indigenous adults in very remote areas (Figure 1.16.1)

Table 1.16.1: Leading cause of vision loss and blindness among Indigenous Adults, 2008

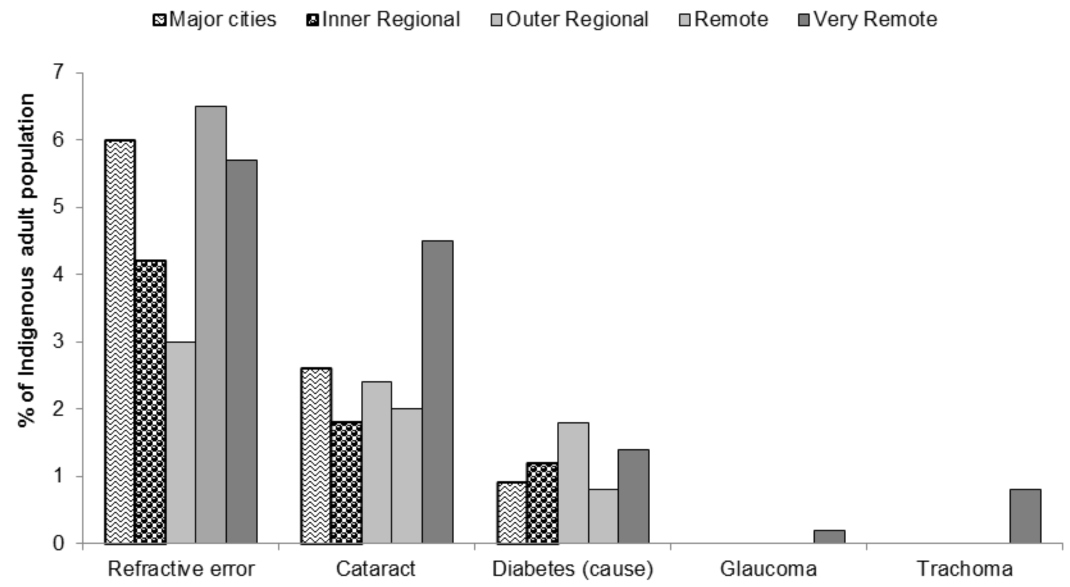
	Vision loss		Blindness	
Causes of Vision Loss/Blindness	**Number**	**Per cent**	**Number**	**Per cent**
Refractive Error	60	54.0	3	14.0
Cataract	30	27.0	7	32.0
Diabetic Retinopathy	13	12.0	2	9.1
Glaucoma	1	0.9	0	0.0
Trachoma	2	1.8	1	9.1
Optic Atrophy	1	0.9	3	14.0

Source: National Indigenous Eye Health Survey 2008

Table 1.16.2: Percentage of Indigenous Adults affected by cataract who have had cataract surgery, by remoteness, 2008

	Adults surveyed	Vision loss due to cataract		Cataract surgery coverage
	Number	**Number**	**Per cent**	**Per cent**
Major city	117	3	2.6	57
Inner regional	167	3	1.8	75
Outer regional	168	4	2.4	60
Remote	245	5	2.1	67
Very Remote Coastal	263	10	3.8	66
Very Remote Inland	229	12	5.3	63

Source: National Indigenous Eye Health Survey 2008.



Source: National Indigenous Eye Health Survey 2008.

Figure 1.16.1: Proportion of Indigenous adults with vision loss, by cause and remoteness

National Aboriginal and Torres Strait Islander Health Survey- Self-reported eye or sight problems

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) is the largest health survey of Indigenous Australians conducted by the Australian Bureau of Statistics (ABS). The survey found that about 30% of the Indigenous population reported eye or sight problems. Long sightedness and short sightedness were the most common problems reported (16% and 10% respectively) (ABS 2006).

National Aboriginal and Torres Strait Islander Social Survey- Self-reported eye or sight problems

- The 2008 NATSISS found that about 8% of Indigenous children aged 1 to 14 years reported eye or sight problems, among which 37% had long sightedness, 28% had short sightedness and 44% experienced other problems including blindness, cataracts, glaucoma, trachoma, retinopathy and lazy eye (Table 1.16.3).

Table 1.16.3: Proportion of Indigenous children aged 1–14 years reporting eye or sight problems, by sex, 2008

	Males		Females		Persons	
Type of eye or sight problem	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**
Has eye or sight problems[(a)]						
Long sightedness	2,345	36.8	2,764	37.8	5,109	37.3
Short sightedness	1,611	25.3	2,228	30.4	3,839	28.1
Other[(b)]	3,005	47.2	2,940	40.2	5,945	43.5
Total children with eye or sight problems	*6,364*	*100.0*	*7,317*	*100.0*	*13,682*	*100.0*
Does not have eye or sight problems	83,660	. .	79,978	. .	163,638	. .
Total children aged 1–14 years[(c)]	**91,144**	**. .**	**88,110**	**. .**	**179,254**	**. .**

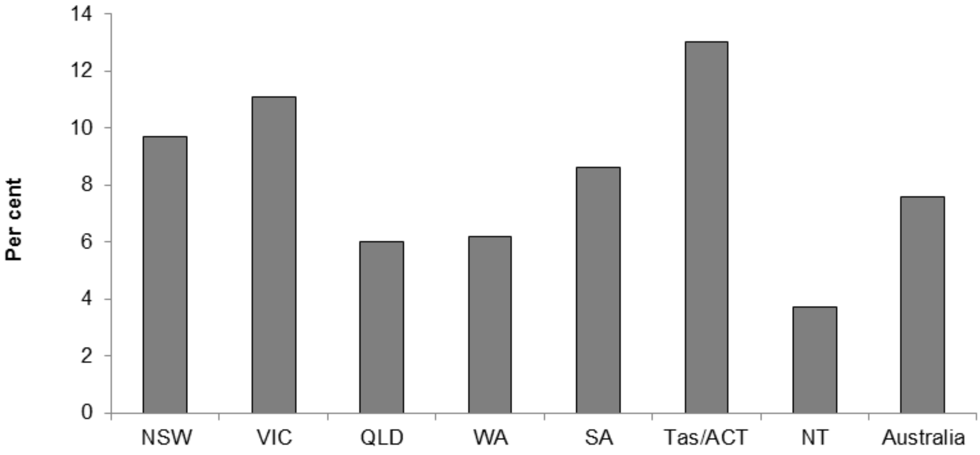
(a) Total does not add to 100 per cent as people may record more than one eye or sight problem.

(b) Includes blindness, cataracts, glaucoma, trachoma, retinopathy, lazy eye, unknown eyesight problem and other eye sight problems.

(c) Includes not known responses.

Source: ABS 2008 NATSISS.

- The Northern Territory had the lowest proportion of Indigenous children in the age group 1–14 reporting eye or sight problem (3.7%) and Victoria had the highest proportion (11%) (Figure 1.16.2).
- Indigenous children aged 1–14 years in Major cities reported more other eye or sight problems such as blindness, cataracts, glaucoma, trachoma, retinopathy, lazy eye than Indigenous children in Inner/outer regional and remote/very remote areas (51% compared with 35% and 46% respectively). Long sightedness was more common among Indigenous children aged 1–14 years in Inner/outer regional areas (48%) than in major cities (31%), and remote/very remote areas (24%) (Table 1.16.4).
- Indigenous children reporting eye or sight problem were more likely to come from households in the least disadvantage quintile: 13% of children aged 1–14 from households in the 4th/5th (least disadvantaged) quintile reported eye or sight problem whilst only 6% of children from households in the 1st (most disadvantaged) quintile reported eye or sight problem (Table 1.16.5).



Source: AIHW analysis of ABS 2008 NATSISS.

Figure 1.16.2: Proportion of Indigenous children aged 1–14 years reporting eye or sight problems, by jurisdiction, 2008

Table 1.16.4: Proportion of Indigenous children aged 1–14 years reporting eye or sight problems, by remoteness, 2008

	Major cities		Inner/outer regional		Total non-remote		Total remote/very remote		Australia	
	No.	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**
Has eye or sight problems[(a)]										
Long sightedness	1,796	30.8	2,904	47.6	4,700	39.4	409*	23.5*	5,109	37.3
Short sightedness	1487*	25.5	1,752	28.7	3,239	27.1	600*	34.4*	3,839	28.1
Other[(b)]	3,000	51.4	2,144	35.1	5,144	43.1	801*	46.0	5,945	43.5
Total children with eye or sight problems[(c)]	*5,840*	*100.0*	*6,099*	*100.0*	*11,939*	*100.0*	*1,743*	*100.0*	*13,682*	*100.0*
Does not have eye or sight problems	50,674	. .	73,000	. .	123,674	. .	39,964	. .	163,638	. .
Total children aged 1–14 years[(c)]	**57,320**	**. .**	**79,803**	**. .**	**137,123**	**. .**	**42,131**	**. .**	**179,254**	**. .**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Total does not add to 100 per cent as people may record more than one eye or sight problem.

(b) Includes blindness, cataracts, glaucoma, trachoma, retinopathy, lazy eye, unknown eyesight problem and other eye sight problems.

(c) Includes not known responses.

Source: ABS 2008 NATSISS.

Table 1.16.5: Proportion of Indigenous children aged 1–14 years reporting eye or sight problems, by selected demographic characteristics and risk factors, 2008

	Has eye or sight problems		Does not have eye or sight problems		Total[(a)]	
	No.	Per cent	No.	Per cent	No.	Per cent
Current daily smoker in household						
Yes	7,871	7.0	103,796	92.0	112,771	100.0
No	5,417	8.8	55,106	89.9	61,324	100.0
Total excluding not stated	**13,288**	**7.6**	**158,902**	**91.3**	**174,095**	**100.0**
Household member usually smokes inside the house						
Yes	2,213	5.8	35,362	93.1	38,000	100.0
No	10,948	8.1	122,128	90.8	134,544	100.0
Total excluding not stated	**13,161**	**7.6**	**157,489**	**91.3**	**172,543**	**100.0**
Index of disparity						
1st quintile (most disadvantaged)	5,668	6.4	81,728	92.4	88,487	100.0
2md quintile	2,846	7.6	34,098	91.2	37,407	100.0
3rd quintile	2,441	8.4	26,448	90.9	29,089	100.0
4th/5th quintile (least disadvantaged)	2,647	13.2	17,281	85.9	20,108	100.0
Total excluding not stated	**13,602**	**7.8**	**159,556**	**91.1**	**175,092**	**100.0**
Housing utilisation						
1 or more bedrooms required	3,097	5.6	51,934	93.5	55,549	100.0
None required/None spare	5,164	7.8	59,894	91.0	65,854	100.0
1 or more bedrooms spare	5,394	9.5	50,949	89.4	56,964	100.0
Total excluding not known	**13,655**	**7.7**	**162,778**	**91.3**	**178,367**	**100.0**

(a) Includes not known.

Source: ABS 2008 NATSISS.

Trachoma surveillance

- Overall, 150 (63%) of 240 at-risk communities were screened for trachoma during 2010. Within these communities, 6,777 (11.6%) of 58,429 resident children estimated to be at risk of trachoma were screened (Table 1.16.6).
- The screened proportion of children in at-risk communities was 45% for the Northern Territory, 37% for Western Australia and 3% for South Australia .The prevalence of trachoma among children screened in at-risk communities was 11%. The prevalence of trachoma was 19% in South Australia, 12% in the Northern Territory and 9% in Western Australia. The prevalence of trachoma was 13% in the 1–9 year age group (Table 1.16.6).
- Trichiasis screening coverage was low in all jurisdictions, with a total of 1,036 adults of an estimated at-risk population of 12,557 reported to have been screened across the Northern Territory, South Australia and Western Australia. Nine cases of trichiasis were reported in South Australia, 13 cases in the Northern Territory and none in Western Australia, giving an overall prevalence among adults screened of 2% (Table 1.16.7).
- No data were available regarding the extent of surgery for trichiasis in 2010.

Table 1.16.6: Trachoma screening coverage and prevalence by jurisdiction, 2010

	At-risk communities[a]			
	NT	**SA**	**WA**	**Total**
		Number		
Estimated Indigenous population at risk	30,784	9,503	18,142	58,429
Communities at-risk	86	71	83	240
Communities screened	64	11	75	150
Children examined for trachoma	4,441	86	2,250	6,777
Children with active trachoma	526	16	208	750
		Per cent		
Screening coverage (%)	45	3	37	35
Active trachoma prevalence (%)	12	19	9	11
Trachoma prevalence 1–9 years (%)	**14**	**n.a.**	**10**	**13**

(a) Communities were classified as at-risk or not at-risk by jurisdictions.

Source: National trachoma surveillance and reporting unit. Trachoma surveillance report 2010.

Table 1.16.7: Trichiasis screening coverage, prevalence and treatment among Aboriginal and Torres Strait Islander adults age over 40 years, by jurisdiction, 2010

	At risk communities[(a)]							
	NT		SA		WA		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Estimated adult population of at-risk communities	6,509	n.a.	2,297	n.a.	3,751	n.a.	12,557	n.a.
Number of communities at-risk	86	n.a.	32	n.a.	83	n.a.	201	n.a.
Number of communities screened for trichiasis	18	21	12	38	14	17	44	22
Adults examined (% of total estimated population)	221	3	438	19	377	10	1,036	8
With trichiasis	13	6	9	2	0	n.a.	22	2
Offered ophthalmic consultation	12	n.a.	0	n.a.	0	n.a.	12	n.a.
Surgery in past 12 months	1	n.a.	0	n.a.	1	n.a.	1	n.a.

(a) Communities were classified as at-risk or not at-risk by jurisdictions.

Source: National trachoma surveillance and reporting unit. Trachoma surveillance report 2010.

General Practitioner encounters

- According to the BEACH survey, during the period of April 2006-March 2011, eye problems were managed in 1% of GP encounters with Indigenous patients. Overall rates of eye problems managed were similar to those for other Australians. However, Indigenous Australians had higher rates of Trachoma and lower rates of Refractive error problems managed at GP encounters than other Australians (Table 1.16.8).

Table 1.16.8: Problems managed relating to eye health[(a)] managed by general practitioners, by Indigenous status of the patient, BEACH survey years April 2006–March 2007 to April 2010–March 2011 inclusive[(b)(c)]

	Number		Per cent		Crude rate (no. per 1,000 encounters)						Age-standardised rate (no. per 1,000 encounters)[(d)]			
Problem managed	**Indig.**	**Other[(e)]**	**Indig.**	**Other[(e)]**	**Indig.**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Other**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Indig.**	**Other[(e)]**	**Ratio[(h)]**	**Rate difference[(i)]**
Retinopathy (F83)	2	69	0.02	0.01	0.3	0.0	0.8	0.1	0.1	0.2	0.5	0.1	3.7	0.4
Macular degeneration (F84)	1	271	0.01	0.04	0.2	0.0	0.5	0.6	0.5	0.6	0.8	0.6	1.4	0.2
Trachoma (F86)	1	2	0.01	0.00	0.2	0.0	0.5	0.0	0.0	0.0	0.1	0.0	24.2	0.1
Refractive error (F91)	2	175	0.02	0.02	0.3	0.0	0.8	0.4	0.3	0.4	0.3	0.4	0.7	–0.1
Cataract (F92)	9	734	0.10	0.10	1.5	0.6	2.4	1.5	1.4	1.7	3.3	1.5	2.2	1.8
Glaucoma (F93)	4	877	0.04	0.12	0.7	0.0	1.3	1.8	1.7	2.0	2.5	1.8	1.4	0.7
Blindness (F94)	1	74	0.01	0.01	0.2	0.0	0.5	0.2	0.1	0.2	0.2	0.2	1.1	0.0
Other Eye Problems[(j)]	99	10,116	1.08	1.36	16.6	12.9	20.2	21.2	20.7	21.6	18.0	21.2	0.9	–3.2
Total eye problems (F01–99)	*119*	*12,318*	*1.29*	*1.65*	*19.9*	*16.0*	*23.8*	*25.8*	*25.2*	*26.3*	*25.7*	*25.7*	*1.0*	*–0.1*
Other problems managed	9,077	733,306	98.71	98.35	1,520.2	1,479.4	1,560.9	1,534.0	1,525.2	1,542.9	1,613.4*	1,532.8*	1.1*	80.6*
Total problems	**9,196**	**745,624**	**100.00**	**100.00**	**1,540.1**	**1,499.0**	**1,581.2**	**1,559.8**	**1,550.9**	**1,568.7**	**1,639.1***	**1,558.6***	**1.1***	**80.5***

* Represents results with statistically significant at $p < 0.05$ level.

(a) Classified according to ICPC–2 chapter codes (Classification Committee of the World Organization of Family Doctors (WICC) 1998).

(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

(c) Data for Indigenous and other Australians have not been weighted.

(d) Directly age-standardised rate (no. per 1,000 encounters). Figures do not add to 100 as more than one problem can be managed at each encounter.

(e) 'Other' includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(f) LCL = lower confidence interval.

(g) UCL = upper confidence interval.

(h) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for other Australians.

(i) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for other Australians.

(j) ICPC–2 codes: F01-F82, F85, 95-F99.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Hospitalisations

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Hospitalisations for diseases of the eye and adnexa

- In the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous people had lower hospitalisation rates with a principal diagnosis of diseases of the eye and adnexa than non-Indigenous people (about 7 per 1,000 population compared with 10 per 1,000 population) (Table 1.16.9).
- Hospitalisation rates with a principal diagnosis of disease of the eye and adnexa increased with age for both Indigenous and non-Indigenous Australians (Table 1.16.9).
- The gap between Indigenous and non-Indigenous hospitalisation rates with a principal diagnosis of disease of the eye and adnexa was greatest in the 65 years and over age group (30 per 1,000 population) (Table 1.16.9).

Table 1.16.9: Age-specific hospitalisations rates per 1,000 people for principal diagnosis of diseases of the eye and adnexa, by Indigenous status and sex NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d][e]

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+	Total (crude)	Total (age standardised)[f]
Males										
Indigenous	2.1	0.9	0.4	0.9	1.9	4.1	9.4	33.4	2.7	6.9
Non-Indigenous	2.0	0.8	0.7	1.1	1.8	4.4	12.5	56.4	9.8	9.8
Rate ratio[g]	1.0	1.1	0.6	0.8	1.1	0.9	0.8	0.6	0.3	0.7
Rate difference[h]	0.0	0.0	–0.2	–0.3	0.2	–0.3	–3.1	–23.0	–7.1	–2.9
Females										
Indigenous	2.2	0.7	0.6	1.0	1.2	3.2	11.0	30.5	2.9	6.3
Non-Indigenous	2.0	0.7	0.6	1.2	1.8	4.8	14.7	65.9	12.8	10.9
Rate ratio[g]	1.1	1.0	0.9	0.8	0.7	0.7	0.7	0.5	0.2	0.6
Rate difference[h]	0.2	0.0	0.0	–0.3	–0.6	–1.6	–3.7	–35.4	–9.9	–4.6
Persons[i]										
Indigenous	2.1	0.8	0.5	0.9	1.5	3.6	10.3	31.8	2.8	6.6
Non-Indigenous	2.0	0.8	0.7	1.2	1.8	4.6	13.6	61.6	11.3	10.4
Rate ratio[g]	1.1	1.0	0.8	0.8	0.9	0.8	0.8	0.5	0.2	0.6
Rate difference[h]	0.1	0.0	–0.1	–0.3	–0.2	–0.9	–3.4	–29.8	–8.5	–3.8

(a) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(b) Data are from public and most private hospitals. Data are not available for private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Data are reported for NSW, Vic, Qld, WA, SA and NT only. These jurisdictions are considered to have adequate levels of Indigenous identification in hospitalisation data, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(h) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

(i) Includes hospitalisations for which sex was indeterminate or not stated.

Notes

1. Rates for Indigenous Australians are calculated using the 2006 population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 & 10 (Newborn - unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 1.16.10 presents hospitalisations with a principal diagnosis of diseases of the eye and adnexa for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Data for Tasmania and the Australian Capital Territory are also included with caveats.

- Over the period July 2008 to June 2010, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for diseases of the eye and adnexa at 0.6 times the rate of non-Indigenous Australians (Table 1.16.10).
- Western Australia had the highest hospitalisation rate for Indigenous persons (8 per 1,000) and Victoria had the lowest hospitalisation rate for Indigenous persons (5 per 1,000) (Table 1.16.10).

Table 1.16.10: Hospitalisations for principal diagnosis of diseases of the eye and adnexa, by Indigenous status, sex and jurisdiction, July 2008 to June 2010 (a)(b)(c)(d)(e)

	Indigenous		Non-Indigenous			
	Number	No. per 1,000[(f)]	Number	No. per 1,000[(f)]	Rate ratio[(g)]	Rate difference[(h)]
NSW						
Males	363	5.1	75,075	10.6	0.5*	–5.5*
Females	481	6.9	98,758	11.6	0.6*	–4.7*
Persons[(i)]	844	6.1	173,833	11.1	0.6*	–5.0*
Vic						
Males	59	3.8	45,150	8.5	0.5*	–4.7*
Females	81	5.2	63,109	9.8	0.5*	–4.6*
Persons[(i)]	140	4.7	108,259	9.2	0.5*	–4.5*
Qld						
Males	423	8.7	43,090	10.5	0.8*	–1.8*
Females	420	6.6	53,495	11.6	0.6*	–4.9*
Persons[(i)]	843	7.5	96,585	11.1	0.7*	–3.5*
WA						
Males	267	9.9	21,452	10.7	0.9	–0.8
Females	244	6.3	27,585	12.1	0.5*	–5.8*
Persons[(i)]	511	7.7	49,037	11.4	0.7*	–3.7*
SA						
Males	83	5.7	14,578	8.3	0.7*	–2.6*
Females	90	5.4	19,674	9.2	0.6*	–3.8*
Persons[(i)]	173	5.5	34,252	8.8	0.6*	–3.3*
NT						
Males	206	7.3	757	6.8	1.1	0.5
Females	205	5.4	599	6.5	0.8	–1.1*
Persons[(i)]	411	6.1	1,356	6.7	0.9	–0.6
NSW, Vic, Qld, WA, SA & NT[(j)]						
Males	**1,401**	**6.9**	**200,102**	**9.8**	**0.7***	**–2.9***
Females	**1,521**	**6.3**	**263,220**	**10.9**	**0.6***	**–4.6***
Persons[(i)]	**2,922**	**6.6**	**463,322**	**10.4**	**0.6***	**–3.8***
Tas						
Males	21	2.2	869	1.6	1.4	0.6
Females	19	2.2	1,111	1.8	1.2	0.3
Persons[(i)]	40	2.2	1,980	1.7	1.3	0.4

(continued)

Table 1.16.10 (continued): Hospitalisations for principal diagnosis of diseases of the eye and adnexa, by Indigenous status, sex and jurisdiction, July 2008 to June 2010 (a)(b)(c)(d)(e)

	Indigenous		Non-Indigenous			
	Number	No. per 1,000[f]	Number	No. per 1,000[f]	Rate ratio[g]	Rate difference[h]
ACT						
Males	n.p.	n.p.	1,025	3.6	0.1*	–3.1*
Females	n.p.	n.p.	1,501	4.6	0.4*	–2.6*
Persons[i]	9	1.3	2,526	4.1	0.3*	–2.8*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparison at the $p < 0.05$ level.

(a) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(b) Data are from public and most private hospitals. Data are not available for private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(h) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

(i) Includes hospitalisations for which sex was indeterminate or not stated.

(j) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

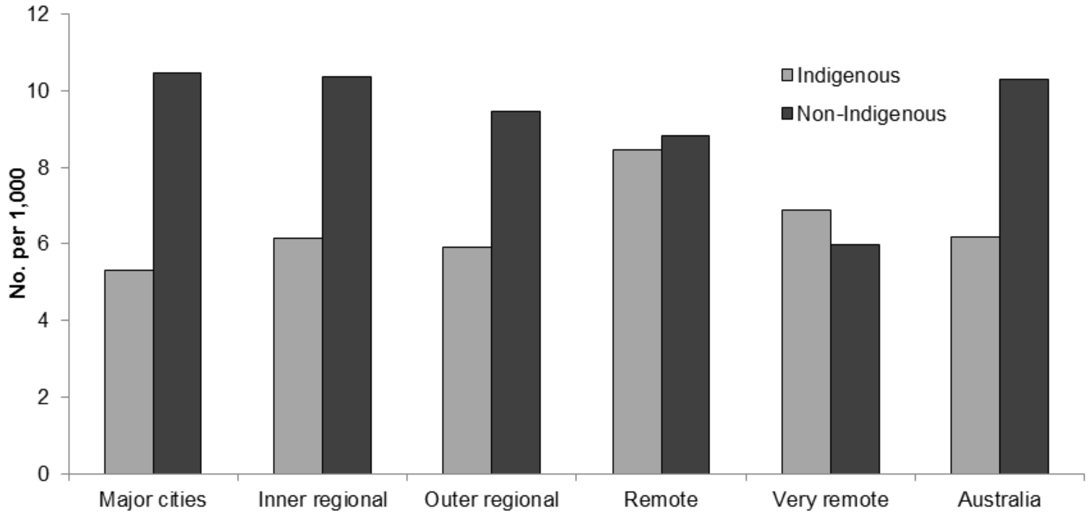
Notes

1. Rates for Indigenous Australians are calculated using the 2006 population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 & 10 (Newborn - unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness area

- *Remote* areas had the highest hospitalisations rate of Indigenous persons for principal diagnosis of diseases of the eye and adnexa during the 2-year period July 2008 to June 2010 (8 per 1,000 population) and *Major cities* had the highest hospitalisation rate of non-Indigenous people (11 per 1,000) (Figure 1.16.3).
- Indigenous Australians had lower rates of hospitalisation for diseases of the eye and adnexa for all remoteness categories except for very remote areas, where rates for Indigenous persons were slightly higher (7 compared with 6 per 1,000) (Figure 1.16.3).



Note: Outer regional includes Victoria.

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.16.3: Hospitalisations for principal diagnosis of diseases of the eye and adnexa, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010

Hospitalisations by principal diagnosis

- Over the 2-year period July 2008 to June 2010, there were 12 main principal diagnoses for people hospitalised for diseases of the eye and adnexa. Disorders of lens was the most common principal diagnosis, accounting for 50% of Indigenous people (including 7% senile cataract and 42% other cataract) and 68% of non-Indigenous people (including 13% senile cataract and 54% other cataract) who were hospitalised for diseases of the eye and adnexa (Table 1.16.11).
- Disorders of conjunctiva was the second most common principal diagnosis for Indigenous people (13%) while disorders of choroid and retina was the second most common diagnosis for non-Indigenous people (13%) (Table 1.16.11).
- After adjusting for differences in age structure, the Indigenous hospitalisation rate per 1,000 populations were higher than the non-Indigenous hospitalisation rate in five diagnoses, including: Disorders of conjunctiva and Disorders of sclera, cornea, iris and ciliary body (Table 1.16.11).

Table 1.16.11: Hospitalisations of Indigenous persons for principal diagnosis of diseases of the eye and adnexa, by principal diagnosis and Indigenous status NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010 [(a)(b)(c)(d)(e)]

	Number		Per cent[(f)]		Indigenous				Non-Indigenous				
Principal diagnosis	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Crude no. per 1,000**	**No. per 1,000[(g)]**	**95% LCL[(h)]**	**95% UCL[(i)]**	**No per 1,000[(g)]**	**95% LCL[(h)]**	**95% UCL[(i)]**	**Rate ratio[(j)]**	**Rate difference[(k)]**
Disorders of eyelid, lacrimal system and orbit (H00–H06)	294	36,264	9.9	7.8	0.3	0.6	0.5	0.7	0.8	0.8	0.8	0.7*	–0.2*
Disorders of conjunctiva (H10–H13)	378	15,836	12.7	3.4	0.4	0.5	0.4	0.5	0.4	0.4	0.4	1.3*	0.1*
Disorders of sclera, cornea, iris and ciliary body (H15–H22)	158	6,576	5.3	1.4	0.2	0.2	0.2	0.2	0.2	0.1	0.2	1.4*	0.1*
Disorders of lens (H25–H28)	1,493	315,494	50.2	68.1	1.4	4.5	4.3	4.7	7.0	7.0	7.1	0.6*	–2.5*
Other cataract (H26)	*1,254*	*251,981*	*42.2*	*54.4*	*1.2*	*3.7*	*3.5*	*3.9*	*5.6*	*5.6*	*5.6*	*0.7**	*–1.9**
Senile cataract (H25)	*202*	*61,674*	*6.8*	*13.3*	*0.2*	*0.7*	*0.6*	*0.8*	*1.4*	*1.4*	*1.4*	*0.5**	*–0.7**
Disorders of choroid and retina (H30–H36)	179	58,142	6.0	12.5	0.2	0.3	0.2	0.3	1.3	1.3	1.3	0.2*	–1.0*
Glaucoma (H40–H42)	60	6,734	2.0	1.5	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.7	–0.04*
Disorders of vitreous body and globe (H43–H45)	61	3,597	2.1	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.3	0.0
Disorders of optic nerve and visual pathways (H46–H48)	21	1,366	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6*	–0.01*
Disorders of ocular muscles, binocular movement, accommodation and refraction (H49–H52)	160	13,787	5.4	3.0	0.2	0.1	0.1	0.1	0.3	0.3	0.3	0.3*	–0.2*
Visual disturbances and blindness (H53–H54)	65	2,956	2.2	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.3	0.0
Other disorders of eye and adnexa (H55–H59)	53	2,570	1.8	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2	0.0
Diabetes with eye health complication (E10.3 and E11.4)	51	4,434	1.7	1.0	0.0	0.1	.	. .	0.2	. .	. .	1.0	0.0
Total	**2,973**	**463,322**	**100.0**	**100.0**	**2.8**	**6.7**	**6.4**	**6.9**	**10.4**	**10.4**	**10.4**	**0.6***	**–3.7***

(continued)

Table 1.16.11 (continued): Hospitalisations of Indigenous persons for principal diagnosis of diseases of the eye and adnexa, by principal diagnosis and Indigenous status NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010 (a)(b)(c)(d)(e)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparison at the $p < 0.05$ level.

(a) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(b) Data are from public and most private hospitals. Data are not available for private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(f) Proportion of male, female and total hospitalisations of Indigenous persons in the two year period 2008–09 to 2009–10.

(g) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(k) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

Notes

1. Rates for Indigenous Australians are calculated using the 2006 population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 & 10 (Newborn - unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

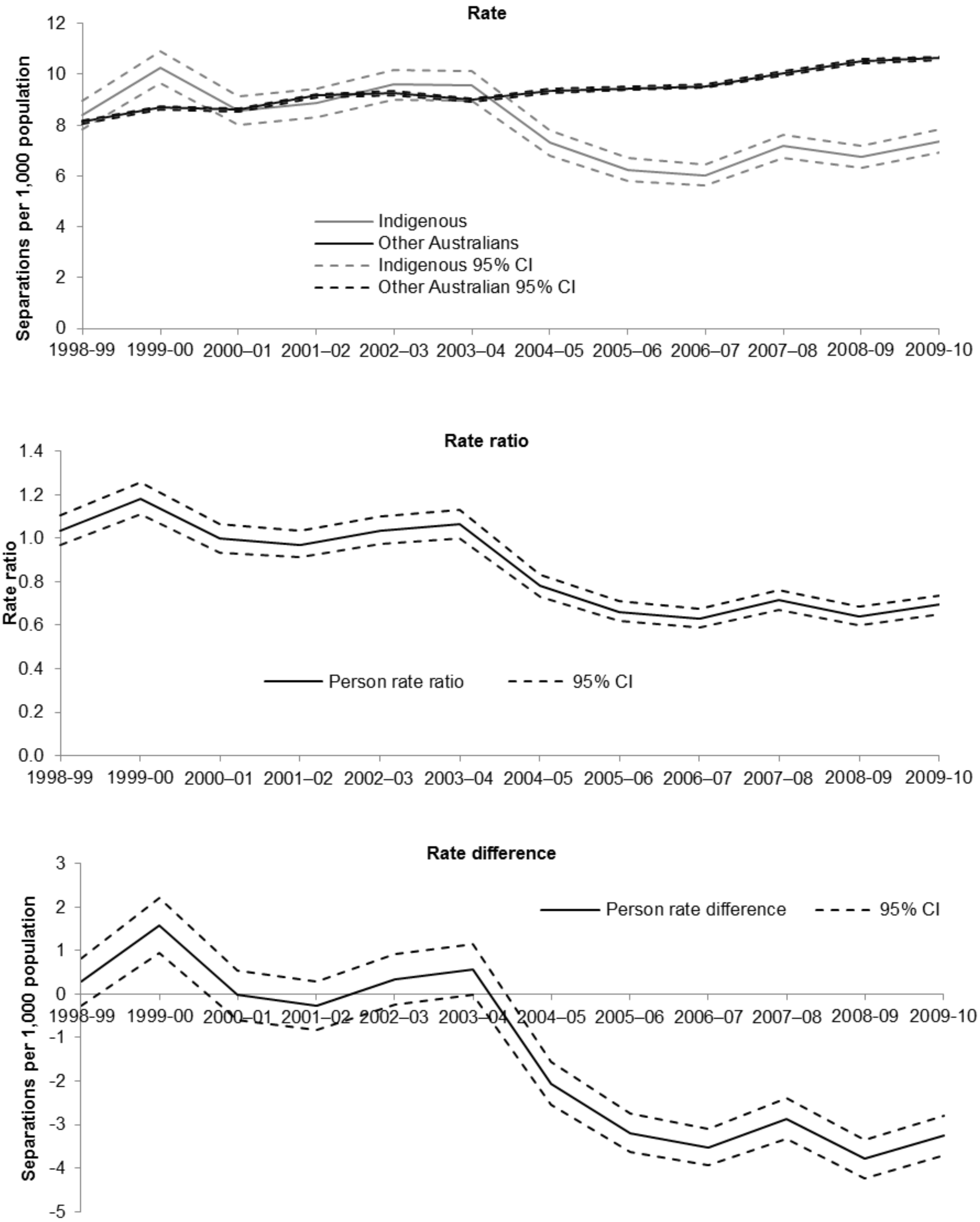
Time series data from 1998–99 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2009–10 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians, as will changes in access, hospital policies and practices over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may also reflect increased use of admitted patient hospital services rather than a worsening of health.

Diseases of the eye and adnexa — 1998–99 to 2009–10

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant decrease in the age-standardised hospitalisation rates from diseases of the eye and adnexa among Indigenous people over the period 1998–99 to 2009–10. The fitted trend implies an average yearly decrease in the rate of 0.3 per 1,000. This is equivalent to a 36% decrease in the rate over the period (Figure 1.16.4).
- Over the same period there was a significant increase in the age-standardised hospitalisation rates for diseases of the eye and adnexa among non-Indigenous people with an average yearly increase in the rate of 0.2 per 1,000, which is equivalent to a 27% increase in the rate over the period (Figure 1.16.4).
- There were significant decreases in the hospitalisation rate ratios and differences between Indigenous and non-Indigenous persons over the period 1998–99 to 2009–10 (Figure 1.16.4).

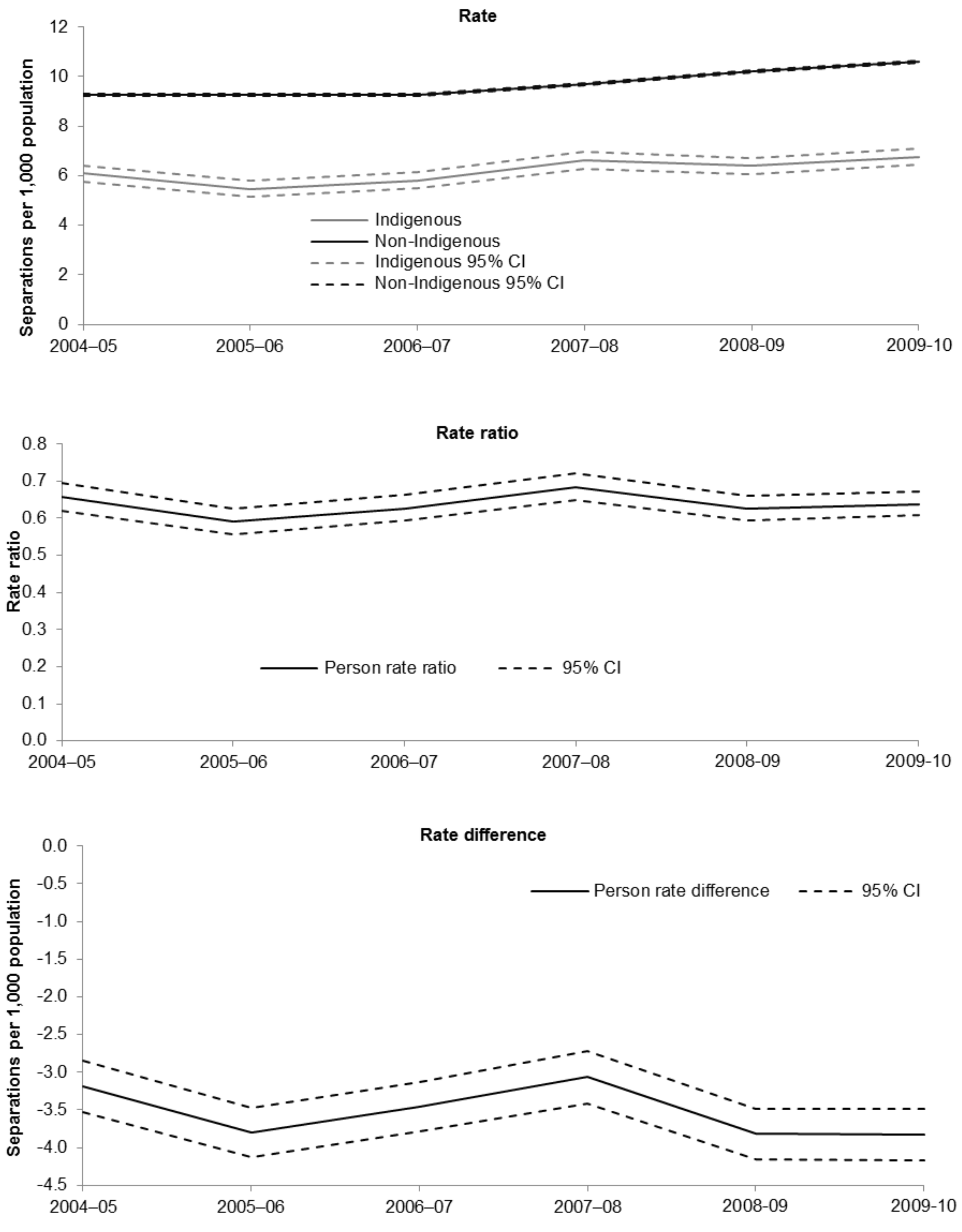


Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.16.4: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for diseases of the eye and adnexa, Qld, WA, SA and NT, 1998–1999 to 2009–2010

Diseases of the eye and adnexa – 2004–05 to 2009–10

- Over the period 2004–05 to 2009–10, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant increase in the age-standardised hospitalisation rates from diseases of the eye and adnexa among Indigenous people. The fitted trend implies an average yearly increase in the rate of 0.2 per 1,000. This is equivalent to a 16% increase in the rate over the period (Figure 1.16.5).
- Over the same period there was also a significant increase in the age-standardised hospitalisation rates for diseases of the eye and adnexa among non-Indigenous people with an average yearly increase in the rate of 0.3 per 1,000, which is equivalent to a 15% increase in the rate over the period (Figure 1.16.5).
- There were no significant changes in the hospitalisation rate ratios and differences between Indigenous and non-Indigenous persons over the period 2004–05 to 2009–10 (Figure 1.16.5).

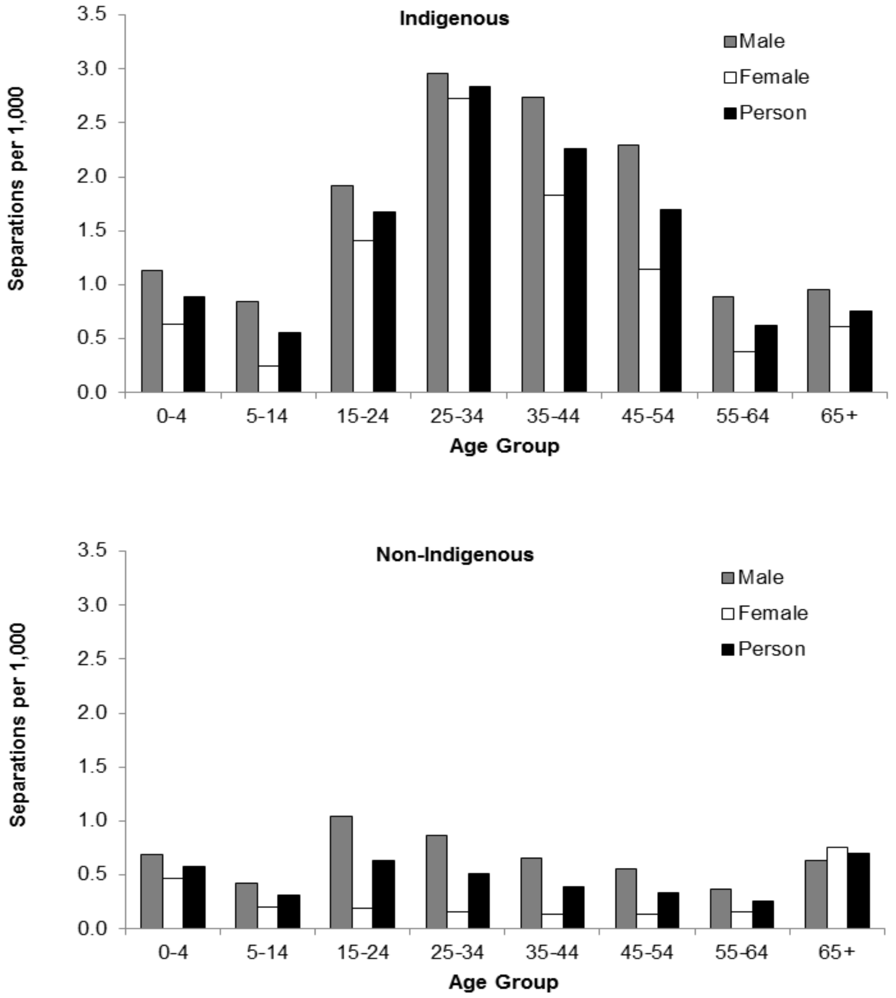


Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.16.5: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for diseases of the eye and adnexa, NSW, Vic, Qld, WA, SA and NT, 2004–2005 to 2009–2010

Hospitalisations for eye injury

- In the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined the hospitalisation rate for a principal diagnosis of eye injury was higher for Indigenous than for non-Indigenous people (1.5 per 1,000 population compared with 0.5 per 1,000 population, respectively) (Figure 1.16.6).
- The greatest relative disparity was for females aged 25–34 years; Indigenous females in this age group were hospitalised for eye injury at 17 times the rate of non-Indigenous females (Figure 1.16.6).
- The greatest rate difference between Indigenous and non-Indigenous Australians occurred in the 35–44 years age group for males (2.1 per 1,000 population), and in the 25–34 year age group for females (2.6 per 1,000 population) (Figure 1.16.6).



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.16.6: Age-specific hospitalisation rates for principal diagnosis of eye injury by Indigenous status and age, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010

Hospitalisations by type of eye injury

Table 1.16.12 presents hospitalisations of Indigenous people for principal diagnosis of eye injury by type of injury and sex for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- For the period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of all hospitalisations of Indigenous persons with a principal diagnosis of eye injury, about 29% were for open wounds of eyelid & periocular area and 25% were for periorbital fractures. These were also the two most common principal diagnoses for non-Indigenous people hospitalised with a principal diagnosis of eye injury, accounting for 24% and 35%, respectively (Table 1.16.12).
- Hospitalisation rates for all types of eye injury were higher for Indigenous persons than non-Indigenous persons, except for injury related to 'foreign body in external eye' (Table 1.16.12).

Table 1.16.12: Principal diagnosis for eye injury hospitalisations by sex and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)]

	Number		Per cent		Indigenous				Non-Indigenous				
	Indig.	Non-Indig.	Indig.	Non-Indig.	Crude no. per 1,000	No. per 1,000[(f)]	95% LCL[(g)]	95% UCL[(h)]	No per 1,000[(f)]	95% LCL[(g)]	95% UCL[(h)]	Rate ratio[(i)]	Rate difference[(j)]
Periorbital fracture	411	6,795	25.2	34.5	0.4	0.4	0.4	0.4	0.2	0.2	0.2	2.4*	0.2*
Superficial injuries of eyelid & periocular area	221	1,604	13.6	8.1	0.2	0.2	0.2	0.2	0.0	0.0	0.0	5.7*	0.2*
Open wound of eyelid & periocular area	469	4,722	28.8	24.0	0.4	0.5	0.5	0.6	0.1	0.1	0.1	4.4*	0.4*
Foreign body in external eye	45	1,382	2.8	7.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.2	0.0
Contusion of eyeball & orbital tissues	85	984	5.2	5.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	3.5*	0.1
Penetrating wound	60	877	3.7	4.5	0.1	0.0	0.0	0.1	0.0	0.0	0.0	2.2*	0.0
Other eye injuries	338	3,325	20.7	16.9	0.3	0.3	0.3	0.4	0.1	0.1	0.1	4.0*	0.2*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparison at the $p < 0.05$ level.

(a) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010).

(b) Data are from public and most private hospitals. Data are not available for private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Data are reported for NSW, Vic, Qld, WA, SA and NT only. These jurisdictions are considered to have adequate levels of Indigenous identification in hospitalisation data, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(f) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the age-standardised rate for Indigenous Australians divided by the age-standardised rate for non-Indigenous Australians.

(j) Rate difference is the age-standardised rate for Indigenous Australians minus the age-standardised rate for non-Indigenous Australians.

Notes

1. Rates for Indigenous Australians are calculated using the 2006 population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 & 10 (Newborn - unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Data quality issues

The National Indigenous Eye Health Survey

At the time of the survey, an informal census was done to establish the size of the eligible population of Indigenous children aged 5 to 15 years and adults aged 40 years and above. Sources included community and local council housing lists, health service and hospital lists, Aboriginal housing or legal aid records, and local informants.

A multi-staged random cluster sample was selected after consultation with the ABS using data from the 2006 Census. 30 clusters containing 300–400 people were selected. In each cluster, all children aged 5 to 15 years and all adults over 40 years were examined. Additional ineligible people were examined at their request. In two remote and very remote communities, a sample of non-Indigenous adults was also examined.

Standardised demographic data were collected, and a standardised eye examination was done on all participants. Overall, 1,694 children aged 5 to 15 years (84% of those eligible) and 1,189 adults aged 40 years and above (72% of those eligible) were examined.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The Australian Bureau of Statistics (ABS) makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, imperfect recall or individual interpretation of survey questions may affect some responses.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all the interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

Trachoma Surveillance

Caution must be taken when quoting trachoma prevalence as screening took place in predominantly remote and very remote communities designated as being at-risk of endemic trachoma.

Interpretation of coverage data is limited by the accuracy of community population estimates, the school-based approach to screening and the designation of communities at risk. Community population estimates are based upon projections from the Census data. Although this approach is current best practice, the estimates may not accurately reflect populations at the time of screening, given the small size and mobility of some communities.

Designation of at-risk status does not appear to have been systematically reviewed in any jurisdiction. Data collected in Western Australia in 2010, as well as previous Annual National Trachoma Reports and the National Indigenous Eye Health Survey have all demonstrated that communities considered not at-risk may in fact have endemic trachoma.

Bettering the Evaluation and Care of Health (BEACH) survey

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample frame has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in *General practice in Australia, heath priorities and policies 1998 to 2008*, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

List of figures

1.17 Perceived health status

Self-reported, self-assessed health status of Aboriginal and Torres Strait Islander Australians

Data sources

Data for this indicator come from the 2008 National Aboriginal and Torres Strait Islander Social Survey and the 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Analyses

Age-standardised rates and ratios have been used for this indicator as an indicator of morbidity in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of other Australians, taking into account differences in age distributions.

Self-assessed health status

- In 2008, around 57% of the Indigenous population across all age groups reported their health as very good or excellent, 28% reported their health as good and 15% reported their health as fair or poor (Table 1.17.1).
- After adjusting for differences in age structure between the Indigenous and non-Indigenous populations, Indigenous Australians were almost twice as likely as non-Indigenous Australians to report their health as fair or poor (Table 1.17.2).

Self-assessed health status by age and sex

- The proportion of Indigenous Australians aged 15–24 years reporting fair or poor health was 10% compared with 47% of those aged 55 years and over (Table 1.17.1).
- Indigenous females and males reported similar levels of fair or poor health; however Indigenous males were more likely than Indigenous females to report excellent or very good health (40% compared with 36%) (Table 1.17.3).

Table 1.17.1: Indigenous self-assessed health status by age group, 2008

	0–14[(a)]	15–24	25–34	35–44	45–54	55 and over	Total
				Per cent			
Self-assessed health status							
Excellent	46.4	25.2	16.4	12.7	10.6	5.7	27.4
Very good	32.2	32.8	33.4	26.1	19.0	16.4	29.3
Subtotal excellent/very good	*78.7*	*58.0*	*49.8*	*38.7*	*29.6*	*22.0*	*56.7*
Good	17.6	32.2	35.1	37.6	34.2	31.3	27.9
Fair	2.9	7.6	10.7	18.0	22.6	26.5	10.5
Poor	0.8	2.1	4.4	5.7	13.6	20.2	4.9
Subtotal fair/poor	*3.7*	*9.8*	*15.1*	*23.7*	*36.2*	*46.7*	*15.4*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total persons	**193,249**	**103,780**	**69,931**	**63,851**	**46,912**	**42,627**	**520,350**

(a) Self-assessed health status reported by parent/carer.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 1.17.2: Self-assessed health status, by Indigenous status and age group, 2008

	15–24		25–34		35–44		45–54		55 and over		Total age-standardised			
	Indig	**Non-Indig**	**Indig**	**Non-Indig**	**Indig**	**Non-Indig**	**Indig**	**Non-Indig**	**Indig**	**Non-Indig**	**Indig**	**Non-Indig**	**Rate ratio**	**Rate difference**
								Per cent						
Self assessed health status														
Excellent	25.2	26.9	16.4	24.8	12.7	22.7	10.6	19.2	5.7	13.7	13.2	20.7	0.6*	–7.5*
Very good	32.8	40.8	33.4	39.4	26.1	38.5	19.0	36.3	16.4	28.3	24.7	35.9	0.7*	–11.2*
Subtotal excellent/very good	*58.0*	*67.7*	*49.8*	*64.2*	*38.7*	*61.2*	*29.6*	*55.6*	*22.0*	*42.1*	*37.9*	*56.6*	*0.7**	*–18.7**
Good	32.2	25.8	35.1	28.1	37.6	28.3	34.2	28.8	31.3	31.7	33.9	28.8	1.2*	5.1*
Fair	7.6	5.3	10.7	6.6	18.0	7.8	22.6	11.5	26.5	18.0	18.0	10.6	1.7*	7.4*
Poor	2.1	1.2	4.4	1.1	5.7	2.7	13.6	4.2	20.2	8.2	10.2	3.9	2.6*	6.3*
Subtotal fair/poor	*9.8*	*6.5*	*15.1*	*7.7*	*23.7*	*10.5*	*36.2*	*15.7*	*46.7*	*26.2*	*28.2*	*14.5*	*1.9**	*13.7**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**. .**
Total persons	**103,780**	**2,783,949**	**69,931**	**2,819,126**	**63,851**	**2,987,518**	**46,912**	**2,864,016**	**42,627**	**4,919,592**	**327,101**	**16,374,202**	**. .**	**. .**

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 1.17.3: Self-assessed health status, persons aged 15 years and over, by sex and Indigenous status, 2008

	Non-age-standardised				Age-standardised						
	Males		Females		Males			Females			
Self-assessed health status	Indig	Non-Indig	Indig	Non-Indig	Indig	Non-Indig	Ratio	Indig	Non-Indig	Ratio	Rate difference
	%	%	%	%	%	%		%	%	%	
Excellent	17.9	19.7	14.7	21.2	14.0	19.9	0.7*	12.4	21.6	0.6*	–9.2*
Very good	28.6	35.3	26.5	35.9	25.7	35.6	0.7*	23.8	36.2	0.7*	–12.4*
Subtotal excellent/very good	*46.5*	*55.1*	*41.2*	*57.1*	*39.7*	*55.4*	*0.7**	*36.3*	*57.7*	*0.6**	*–21.4**
Good	32.0	29.5	35.9	28.4	32.2	29.4	1.1	35.4	28.3	1.3*	7.1*
Fair	13.8	11.4	15.9	10.4	16.7	11.2	1.5*	19.1	10.1	1.9*	9.0*
Poor	7.7	4.1	7.0	4.1	11.4	4.0	2.9*	9.2	3.9	2.4*	5.3*
Subtotal fair/poor	*21.5*	*15.5*	*22.9*	*14.5*	*28.2*	*15.2*	*1.9**	*28.3*	*14.0*	*2.0**	*14.3**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	. .	**100.0**	**100.0**	. .	. .
Total persons	**156,052**	**8,079,875**	**171,049**	**8,294,327**	. .	. .	. .	. .	. .	. .	. .

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

Source: ABS and AIHW analysis of 2008 NATSISS.

Self-assessed health status by state/territory and remoteness

- Indigenous Australians were approximately twice as likely as non-Indigenous Australians to report fair or poor health across all states and territories (Table 1.17.4).
- A higher proportion of Indigenous Australians aged 15 years and over in non-remote areas reported fair or poor health (30%) than Indigenous Australians in remote areas (24%) (Table 1.17.5). Indigenous Australians were around twice as likely to report their health as fair or poor as non-Indigenous Australians across all remoteness categories (Table 1.17.5).

Table 1.17.4: Self-assessed health status(a), by Indigenous status and state/territory, persons aged 15 years and over, 2008

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Australia	
Self-assessed health status	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig(b)**	**Indig.**	**Non-Indig(b)**
									Per cent									
Excellent	14.3*	21.5*	15.1*	22.8*	12.9*	16.5*	11.5*	21.3*	11.0*	20.9*	17.5*	22.4*	15.0	18.7	11.5	16.0(c)	13.2*	20.7*
Very good	22.7*	34.9*	28.5*	37.8*	24.8*	35.5*	23.7*	36.6*	20.3*	33.2*	30.9	35.1	27.8*	37.4*	28.2*	48.3*	24.7*	35.9*
Total excellent/very good	*37.1**	*56.4**	*43.6**	*60.6**	*37.7**	*52.1**	*35.3**	*57.9**	*31.3**	*54.1**	*48.4**	*57.5**	*42.7*	*56.1*	*39.8**	*64.3**	*37.9**	*56.6**
Good	30.7	29.1	26.4	26.0	37.7*	32.0*	38.3*	29.7*	34.5	28.8	23.3	26.4	30.5	31.1	36.0*	21.7*	33.9*	28.8*
Fair	18.9*	11.1*	20.0*	9.4*	17.8*	11.7*	17.8*	8.4*	23.3*	12.1*	17.9*	11.7*	14.8	n.p.	13.6	n.p.	18.0*	10.6*
Poor	13.4*	3.4*	10.0*	4.0*	6.8	4.2	8.6*	4.0*	10.9*	4.9*	10.4*	4.4*	12.0(c)	n.p.	10.6	n.p.	10.2*	3.9*
Total fair/poor	*32.3**	*14.6**	*30.0**	*13.4**	*24.6**	*15.9**	*26.4**	*12.4**	*34.2**	*17.1**	*28.3**	*16.1**	*26.9**	*12.9**	*24.2*	*14.0(c)*	*28.2**	*14.5**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Data are age-standardised.

(b) Households in collection districts defined as Very remote were excluded from the National Health Survey 2007–08. This has only a minor impact on aggregate estimates for non-Indigenous data, except in the Northern Territory where such households account for approximately 22% of the population.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Table 1.17.5: Self-assessed health status[(a)], by Indigenous status and remoteness, persons aged 15 years and over, 2008

		Excellent	Very good	Total excellent/ very good	Good	Fair	Poor	Total fair/poor	Total number ('000)
Major cities	Indig.	14.4	22.8	37.2	31.4	18.4	13.0	31.4	105,217
	Non-Indig.	21.5	35.6	57.1	28.9	10.2	3.7	13.9	11,284
	Rate ratio(b)	0.7*	0.6*	0.7*	1.1	1.8*	3.5*	2.3*	. .
	Rate difference(c)	–7.1*	–12.8*	–19.9*	2.5*	8.2*	9.3*	17.5*	. .
Inner regional	Indig.	14.1	27.8	41.9	29.5	20.2	8.4	28.7	67,416
	Non-Indig.	20.1	35.9	56.1	28.5	11.3	4.2	15.5	3,466
	Rate ratio(b)	0.7*	0.8*	0.7*	1.0	1.8*	2.0*	1.9*	. .
	Rate difference(c)	–6.0*	–8.1*	–14.2*	1.0	8.9*	4.2*	13.2*	. .
Outer regional	Indig.	11.1	23.4	34.5	36.4	18.5	10.6	29.1	72,967
	Non-Indig.	16.1	37.2	53.3	30.2	11.9	4.6	16.6	1,465
	Rate ratio(b)	0.7*	0.6*	0.6*	1.2*	1.6*	2.3*	1.8*	. .
	Rate difference(c)	–5	–13.8	–18.8	6.2	6.6	6	12.5	. .
Total non-remote	Indig.	13.2	24.4	37.7	32.7	18.8	10.8	29.7	245,600
	Non-Indig.	20.8	35.9	56.6	28.9	10.6	3.9	14.5	16,216
	Rate ratio(b)	0.6*	0.7	0.7	1.1	1.8*	2.8*	2.0	. .
	Rate difference(c)	–7.6	–11.5	–18.9	3.8	8.2	6.9	15.2	. .
Remote	Indig.	11.7	22.4	34.1	38.0	16.8	11.2	28.0	29,839
	Non-Indig	18.3	38.9	57.2	25.5	12.5	4.8	17.3	157.3
	Rate ratio(b)	0.6	0.6*	0.6*	1.5*	1.3	2.3*	1.6*	. .
	Rate difference(c)	–6.6	–16.5	–23.1	12.5	4.3	6.4	10.7	. .
Very remote	Indig.	13.7	27.3	41.0	37.2	15.0	6.8	21.8	51,662
	Non-Indig.	. .	. .	. .	. .	. .	. .	. .	. .
	Rate ratio(b)	. .	. .	. .	. .	. .	. .	. .	. .
	Rate difference(c)	. .	. .	. .	. .	. .	. .	. .	. .
Total remote	Indig.	13.0	25.4	38.4	37.4	15.7	8.5	24.2	81,501
	Non-Indig.	. .	. .	. .	. .	. .	. .	. .	. .
	Rate ratio(b)	. .	. .	. .	. .	. .	. .	. .	. .
	Rate difference(c)	. .	. .	. .	. .	. .	. .	. .	. .
Australia	Indig.	13.2	24.7	37.9	33.9	18.0	10.2	28.2	327,101
	Non-Indig.	20.7	35.9	56.6	28.8	10.6	3.9	14.5	16,374
	Rate ratio(b)	0.6*	0.7*	0.7*	1.2*	1.7*	2.6*	1.9*	. .
	Rate difference(c)	–7.5	–11.2	–18.7	5.1	7.4	6.3	13.7	. .

(a) Data are age-standardised.

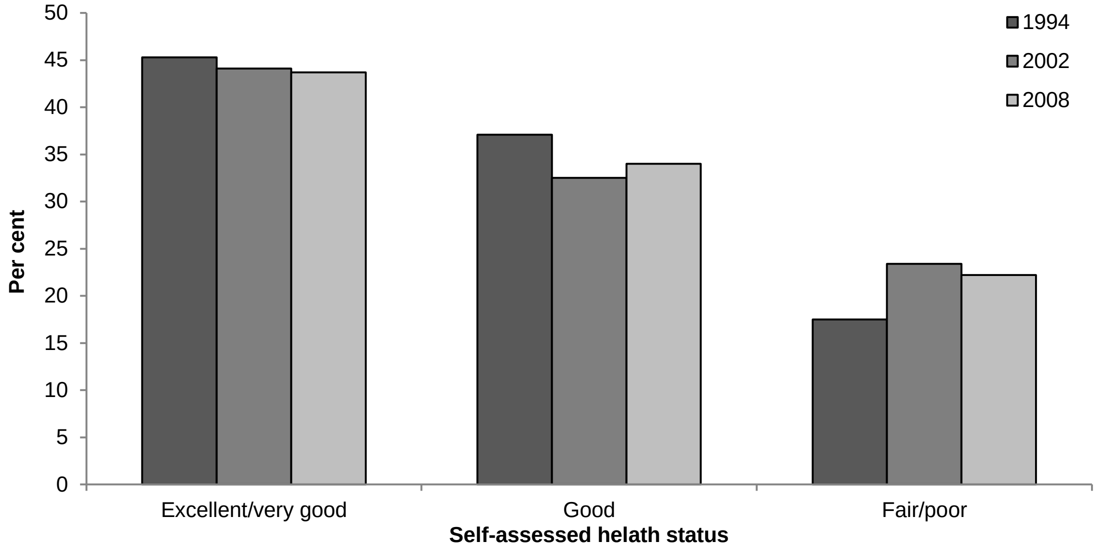
(b) Rate ratios is Indigenous/non-Indigenous.

(c) Rate difference is Indigenous minus non-Indigenous.

Sources: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Time series analysis

- There was an increase in Indigenous Australians reporting their health as fair or poor between 1994 (18%) and 2002 (23%) followed by a slight decrease in 2008 (22%) (Figure 1.17.1; Table 1.17.6).
- After adjusting for differences in age structure, Indigenous Australians were more likely than non-Indigenous Australians to report their health as fair or poor for every survey time period (Table 1.17.7).



Sources: ABS and AIHW analysis of NATSISS 1994, NATSISS 2002 and NATSISS 2008.

Figure 1.17.1: Self-assessed health status, Indigenous persons aged 15 years and over, 1994, 2002 and 2008

Table 1.17.6: Self-assessed health status, Indigenous persons aged 15 years and over, 1994, 2002 and 2008

	1994	2002	2008
Excellent/very good	45.3	44.1	43.7
Good	37.1	32.5	34.0
Fair/poor	17.5	23.4	22.2
Total[(a)]	**100.0**	**100.0**	**100.0**
Total persons[(a)]	**214,626**	**282,205**	**327,101**

(a) Totals for 1994 and 2002 include health status not stated.

Sources: ABS and AIHW analysis of NATSISS 1994, NATSISS 2002 and NATSISS 2008.

Table 1.17.7: Self-assessed health status[(a)], by Indigenous status, persons aged 15 years and over, 2002, 2004–05 and 2008

	2001–2002[(b)]		2004–05[(c)]		2008[(d)]	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Per cent					
Excellent/very good	37.1*	51.7*	36*	56.8*	37.9*	56.6*
Good	31.6	30.3	34.8*	27.7*	33.9*	28.8*
Fair/poor	31.1*	18*	29.1*	15.5*	28.2*	14.5*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Data are age-standardised.

(b) Indigenous data from 2002 NATSISS; non-Indigenous data from 2001 NHS.

(c) Indigenous data from 2004–05 NATSIHS; non-Indigenous data from 2004–05 NHS.

(d) Indigenous data from 2008 NATSISS; non-Indigenous data from 2008 NHS.

Sources: ABS and AIHW analysis of NATSISS 2002 and 2008; NATSIHS 2004–05; NHS 2001, 2004–05 and 2007–08.

Self-assessed health status by population, health and social/cultural characteristics

Table 1.17.8 presents data on the association between the self-assessed health status of Indigenous Australians and a number of summary population characteristics.

- In 2008, Indigenous Australians aged 15 years and over who reported their highest year of schooling was Year 9 or below were more likely to report their health as fair or poor (47%) than Indigenous Australians who had completed Year 12 (14%) as their highest year of schooling (Table 1.17.8).
- Indigenous Australians who have a non-school qualification were less likely (31%) than Indigenous Australians who do not have a non-school qualification (69%) to report fair or poor health.
- A higher proportion of Indigenous Australians who were employed reported their health as excellent or very good (61%) than Indigenous Australians who were unemployed (7%) or not in the labour force (32%).
- Indigenous Australians who were in the lowest (1st) quintile of household income and index of disparity were more likely to report their health as fair or poor (62% and 52%) than Indigenous Australians in the highest (5th) quintile for these characteristics (both 3%).

Table 1.17.8: Self-assessed health status, by selected population characteristics and Indigenous status, persons aged 15 years and over, age-standardised rates, 2008

	Excellent/very good				Good				Fair/poor				Total			
	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference
	%	%			%	%			%	%						
Main language spoken at home																
English	85.4	90.6	0.9	–5.2	86.2	88.7	1.0	–2.5	89.6	89.1	1.0	0.5	86.6	89.3	1	–2.7
Indigenous language	13.2	. .	. .		12.8	. .	. .		9.5	. .	. .		12.3	. .	. .	. .
Other	1.5[(a)]	. .	. .		1.0[(a)]	. .	. .		0.9[(a)]	. .	. .		1.2	. .	. .	. .
Total other	14.6	9.4	1.5	5.2	13.8	11.3	1.2	2.5	10.5	10.9	1.0	–0.4	13.4	10.7	1.3	2.7
Total	**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**	**. .**
Total persons	**143,004**	**9,185,375**	**. .**		**111,368**	**4,737,396**	**. .**		**72,729**	**2,451,431**	**. .**		**327,101**	**16,374,202**	**. .**	**. .**
Highest year of school completed[(b)]																
Year 12	22.3	58.3	0.4	–36.0	18.4	48.2	0.4	–29.8	13.6	38.9	0.3	–25.3	18.9	52.6	0.4	–33.7
Year 11	12.2	10.0	1.2	2.2	11.6	10.4	1.1	1.2	10.7	9.6	1.1	1.1	11.2	9.8	1.1	1.4
Year 10	28.2	21.1	1.3	7.1	30.5	25.6	1.2	4.9	28.3	28.1	1.0	0.2	28.8	22.9	1.3	5.9
Year 9 or below[(c)]	37.3	10.6	3.5	26.7	39.5	15.8	2.5	23.7	47.4	23.3	2.0	24.1	41.1	14.7	2.8	26.4
Total	**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**	**. .**
Total persons	**124,961**	**8,666,839**	**. .**		**103,333**	**4,589,253**	**. .**		**71,395**	**2,423,332**	**. .**		**299,689**	**15,679,425**	**. .**	**. .**
Whether has non-school qualification																
Has a non-school qualification	38.8	56.6	0.7	–17.8	32.3	51.8	0.6	–19.5	31.1	43.7	0.7	–12.6	33.5	53.0	0.6	–19.5
Does not have a non-school qualification	61.2	43.4	1.4	17.8	67.7	48.2	1.4	19.5	68.9	56.3	1.2	12.6	66.5	47.0	1.4	19.5
Total	**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**		**100.0**	**100.0**	**. .**	**. .**
Total persons	**143,004**	**9,185,375**	**. .**		**111,368**	**4,737,396**	**. .**		**72,729**	**2,451,431**	**. .**		**327,101**	**16,374,202**	**. .**	**. .**

(continued)

Table 1.17.8 (continued): Self-assessed health status, by selected population characteristics and Indigenous status, persons aged 15 years and over, age-standardised rates, 2008

	Excellent/very good				Good				Fair/poor				Total			
	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference
	%	%			%	%			%	%						
Employment																
Employed	60.9	72.6	0.8	–11.7	51.1	66.4	0.8	–15.3	34.5	50.1	0.7	–15.6	49.2	66.8	0.7	–17.6
Unemployed	7.0	2.0	3.5	5.0	7.9	2.9	2.7	5.0	10.2	4.4	2.3	5.8	7.9	2.5	3.2	5.4
Not in the labour force	32.1	25.4	1.3	6.7	41.0	30.7	1.3	10.3	55.3	45.5	1.2	9.8	42.8	30.7	1.4	12.1
Total	**100.0**	**100.0**	. .		**100.0**	**100.0**	. .		**100.0**	**100.0**	. .		**100.0**	**100.0**	. .	. .
Total persons	**143,004**	**9,185,375**	. .		**111,368**	**4,737,396**	. .		**72,729**	**2,451,431**	. .		**327,101**	**16,374,202**	. .	. .
Household income(d)																
1st quintile	44.0	11.1	4.0	32.9	50.6	15.0	3.4	35.6	61.7	27.9	2.2	33.8	51.6	15.4	3.4	36.2
5th quintile	6.1	25.1	0.2	–19.0	4.8	18.6	0.3	–13.8	2.5	14.1	0.2	–11.6	4.6	21.3	0.2	–16.7
Total excluding income not stated	**100.0**	**100.0**	. .		**100.0**	**100.0**	. .		**100.0**	**100.0**	. .		**100.0**	**100.0**	. .	. .
Total persons	**114,934**	**7,758,877**	. .		**87,853**	**4,034,621**	. .		**58,325**	**2,128,393**	. .		**261,112**	**13,921,890**	. .	. .
Index of disparity(e)																
1st quintile	49.8	13.7	3.6	36.1	51.2	17.1	3.0	34.1	51.6	27.1	1.9	24.5	50.9	16.7	3	34.2
5th quintile	4.3	26.0	0.2	–21.7	3.3(a)	20.0	0.2	–16.7	3.1(a)	13.8	0.2	–16.7	3.8	22.4	0.2	–18.6
Total excluding not stated	**100.0**	**100.0**	. .		**100.0**	**100.0**			**100.0**	**100.0**	. .		**100.0**	**100.0**	. .	. .
Total persons	**139,262**	**9,154,387**	. .		**108,103**	**4,708,952**			**70,675**	**2,434,510**	. .		**318,041**	**16,297,848**	. .	. .

(continued)

Table 1.17.8 (continued): Self-assessed health status, by selected population characteristics and Indigenous status, persons aged 15 years and over, age-standardised rates, 2008

	Excellent/very good				Good				Fair/poor				Total			
	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference
	%	%			%	%			%	%						
Location																
Remote	26.1	. .	. .		28.1	. .	. .		20.7	. .	. .		25.5	. .	. .	. .
Non-remote	73.9	. .	. .		71.9	. .	. .		79.3	. .	. .		74.5	. .	. .	. .
Total	**100.0**	. .	. .		**100.0**	. .	. .		**100.0**	. .	. .		**100.0**	. .	. .	. .
Total persons	**143,004**	. .	. .		**111,368**	. .	. .		**72,729**	. .	. .		**327,101**	. .	. .	. .

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Excludes those who are still attending secondary school.

(c) Includes persons who never attended school.

(d) Equivalised income of household.

(e) Index of Relative Socio-economic Advantage and Disadvantage.

Sources: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

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Additional information

Data on the association between self-assessed health status and other health and social/cultural characteristics are presented in a number of other health performance indicators included in this framework. These data come from the 2004–05 NATSIHS and the 2008 NATSISS and are summarised below.

- In 2008, approximately 40% of Indigenous Australians aged 15 years and over who reported their health as fair/poor had been formally charged by the police compared with 30% of Indigenous Australians who reported their health as excellent or very good (Indicator 2.11).
- In 2004–05, the proportion of Indigenous Australians who reported that they usually went to the same GP or medical service was similar for those with reported excellent/very good/good health and those with fair/poor health (89% and 90% respectively) (Indicator 3.17).
- In 2008, approximately 19% of Indigenous Australians aged 15 years and over who reported they did not recognise or live on their homeland/traditional country reported their health as fair/poor compared with 20% of Indigenous Australians who reported they recognised and lived on their homeland (Indicator 2.14).
- In 2004–05, a higher proportion of Indigenous Australians who reported fair/poor health accessed health care in the last 12 months than Indigenous Australians who reported excellent/very good or good health (64% compared with 44%) (Indicator 3.14).
- In 2004–05, the proportion of Indigenous Australians aged 18 years who drank at short-term or long-term risky/high-risk levels and reported their health as fair/poor was similar to the proportion of Indigenous Australians in the total population who reported their health as fair/poor (25% for both groups) (Indicator 2.16).
- Approximately 58% of Indigenous Australians in non-remote areas with fair/poor health status reported exercising at sedentary levels compared with 48% of Indigenous Australians with excellent/very good/good health status in 2004–05 (Indicator 2.18).
- In 2008, approximately 58% of Indigenous Australians aged 15–64 years with reported excellent/very good/good health were employed in the labour force compared with 45% of Indigenous Australians with reported fair/poor health (Indicator 2.07).
- A higher proportion of both Indigenous and non-Indigenous Australians aged 18 years who could not get to places when needed reported fair/poor health status (38% and 55%) than Indigenous and non-Indigenous Australians who could easily get to places when needed (26% and 12%) (Indicator 2.13).

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2002 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 *NATSISS: User's guide* (ABS 2010).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys

with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Imperfect recall or individual interpretation of survey questions may nevertheless affect some responses.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner* and *Outer regional* areas and *Remote* and *Very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote* and *Very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS Cat. no. 4715.0. Canberra: ABS.

ABS 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' guide. ABS Cat. no. 4720.0. Canberra: ABS.

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1.18 Social and emotional wellbeing

The social and emotional wellbeing of Aboriginal and Torres Strait Islander people expressed as a percentage by age group, age-standardised rate and ratio

Data sources

Data for this measure come from the National Aboriginal and Torres Strait Islander Health Survey, the National Aboriginal and Torres Strait Islander Social Survey, the Western Australian Aboriginal Child Health Survey, the Bettering the Evaluation and Care of Health survey, the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database, the AIHW National Mortality Database, the AIHW National Community Mental Health Care Database, and the AIHW National Residential Mental Health Care Database.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Western Australian Aboriginal Child Health Survey

This survey was a large-scale investigation into the health of 5,289 Western Australian Aboriginal and Torres Strait Islander children aged 0–17 years. It was undertaken in 2001 and 2002 by the Telethon Institute for Child Health Research in conjunction with the Kulunga Research Network. The survey was the first to gather comprehensive health, educational and developmental information on a population-based sample of Aboriginal and Torres Strait Islander children and their families and communities.

The survey findings were published in four volumes between June 2004 and November 2006.

Bettering the Evaluation and Care of Health survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program . The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for ‘separations’ and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010a):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

National Community Mental Health Care Database

Information on the use of community mental health services by Indigenous people is available from the AIHW National Community Mental Health Care Database (NCMHCD). The NCMHCD is a collation of data on specialised mental health services provided to non-admitted patients, in both government-operated community and hospital-based ambulatory care services. For example, community mental health services, outpatient clinics and day clinics.

The quality of the Indigenous identification in this database varies by jurisdiction and should be interpreted with caution. All state and territory health authorities provided information on the quality of the data for the NCMHCD 2009–10. New South Wales, Victoria, Western Australia, Tasmania, and the Australian Capital Territory considered the quality of Indigenous status data to be acceptable. Queensland reported that the quality of Indigenous status data was acceptable at the broad level, however, there are quality issues regarding the coding of more specific details (that is, Aboriginal, Torres Strait Islander, or Both Aboriginal and Torres Strait Islander). Northern Territory considered the quality to be below the previous year’s standard as a result of lack of compliance with non-mandated data collection items by new external (non-mental health) health service provider data entry. South Australia indicated that the quality of these data is uncertain at this stage.

National Residential Mental Health Care Database

Information on the use of residential mental health services by Indigenous people is available from the AIHW National Residential Mental Health Care Database (NRMHCD). The information collected in the database is a nationally agreed set of common data elements collected by service providers and based on the National Minimum Data Set for Residential Mental Health Care.

The quality of Indigenous identification in this database varies by jurisdiction.

As with hospitalisation data, service contacts for which the Indigenous status of the client was not reported have been included with hospitalisations for non Indigenous people under the ‘other’ category.

Analyses

Age-standardised rates and ratios have been used for this indicator as a measure of the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates among Indigenous people and those of other Australians, taking into account differences in age distributions.

Self-reported prevalence

Self-reported data on the social and emotional wellbeing of Aboriginal and Torres Strait Islander people are available from the 2008 NATSISS and 2004–05 NATSIHS. Data from these surveys are outlined below.

Psychological distress

Five questions from the Kessler Psychological Distress Scale were used to measure psychological distress in the 2008 NATSISS. The responses to these five psychological distress items were scored and summed to create a 'Kessler-5' (K5) psychological distress score.

- In 2008, overall, 67% of Indigenous people reported low/moderate psychological distress levels and 32% reported feelings associated with high/very high levels of psychological distress. Indigenous females were more likely than Indigenous males to report high/very high levels of distress (35% and 28%, respectively) (Table 1.18.1).

Table 1.18.1: Proportion of Indigenous people aged 18 years and over who reported psychological distress, by level of psychological distress, by demographic characteristics, 2008

	Low/ moderate	High/ very high	Number of persons[(a)]
		Per cent	
Sex			
Male	70.0	27.8	137,653
Female	63.8	35.2	153,284
Age			
18–24 years	64.9	32.9	67,616
25–34 years	68.4	30.6	69,931
35–44 years	66.4	32.4	63,851
45–54 years	65.4	33.1	46,912
55 years and over	68.7	29.0	42,627
Remoteness			
Non-remote	66.5	32.5	215,788
Remote	67.4	29.3	75,149
Total	66.7	31.7	290,937
Total number of Indigenous persons	**194,115**	**92,225**	**290,937**

(a) Includes not stated.

Source: AIHW analysis of the 2008 NATSISS.

Psychological distress by age and remoteness

By using data from both the 2004–05 NATSIHS and the 2004–05 NHS, the level of psychological distress among Indigenous and non-Indigenous Australians can be compared.

- In 2004–05, after adjusting for age differences between the Indigenous and non-Indigenous populations, Indigenous Australians were twice as likely as non-Indigenous Australians to report high or very high levels of psychological distress (Table 1.18.2).
- Across all age groups, with the exception of the age group 18–24 years, the rate of high levels of psychological distress for Indigenous Australians was at least twice that of non-Indigenous Australians (Table 1.18.2).
- Differences by Indigenous status were observed for each of the three remoteness categories for which there were data, with the largest difference observed for those in *Outer regional* areas, where 2.3 Indigenous adults reported high/very high psychological distress levels for every one non-Indigenous adult who reported the same level of psychological distress (Table 1.18.3).

Table 1.18.2: Number and proportion of people aged 18 years and over who reported high or very high levels of psychological distress, by Indigenous status, by age, 2004–05

	Indigenous		Non-Indigenous			
	Number	**Per cent**[a]	**Number**	**Per cent**[a]	**Rate ratio**[b]	**Rate difference**
18–24 years	14,727	26.0	299,556	16.1	1.6	9.9
25–34 years	18,935	27.1	338,165	12.2	2.2	14.9
35–44 years	17,231	29.2	389,503	13.4	2.2	15.8
45–54 years	11,656	29.4	369,117	13.6	2.2	15.8
55 years and over	7,620	23.0	528,206	11.7	2.0	11.3
Total	*70,168*	*26.6*	*1,924,547*	*13.1*	*2.0*	*13.5*
Total no. of people[c]	**258,297**	. .	**14,753,256**	. .	. .	. .

(a) The rates for total persons were directly age-standardised, and the rates for each age group are crude rates.

(b) Rate ratio Indigenous: non-Indigenous.

(c) Includes missing responses.

Source: AIHW analysis of the 2004–05 NATSIHS and 2004 NHS.

Table 1.18.3: Number and proportion of people aged 18 years and over who reported high or very high levels of psychological distress, by Indigenous status, by remoteness[(a)], 2004–05

	Indigenous		Non-Indigenous			
	Number	**Per cent[(b)]**	**Number**	**Per cent[(b)]**	**Rate ratio[(c)]**	**Rate difference**
Major cities	19,871	25.4	1,301,362	12.9	2.0	12.5
Inner regional	14,995	27.9	403,581	13.9	2.0	14.0
Outer regional	16,383	29.0	198,968	12.8	2.3	16.2
Total[(d)]	*70,168*	*26.6*	*1,924,547*	*13.1*	*2.0*	*13.5*
Total no. of people[(d)(e)]	**258,297**	. .	**14,753,256**	. .	. .	. .

(a) Since the remote sample of the NHS did not have the same scope and coverage as that of the NATSIHS, comparisons of psychological distress can be made only between Indigenous and non-Indigenous people living in non-remote areas of Australia.

(b) Directly age-standardised using the Australian 2001 standard population.

(c) Rate ratio Indigenous: non-Indigenous.

(d) Includes those living in Remote or Very remote areas.

(e) Includes missing responses.

Source: AIHW analysis of the 2004–05 NATSIHS and 2004–NHS.

Impact of psychological distress

Visits to health professional

- In 2008, the majority (85%) of those who reported a level of psychological distress (a score of more than 5) did not see a doctor or other health professional about their feelings of distress in the 4-week period prior to the 2008 National Aboriginal and Torres Strait Islanders Social Survey (Table 1.18.4).
- During the 4 weeks before interview, those who did seek help visited a health professional 2.8 times on average.
- Indigenous females were more likely than Indigenous males to have visited health professionals about their distress (17% compared with 12%, respectively).
- The proportion to have seen a health professional about their distress increased with age. Around 23% of Indigenous persons aged 55 years and over who reported a level of psychological distress had seen a health professional about their distress during the 4 weeks before interview, compared with 8% of those aged 18–24 years.

Table 1.18.4: Proportion of Indigenous people aged 18 years and over who reported a level of psychological distress[(a)(b)], by whether saw a health professional because of psychological distress, by demographic characteristics, 2008

	Did not see a health professional	Saw a health professional (at least once)	Total number[(c)]	Average number of visits in last 4 weeks
Males	87.7	12.3	104,413	2.8
Females	83.0	16.9	126,349	2.9
18 to 24 years	91.7	8.3	54,768	3.1
25 to 34 years	86.7	13.2	55,257	2.5
35 to 44 years	85.4	14.6	51,761	2.9
45 to 54 years	79.6	20.4	37,479	2.8
55 years and over	77.3	22.7	31,497	2.9
Major cities	84.2	15.8	77,791	2.9
Inner regional	84.1	15.9	47,275	2.7
Outer regional	87.4	12.4	51,381	2.5
Remote/Very remote	85.3	14.7	54,316	3.0
Total	**85.2**	**14.8**	**230,762**	**2.8**

(a) Based on the Kessler-5 (K5) measure of psychological distress. Overall levels of distress are based on frequency responses to the following five questions about feelings in the last 4 weeks: About how often did you feel nervous?; About how often did you feel without hope?; About how often did you feel restless or jumpy?; About how often did you feel everything was an effort?; and About how often did you feel so sad that nothing could cheer you up?

(b) Excludes persons whose only response(s) to K5 question(s) were 'none of the time'.

(c) Includes a small number of refusals to question about whether visited a health professional.

Source: ABS and AIHW analysis of 2008 NATSISS.

Population characteristics

Table 1.18.5 presents the level of psychological distress for Indigenous persons aged 18 years and over by selected population characteristics.

- In 2008, a higher proportion of Indigenous persons with fair/poor health reported high/very high levels of psychological distress than Indigenous persons with excellent or very good health (52% compared with 20%).
- Levels of high/very high psychological distress increased steadily with the number of stresses reported. Indigenous persons who reported between 12 and 24 stressors were more likely to have high/very high levels of psychological distress (58%) than those who reported three or fewer stressors (29%).
- A higher proportion of Indigenous persons in the lowest income quintile reported high/very high levels of psychological distress than Indigenous persons in the highest income quintile (37% compared with 21%).
- Approximately 35% of Indigenous persons who were renters reported high/very high levels of psychological distress compared with 24% of Indigenous persons who were home owners.
- Indigenous persons who completed Year 9 or below as their highest year of school completed were more likely to have high/very high levels of psychological distress (37%) than persons who completed Year 12 (26%).
- Psychological distress was similar for both Indigenous persons with a non-school qualification and without a non-school qualification (31% and 32% respectively).
- Approximately 46% of Indigenous persons who were unemployed reported high/very high levels of psychological distress compared with 25% of Indigenous persons who were employed.

Table 1.18.5: Proportion of people who reported psychological distress, by level of psychological distress[(a)], by selected population characteristics, Indigenous persons aged 18 years and over, 2008

	Low / moderate (5–11)[(b)]	High / very high (12–25)
	Per cent	
Self-assessed health		
Excellent/very good	78.1	20.3
Good	67.3	31.2
Fair/poor	46.7	51.7
Number of stressors		
1 to 3	70.1	28.5
4 to 7	54.8	44.2
8 to 11	53.5	44.9
12 to 24	40.8	57.7
Total reporting selected stressor(s)	*63.1*	*35.6*
None of the selected stressors reported	80.6	17.0
Personal income		
First quintile (lowest)	59.9	37.2
Fifth quintile (highest)	78.8	20.5
Housing		
Owner/purchaser[(c)]	75.3	24.2
Renter	63.1	34.9
Educational attainment		
Highest year of school completed[(d)]		
Year 9 or below	60.4	37.1
Year 10	69.3	29.9
Year 11	64.0	35.3
Year 12	73.3	25.5
Year 12/Certificate II or above		
Has Year 12/Certificate II or above	69.8	29.4
Without Year 12/Certificate II or above	64.5	33.4
Non-school qualification		
Has a non-school qualification	68.3	31.0
Does not have a non-school qualification	65.9	32.1
Labour force status		
Employed	74.3	24.7
Unemployed	53.7	45.9
Not in the labour force	58.9	38.3
Total persons aged 18 years and over	**66.7**	**31.7**
Total persons aged 18 years and over (number)	**194,115**	**92,225**

(continued)

Table 1.18.5 (continued): Proportion of people who reported psychological distress, by level of psychological distress[(a)], by selected population characteristics, Indigenous persons aged 18 years and over, 2008

(a) Based on the Kessler-5 (K5) measure of psychological distress. Overall levels of distress are based on frequency responses to the following five questions about feelings in the last 4 weeks: About how often did you feel nervous?; About how often did you feel without hope?; About how often did you feel restless or jumpy?; About how often did you feel everything was an effort?; and About how often did you feel so sad that nothing could cheer you up?.

(b) Includes persons who said they had not had any of these feelings in the last 4 weeks (score of 5).

(c) Comprises persons living in a dwelling that was owned without a mortgage, owned with a mortgage or being purchased under a rent/buy scheme.

(d) Excludes persons who were attending secondary school.

Source: ABS and AIHW analysis of 2008 NATSISS.

Life stressors

Respondents of the 2008 NATSISS were asked to indicate which (if any) of the listed stressors they, their family and/or friends had experienced during the last 12 months.

- In 2008, approximately 79% of Indigenous people aged 18 years and over reported that they had experienced at least one stressor in the last 12 months. The most common stressors reported were the death of a family member or close friend (40%), serious illness or disability (33%), unable to get a job (23%), and alcohol-related problems (21%) (Table 1.18.6).
- The types of stressors reported by respondents differed according to remoteness area. For example, Indigenous adults who lived in *Remote* or *Very Remote* areas were more likely than other Indigenous adults to have reported a death of a family member or close friend, have alcohol related problems and gambling problems. Overall, the average number of stressors reported was similar independent of remoteness (4 to 5).

Table 1.18.6: Proportion of Indigenous people aged 18 years and over reporting stressors experienced by self, family or friends in last 12 months, by remoteness, 2008

	Major cities	Inner regional	Outer regional	Remote/ very remote	Australia
Experienced selected stressor(s)					
Really bad illness	36.5	30.1	27.5	24.9	30.2
Really bad disability	8.2	6.4	8.5	5.6	7.2
Total illness or disability	38.9	32.1	30.7	26.9	32.6
Really bad accident	11.1	7.7	8.8	11.0	9.9
Mental illness	22.1	17.8	17.8	9.8	17.1
Getting married / marriage	8.2	4.4	5.8	3.6	5.7
Pregnancy	22.2	20.4	14.5	9.9	16.9
New family member	12.8	11.2	9.7	5.5	9.9
Overcrowding at home	12.6	9.6	10.8	16.7	12.7
Getting back together with a spouse	5.3	4.4(a)	4.4	3.2	4.4
Divorce or separation	11.3	10.3	12.3	6.0	10.0
Death of family member or close friend	40.2	34.7	40.6	44.9	40.4
Not able to get a job	23.6	22.7	24.6	19.3	22.5
Lost job / made redundant / sacked / retired	14.6	8.9	9.9	6.3	10.3
Started a new job / changed jobs	13.9	9.4	8.9	7.2	10.2
Pressure to fulfil cultural responsibilities	6.2	4.4	4.9	4.1	5.0
Alcohol-related problems	21.3	17.8	19.1	22.9	20.5
Drug-related problems	17.8	13.8	13.1	15.0	15.3
Gambling problems	13.0	10.2	10.2	14.0	12.1
Witness to violence	10.3	7.7	8.1	9.0	9.0
Abuse or violent crime	9.1	6.7	7.2	6.6	7.6
You, a family member or friend spent time in jail	12.9	12.9	12.3	12.9	12.8
Trouble with the police	15.1	15.0	14.2	14.3	14.7
Treated badly / discrimination	12.6	10.1	10.5	7.1	10.2
Unwelcome at child's school	2.0(a)	1.5(a)	1.2(a)	0.6(a)	1.4
Total reporting stressor(s)	81.9	78.8	79.7	75.0	79.0
Did not report any of the selected stressors	**18.1**	**21.1**	**20.2**	**24.9**	**20.9**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Average number of stressors(b)	**4.9**	**4.3**	**4.3**	**4.2**	**4.5**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

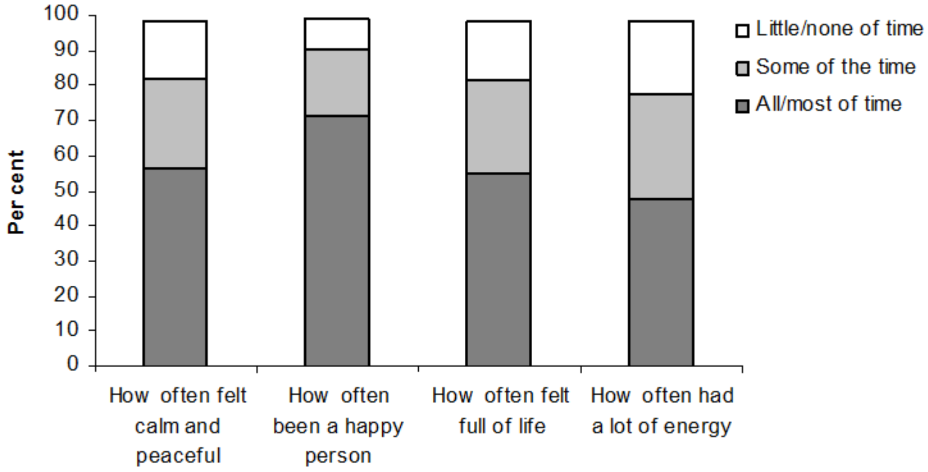
(b) Based on all persons reporting stressor(s).

Source: ABS and AIHW analysis of 2008 NATSISS.

Positive wellbeing

Four items were selected from the mental health and vitality scales of the Medical Outcome Short Form Health Survey (SF-36) to provide a measure of positive wellbeing in the 2004–05 NATSIHS. These items measured the extent to which respondents felt calm/peaceful, happy, full of life, and had lots of energy.

- More than half of the adult Indigenous population reported being happy (71%), calm and peaceful (56%) and/or full of life (55%) all or most of the time, and just under half (47%) said they had a lot of energy all or most of the time (Figure 1.18.1).



Note: Percentages exclude missing responses.

Source: AIHW analysis of the 2004–05 NATISHS.

Figure 1.18.1: Positive wellbeing of Indigenous Australians aged 18 years and over, 2004–05

Positive life events

The 2008 NATSISS collected information about whether Indigenous children had experienced positive life events, which were defined as whether child had received an award, prize or other recognition; whether child had a positive experience with the police; or whether the child went on a holiday or trip away in the last 12 months.

- In 2008, the majority (62%) of Indigenous children aged 4 to 14 years reported experiencing a positive life event (Table 1.18.7).
- A higher proportion of Indigenous children living in non-remote areas reported experiencing a positive life event (63%) compared with Indigenous children in remote areas (58%) (Table 1.18.7).

Table 1.18.7: Indigenous children[a] experiencing positive life events[b], by state, remoteness and sex, 2008

	Number	Per cent
State		
New South Wales	24,886	59.0
Victoria	6,426	71.4
Queensland	26,483	66.6
South Australia	4,478	59.1
Western Australia	11,900	63.3
Tasmania/ACT	3,778	64.0
Northern Territory	8,565	53.2
Remoteness		
Remote	19,267	57.9
Non-remote	67,249	63.4
Sex		
Males	43,084	60.6
Females	43,432	63.7
Total	**86,516**	**62.1**

(a) Children aged 4 to 14 years.

(b) A positive life event was defined as whether child received an award, prize or other recognition; whether child had a positive experience with the police; or whether child went on a holiday or trip away in the last 12 months.

Source: AIHW analysis of the 2008 NATSISS.

Cultural, family and community attachments

The 2008 NATSISS collected information on a range of social issues relevant to the social and emotional wellbeing of Indigenous Australians including cultural, family and community attachments.

- In 2008, approximately 47% of Indigenous people aged 18 years and over reported that they or a relative had been removed from their natural family. In addition those Indigenous people reported Moderate, High and Very high levels of psychological distress between 51% and 58% (Table 1.18.8).
- In 2008, 72% of Indigenous Australians 35–44 years old, reported they identified with a clan or tribal group, compared with 51% of Indigenous 15–24 year olds. Of those Indigenous Australians who recognised their homelands or traditional country, 26% of Indigenous Australians lived in traditional lands (see *Indicator 2.14 Indigenous people with access to their traditional lands* for more information).

Table 1.18.8: Removal from natural family by psychological distress[(a)], Indigenous persons aged 18 years and over, 2008

	Low (5 to 8)[(b)]	Moderate (9 to 11)	High (12 to 15)	Very high (16 to 25)	Total
			Per cent		
Individual removed from family (with or without relative(s))	7.1	9.6	7.5	15.1	8.8
Relative(s) only removed from family	34.0	41.0	44.8	43.1	38.6
Neither individual nor relative(s) removed from family	58.9	49.4	47.7	41.8	52.6
Total fully responding persons[(c)]	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Total no. of Indigenous people aged 18 years and over	**130,768**	**63,348**	**56,217**	**36,008**	**290,937**

(a) Based on the Kessler-5 (K5) measure of psychological distress. Overall levels of distress are based on frequency responses to the following five questions about feelings in the last 4 weeks: About how often did you feel nervous?; About how often did you feel without hope?; About how often did you feel restless or jumpy?; About how often did you feel everything was an effort?; and About how often did you feel so sad that nothing could cheer you up?.

(b) Includes persons who said they had not had any of these feelings in the last 4 weeks (score of 5).

(c) Excludes persons who did not respond to questions about removal from natural family.

Source: ABS and AIHW analysis of 2008 NATSISS.

Alcohol and other substance use

The 2004–05 NATSIHS and the 2008 NATSISS collected information on the alcohol consumption and substance use of Aboriginal and Torres Strait Islander people. These data are summarised below.

- In 2004–05, after adjusting for differences in age structure, Indigenous Australians were twice as likely as non-Indigenous Australians to drink at short-term risky/high-risk levels at least once a week in the last 12 months, but equally as likely to drink at long-term risky/high-risk levels in the week before the survey (15% and 14% respectively). Indigenous adults were twice as likely as non-Indigenous Australians to have abstained from alcohol consumption in the last 12 months (see *Indicator 2.16 Risky and high-risk alcohol consumption* for more information).
- In 2008, approximately 23% of Indigenous Australians aged 15 years and over reported illicit substance use in the 12 months before the survey. In addition, around 43% of Indigenous Australians aged 15 years and over reported illicit substance use at least once in their lifetime. The substances most commonly used in the last 12 months were marijuana (17%), pain killers or analgesics (for non-medicinal use) (5%) and amphetamines or speed (4%) (see *Indicator 2.17: Drug and other substance use* for more information).
- The 2008 NATSISS reported that in non-remote areas of Australia approximately 3% of Indigenous Australians aged 15 years and over reported they had ever used heroin, 5% had ever used cocaine, 7% had ever used LSD or other synthetic hallucinogens, 9% had ever used ecstasy or designer drugs, 3% had sniffed petrol and 3% had used other inhalants (see *Indicator 2.17: Drug and other substance use* for more information).

Financial stress

The 2008 NATSISS also collected data on financial stress.

- In 2008, about half (47%) of all Indigenous persons aged 15 years and over reported they were living in households in which they could not raise $2,000 within a week in a time of crisis (see *Indicator 2.08: Income* for more information).

Law and justice

- Approximately 19% of Indigenous people aged 18 years and over reported they had used legal services in the last 12 months, 16% had been arrested by the police in the last five years, 3.5% had been incarcerated in the last 5 years, and 21% had been a victim of physical or threatened violence in the last 12 months. After adjusting for age differences between the Indigenous and non-Indigenous populations, Indigenous Australians aged 18 years and over experienced double the victimisation rate of non-Indigenous persons (see *Indicator 2.10: Community safety* for more information).
- The National Inquiry into the Human Rights of People with Mental Illness (HREOC 1993) found that anti-social and self-destructive behaviour—often the result of lack of acceptance, choice and opportunity, the history of dispossession, assimilation, cultural and community genocide and/or undiagnosed mental and social distress—brought Indigenous people into frequent contact with the criminal justice system. Not only may mental illness and/or emotional distress cause Indigenous and other Australians to come into contact with the criminal justice system, but also incarceration may be a risk factor for mental illness (HREOC 1993). Indigenous prisoners frequently experience depressive symptoms associated with unresolved anger which can result in suicide attempts (HREOC 1993). The number of Indigenous deaths in custody is also relatively high. Of the 85 deaths in custody in Australia in 2010–11, 21 (25%) were Indigenous people. Indigenous Australians are imprisoned at much higher rates than non-Indigenous Australians. In 2011, the age standardised imprisonment rate for Indigenous people aged 18 years and over was 1,868 per 100,000 compared with 130 per 100,000 for non-Indigenous people (see *Indicator 2.11: Contact with criminal justice system* for more details).

Social and emotional wellbeing of children

The Western Australian Aboriginal Child Health Survey (WAACHS) collected information on the social and emotional wellbeing of Aboriginal children and a small number of Torres Strait Islander children over 2001 and 2002. It found that a variety of health conditions, social circumstances and behaviours experienced by individuals, their carers and families can have an impact on the social and emotional wellbeing of Indigenous children (Zubrick et al. 2005). Some of the findings from the survey are presented below. Note that the term 'Aboriginal' is used here and in the survey but refers to both Aboriginal and Torres Strait Islander children.

Emotional and behavioural difficulties

The Strengths and Difficulties Questionnaire (SDQ), used throughout the world to measure emotional and behavioural difficulties in children, was modified for Aboriginal children in the WAACHS. The SDQ contains questions that explore emotional symptoms, conduct problems, hyperactivity, peer problems and social behaviour.

- Approximately 24% of Aboriginal children aged 4–17 years surveyed were assessed from the SDQ completed by their carers as being at high risk of clinically significant emotional or behavioural difficulties compared with 15% of other children (Zubrick et al. 2005).
- Aboriginal children had higher mean SDQ scores than other children at all ages between 4 and 17 years except for ages 10 and 11 where mean scores were similar (Table 1.18.9).
- Male Aboriginal children were twice as likely as female Aboriginal children to be at high risk of clinically significant emotional or behavioural difficulties.
- Those children living in areas of extreme isolation were less at risk than those living in urban areas.

Table 1.18.9: Mean Strengths and Difficulties Questionnaire (SDQ) total score, by age, Aboriginal and non-Aboriginal children aged 4–17 years, WA, 2001, 2002

	4	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**
Aboriginal children	12.6	11.8	11.8	12.0	12.5	11.7	11.6	10.9	11.3	11.0	10.8	10.2	9.4	9.7
Non-Aboriginal children	10.5	10.0	9.1	11.0	8.7	10.4	11.8	10.8	9.3	9.3	7.8	8.0	8.1	7.8

Source: Zubrick et al. 2005; Computer-assisted telephone interview survey conducted for the WAACHS by the Survey Research Centre at the University of Western Australia.

Family and household factors

The WAACHS looked at a range of family and household factors which could affect the social and emotional wellbeing of children. Factors which were found to be associated with high risk of clinically significant emotional or behavioural difficulties in Aboriginal children included the number of stress events that the family experienced in the 12 months before the survey (such as illness, hospitalisation, death of a close family member, family break-up, arrests, job loss, financial difficulties), quality of parenting, family functioning and family care arrangements. Residential mobility, the physical health of the child (speech, hearing and vision problems), the physical health of the carer and the carer's use of mental health services were also associated with an increased risk of clinically significant emotional or behavioural difficulties in children.

- For example, around 22% of children aged 4–17 years in Western Australia were living in families where seven or more life stress events had occurred over the preceding 12 months. Of these children, 39% were at high risk of clinically significant emotional or behavioural difficulties compared with 14% of children in families where two or fewer life stress events had occurred (Table 1.18.10).

Table 1.18.10: Proportion of Aboriginal children aged 4–17 years at low, moderate and high risk of clinically significant emotional or behavioural difficulties, by number of life stress events, WA, 2001, 2002

	Low risk	Moderate risk	High risk
0–2	76.8	9.3	13.9
3–6	64.9	12.2	22.9
7–14	48.4	12.7	38.9
Total	**64.6**	**11.4**	**24.0**

Source: Zubrick et al. 2005.

- Around one-quarter of Aboriginal children were living in families with poor quality of parenting (measured by how often carers praised their children, hit or smacked their children and laughed together with their children) and one-fifth of children were living in families that functioned poorly (families with poor communication and decision making, poor emotional support, limited time spent together and poor family cooperation). These children were over twice as likely to be at high risk of emotional and behavioural difficulties as children living in families with very good quality of parenting or very good family functioning (Zubrick et al. 2005).

Health risk factors

Zubrick et al. 2005 found that a number of health risk factors were also found to be associated with a high risk of clinically significant emotional and behavioural difficulties.

- An estimated 18% of Western Australian Aboriginal young people aged 12–17 years who smoked regularly were at high risk of emotional and behavioural difficulties compared with 7% of non-smokers.
- Approximately 29% of young people aged 12–17 years who used marijuana/cannabis daily were at risk of clinically significant emotional or behavioural difficulties compared with 9% of young people who had never used marijuana/cannabis. Although Indigenous males were more likely to use marijuana than Indigenous females, particularly at age 17

(45% compared with 21%), Indigenous females who used marijuana/cannabis were more likely to be at risk of clinically significant emotional or behavioural difficulties than Indigenous males.

- Young people who did not participate in organised sport were twice as likely to be at high risk of emotional and behaviour difficulties compared with young people who did participate in sport (16% and 8% respectively).
- Those who had been subject to racism in the preceding 6 months were more than twice as likely to be at high risk of emotional and behavioural difficulties as those who had not experienced racism.

Suicidal behaviour

The Telethon Institute administered an additional survey of Aboriginal young people aged 12–17 years to measure rates of suicidal thoughts and suicide attempts.

- Suicidal thoughts were reported by around one in six (16%) Western Australian Aboriginal people aged 12–17 years in the 12 months before the survey.
- Overall, a higher proportion of Aboriginal females reported they had seriously thought about ending their own life than Aboriginal males (20% compared with 12%). This was true for all ages from 12 to 17 years except for those aged 16 where Indigenous males were more likely than females to report having thought about ending their own life (Table 1.18.11).
- Of those who had suicidal thoughts in the 12 months before the survey, 39% reported they had attempted suicide in the same period. This finding is similar to the proportion of the general young population aged 12–16 years who reported suicide attempts in the 1993 Western Australian Child Health Survey (Zubrick et al. 2005).
- Aboriginal young people who had been exposed to family violence were more than twice as likely to have thought about ending their own life (22%) as Aboriginal young people who had not been exposed to family violence (9%).
- A higher proportion of Aboriginal males reported they had thought about ending their own life if they had low self-esteem (21%) than if they had high self-esteem (5%).
- Suicidal thoughts were associated with a number of health risk behaviours. The proportion of Aboriginal young people who reported suicidal thoughts was significantly higher among those who smoked regularly, used marijuana, drank to excess in the 6 months before the survey, were exposed to some form of family violence and who had a friend who had attempted suicide.

Table 1.18.11: Proportion of Aboriginal young people who had seriously thought about ending own life, by sex and age, WA, 2001, 2002

	12	13	14	15	16	17
Males	9.3	12.7	8.3	10.4	16.4	16.2
Females	16.0	21.4	22.5	20.4	14.4	21.1

Source: Zubrick et al. 2005.

Effects of forced separation

- Children of Aboriginal carers who had been forcibly separated from their natural family by past removal policies and practices or removed from country to a welfare institution or a mission were twice as likely to be at high risk of clinically significant emotional or behavioural difficulties as children whose primary carer had not been forcibly separated from their natural family. These children also had higher rates of conduct and hyperactivity problems.
- Children whose primary carers had been forcibly separated from their natural families were over 1.5 times as likely to be at high risk of clinically significant conduct problems and 2.5 times as likely to be at high risk of clinically significant hyperactivity problems (Zubrick et al. 2005).

Hospitalisations

Mental health-related conditions include mental and behavioural disorders (such as schizophrenia and psychoactive substance use) and other mental health conditions (such as Alzheimer's disease and postnatal depression).

- For the 2-year period July 2008 to June 2010, there were 646,051 hospitalisations from mental health-related conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 24,327 (3.8%) of which were hospitalisations of Aboriginal and Torres Strait Islander people (Table 1.18.13).
- Mental health-related conditions were responsible for around 4% of all hospitalisations of Aboriginal and Torres Strait Islander Australians.
- Over the period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males were hospitalised for mental health-related conditions at 2.2 times the rate of non-Indigenous males; and Indigenous females were hospitalised for mental health-related conditions at 1.5 times the rate of non-Indigenous females.
- Mental and behavioural disorders were the seventh most common group of principal diagnosis for Aboriginal and Torres Strait Islander Australians admitted to hospital, behind care involving dialysis; injury and poisoning; pregnancy, childbirth and the puerperium; diseases of the respiratory system; diseases of the digestive system; symptoms, signs and abnormal clinical and laboratory findings.

Hospitalisations by age and sex

- For the 2-year period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males and females had higher hospitalisation rates for mental health-related conditions than non-Indigenous males and females across all age groups from 5–14 years to 55–64 years (Table 1.18.12).
- The greatest rate difference and rate ratio occurred in the 35–44 year age group for males, where Indigenous males were hospitalised for mental health related conditions at 3.3 times the rate of non-Indigenous males (58 per 1,000 compared with 18 per 1,000). For females, the greatest rate difference and rate ratio occurred in the 25–34 year age group, where Indigenous females were hospitalised at 2.1 times the rate of non-Indigenous females (44 per 1,000 compared with 21 per 1,000).

- For Indigenous males, hospitalisation rates for mental health related conditions were highest among those aged 35–44 years, and for Indigenous females, rates were highest among those aged 25–34 years. Among non-Indigenous males, hospitalisation rates were highest for those aged 55–64 years, and 35–44 years for non-Indigenous females.
- Approximately 53% of Indigenous Australians hospitalised for mental health-related conditions were males (12,845) and 47% were females (11,482). Indigenous males had slightly higher hospitalisation rates for these conditions than Indigenous females.

Table 1.18.12: Age-specific hospitalisation rates (per 1,000 population) for a principal diagnosis of mental health related conditions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010 (a)(b)(c)(d)

									All ages	
	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+	Crude	Age std.(e)
Males										
Indigenous	1.1	5.2	23.4	46.0	57.8	39.7	19.8	15.1	24.5	28.9
Non-Indigenous	4.0	2.2	9.5	15.7	17.6	15.6	18.3	17.9	13.2	13.0
Rate ratio(f)	0.3	2.4	2.5	2.9	3.3	2.5	1.1	0.8	1.9	2.2
Rate difference(g)	–2.9	3.0	13.9	30.3	40.2	24.1	1.5	–2.9	11.3	15.9
Females										
Indigenous	1.0	3.5	24.4	43.8	42.4	30.6	18.9	13.2	21.7	24.6
Non-Indigenous	3.4	1.9	16.4	20.9	24.4	21.6	18.8	19.3	17.1	16.7
Rate ratio(f)	0.3	1.8	1.5	2.1	1.7	1.4	1.0	0.7	1.3	1.5
Rate difference(g)	–2.4	1.6	8.0	22.9	18.0	9.0	0.1	–6.1	4.6	7.9
Persons										
Indigenous	1.1	4.4	23.9	44.9	49.8	35.0	19.3	14.0	23.1	26.7
Non-Indigenous	3.7	2.0	12.9	18.3	21.0	18.7	18.5	18.7	15.1	14.8
Rate ratio(f)	0.3	2.1	1.9	2.5	2.4	1.9	1.0	0.7	1.5	1.8
Rate difference(g)	–2.6	2.3	11.1	26.6	28.8	16.3	0.8	–4.7	8.0	11.8

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised. New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous Australians.

(g) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 1.18.13 presents hospitalisations for a principal diagnosis of mental health related conditions for the 2-year period July 2008 to June 2010 by state/territory.

- South Australia had the highest rates of hospitalisation of Indigenous Australians for mental health-related conditions (45 per 1,000), followed by Western Australia (34 per 1,000). The Northern Territory had the lowest rates of hospitalisation for mental health – related conditions (15 per 1,000 for Indigenous persons).
- South Australia had the greatest rate difference and rate ratio in hospitalisation for mental health-related conditions between Indigenous and non-Indigenous Australians, where Indigenous males and females were hospitalised at 4.3 times the rate of non-Indigenous Australians (rate difference of 35 per 1,000).

Table 1.18.13: Hospitalisations for principal diagnosis of mental health related conditions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[a][b][c][d][e]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[f]	Number	Rate per 1,000[f]	Ratio[g]	Difference[h]
NSW						
Males	4,989	36.9	99,926	14.4	2.6*	22.5*
Females	4,068	28.5	109,900	15.3	1.9*	13.3*
Persons	9,057	32.5	209,836	14.8	2.2*	17.7*
Vic						
Males	663	22.5	71,213	13.2	1.7*	9.3*
Females	907	30.7	122,465	21.8	1.4*	8.9*
Persons	1,570	26.8	193,702	17.5	1.5*	9.2*
Qld						
Males	2,688	21.2	55,511	12.7	1.7*	8.5*
Females	2,255	16.6	66,656	15.4	1.1*	1.2*
Persons	4,943	18.8	122,167	14.1	1.3*	4.7*
WA						
Males	2,305	35.3	25,357	11.5	3.1*	23.9*
Females	2,220	32.7	33,949	15.7	2.1*	16.9*
Persons	4,525	33.9	59,306	13.6	2.5*	20.3*
SA						
Males	1,160	46.1	16,117	10.1	4.6*	36.0*
Females	1,190	44.6	18,563	11.1	4.0*	33.5*
Persons	2,350	45.3	34,680	10.6	4.3*	34.7*
NT						
Males	1,040	17.4	1,173	7.0	2.5*	10.4*
Females	842	12.8	860	5.9	2.2*	6.9*
Persons	1,882	15.0	2,033	6.5	2.3*	8.5*
NSW, Vic, Qld, WA, SA and NT[i]						
Males	**12,845**	**28.9**	**269,297**	**13.0**	**2.2***	**15.9***
Females	**11,482**	**24.6**	**352,393**	**16.7**	**1.5***	**7.9***
Persons	**24,327**	**26.7**	**621,724**	**14.8**	**1.8***	**11.8***
Tas						
Males	109	6.9	3,555	7.8	0.9	–0.8
Females	172	9.0	4,926	9.6	0.9	–0.6
Persons	281	8.0	8,482	8.7	0.9	–0.7

(continued)

Table 1.18.13 (continued): Hospitalisations for principal diagnosis of mental health related conditions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010(a)(b)(c)(d)(e)

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000(f)	Number	Rate per 1,000(f)	Ratio(g)	Difference(h)
ACT						
Males	72	24.5	2,338	6.8	3.6*	17.7*
Females	70	18.1	2,284	6.4	2.8*	11.7*
Persons	142	20.9	4,622	6.5	3.2*	14.4*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010); ICD10–AM codes E10–E14.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) Rate ratio Indigenous: non-Indigenous.

(h) Rate difference Indigenous minus non-Indigenous.

(i) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for hospitalisations with a principal diagnosis of mental-health related conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented by Australian Standard Geographical Classification (ASGC) in Table 1.18.14, covering the period July 2008 to June 2010.

- The highest hospitalisation rates of Indigenous Australians for mental health-related conditions were observed in *Remote* areas (31 per 1,000), while the lowest rates were observed in *Very remote* areas (16 per 1,000).
- In all remoteness areas, Indigenous Australians were more likely to be hospitalised for mental-health related conditions than non-Indigenous Australians.
- The highest rate difference and rate ratio occurred in *Remote* areas, where Indigenous Australians were hospitalised for mental-health related conditions at more than 3 times the rate of non-Indigenous Australians (rate difference of 21 per 1,000).

Table 1.18.14: Hospitalisations with a principal diagnosis of mental health-related condition, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)(e)(f)

	Indigenous				Non-Indigenous					
	Number	**No. per 1,000**	**LCL 95%**(g)	**UCL 95%**(h)	**Number**	**No. per 1,000**	**LCL 95%**(g)	**UCL 95%**(h)	**Ratio**(i)	**Difference**(j)
Major cities	8,742	29.0	28.3	29.7	486,461	16.4	16.4	16.5	1.8*	12.6*
Inner regional	4,714	26.9	26.0	27.7	88,535	11.5	11.4	11.6	2.3*	15.4*
Outer regional(k)	5,295	27.5	26.7	28.3	36,449	10.2	10.1	10.3	2.7*	17.4*
Remote(l)	2,726	30.6	29.4	31.9	5,070	9.5	9.3	9.8	3.2*	21.1*
Very remote	2,477	15.8	15.1	16.5	1,478	8.9	8.4	9.3	1.8*	6.9*
Total(m)	**24,327**	**26.6**	**26.2**	**27.0**	**621,724**	**14.8**	**14.8**	**14.9**	**1.8***	**11.8***

* Indicates a significant difference at the p < 0.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification of Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by principal diagnosis

Mental health-related conditions

Table 1.18.15 presents hospitalisations for a principal diagnosis of mental health-related conditions for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Mental and behavioural disorders due to psychoactive substance use was the most common mental health-related condition for which Aboriginal and Torres Strait Islander people were hospitalised (36%), followed by schizophrenia, schizotypal and delusional disorders (25%).
- Mental and behavioural disorders due to psychoactive substance use was also the mental health-related condition with the highest rate ratio and rate difference between Indigenous and non-Indigenous hospitalisations. Indigenous Australians were hospitalised for these disorders at 3.7 times the rate of non-Indigenous Australians (rate difference of 7 per 1,000).

- Indigenous males had higher hospitalisation rates than Indigenous females for mental and behavioural disorders due to psychoactive substance use, and for schizotypal and delusional disorders; while Indigenous females had higher hospitalisation rates for mood disorders and neurotic stress-related disorders (Table 1.18.15).

Self-harm

Although self-harm is not included among the mental health-related conditions presented in the tables above, hospitalisations for injuries related to self-harm may be mental health-related and are therefore presented below.

- In July 2008 to June 2010 in the six jurisdictions combined, Indigenous males and females were hospitalised for injuries related to self-harm at 2.9 and 2.1 times the rate of non-Indigenous males and females respectively (Table 1.18.16).

Hospitalisations by remoteness

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for self-harm than non-Indigenous Australians (Table 1.18.17).
- Rates of hospitalisation for self-harm were highest for Indigenous people living in *Remote* areas (4.2 per 1,000). In other areas (*major cities, inner regional, outer regional* and *very remote*), hospitalisation rates for self-harm for Indigenous people were similar 2.6 to 2.8 per 1,000) (Table 1.18.17).
- Rate ratios and rate differences were highest in *Remote* areas, where Indigenous people were hospitalised for self-harm at 3.7 times the rate of non-Indigenous Australians (4.2 per 1,000 compared with 1.1 per 1,000) (Table 1.18.17).

For more information on self-harm see Indicators *1.03 Hospitalisation for injury and poisoning* and *2.10 Community safety*.

Table 1.18.15: Hospitalisations of Indigenous persons for principal diagnosis of mental health related conditions, by type of condition and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d]

Principal diagnosis	Number	Per cent[e]	No per 1,000[f]	LCL[g]	UCL[h]	Ratio[i]	Difference[j]
				Males			
Mental & behavioural disorders due to psychoactive substance use (F10–F19)	5,290	41.2	12.5	12.1	12.9	4.0*	9.4*
Schizophrenia, schizotypal and delusional disorders (F20–F29)	3,594	28.0	7.4	7.2	7.7	3.2*	5.1*
Mood disorders (F30–F39)	1,439	11.2	3.5	3.3	3.7	1.0	0.1
Neurotic, stress-related disorders (F40–F49)	1,386	10.8	2.9	2.7	3.0	1.2*	0.5*
Disorders of adult personality and behaviour (F60–F69)	229	1.8	0.5	0.4	0.5	2.0*	0.2*
Behavioural and emotional disorders (F90–F98)	299	2.3	0.4	0.3	0.4	1.6*	0.1*
Organic, including symptomatic, mental disorders (F00–F09)	145	1.1	0.9	0.7	1.1	1.5*	0.3*
Behavioural syndromes assoc. with physiological disturbances (F50–F59)	17	0.1	0.0	0.0	0.0	0.5	–0.03
Unspecified mental disorder (F99)	27	0.2	0.1	0.0	0.1	2.9*	0.04*
Mental retardation (F70–F79)	36	0.3	0.1	0.0	0.1	3.0*	0.04*
Disorders of psych. Development (F80–F89)	111	0.9	0.1	0.1	0.2	2.2*	0.1*
Other[k]	272	2.1	0.6	0.5	0.7	1.0	0.01
Total	**12,845**	**100.0**	**28.9**	**28.4**	**29.5**	**2.2***	**15.9***
				Females			
Mental & behavioural disorders due to psychoactive substance use (F10–F19)	3,429	29.9	7.3	7.1	7.6	3.4*	5.2*
Schizophrenia, schizotypal and delusional disorders (F20–F29)	2,456	21.4	5.2	5.0	5.4	2.7*	3.3*
Mood disorders (F30–F39)	2,146	18.7	4.8	4.5	5.0	0.7	–1.9
Neurotic, stress-related disorders (F40–F49)	1,908	16.6	3.9	3.7	4.0	1.3*	0.9*
Disorders of adult personality and behaviour (F60–F69)	376	3.3	0.7	0.6	0.8	1.0	–0.02
Behavioural and emotional disorders (F90–F98)	222	1.9	0.3	0.2	0.3	2.6*	0.2*
Organic, including symptomatic, mental disorders (F00–F09)	196	1.7	1.1	0.9	1.2	2.0*	0.5*
Behavioural syndromes assoc. with physiological disturbances (F50–F59)	88	0.8	0.1	0.1	0.2	0.2	–0.7
Unspecified mental disorder (F99)	22	0.2	0.0	0.0	0.1	2.5*	0.02*
Mental retardation (F70–F79)	11	0.1	0.0	0.0	0.0	1.1	0.002
Disorders of psych. Development (F80–F89)	11	0.1	0.0	0.0	0.0	0.5	–0.01
Other[k]	617	5.4	1.2	1.1	1.3	1.7*	0.5*
Total	**11,482**	**100.0**	**24.6**	**24.1**	**25.1**	**1.5***	**7.9***

(continued)

Table 1.18.15 (continued): Hospitalisations of Indigenous persons for principal diagnosis of mental health related conditions, by type of condition and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

Principal diagnosis	Number	Per cent[(e)]	No per 1,000[(f)]	LCL[(g)]	UCL[(h)]	Ratio[(i)]	Difference[(j)]
				Persons			
Mental & behavioural disorders due to psychoactive substance use (F10–F19)	8,719	35.8	9.8	9.6	10.0	3.7*	7.1*
Schizophrenia, schizotypal and delusional disorders (F20–F29)	6,050	24.9	6.3	6.1	6.5	3.0*	4.2*
Mood disorders (F30–F39)	3,585	14.7	4.2	4.0	4.3	0.8	–0.9
Neurotic, stress-related disorders (F40–F49)	3,294	13.5	3.4	3.3	3.5	1.3*	0.7*
Disorders of adult personality and behaviour (F60–F69)	605	2.5	0.6	0.5	0.6	1.2*	0.1*
Behavioural and emotional disorders (F90–F98)	521	2.1	0.3	0.3	0.4	1.9*	0.2*
Organic, including symptomatic, mental disorders (F00–F09)	341	1.4	1.0	0.9	1.1	1.8*	0.4*
Behavioural syndromes assoc. with physiological disturbances (F50–F59)	105	0.4	0.1	0.1	0.1	0.2	–0.4
Unspecified mental disorder (F99)	49	0.2	0.0	0.0	0.1	2.7*	0.03*
Mental retardation (F70–F79)	47	0.2	0.0	0.0	0.1	2.1*	0.02*
Disorders of psych. Development (F80–F89)	122	0.5	0.1	0.1	0.1	1.6*	0.03*
Other[(k)]	889	3.7	0.9	0.8	1.0	1.4*	0.3*
Total	**24,327**	**100.0**	**26.7**	**26.3**	**27.0**	**1.8***	**11.8***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons at the $p < 0.05$ level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised. New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2008–09 to 2009–10.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous minus non-Indigenous Australians.

(k) Other includes ICD–10–AM codes relating to mental health: G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 1.18.16: Hospitalisations of Indigenous persons with principal diagnosis of injury and poisoning and a first reported external cause of self-harm, by sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

Sex	Number	Per cent[(e)]	No per 1,000[(f)]	LCL[(g)]	UCL[(h)]	Ratio[(i)]	Difference[(j)]
Male	1,245	19.2	2.6	2.4	2.7	2.9*	1.7*
Female	1,669	23.7	3.2	3.0	3.3	2.1*	1.7*
Person	**2,914**	**21.6**	**2.9**	**2.8**	**3.0**	**2.4***	**1.7***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons at the $p < 0.05$ level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised. New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2008–09 to 2009–10.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 1.18.17: Hospitalisations with principal diagnosis of injury and poisoning and other consequences of external causes and a first reported external cause of self-harm, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d][e][f]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%[g]	UCL 95%[h]	Number	No. per 1,000	LCL 95%[g]	UCL 95%[h]	Ratio[i]	Difference[j]
Major cities	879	2.6	2.4	2.8	33,087	1.1	1.1	1.1	2.3*	1.5*
Inner regional	564	2.8	2.6	3.0	9,722	1.3	1.3	1.4	2.1*	1.5*
Outer regional[k]	598	2.8	2.6	3.0	4,142	1.2	1.2	1.3	2.3*	1.6*
Remote[l]	421	4.2	3.8	4.6	588	1.1	1.0	1.2	3.7*	3.1*
Very remote	435	2.6	2.3	2.9	146	0.9	0.7	1.0	3.0*	1.8*
Total[m]	**2,914**	**2.9**	**2.8**	**3.0**	**47,942**	**1.2**	**1.2**	**1.2**	**2.4***	**1.7***

* Indicates a significant difference at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous- non-Indigenous Australians.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Average length of stay in hospital (days)

- For the 2-year period July 2008 to June 2010, the average length of stay in hospital due to mental health-related conditions was similar for Indigenous patients and non-Indigenous patients, at around 8 days (Table 1.18.18).
- On average, males stayed in hospital for longer than females for most types of mental and behavioural disorders.
- Mental retardation (disability characterised by significant limitations both in intellectual functioning and adaptive skills) was responsible for the highest number of bed-days of all mental health-related conditions (41 days for Indigenous patients and 16 days for other patients). Schizophrenia (schizotypal and delusional disorders) and Organic mental disorders (which include dementia, delirium and other mental disorders due to brain damage and dysfunction) were also responsible for a high number of days spent in hospital.
- Other mental health-related conditions, including Alzheimer disease and postnatal depression, were responsible for an average of 4.4 bed-days for Indigenous patients and an average of 7.1 bed-days for non-Indigenous patients.

Table 1.18.18: Average length of stay in hospital (days), mental health related conditions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

	Indigenous			Non-Indigenous		
Mental health related condition	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Mental retardation (F70–F79)	52.8	2.8	41.1	15.0	17.8	16.3
Schizophrenia (F20–F29)	20.2	14.6	17.9	20.8	15.4	18.3
Organic mental disorders (F00–F09)	16.6	13.9	15.1	17.4	14.7	16.0
Behavioural syndromes (F50–F59)	6.4	8.3	7.9	6.8	7.2	7.1
Mood disorders (F30–F39)	7.7	7.1	7.4	7.5	7.1	7.2
Disorders of adult personality (F60–F69)	6.5	6.8	6.7	6.9	5.2	5.6
Neurotic, stress-related (F40–F49)	3.9	3.7	3.8	3.8	4.4	4.1
Mental disorders due to psychoactive substance use (F10–F19)	3.9	3.1	3.6	4.4	4.2	4.3
Behavioural & emotional disorders (F90–F98)	3.1	2.8	3.0	3.2	4.2	3.5
Unspecified mental disorder (F99)	3.9	1.7	2.9	27.9	10.4	20.3
Disorders of psychological development (F80–F89)	1.6	2.4	1.7	6.4	5.4	6.1
Total mental & behavioural disorders (F00–F99)	*9.3*	*7.0*	*8.2*	*8.8*	*7.4*	*8.0*
Other mental health conditions	3.2	4.9	4.4	7.8	6.6	7.1
Total	**9.1**	**6.9**	**8.1**	**8.7**	**7.4**	**8.0**

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre in Health Classification 2010); ICD–10–AM codes F70–F79; F20–F29; F00–F09; F99; F50–F59; F30–F39; F60–F69; F10–F19; F80–F89; F40–F49; F90–F98; F00–F99; G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 1998–99 to 2009–10 are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations over this period—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2009–10 for Indigenous and other Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records over this period will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all affect the level of hospitalisation over time. Caution should be used in interpreting changes over time, as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or to real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may reflect better hospital access rather than a worsening of health.

Mental health-related conditions - 1998–99 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for mental health-related conditions over the 12-year period 1998–99 to 2009–10 are presented in Table 1.18.19 and Figure 1.18.2.

- In Queensland, Western Australia, South Australia and the Northern Territory, there were significant increases in hospitalisation rates for mental health-related conditions among Indigenous persons with an average yearly decline in the rate of around 0.1 per 1,000 (equivalent to a 6.7% increase) during the period 1998–99 to 2009–10.
- There was no significant change in hospitalisation rates for mental health related conditions among non-Indigenous persons over the same period. However, a significant decline was observed when non-Indigenous males were considered alone with an average yearly decline in the rate of around 0.1 per 1,000 (equivalent to an 8.8% reduction in the rate over the period). There was a non-significant increase in the rate for non-Indigenous females.
- There were significant increases in the hospitalisation rate ratios and rate differences between Indigenous and non-Indigenous Australians during the period 1998–99 to 2009–10 (increase of 10% for rate ratio and 21% for rate difference).

Table 1.18.19: Age-standardised hospitalisation rates, rate ratios and rate differences from mental health-related conditions, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Indigenous separations														
Males	2,553	2,667	2,863	2,876	2,888	2,879	2,864	2,983	3,187	3,334	3,511	3,682	87.9*	37.9*
Females	2,200	2,051	2,433	2,564	2,731	2,765	2,855	2,805	2,822	2,964	3,136	3,371	97.8*	48.9*
Persons	4,753	4,718	5,296	5,440	5,620	5,644	5,719	5,788	6,009	6,298	6,647	7,053	185.7*	43.0*
Non-Indigenous separations														
Males	41,375	41,894	43,945	43,496	42,070	43,288	42,541	42,456	46,612	46,369	48,574	49,584	641.2*	17.0*
Females	45,572	49,274	50,879	49,835	52,372	54,144	55,252	54,308	54,291	54,157	60,081	59,947	1,075.3*	26.0*
Persons	86,949	91,169	94,826	93,331	94,444	97,432	97,793	96,764	100,903	100,526	108,655	109,531	1,716.3*	21.7*
Indigenous rate per 1,000														
Males	24.8	24.6	26.1	24.8	24.3	23.7	23.2	24.0	24.4	25.0	25.5	26.4	0.1	2.3
Females	19.8	17.4	20.8	20.7	21.5	21.4	21.4	20.7	20.0	21.0	21.7	22.3	0.2*	11.9*
Persons	22.2	20.8	23.3	22.7	22.8	22.4	22.2	22.2	22.1	22.9	23.6	24.2	0.1*	6.7*
Non-Indigenous rate per 1,000														
Males	12.6	12.4	12.8	12.4	11.8	11.9	11.5	11.2	11.9	11.5	11.8	11.7	–0.1*	–8.8*
Females	13.4	14.3	14.5	14.0	14.4	14.7	14.8	14.2	13.8	13.5	14.6	14.3	0.02	1.5
Persons	12.9	13.3	13.7	13.2	13.2	13.3	13.1	12.7	12.9	12.5	13.2	13.0	–0.04	–3.5
Rate ratio[(d)]														
Males	2.0	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.2	2.2	2.2	0.02*	12.1*
Females	1.5	1.2	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.6	1.5	1.6	0.01*	9.8*
Persons	1.7	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.9	0.02*	10.1*

(continued)

Table 1.18.19 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from mental health-related conditions, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Rate difference[(e)]														
Males	12.2	12.2	13.3	12.4	12.4	11.8	11.7	12.8	12.5	13.5	13.8	14.7	0.2*	13.7*
Females	6.5	3.1	6.3	6.7	7.1	6.7	6.6	6.5	6.1	7.5	7.1	8.0	0.2*	33.5*
Persons	9.3	7.5	9.6	9.4	9.7	9.1	9.1	9.6	9.2	10.4	10.3	11.2	0.2*	20.9*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.

Source: AIHW analysis of National Hospital Morbidity Database.

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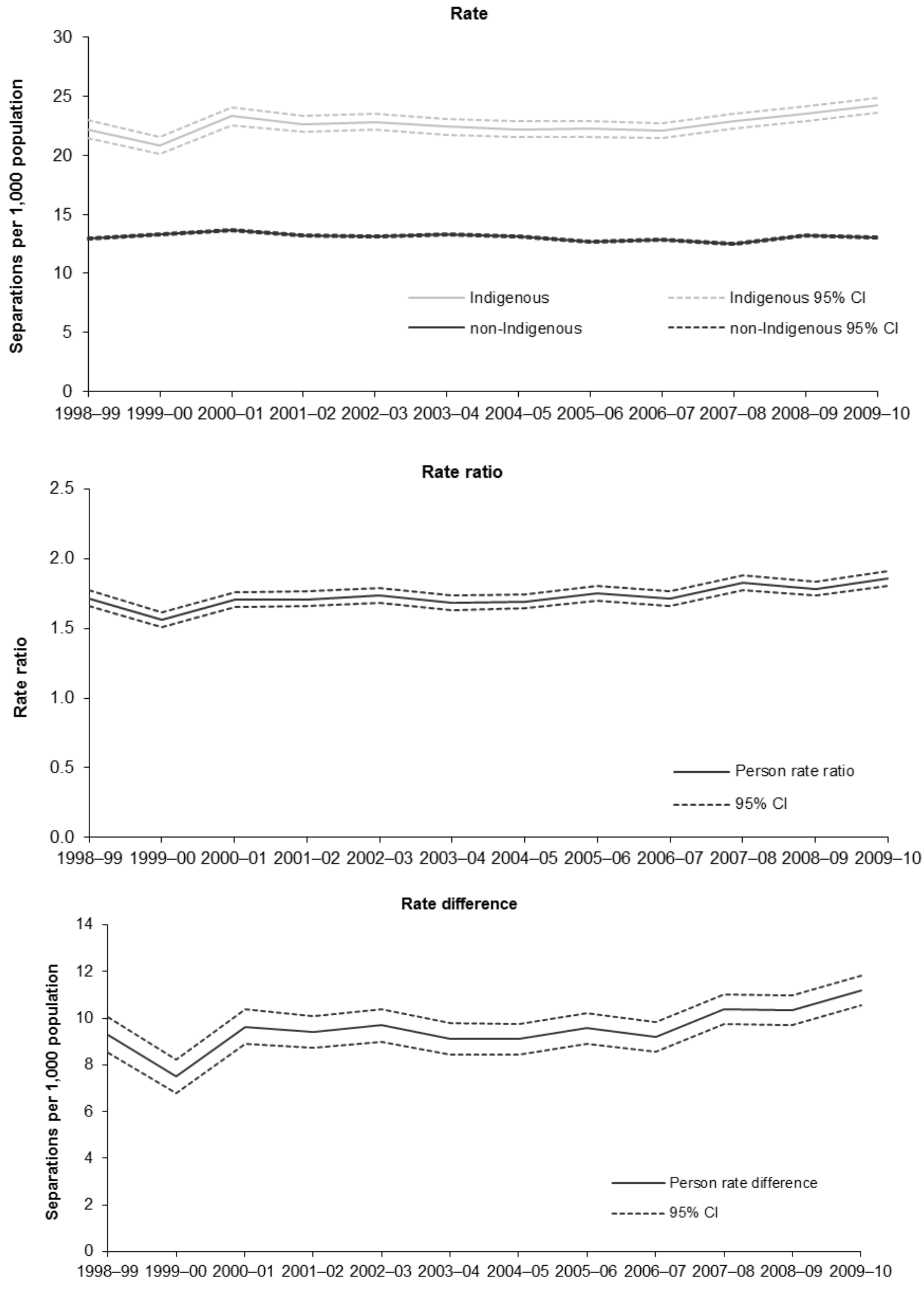


Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.18.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australian for mental health-related conditions, Qld, WA, SA and NT, 1998–99 to 2009–10

Mental health-related conditions — 2004–05 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for mental health-related conditions over the six-year period 2004–05 to 2009–10 are presented in Table 1.18.20 and Figure 1.18.3.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for mental health-related conditions among Indigenous persons during the period 2004–05 to 2009–10. The fitted trend implies an average yearly increase in the rate of around 0.5 per 1,000, which is equivalent to a 9.4% increase in the rate over the period. Significant increases in rates were observed for both males and females.
- There were also significant increases in hospitalisation rates for mental health related conditions among non-Indigenous persons over the same period (9%).
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and non-Indigenous males and persons, but not for females, during the period 2004–05 to 2009–10. There was a 5.2% increase in the rate ratio and a 17% increase in the rate difference for persons over the period.

Table 1.18.20: Age-standardised hospitalisation rates, rate ratios and rate differences from mental health-related conditions, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Indigenous separations								
Males	5,160	5,600	5,922	6,168	6,224	6,621	269.2*	26.1*
Females	4,850	4,852	5,119	5,385	5,654	5,828	216.1*	22.3*
Persons	10,010	10,452	11,041	11,553	11,878	12,449	485.3*	24.2*
Non-Indigenous Australian separations								
Males	122,051	121,236	126,486	128,077	132,853	136,444	3,097.3*	12.7*
Females	154,710	157,371	158,308	161,933	169,662	182,731	5,160.1*	16.7*
Persons	276,762	278,607	284,794	290,014	302,521	319,203	8,261.9*	14.9*
Indigenous rate (separations per 1,000)								
Males	26.4	27.8	28.5	28.9	28.4	29.4	0.5*	9.5*
Females	23.3	22.2	22.9	24.0	24.5	24.7	0.4*	8.9*
Persons	24.8	24.8	25.5	26.4	26.4	27.0	0.5*	9.4*
Non-Indigenous Australian rate (separations per 1,000)								
Males	12.9	12.6	12.9	12.8	13.0	13.1	0.04	1.6
Females	15.9	16.0	15.8	15.8	16.2	17.1	0.2*	6.1*
Persons	14.4	14.3	14.3	14.3	14.6	15.1	0.1*	4.1*
Rate ratio[(d)]								
Males	2.0	2.2	2.2	2.3	2.2	2.3	0.03*	7.7*
Females	1.5	1.4	1.5	1.5	1.5	1.4	0.01	2.9
Persons	1.7	1.7	1.8	1.8	1.8	1.8	0.02*	5.2*
Rate difference[(e)]								
Males	13.5	15.2	15.6	16.1	15.4	16.4	0.5*	17.0*
Females	7.4	6.3	7.1	8.2	8.3	7.5	0.2	15.1
Persons	10.4	10.5	11.2	12.0	11.8	11.9	0.3*	16.8*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

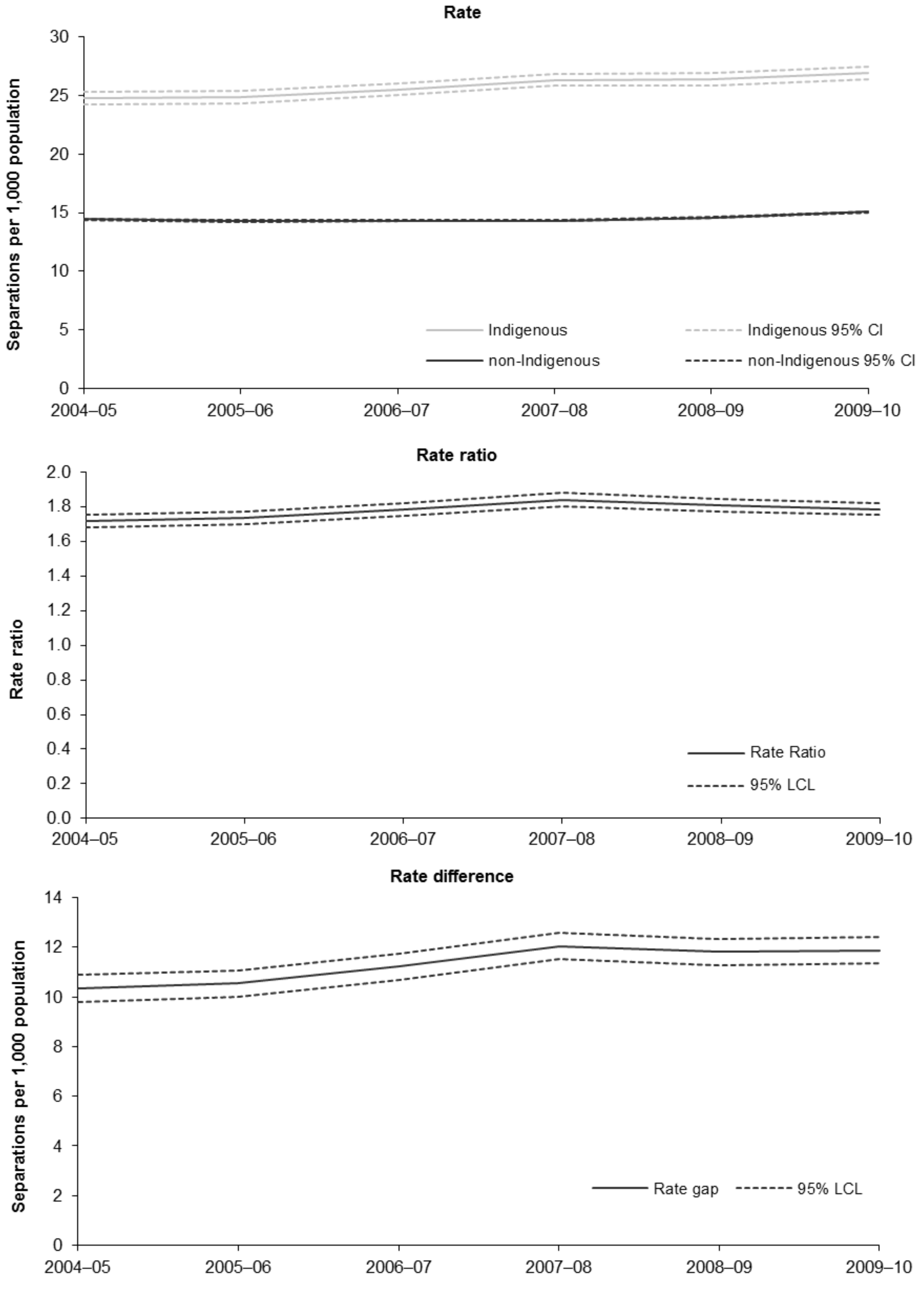
(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.18.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australian for mental health related conditions, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10

Other Services

General practitioner encounters

Information about general practitioner (GP) encounters is available from the BEACH survey.

Mental health-related problems (psychological problems) are among the top five most common type of problems managed at GP encounters with Aboriginal and Torres Strait Islander patients. They were the second most common type of problem managed, behind respiratory diseases, during the period 2005–06 to 2009–10 (AIHW 2011).

Data for the latest 5-year BEACH reporting period April 2006–March 2007 to April 2010–March 2011 are presented below.

- In the reporting period April 2006–March 2007 to April 2010–March 2011 there were 5,971 GP encounters with Indigenous patients recorded in the survey, at which 9,196 problems were managed. Of these, 11.3% (1,037) were mental health-related problems (Table 1.18.21).
- Mental health related problems were managed at a rate of 174 per 1000 GP encounters with Indigenous patients.
- After adjusting for differences in age distribution, mental health-related problems were managed significantly more often at GP encounters with Indigenous patients at 1.4 times the rate of encounters with other patients.
- Depression was the most common mental health-related problem managed at GP encounters with Indigenous patients, followed by drug abuse (licit or illicit), anxiety and alcohol abuse.
- Alcohol and drug abuse were managed significantly more often at GP encounters with Indigenous patients at around four times the rate of encounters with other patients.
- Tobacco abuse, schizophrenia and dementia were also significantly more often managed at GP encounters with Indigenous patients than with other patients (rate ratios of around 2 to 3 times).

Table 1.18.21: Most frequently reported mental health related problems[a] managed by general practitioners, by Indigenous status of patient, BEACH years April 2006–March 2007 to April 2010–March 2011[b][c]

	Number		% of total problems		Crude rate (no. per 1,000 encounters)			Age-standardised rate (no. per 1,000 encounters)[d]							
Problem managed	**Indig.**	**Other[e]**	**Indig.**	**Other[e]**	**Indig.**	**95% LCL[f]**	**95% UCL[g]**	**Indig.**	**95% LCL[f]**	**95% UCL[g]**	**Other[e]**	**95% LCL[f]**	**95% UCL[g]**	**Rate ratio[h]**	**Rate difference[i]**
Depression (P03, P76)	284	21,155	3.1	2.8	47.6	40.7	54.4	42.2	35.6	48.8	44.3	43.3	45.3	1.0	–2.0
Drug abuse (P19)	109	1,601	1.2	0.2	18.3	9.5	27.0	14.2	7.4	20.9	3.4	2.9	3.9	4.2*	10.8*
Anxiety (P01, P74)	100	9,380	1.1	1.3	16.7	12.8	20.7	18.3	13.0	23.6	19.6	19.0	20.3	0.9	–1.3
Alcohol abuse (P15, P16)	90	1,735	1.0	0.2	15.1	10.5	19.6	14.1	9.4	18.8	3.6	3.4	3.9	3.9*	10.5*
Tobacco abuse (P17)	80	3,083	0.9	0.4	13.4	9.5	17.3	12.5	8.9	16.1	6.5	6.2	6.8	1.9*	6.0*
Sleep disturbance (P06)	73	7,449	0.8	1.0	12.2	9.3	15.1	16.0	11.2	20.7	15.5	15.1	16.0	1.0	0.4
Schizophrenia (P72)	63	2,117	0.7	0.3	10.6	6.2	14.9	8.8	5.3	12.3	4.4	4.1	4.7	2.0*	4.4*
Acute stress reaction (P02)	55	3,273	0.6	0.4	9.2	6.3	12.1	9.4	6.2	12.5	6.8	6.5	7.2	1.4	2.5
Affective psychosis (P73)	25	1,227	0.3	0.2	4.2	2.5	5.9	3.8	2.2	5.4	2.6	2.4	2.7	1.5	1.3
Dementia (P70)	24	2,602	0.3	0.3	4.0	2.0	6.0	14.7	7.2	22.3	5.4	4.9	5.9	2.7*	9.3*
Other mental health problems[j]	134	6,973	1.5	0.9	22.4	17.7	27.2	19.2	14.9	23.5	14.6	14.0	15.2	1.3	4.6
Total mental health	**1,037**	**60,595**	**11.3**	**8.1**	**173.7**	**155.2**	**192.1**	**173.2**	**154.9**	**191.5**	**126.7**	**124.3**	**129.2**	**1.4***	**46.5***

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Classified according to ICPC–2 codes (Classification Committee of the World Organization of Family Doctors (WICC) 2005).
(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.
(c) Data for Indigenous and other Australians have not been weighted.
(d) Directly age-standardised rate (no. per 1,000 encounters) using total BEACH encounters in the period as the standard. Figures do not add to 100 as more than one problem can be managed at each encounter.
(e) Other includes non-Indigenous patients and patients for whom Indigenous status was not stated.
(f) LCL = lower confidence interval.
(g) UCL = upper confidence interval.
(h) Rate ratio Indigenous: Other.
(i) Rate difference Indigenous rate minus Other (non-Indigenous) rate.
(j) ICPC–2 codes: P04–P05, P07–P13, P18, P20, P22–P25, P27–P69, P71, P75,P77–P82, P85–P86, P98–P99.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Community mental health care services

Community mental health care is defined as care which is provided by specialised public mental health services dedicated to the assessment, treatment, rehabilitation and care of non-admitted clients. This excludes specialised mental health care services for admitted patients, support services that are not provided by specialised mental health care organisations, services provided by non-government organisations, and residential care services.

The number and rate of service contacts per 1,000 population for Aboriginal and Torres Strait Islander people varies among the states and territories. This may reflect variations in completeness of Indigenous identification among patients, varying coverage of service contacts for Aboriginal and Torres Strait Islander people or for the total population, or different patterns of service use by Indigenous and non-Indigenous persons (AIHW 2010b).

- In 2009–10, there were more community mental health care service contacts per 1,000 population for Aboriginal and Torres Strait Islander people than for non-Indigenous Australians (842 per 1,000 and 262 per 1,000, respectively)
- In 2009–10, the rate of service contacts for clients of community mental health services who identified themselves as being of Aboriginal or Torres Strait Islander origin ranged from 217 per 1,000 in the Northern Territory to 1,767 per 1,000 in the Australian Capital Territory. New South Wales had the highest rate ratio and rate difference in Indigenous to non-Indigenous community mental health service contacts.
- In 2009–10, compared with non-Indigenous Australians, a higher proportion of Indigenous people in younger age groups (35–44 and younger) had contacts with mental health services. The proportions were lower in the older age groups (45–55 and older), which may, in part, be associated with the differences in age distribution in these populations (the mean age of Indigenous Australians is around 21 years compared with 36 years for non-Indigenous Australians (ABS 2010)). For example, 23% and 24% of service contacts for Indigenous Australian males and females were for clients aged between 15 and 24 years compared with 14% and 17% of service contacts for non-Indigenous Australian males and females of the same age. Furthermore, the rate ratio between Indigenous and non-Indigenous rate per 1,000 populations ranged between 1.7 and 4.5 across all age groups.
- Rates of service contacts with community mental health care services were much higher for Indigenous males than Indigenous females (1,061 compared with 629 per 1,000 population), and were highest for Indigenous persons aged 25–34 and 35–44.

For more information on community mental health services see Indicator *3.10: Access to mental health services*.

Residential mental health care services

Residential mental health care refers to care provided by a specialised mental health service that:

- employs mental-health-care-trained staff on–site
- provides rehabilitation, treatment or extended care to residents for whom the care is intended to be on an overnight basis and in a domestic–like environment
- encourages the resident to take responsibility for their daily living activities.

These services include those that employ mental-health-trained staff on-site 24 hours per day and other services with less intensive staffing. However, all these services employ on-site mental-health-trained staff for some part of the day. There are no residential mental-health-care services in Queensland.

- In 2009–10, there were 3,964 residential mental-health-care service episodes provided in Australia, 121 of which (3%) were for Indigenous Australians.
- Nationally, Indigenous Australians were 1.5 times more likely than non-Indigenous people to receive a residential mental-health-care service; however rate ratios were substantially higher in South Australia and New South Wales (4.9 and 4.0 respectively).

For more information on residential mental health services see *Measure 3.10: Access to mental health services.*

Mortality

Mortality due to self-harm (suicide)

- Over the period 2006 to 2010, the mortality rate for intentional self-harm (suicide) for Indigenous Australians was twice the rate for non-Indigenous Australians (21 and 10 per 100,000 population, respectively) (Table 1.18.22).

Mortality by age

- Mortality rates for suicide were higher for Indigenous Australians than non-Indigenous persons across most age groups, with the exception of the 55–64 and 65–74 year old age groups (Table 1.18.22).
- The greatest disparities occurred in the 15–24 and 25–34 age groups, where Indigenous Australians died from self-harm at five and three times the rate of non-Indigenous Australians (Table 1.18.22).

Table 1.18.22: Intentional self harm mortality rates by Indigenous status and age, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f]

	Number		Deaths per 100,000[g]			
Age group (years)	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Rate ratio[h]	Rate difference[i]
0–4 years[j]	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
5–14[j]	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
15–24	184	849	38.4	8.3	4.7	30.2
25–34	145	1,302	43.1	12.5	3.4	30.5
35–44	97	1,668	32.3	15.5	2.1	16.8
45–54	37	1,488	17.2	14.4	1.2	2.8
55–64	10	994	8.3	11.7	0.7	–3.4
65–74	n.p.	568	n.p.	10.7	n.p.	–6.9
75+	n.p.	590	n.p.	12.6	n.p.	0.2
Total (crude)[k]	**491**	**7,472**	**20.4**	**10.1**	**2.0**	**10.4**
Total (age standardised)[k][l]	**491**	**7,472**	**21.0**	**9.9**	**2.1**	**11.1**

(a) Intentional self harm ICD–10 codes X60–X84.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Age-specific death rates per 100,000 using the midpoint populations for the relevant years.

(h) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(i) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(j) Deaths of children aged under 15 years due to intentional self harm are not available.

(k) Totals exclude those for whom age was not stated.

(l) Total death rate is directly age-standardised death rate per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

Notes

1. Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Time series analysis

Longer-term mortality trend data are limited to three jurisdictions—Western Australia, South Australia and the Northern Territory, which have over 20 years of adequate identification of Indigenous deaths in their recording systems. Because of changes in the classification and coding of Causes of death from ICD–9 (used up until 1996) to ICD–10 (used from 1997 onwards) which affect the comparability of the data, the analysis reported for this measure is for two time periods—1991–1996 and 1997–2010.

Because of the late inclusion of a ‘not stated’ category of Indigenous status in 1998 (before which ‘not stated’ responses were included with non-Indigenous deaths), Indigenous mortality rates have been compared with the mortality rates of other Australians (which include deaths of both non-Indigenous people and people for whom Indigenous status was not stated).

Mortality rates, rate ratios and rate differences between Indigenous and other Australians for intentional self-harm over the period 1991–1996 and 1997–2010 are presented in Table 1.18.23.

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2010 for Indigenous and non-Indigenous Australians (excluding deaths for which Indigenous status was not stated) in Table 1.18.24. Queensland has had adequate identification of Indigenous deaths in its recording systems since 1998; New South Wales has had adequate identification of Indigenous deaths since 2001.

Note that fluctuations in the level of Indigenous mortality over time partly reflect changing levels of coverage of Indigenous deaths and population estimates. Given the volatility in the measures of Indigenous mortality, caution should be exercised in assessing trends in Indigenous mortality over time and comparisons between jurisdictions and with the non-Indigenous population.

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there were significant increases in mortality rates due to intentional self-harm among Indigenous Australians and no significant change in mortality rates due to intentional self-harm among other Australians (Table 1.18.23).
- Over the period 1997–2010 there were significant increases in mortality rates due to intentional self-harm among Indigenous Australians and significant decreases in mortality rates due to intentional self-harm for other Australians. The fitted trend implies an average yearly increase in the rate of 0.8 deaths per 100,000 for Indigenous Australians (a 63% increase) and an average yearly decrease 0.2 deaths per 100,000 for other Australians (a 22% decline). Over the same period, there were significant increases in the mortality rate ratios and rate differences between Indigenous and other Australians from intentional self-harm (Table 1.18.23).
- Over the period 2001–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant changes in mortality rates due to intentional self-harm among Indigenous Australians, but a significant decrease for non-Indigenous Australians (15% decline). Over the same period there were no significant changes in the mortality rate ratios and rate differences between Indigenous and non-Indigenous Australians due to intentional self-harm (Table 1.18.24).

Table 1.18.23: Age-standardised mortality rates, rate ratios and rate differences, intentional self-harm (X60–X84), WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

	Indigenous rate (deaths per 100,000)[(e)]	Other rate (deaths per 100,000)[(e)(f)]	Rate ratio[(g)]	Rate difference[(h)]
1991	n.p.	14.1	n.p.	n.p.
1992	n.p.	13.0	n.p.	n.p.
1993	n.p.	12.4	n.p.	n.p.
1994	n.p.	12.0	n.p.	n.p.
1995	16.7	12.9	1.3	3.8
1996	17.7	13.1	1.4	4.6
Annual change[(i)]	**1.0***	**–0.2**	**0.1***	**0.8***
Per cent change[(j)]	**6.0***	**–5.8**	**7.7***	**21.1***
1997	17.0	13.9	1.2	3.1
1998	25.0	15.7	1.6	9.3
1999	19.0	12.8	1.5	6.2
2000	27.6	13.3	2.1	14.3
2001	21.1	13.9	1.5	7.2
2002	30.6	12.0	2.6	18.6
2003	20.7	12.0	1.7	8.7
2004	28.2	10.4	2.7	17.8
2005	26.7	11.7	2.3	15.0
2006	37.7	10.6	3.6	27.1
2007	26.0	12.5	2.1	13.5
2008	30.7	11.8	2.6	18.9
2009	24.1	11.3	2.1	12.8
2010	32.9	12.1	2.7	20.9
Annual change[(i)]	**0.8***	**–0.2***	**0.1***	**1.0***
Per cent change[(j)]	**62.6***	**–21.7***	**107.8***	**446.5***

(continued)

Table 1.18.23 (continued): Age-standardised mortality rates, rate ratios and rate differences, intentional self harm (X60–X84), WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2010.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(i) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(j) Per cent change between 1991 and 1996 and between 1997 and 2010 based on the average annual change over the period.

Notes

1. 1991–1996 ICD9 codes E950–E959, 1997–2010 ICD–10 codes X60–X84.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.18.24: Age-standardised mortality rates, rate ratios and rate differences, intentional self-harm (X60–X84), NSW, Qld, WA, SA and NT, 2001–2010[a][b][c][d][e]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[f]	Per cent change[g]
Indigenous rate (deaths per 100,000)[h]	23.8	28.4	17.8	18.5	20.1	22.1	20.9	20.3	19.5	22.1	–0.3	–12.8
Non-Indigenous rate (deaths per 100,000)[h]	12.4	11.2	10.4	9.5	9.6	9.6	10.3	10.2	9.5	9.9	–0.2*	–14.5*
Rate ratio[i]	1.9	2.5	1.7	1.9	2.1	2.3	2.0	2.0	2.1	2.2	0.0	5.5
Rate difference[j]	11.4	17.2	7.3	9.0	10.5	12.5	10.5	10.1	10.0	12.2	–0.1	–10.9

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Mortality due to mental health-related conditions

- Between 2006–2010, the mental health-related mortality rate for Indigenous Australians was 51 per 100,000 population, compared with 36 per 100, 000 for non-Indigenous Australians. This indicates that Indigenous Australians had 1.4 times the mortality rate as non-Indigenous Australians for mental health-related conditions (Table 1.18.25).

Mortality by age

Table 1.18.25 presents age-specific mortality rates for mental health-related conditions for the period 2006–2010 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Mortality rates for mental health-related conditions were higher for Indigenous Australians than for non-Indigenous persons across most age groups.
- Rate ratios were most marked in the 35–44 and 45–54 year age groups where Indigenous Australians died at 7.5 times and 6.7 times the rates of non-Indigenous persons, respectively. These differences in mortality rates are mainly the result of the high number of deaths from mental and behavioural disorders due to psychoactive substance use among the Indigenous population in these age groups.
- The highest rate difference occurred in the 65–74 age group, where Indigenous Australians died from mental health related conditions at 240 per 100,000 population, while non-Indigenous Australians died from mental health related conditions at 64 per 100,000 population.

Table 1.18.25: Mental health related mortality rates per 100,000, by Indigenous status and age group, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f]

Age group (years)	Indigenous rate[g]	Non-Indigenous rate[g]	Rate ratio[h]	Rate difference[i]
Less than 1	—	n.p.	n.p.	n.p.
1–4	—	0.1	—	–0.1
5–14	—	0.1	—	–0.1
15–24	1.8	0.4	4.7	1.4
25–34	3.0	1.2	2.6	1.9
35–44	19.7	2.6	7.5	17.1
45–54	35.0	5.2	6.7	29.8
55–64	55.0	13.4	4.1	41.6
65–74	239.6	63.9	3.8	175.8
75 and over	633.8	558.3	1.1	75.5
Total[j][k]	**51.2**	**35.5**	**1.4**	**15.7**

(a) ICD–10 codes: F00–F99, G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) Age-specific death rates per 100,000 using the midpoint populations for the relevant years.

(h) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(i) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous/Other Australians.

(j) Total includes age not stated.

(k) Total is directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Mortality by cause of death

Deaths for the period 2006–2010 among Aboriginal and Torres Strait Islander people in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 1.18.26 by type of mental health-related condition.

- For Indigenous males, the most common cause of death was from mental and behavioural disorders due to psychoactive substance (79 deaths or 54%). For Indigenous females it was organic mental disorders, which include dementia, delirium and other mental disorders due to brain damage and dysfunction (104 deaths or 63%).
- In the five jurisdictions combined, Indigenous males and females died from mental and behavioural disorders due to psychoactive substance use at 5.7 times and 6.7 times the rate of non-Indigenous males and females respectively.

Table 1.18.26: Deaths from mental health related conditions for Indigenous Australians, by sex, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)]

	Males						Females						Persons					
Cause of death	**No.**	**No. per 100,000[(g)]**	**95% LCL[(h)]**	**95% UCL[(i)]**	**Ratio[(j)]**	**Rate difference[(k)]**	**No.**	**No. per 100,000[(g)]**	**95% LCL[(h)]**	**95% UCL[(i)]**	**Ratio[(j)]**	**Rate difference[(k)]**	**No.**	**No. per 100,000[(g)]**	**95% LCL[(h)]**	**95% UCL[(i)]**	**Ratio[(j)]**	**Rate difference[(k)]**
Mental and behavioural disorders due to psychoactive substances use (F10–F19)	79	13.7	10.1	17.3	5.7	11.3	36	5.1	3.2	7	6.7	4.3	115	9	7.1	10.9	5.8	7.5
Organic, including symptomatic mental disorders (F00–F09)	55	29.6	21.5	37.8	1.6	10.8	104	37.7	30.3	45.1	1.4	11.3	159	34.5	28.9	40	1.5	11.3
Other[(l)]	13	5.8	2.3	9.2	0.7	–2.3	25	9	5.4	12.6	0.7	–3.6	38	7.7	5.1	10.3	0.7	–3.0
Total	**147**	**49.1**	**39.6**	**58.7**	**1.7***	**19.8**	**165**	**51.8**	**43.3**	**60.2**	**1.3**	**12.1**	**312**	**51.2**	**44.8**	**57.6**	**1.4**	**15.7**

(continued)

Table 1.18.26 (continued): Deaths from mental health related conditions for Indigenous Australians, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5–year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) Directly age-standardised using the 2001 Australian Estimated Resident population, by 5–year age group to 75+.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous/Other Australians.

(l) Includes ICD–10 codes: F20–F99, G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48.

Notes

1. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.
2. Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: AIHW analysis of ABS Mortality Database.

Data quality issues

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially ‘as reported’ by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in Major cities, Inner and outer regional areas and Remote and very remote areas, but Very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In Remote and very remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

Western Australian Aboriginal Child Health Survey

Survey data are subject to sampling and non-sampling errors. Confidence intervals are published with the data to provide a guide to the reliability of the estimates. Non-sampling errors can occur in surveys owing to questionnaire design problems, respondent difficulty recalling information/lack of appropriate records, and errors made in the recording and processing of the data. Every effort was made to minimise non-sample errors in this survey.

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998 to 2008, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous* organ procurement have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in Major cities to 97% in Remote and Very remote areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006–07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

National Community Mental Health Care Database

There is some variation in the types of service contacts included across jurisdictions. For example, some jurisdictions include written correspondence as service contacts while others do not. The Northern Territory estimates that there could be a deficit of between 25–35% of service contact records. Coverage for most other jurisdictions is estimated to be between 95–100%.

The numerator includes people who receive a service in one jurisdiction but normally reside in another. There will be some mismatch between numerator and denominator in areas with cross-border flows.

Indigenous under-identification

The Indigenous status data should be interpreted with caution due to the varying and, in some instances, unknown quality of Indigenous identification across jurisdictions. The Other Australians category includes contacts where Indigenous status was missing or not reported (around 7% of all contacts). All states and territories use the standard ABS question of Indigenous status.

National Residential Mental Health Care Database

The scope for this collection is all episodes of residential care for residents in all government-funded and operated residential mental health services in Australia, except those residential care services that are in receipt of funding under the *Aged Care Act 1997* and subject to Commonwealth reporting requirements (that is, they report to the System for the Payment of Aged Residential Care collection). The inclusion of government-funded, non-government-operated services and services that are not staffed for 24 hours a day is optional. Queensland does not have any in-scope government-operated residential mental health services and therefore does not report to this collection.

For the 2009–10 data collection, all but 8 of the facilities reported had mental health trained staff on-site 24 hours a day. Data from 11 non-government organisations were also included in the 2009–10 collection. All jurisdictions reported 100% data coverage in 2009–10.

Data from the NRMHCD on Indigenous status should be interpreted with caution because of the varying quality and completeness of Indigenous identification across all jurisdictions. No formal assessment of the level of under-identification has been conducted for this data collection, however Western Australia, South Australia, the Northern Territory and the Australian Capital Territory considered their Indigenous status data of acceptable quality in 2009–10. In Victoria and New South Wales, there has been an increasing focus on collecting Indigenous data more accurately in accordance with best practice guidelines. Tasmania reported that the quality of the Indigenous status data collected does require improvement and is being addressed with the implementation of a new mental health information system (AIHW 2011).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.19 Life expectancy at birth

The life expectancy of Aboriginal and Torres Strait Islander males and females for a given period

Data sources

Life expectancy estimates for the years 2005–2007 presented in this measure are from the Australian Bureau of Statistics (ABS) and are based on population estimates from the 2006 Census of Population and Housing.

The Australian Institute of Health and Welfare (AIHW) calculates data on potential years of life lost before age 65, derived from the AIHW National Mortality Database.

Life expectancy estimates

Life expectancy refers to the average number of years a person of a given age and sex can expect to live, if current age- and sex-specific death rates continue to apply throughout his or her lifetime.

Estimates of life expectancy are drawn from life tables. To construct a life table, data on total population, births and deaths are needed, and the accuracy of the life table depends on the completeness of these data. Because of uncertainty about the estimates of these components for Aboriginal and Torres Strait Islander people, experimental methods are used to calculate life expectancies for the Indigenous population. These life expectancies should only be used as an indicative summary measure of life expectancy of the Indigenous population.

The ABS used a direct demographic method to derive 2005–2007 life tables for the Indigenous population by adjusting death registrations data by identification rates obtained from the Census Data Enhancement (CDE) Indigenous Mortality Quality Study. The ABS previously used indirect methods (the Bhat method, with and without unexplained growth, and the Hill method) to derive experimental life tables for Indigenous Australians. These indirect methods require extensive assumptions and often produce implausible outcomes in relation to the apparent undercoverage measures over time. They are also sensitive to the accuracy of population estimates. After extensive consultation, the ABS adopted a direct demographic method for the compilation of Indigenous life tables (ABS 2009).

Unlike the indirect method, the direct method of deriving Indigenous life tables for life expectancy estimates is not reliant on assumptions. That is, instead of relying on indirect and modelled estimates to derive coverage estimates of Indigenous deaths, the direct method enables the calculation of coverage rates by directly comparing the Indigenous status reported on death and Census data for linked records. This data linkage technique ensures consistency across collections and produces life expectancy estimates that are considered more plausible (ABS 2008b). There are however, limitations that must be noted.

The derived Indigenous deaths identification rates relate to a very restricted time frame of 11 months, and there remains a relatively high level of unlinked records for which Indigenous status is unknown (ABS 2008b).

Due to the small number of Indigenous deaths in Victoria, South Australia, Tasmania and the Australian Capital Territory, Indigenous life tables were not produced for these jurisdictions (ABS 2009).

Because different methods of deriving Indigenous life tables were used in the 2006 and 2008 Health performance framework reports, comparisons should not be made and in no way should changes in life expectancy between these reports be interpreted as changes in life expectancy over time.

Indigenous life expectancy estimates derived from the 2011 Census are not anticipated to be available until November 2013.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

Census of Population and Housing

The Census of Population and Housing is conducted by the ABS at 5-yearly intervals, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

Although the Census data are adjusted for undercount at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

The 2011 Census is the most recent, however data for the Indigenous population was not yet released at the time of writing this report. Therefore data included in this report come from the 2006 Census. In 2006, the ABS enhanced the sample for the Post-Enumeration Survey to include remote areas. The measured undercount for Indigenous Australians was 11.5%.

Analyses

Life expectancy

- Over the period 2005–2007, the life expectancy at birth for Indigenous people was estimated to be around 67 years for males and 73 years for females. This is some 10 years lower than life expectancy estimates for the non-Indigenous population for the same period (79 years for males and 83 years for females) (Table 1.19.1 and Figure 1.19.1).
- Life expectancy was lowest for Indigenous males and females in the Northern Territory (62 years and 69 years, respectively).

A study of causes of the inequality in life expectancy between Indigenous and non-Indigenous Australians in the Northern Territory found that the main contributors to the gaps in life expectancy are non-communicable diseases including conditions such as respiratory diseases, cardiovascular diseases and diabetes. These conditions are more prevalent in ageing populations. The study also found that communicable diseases, maternal, perinatal and nutritional conditions and injury contributed far less to the life expectancy gap (Zhao & Dempsey 2006).

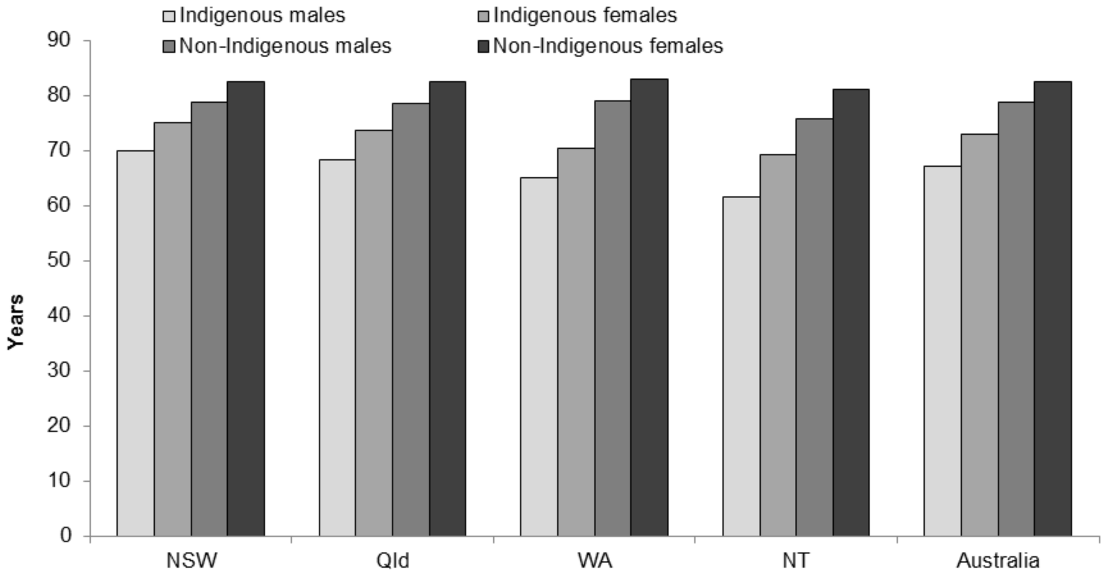
Table 1.19.1: Life expectancy at birth, by Indigenous status and total population 2005–2007, by sex and state/territory[(a)]

	Males	Females
	Indigenous	
New South Wales	69.9	75.0
Queensland	68.3	73.6
Western Australia	65.0	70.4
Northern Territory	61.5	69.2
Australia(b)	**67.2**	**72.9**
	Non-Indigenous	
New South Wales	78.7	82.5
Queensland	78.6	82.5
Western Australia	79.0	82.9
Northern Territory	75.7	81.2
Australia(b)	**78.7**	**82.6**
	Total population	
New South Wales	78.5	82.4
Queensland	78.4	82.3
Western Australia	78.7	82.5
Northern territory	72.0	77.6
Australia(b)	**78.5**	**82.4**

(a) Due to significant changes in methodology, estimates of life expectancy at birth for 2005–07 are not comparable to previously published estimates.

(b) Includes all states and territories.

Source: ABS 2009.



Source: ABS 2009.

Figure 1.19.1: Life expectancy at birth, Indigenous and total population 2005–2007, by sex and state/territory

International comparisons

International indigenous data are available for New Zealand, the United States and Canada.

There are several common issues that adversely affect the quality of Indigenous mortality data in these three countries and Australia. These include the lack of an accurate denominator for the Indigenous population (mainly due to under-counting) and the lack of agreement over which is the best population denominator to use when they exist (for example, whether to use single ethnic response groups or multiple ethnic response groups). There are differences in how Indigenous status is defined in the different countries. There have also been frequent modifications to the ethnicity question recorded in the censuses in some of these countries. These changes in the census ethnicity question have led to difficulties in comparing mortality trends over time and have also produced difficulties in estimating inter-census population denominator counts.

An important issue in relation to the quality of Indigenous mortality data is the under-counting of deaths (the numerator for mortality data). In each of the four countries, the under-counting of Indigenous deaths is likely to lead to an underestimation of the relative size of disparities that exist between Indigenous and non-Indigenous populations. This will affect life expectancy estimates.

The life expectancy estimates presented below are not strictly comparable because of differences in the methods used to estimate life expectancy. Moreover, the populations covered by these estimates are variable across the three countries.

- The life expectancy for Maoris for 2005–07 was 70.4 years for males and 75.1 years for females (Statistics New Zealand 2008) (Table 1.19.2 and Figure 1.19.2).
- As of 2001, average life expectancy at birth for the First Nations population in Canada is estimated to be 71.1 years for males and 76.6 years for females. The Métis population is estimated to have a slightly higher life expectancy at 71.9 years for males and 77.7 years for females (INAC 2007). The Inuit population has the lowest life expectancy across all Aboriginal populations in Canada at 64.4 years for males and 69.8 years for females. In comparison, life expectancy for the Canadian population in general is 77.0 years for males and 82.0 years for females in 2001 (Wilkens et al. 2008).
- Life expectancy at birth is not readily available for American Indians in the United States. The most recent published data on the life expectancy of American Indians are projected life expectancies for 1999. In 1999, the projected life expectancy for American Indian males was 72.8 years compared with 74.0 years for total males, and 82.0 years for American Indian females compared with 79.7 years for total females (based on low series population estimates) (US Census Bureau 2000).

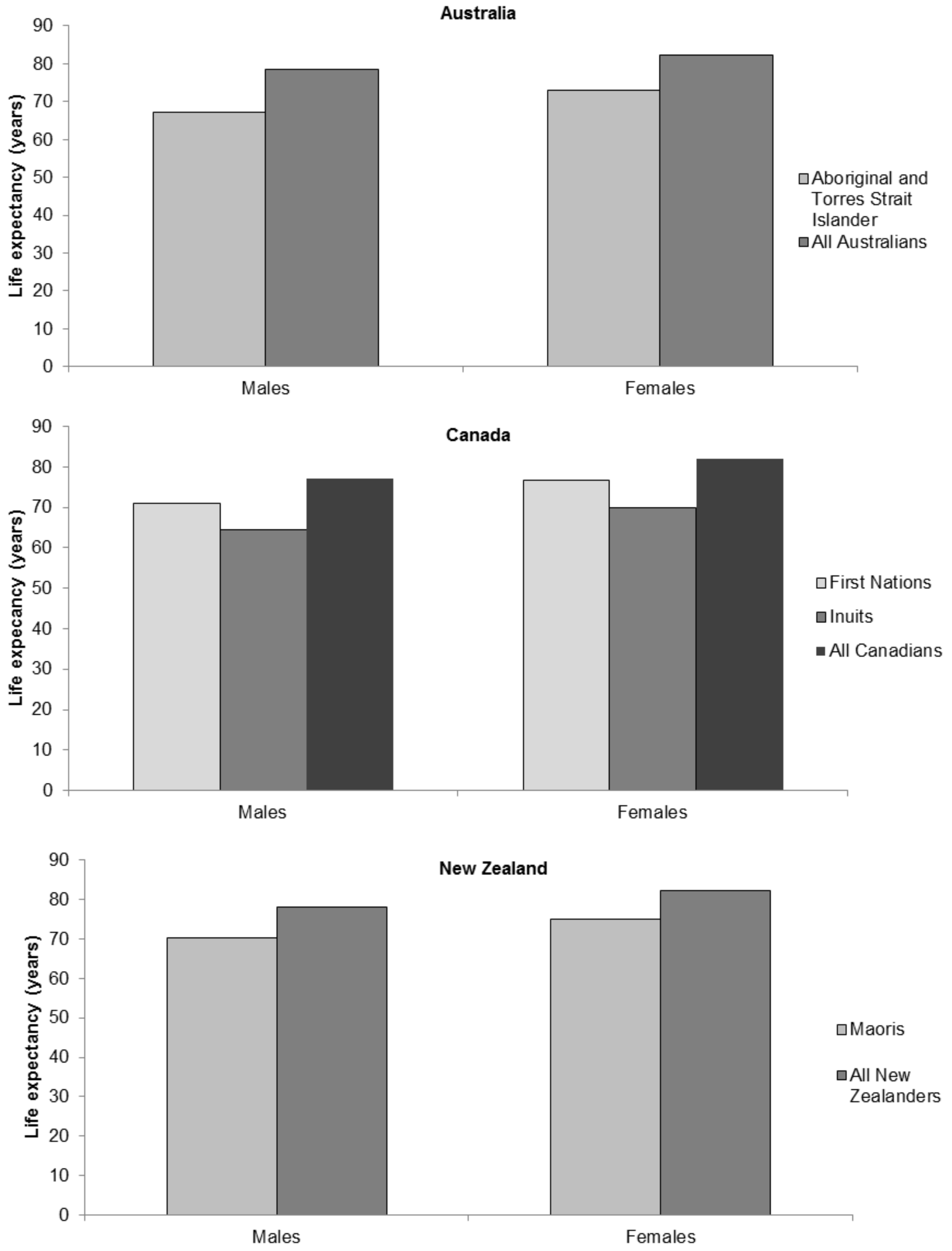
Table 1.19.2: Life expectancy at birth (years of age) for males and females in Australia, Canada and New Zealand, by Indigenous status, various years

	Australia		Canada				New Zealand	
	Aboriginal and Torres Strait Islander	All Australians	First Nations	Métis	Inuits	All Canadians	Maoris	All New Zealanders
Males	67.2	78.5	71.1	71.9	64.4	77.0	70.4	78.0
Females	72.9	82.4	76.6	77.7	69.8	82.0	75.1	82.2

Notes

1. Life expectancy estimates for Aboriginal and Torres Strait Islander people and all Australians are for 2005–2007.
2. Life expectancy estimates for Canada are for 2001. First Nations refers to the total North American Indian population including both Registered Indians and Non-Status Indians. Registered Indians are individuals who are registered under the Indian Act. Métis refers to individuals with mixed Aboriginal and European ancestry. Inuit are the original inhabitants of Arctic Canada.
3. Life expectancy estimates for Maoris and the total New Zealand population are for 2005–2007.

Sources: ABS 2009; INAC 2007; Wilkens et al. 2008; Statistics New Zealand 2008.



Notes

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Sources: ABS 2009; INAC 2007; Wilkens et al. 2008; Statistics New Zealand 2008.

Figure 1.19.2: Life expectancy at birth for males and females in Australia, Canada and New Zealand, by Indigenous status, various years

Potential years of life lost

Potential years of life lost (PYLL) is a measure of premature or untimely death. It represents the total number of years of life lost before a given age (for example, 65 years). If dying before the age of 65 is considered premature then a person dying at age 55 would have lost 10 years of potential life. This measure gives more importance to the causes of death that occurred at younger ages than those that occurred at older ages.

The PYLL due to death is calculated for each person who died before age 65. Deaths of people aged 65 years and over are not included in the calculation. Potential years of life lost correspond to the sum of the PYLL contributed for each individual. The rate is obtained by dividing total potential years of life lost by the total population less than 65 years of age.

Table 1.19.3 presents the number and rate of potential years of life lost for Indigenous and non-Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory over the period 2006–2010.

- The potential years of life lost before the age of 65 years is much higher for the Indigenous population than the non-Indigenous population (91.5 per 1,000 for Indigenous males compared with 31.1 per 1,000 for non-Indigenous males; and 57.5 per 1,000 for Indigenous females compared with 17.7 per 1,000 for non-Indigenous females).

Table 1.19.3: Potential years of life lost before age 65 years (PYLL), NSW, Qld, WA, SA & NT, 2006–2010[a][b][c][d][e][f]

	Deaths aged under 65 years		PYLL (65)		
	No.[g]	% of deaths	No.	PYLL per 1,000[h]	No. years per death
Indigenous					
Males	4,354	70.9	106,514	91.5	24.5
Females	2,944	59.0	67,225	57.8	22.8
Non-Indigenous					
Males	59,222	24.0	1,009,467	31.1	17.1
Females	33,840	14.5	562,309	17.7	16.6

(a) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous PYLL.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Data are presented in 5-year groupings because of small numbers each year.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators. See data quality statements for a more detailed explanation.

(f) These data exclude 1,494 registered deaths where the Indigenous status was not stated for those aged under 65 over the period 2006-2010 - 4Js only, excludes not stateds from WA.

(g) Excludes deaths for which age at death was not stated.

(h) Deaths per 1,000 population.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Additional information

Life expectancy in the Northern Territory

Wilson et al. (2007) undertook a study to assess the extent of changes in life expectancy at birth for Indigenous Australians living in the Northern Territory over the period 1967–2004. Life expectancy at birth figures were calculated via life table calculations using Indigenous mortality data and population data from the Northern Territory.

The study found that the life expectancy at birth of Indigenous Australians has risen considerably in the Northern Territory, increasing from 52 years for males and 54 years for females in the late 1960s to around 60 years for males and 68 years for females in 2004. The gap between Indigenous and total Australian female life expectancy in the Northern Territory has narrowed between 1967 and 2004, but the gap between Indigenous and total Australian male life expectancy has remained the same.

Wilson et al. (2007) reported that declines in infant mortality accounted for a large amount of the increases in life expectancy for the Northern Territory Indigenous population between the late 1960s and mid 1980s, especially for males. A significant proportion of female life expectancy gains in this early period also came from other childhood and adult ages. From the mid 1980s to the early 2000s, declines in mortality at age 45 and over were responsible for the majority of life expectancy gains for both Indigenous males and females in the Northern Territory. For the total Australian population, improvements in middle age and older adult mortality were responsible for the vast majority of gains to Australian life expectancy over the entire period 1967–2004.

The gains in life expectancy for Indigenous males and females in the Northern Territory reported by Wilson et al. (2007) indicate that Indigenous health status has improved considerably in recent decades in the Northern Territory. There is still, however, substantial disparity between life expectancy measures of the Indigenous and non-Indigenous populations.

Data quality issues

Life expectancy estimates

Estimates of life expectancy are drawn from life tables. To construct a life table, data on total population, births and deaths are needed, and the accuracy of the life table depends on the completeness of these data. Because of uncertainty about the estimates of these components for Aboriginal and Torres Strait Islander people, experimental methods are used to calculate life expectancies for the Indigenous population. These experimental life expectancies should only be used as an indicative summary measure of life expectancy of the Indigenous population.

Although the direct demographic method to compile Indigenous life tables and life expectancy estimates is an improvement on indirect methods used earlier by the ABS in that it is data based and does not rely on assumption, there are still limitations to this method. That is, the derived Indigenous deaths identification rates relate to a very restricted time frame of 11 months, and there remains a relatively high level of unlinked records for which Indigenous status is unknown (ABS 2008a).

Population

Indigenous population estimates are calculated from the Census of Population and Housing. The Census uses the National health data dictionary standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplained growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself, for example, whether people are counted more than once, or are undercounted (ABS 1996).

Although the Census data are adjusted for undercounts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

Births

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their birth registration forms.

Almost all births and deaths in Australia are registered. However, the Indigenous status of the person is not always recorded/recorded correctly. The incompleteness of Indigenous identification means the number of births registered as Indigenous is an underestimate of births occurring in the Aboriginal and Torres Strait Islander population. .

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008b). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008b).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006-07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008b).

Numerator and denominator

To calculate life expectancy estimates using a direct demographic method, it is important to ensure that the classification of records as Indigenous is consistent in both the numerator and denominator (ABS 2008a). However, because the numerator (deaths) and denominator (population) are based on different collections and different collection methods, there is an inconsistency of Indigenous identification between the two. The Census Data Enhancement (CDE) Indigenous Mortality Quality Improvement Study linked Census records with death registration records to examine these inconsistencies, and a method was developed to adjust death registration data by identification rates obtained through this study, to ensure consistency in the Indigenous identification of records across collections. This data linkage technique enables the direct calculation of identification rates with no assumptions necessary (ABS 2009). There are, however, limitations that must still be noted.

That is, the derived Indigenous deaths identification rates relate to a very restricted time frame (11 months from early August 2006 to the end of June 2007) and the appropriateness of these rates for past or future periods is unknown. In addition, there remains a relatively high level (26%) of unlinked Indigenous death records which may introduce bias to the results if the characteristics or features of these records are different to linked records (ABS 2008a).

International comparisons

International Indigenous data are available for New Zealand, the United States and Canada.

In New Zealand, research has been undertaken that attempts to adjust for this under-counting by a process of probabilistic record linkage of death registration data with census data. This research has produced estimates of the considerable extent of the under-counting of Maori deaths. This adjusted data could not be used in international comparisons unless the data in the other countries were also adjusted (Bramley et al. 2004).

In Canada the national mortality database that Statistics Canada administers does not contain ethnicity data. The regional offices of Health Canada collect mortality data for the indigenous, on-reserve, First Nations population. Via a series of partnerships with each provincial vital statistics registrar, First Nations-specific death certificate information is sent to the regional First Nations and Inuit Health Branch regional office. However, in a number of areas no such relationships exist (for example, the Atlantic, Ontario, and Quebec regions), and therefore data are obtained directly from the local communities, or not at all. The availability of Indigenous mortality data in Canada is further limited by the lack of information for off-reserve, or non-status, Indigenous people.

The varying degrees of completeness and accuracy of the Indigenous mortality databases that exist within the four countries are likely to affect the comparisons.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.20 Infant and child mortality

The mortality rates of Aboriginal and Torres Strait Islander infants and children aged 0–4 years, by cause of death (including SIDS) and over time.

Data sources

Data for this measure come from the National Mortality Database and the National Aboriginal and Torres Strait Islander Social Survey.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Analyses

Child mortality

- Over the period 2006–2010, there were 645 deaths of Indigenous children aged 0–4 years in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (Table 1.20.1), 533 (12%) of which were infant deaths (Table 1.20.2).
- Indigenous children aged 0–4 years died at over twice the rate of non-Indigenous children (218 per 100,000 compared with 100 per 100,000 population) in the five jurisdictions combined (Table 1.20.1).

Table 1.20.1: Child (0–4 years) mortality, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

	Indigenous				Non-Indigenous					
	Deaths	**No. per 100,000(f)**	**95% LCL(g)**	**95% UCL(h)**	**Deaths**	**No. per 100,000(f)**	**95% LCL(g**	**95% UCL(h**	**Rate ratio(i)**	**Rate difference(j)**
Males	371	244.8	219.9	269.7	2,702	113.0	108.7	117.3	2.2*	131.8*
Females	274	188.9	166.6	211.3	1,973	87.1	83.3	91.0	2.2*	101.8*
Total children aged 0–4 years	**645**	**217.5**	**200.7**	**234.3**	**4,675**	**100.4**	**97.5**	**103.3**	**2.2***	**117.1***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) Rates are crude rates per 100,000 population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Infant mortality

- Over the period 2006–2010, there were 4,488 deaths of infants in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, 533 (12%) of which were deaths of Aboriginal and Torres Strait Islander infants (Table 1.20.2).
- Indigenous infants died at twice the rate of non-Indigenous infants (8.1 per 1,000 live births compared with 4.1 per 1,000 live births) in the five jurisdictions combined (Table 1.20.2).
- Over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the mortality rate for Indigenous male infants was 9.2 per 1,000 live births compared with 6.9 per 1,000 live births for Indigenous female infants (Table 1.20.2).

Table 1.20.2: Infant mortality rates per 1,000 live births, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f]

	Indigenous				Non-Indigenous					
	Deaths	No. per 1,000[g]	95% LCL[h]	95% UCL[i]	Deaths	No. per 1,000[g]	95% LCL[h]	95% UCL[i]	Rate ratio[j]	Rate difference[k]
Males	313	9.2	8.2	10.2	2,278	4.6	4.4	4.8	2.0*	4.6*
Females	220	6.9	5.9	7.8	1,677	3.6	3.4	3.7	1.9*	3.3*
Total infants	**533**	**8.1**	**7.4**	**8.8**	**3,955**	**4.1**	**3.9**	**4.2**	**2.0***	**4.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) 'Infant' includes persons with an age at death of under 1 year.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) Rates are crude rates per 1,000 live births.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Infant mortality by state/territory

- For the period 2006–2010, the mortality rate for Indigenous infants was higher than for non-Indigenous infants across all jurisdictions (Table 1.20.3).
- The Indigenous infant mortality rate ranged from 6 per 1,000 live births in South Australia to 13 per 1,000 live births in the Northern Territory (Table 1.20.3).
- The greatest disparity between Indigenous and non-Indigenous infant mortality rates was observed in the Northern Territory (rate difference of 9.3 per 1,000 live births; rate ratio of 3.4).

Table 1.20.3: Infant mortality rates per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Indigenous				Non-Indigenous					
	Deaths	No. per 1,000(h)	95% LCL(i)	95% UCL(j)	Deaths	No. per 1,000(h)	95% LCL(i)	95% UCL(j)	Rate ratio(k)	Rate difference(l)
NSW	129	6.5	5.4	7.6	1,835	4.2	4.0	4.4	1.5*	2.3*
Qld(f)	182	8.0	6.8	9.2	1,340	4.7	4.4	5.0	1.7*	3.2*
WA	94	8.3	6.6	10.0	416	3.0	2.7	3.3	2.8*	5.3*
SA	26	6.0	3.7	8.3	321	3.4	3.0	3.8	1.8*	2.6*
NT	102	13.1	10.6	15.6	43	3.8	2.7	4.9	3.4*	9.3*
NSW, Qld, WA, SA & NT(a)	**533**	**8.1**	**7.4**	**8.8**	**3,955**	**4.1**	**3.9**	**4.2**	**2.0***	**4.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate.

(d) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous infant mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) 'Infant' includes persons with an age at death of under 1 year.

(h) Rates are crude rates per 1,000 live births.

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous.

(l) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Mortality by cause of death

Infant mortality by cause of death

- Over the period 2006–2010, the most common cause of death of Indigenous infants was conditions originating in the perinatal period such as birth trauma, disorders related to foetal growth, complications of pregnancy, labour and delivery, and respiratory and cardiovascular disorders specific to the perinatal period (4.1 per 1,000 live births). Indigenous infants died at over twice the rate of non-Indigenous infants for these conditions (Table 1.20.4).
- Congenital malformations and sudden infant death syndrome (SIDS) were also leading causes of death among Indigenous infants with rates of 1.3 and 0.6 per 1,000 live births.

Table 1.20.4: Causes of infant death by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Number of deaths			No. per 1,000(h)				
Cause of death	**Indig.**	**Non-Indig.**	**Percentage of deaths – Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio(i)**	**Rate difference(j)**	**Rate difference %(k)**
Certain conditions originating in the perinatal period (P00–P96)	268	1,948	50.3	4.1	2.0	2.1*	2.1*	51.3
Congenital malformations (Q00–Q99)	85	1,026	15.9	1.3	1.0	1.2	0.2	6.0
Signs, symptoms & ill-defined conditions (R00–R99)	77	378	14.4	1.2	0.4	3.0*	0.8*	19.3
SIDS (R95)(l)	*40*	*263*	*7.5*	*0.6*	*0.3*	*2.0**	*0.3**	*7.4*
Injury & poisoning (V01–Y99)	24	120	4.5	0.4	0.1	3.0*	0.2*	6.0
Diseases of the respiratory system (J00–J99)	21	95	3.9	0.3	0.1	3.3*	0.2*	5.5
Diseases of the circulatory system (I00–I99)	16	74	3.0	0.2	0.1	3.2*	0.2*	4.1
Infectious and parasitic diseases (A00–B99)	14	52	2.6	0.2	0.1	4.0*	0.2*	3.9
Other conditions(m)	28	262	5.3	0.4	0.3	1.6*	0.2*	3.9
All causes	**533**	**3,955**	**100.0**	**8.1**	**4.0**	**2.0***	**4.1***	**100.0**

(continued)

Table 1.20.4 (continued): Causes of infant death by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)(h)(i)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous infant deaths and, depending on the under-identification in births, may either underestimate or overestimate the rates. Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

(c) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous infant mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) 'Infant' includes persons with an age at death of under 1 year.

(g) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(h) Rates are crude rates per 1,000 live births.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all causes.

(l) Data presented for SIDS are a subset of data presented for signs, symptoms and ill-defined conditions presented in this table.

(m) Other conditions include: neoplasms; diseases of blood and blood-forming organs; endocrine, nutritional and metabolic diseases; mental and behavioural disorders; diseases of the nervous system; diseases of the eye and adnexa; diseases of the ear and mastoid process; diseases of the digestive system; diseases of the musculoskeletal system and connective tissues; diseases of the genitourinary system; and diseases of the skin and subcutaneous tissue.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

SIDS

- Over the period 2006–10, sudden infant death syndrome (SIDS) represented approximately 8% of all deaths of Aboriginal and Torres Strait Islander infants across New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (Table 1.20.4).
- For the period 2006–2010, there were 303 deaths from SIDS in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, 40 (13%) of which were deaths of Aboriginal and Torres Strait Islander infants (Table 1.20.5).

Table 1.20.5: SIDS mortality rates per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f]

	Indigenous				Non-Indigenous					
	Number	Rate[g]	95% LCL[h]	95% UCL[i]	Number	Rate[g]	95% LCL[h]	95% UCL[i]	Rate ratio[j]	Rate difference[k]
NSW	17	0.9	0.4	1.4	134	0.3	0.2	0.4	2.8*	0.6*
Qld	18	0.8	0.5	1.1	107	0.4	0.3	0.5	2.1*	0.4*
WA	n.p.	n.p.	n.p.	n.p.	12	0.1	0.0	0.2	n.p.	n.p.
SA	n.p.	n.p.	n.p.	n.p.	8	0.1	0.0	0.2	n.p.	n.p.
NT	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
NSW, Qld, WA, SA & NT[b]	**40**	**0.6**	**0.3**	**0.9**	**263**	**0.3**	**0.3**	**0.3**	**2.3***	**0.3***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) SIDS - Sudden Infant Death Syndrome, ICD-10 code: R95. SIDS data in this table is for deaths under 1 year of age.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Rates are crude rates per 1,000 live births.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

SIDS mortality by age (months)

- The highest mortality rates for SIDS occurred at around the age of 1 month for Indigenous and non-Indigenous infants (0.24 and 0.07 per 1,000 live births respectively) Table 1.20.6).

Table 1.20.6: SIDS mortality rates per 1,000 live births, by age in months and Indigenous status, NSW, Qld, WA, SA and NT, 2001–2010[a][b][c][d][e][f]

Age in months	Indigenous rate[g]	Non-Indigenous rate[g]	Total
<1	0.11	0.03	0.03
1	0.24	0.07	0.08
2	0.16	0.06	0.07
3	0.11	0.04	0.04
4	0.13	0.03	0.03
5	0.08	0.02	0.02
6	0.07	0.01	0.01
7	n.p.	0.00	0.00
8	n.p.	0.01	0.01
9	n.p.	0.00	0.01
10	n.p.	0.00	0.00
11	n.p.	0.00	0.00

(a) SIDS - Sudden Infant Death Syndrome, ICD–10 code: R95. SIDS data in this table is for deaths under 1 year of age.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Rates are crude rates per 1,000 live births.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Infant mortality by associated causes of death

Table 1.20.7 presents underlying causes of death for Indigenous infants by associated causes of death for the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- In the period 2006–2010, 43% of Indigenous infant deaths were reported with no associated causes of death.
- Deaths of Indigenous infants were most commonly reported with conditions originating in the perinatal period (61%) as an associated cause of death.

Table 1.20.7: Underlying and associated causes of death for Indigenous infants, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)(g)(h)]

	Underlying cause of death					
Associated cause of death	**Conditions originating in perinatal period**	**Signs, symptoms & ill-defined conditions (excluding SIDS)**	**Congenital malformations**	**SIDS**	**Other conditions[(i)]**	**Total**
			Per cent			
Reported alone (no associated causes)	41.4	97.3	16.5	95.0	57.2	42.8
Conditions originating in perinatal period (P00–P96)	100.0	2.7	48.2	2.5	17.7	61.0
Congenital malformations (Q00–Q99)	1.1	—	100.0	—	7.6	17.6
Signs, symptoms & ill-defined conditions (R00–R99)	1.1	100.0	3.5	100.0	19.0	19.1
Other conditions[(i)]	4.9	—	27.1	2.5	100.0	26.1
Total deaths	**268**	**37**	**85**	**40**	**79**	**533**

(continued)

Table 1.20.7 (continued): Underlying and associated causes of death for Indigenous infants, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f][g][h]

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous infant deaths and, depending on the under-identification in births, may either underestimate or overestimate the rates. Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

(d) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous infant mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) 'Infant' includes persons with an age at death of under 1 year.

(h) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(i) Other conditions include: infectious and parasitic diseases; neoplasms; diseases of blood and blood-forming organs; endocrine, nutritional and metabolic diseases; mental and behavioural disorders; diseases of the nervous system; diseases of the eye and adnexa; diseases of the ear and mastoid process; diseases of the circulatory system; diseases of the respiratory system; diseases of the digestive system; diseases of the musculoskeletal system and connective tissues; diseases of the genitourinary system; injury and poisoning; and diseases of the skin and subcutaneous tissue.

Notes

1. Sum of components may exceed 100% as more than one associated cause of death can be reported for each death.
2. Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.
3. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW and ABS analysis of ABS Mortality Database.

Child mortality by cause of death

Tables 1.20.8 and 1.20.9 present the main causes of death among Indigenous children aged 0–4 years and 1–4 years in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined for the period 2006–2010.

- Indigenous children aged 0–4 and aged 1–4 years in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined died at over twice the rate of non-Indigenous children (Table 1.20.8; Table 1.20.9).
- The most common causes of death among Indigenous children aged 0–4 were conditions originating in the perinatal period (42%), congenital malformations (14%) and symptoms, signs & ill-defined conditions (13%)(Table 1.20.8).
- Indigenous children died at around twice the rate of non-Indigenous children for conditions originating in the perinatal period; at three times the rate of non-Indigenous children for symptoms, signs and ill-defined conditions and for injury and poisoning.
- The most common cause of death among Indigenous and non-Indigenous children aged 1–4 was injury and poisoning (23 and 8 per 100,000 populations, respectively) (Table 1.20.9).

Table 1.20.8: Causes of death among children aged 0–4 years by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)(h)

	Number of deaths			No. per 100,000(i)				
Cause of death	**Indig.**	**Non-Indig.**	**Percentage of deaths - Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio(j)**	**Rate difference(k)**	**Rate difference %(l)**
Certain conditions originating in the perinatal period (P00–P96)	270	1,963	41.9	91.0	42.2	2.2*	48.9*	41.7
Congenital malformations (Q00–Q99)	93	1,093	14.4	31.4	23.5	1.3*	7.9*	6.7
Signs, symptoms & ill-defined conditions (R00–R99)	81	417	12.6	27.3	9.0	3.0*	18.4*	15.7
Injury & poisoning (V01–Y99)	77	399	11.9	26.0	8.6	3.0*	17.4*	14.9
Diseases of the respiratory system (J00–J99)	33	139	5.1	11.1	3.0	3.7*	8.1*	7.0
Diseases of the circulatory system (I00–I99)	24	105	3.7	8.1	2.3	3.6*	5.8*	5.0
Diseases of the nervous system (G00–G99)	19	180	2.9	6.4	3.9	1.7*	2.5*	2.2
Infectious and parasitic diseases (A00–B99)	16	84	2.5	5.4	1.8	3.0*	3.6*	3.1
Other conditions(m)	32	295	5.0	10.8	6.3	1.7*	4.5*	3.8
All causes	**645**	**4,675**	**100.0**	**217.5**	**100.4**	**2.2***	**117.1***	**100.0**

(continued)

Table 1.20.8 (continued): Causes of death among children aged 0–4 years by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)(h)(i)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous child deaths and, depending on the under-identification in births, may either underestimate or overestimate the rates. Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

(d) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous child mortality rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous child mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Includes all deaths of children aged 0–4 years.

(h) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(i) Rates are crude rates per 100,000 population.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(l) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all causes.

(m) Other conditions include: neoplasms; diseases of blood and blood-forming organs; endocrine, nutritional and metabolic diseases; mental and behavioural disorders; diseases of the eye and adnexa; diseases of the ear and mastoid process; diseases of the digestive system; diseases of the musculoskeletal system and connective tissues; diseases of the genitourinary system; and diseases of the skin and subcutaneous tissue.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.20.9: Causes of death among children aged 1–4 years by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)(h)

	Number of deaths			No. per 100,000(i)				
Cause of death	**Indig.**	**Non-Indig.**	**Percentage of deaths - Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio**(j)	**Rate difference**(k)	**Rate difference %**(l)
Certain conditions originating in the perinatal period (P00–P96)	n.p.	15	n.p.	n.p.	0.4	n.p.	n.p.	n.p.
Signs, symptoms & ill-defined conditions (R00–R99)	4	39	3.6	1.7	1.1	1.6	0.6	2.3
Congenital malformations (Q00–Q99)	8	67	7.1	3.4	1.8	1.9	1.6	5.7
Injury & poisoning (V01–Y99)	53	279	47.3	22.6	7.5	3.0*	15.0*	53.2
Diseases of the respiratory system (J00–J99)	12	44	10.7	5.1	1.2	4.3*	3.9*	13.9
Diseases of the nervous system (G00–G99)	10	67	8.9	4.3	1.8	2.4*	2.4	87.0
Infectious and parasitic diseases (A00–B99)	n.p.	32	n.p.	n.p.	0.9	n.p.	n.p.	n.p.
Diseases of the circulatory system (I00–I99)	8	31	7.1	3.4	0.8	4.1*	2.6*	9.1
Other conditions(m)	13	146	11.6	5.5	3.9	1.4	1.6	5.6
Total	**112**	**720**	**100.0**	**47.7**	**19.5**	**2.5***	**28.3***	**100.0**

(continued)

Table 1.20.9 (continued): Causes of death among children aged 1–4 years by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f][g][h]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-years groupings because of small numbers each year.

(c) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous child mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

(d) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous child mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Includes all deaths of children aged 1–4 years.

(h) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(i) Rates are crude rates per 100,000 population.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(l) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all causes.

(m) Other conditions include: neoplasms; diseases of blood and blood-forming organs; endocrine, nutritional and metabolic diseases; mental and behavioural disorders; diseases of the eye and adnexa; diseases of the ear and mastoid process; diseases of the digestive system; diseases of the musculoskeletal system and connective tissues; diseases of the genitourinary system; and diseases of the skin and subcutaneous tissue.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Time series analysis

Infant mortality time series

Longer-term mortality trend data are limited to three jurisdictions—Western Australia, South Australia and the Northern Territory, which have over 10 years of adequate identification of Indigenous deaths in their recording systems.

As there is a consistent time series of population estimates from 1991, data for the period 1991–2010 have been used for the analysis of Indigenous mortality in this indicator.

Because of the late inclusion of a 'not stated' category of Indigenous status in 1998 (before which 'not stated' responses were included with non-Indigenous deaths), Indigenous mortality rates have been compared with the mortality rates of other Australians (which include deaths of both non-Indigenous people and people for whom Indigenous status was not stated).

Infant mortality rates, rate ratios and rate differences between Indigenous and other Australian infants over the period 1991–2010 in Western Australia, South Australia and the Northern Territory are presented in Table 1.20.10 and Figure 1.20.1.

- Over the period 1991–2010, there were significant declines in mortality rates for Indigenous infants and other infants in Western Australia, South Australia and the Northern Territory combined. The fitted trend implies an average yearly decline in the rate of around 0.8 per 1,000 births for Indigenous infants (equivalent to a 62% reduction in the rate over the period) and 0.1 per 1,000 births for other infants (equivalent to a 43% reduction in the rate over the period) (Table 1.20.10).
- Over the same period, there were significant declines in the mortality rate ratios and rate differences between Indigenous and other Australian infants of around 35% and 67% respectively (Table 1.20.10).

Fluctuations in the level of Indigenous mortality over time partly reflect changing levels of identification of Indigenous deaths and population estimates. Given the variability in the measures of Indigenous mortality, caution should be exercised in assessing trends in Indigenous mortality over time and comparisons between jurisdictions and with the non-Indigenous population.

Table 1.20.10: Infant mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010(a)(b)(c)(d)(e)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Indigenous number																				
Males	45	47	44	26	30	40	31	30	27	41	33	25	27	34	33	26	30	24	21	30
Females	38	41	30	34	31	30	31	27	31	30	23	33	24	16	19	26	18	18	14	15
Persons	83	88	74	60	61	70	62	57	58	71	56	58	51	50	52	52	48	42	35	45
Indigenous rate (no. per 1,000 live births)																				
Males	26.4	26.5	25.3	14.3	17.6	22.0	18.2	17.3	14.8	21.0	16.6	13.2	13.7	17.4	16.2	12.2	12.8	9.5	8.4	12.1
Females	22.7	24.5	17.9	20.9	18.3	18.5	19.1	16.1	17.3	15.6	12.1	18.3	12.5	8.3	9.9	12.5	8.3	7.2	6.0	6.4
Persons	24.5	25.5	21.7	17.4	17.9	20.4	18.7	16.7	16.0	18.3	14.4	15.7	13.1	12.9	13.1	12.4	10.6	8.4	7.2	9.3
Other Australians (h) rate (no. per 1,000 live births)																				
Males	6.4	6.3	5.9	5.0	6.3	6.3	5.1	5.0	5.3	4.8	5.0	4.4	3.6	4.0	4.2	3.5	3.3	3.1	3.6	4.1
Females	5.1	5.3	4.3	4.5	3.8	3.9	4.1	3.5	3.0	2.8	4.0	4.1	3.4	2.6	4.7	4.3	2.7	2.7	3.0	2.6
Persons	5.8	5.9	5.1	4.8	5.1	5.1	4.6	4.3	4.2	3.8	4.5	4.3	3.5	3.3	4.4	3.9	3.0	2.9	3.3	3.4
Rate ratio(i)																				
Males	4.1	4.2	4.3	2.9	2.8	3.5	3.6	3.4	2.8	4.4	3.3	3.0	3.8	4.3	3.8	3.5	3.9	3.1	2.4	2.9
Females	4.4	4.6	4.2	4.6	4.8	4.8	4.6	4.6	5.8	5.5	3.0	4.5	3.7	3.1	2.1	2.9	3.1	2.6	2.0	2.4
Persons	4.2	4.4	4.2	3.7	3.5	4.0	4.0	3.9	3.8	4.8	3.2	3.7	3.7	3.8	3.0	3.2	3.6	2.9	2.2	2.7
Rate difference(j)																				
Males	19.9	20.1	19.4	9.3	11.2	15.7	13.1	12.3	9.5	16.2	11.6	8.8	10.0	13.4	11.9	8.8	9.5	6.4	4.9	8.0
Females	17.6	19.2	13.7	16.3	14.5	14.6	15.0	12.6	14.3	12.7	8.1	14.2	9.1	5.7	5.2	8.2	5.6	4.5	2.9	3.7
Persons	18.7	19.6	16.6	12.6	12.8	15.2	14.0	12.4	11.8	14.5	9.9	11.4	9.6	9.5	8.7	8.5	7.6	5.5	3.9	5.9

(continued)

Table 1.20.10 (continued): Infant mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010(a)(b)(c)(d)(e)

	Long term 1991–2010		Medium term 1998–2010		Short term 2001–2010	
	Annual change(f)	% change over period(g)	Annual change(f)	% change over period(g)	Annual change(f)	% change over period(g)
Indigenous number						
Males	–0.8*	–34.6*	–0.5	–21.8	–0.5	–14.7
Females	–1.2*	–58.6*	–1.3*	–58.4*	–1.3*	–52.6*
Persons	–2.0*	–45.6*	–1.9*	–39.1*	–1.9*	–30.3*
Indigenous rate (no. per 1,000 live births)						
Males	–0.7*	–51.6*	-0.7*	-45.7*	-0.7*	-37.0*
Females	–0.9*	–73.6*	-1.0*	-71.3*	-1.0*	-72.9*
Persons	–0.8*	–61.7*	-0.8*	-57.6*	-0.8*	-51.6*
Other Australians (h) rate (no. per 1,000 live births)						
Males	–0.2*	–48.5*	-0.1*	-35.8*	-0.1*	-21.0*
Females	–0.1*	–34.9*	0	-14.0*	-0.1	-31.5*
Persons	–0.1*	–42.9*	-0.1*	-27.3*	-0.1*	-25.7*
Rate ratio(i)						
Males	0	–13.9	0	-14.7*	-0.1	-21.8*
Females	–0.1*	–61.7*	-0.3*	-69.3*	-0.2*	-50.0*
Persons	–0.1*	–34.7*	-0.1*	-39.8*	-0.1*	-33.5*
Rate difference(j)						
Males	–0.6*	–52.5*	-0.5*	-49.8*	-0.6*	-44.0*
Females	–0.8*	–84.9*	-0.9*	-87.2*	-0.8*	-93.3*
Persons	–0.7*	–67.4*	-0.7*	-68.1*	-0.7*	-63.4*

(continued)

Table 1.20.10 (continued): Infant mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010(a)(b)(c)(d)(e)

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the selected periods.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous infant deaths and, depending on the under-identification in births, may either underestimate or overestimate the rates.

(c) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the infant mortality rates for Indigenous and Other Australians because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) 'Infant' includes persons with an age at death of under 1 year.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the specified periods.

(g) Per cent change between the first year and the last year of the specified periods based on the average annual change over the periods.

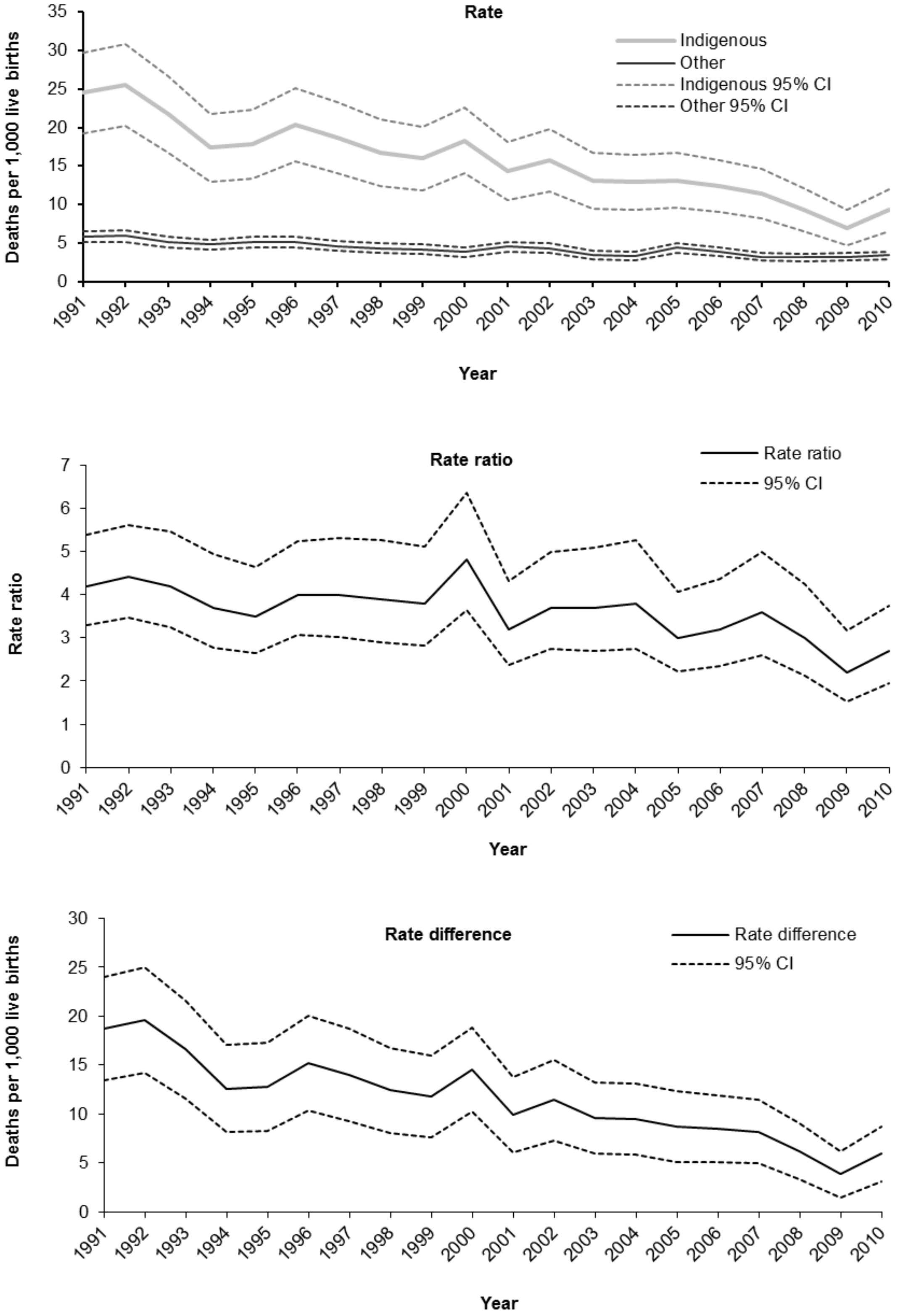
(h) ‘Other Australians’ include deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Source: AIHW analysis of ABS Mortality Database.

Figure 1.20.1: Infant mortality rates, rate ratios and rate differences between Indigenous and other Australians, WA, SA and NT, 1991–2010

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2010 for Indigenous and non-Indigenous infants in Table 1.20.11 and Figure 1.20.2.

- Over the period 2001–2010, there were significant declines in mortality rates for Indigenous and non-Indigenous infants in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined. The fitted trend implies an average yearly decline in the rate of around 0.6 per 1,000 births for Indigenous infants (equivalent to a 46% reduction in the rate over the period) and 0.1 per 1,000 births for non-Indigenous infants (equivalent to an 13% reduction in the rate over the period) (Table 1.20.11).
- Over the same period, there were significant declines in the mortality rate differences between Indigenous and non-Indigenous Australian infants (74%).

Table 1.20.11: Infant mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2010[(a)(b)(c)(d)(e)(f)]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[(g)]	% change over period[(h)]
Indigenous number												
Males	70	65	68	72	78	63	66	52	64	68	–0.8	–10.8
Females	46	65	47	39	46	49	48	49	33	41	–1.4	–27.2
Persons	116	130	115	111	124	112	114	101	97	109	–2.2*	–17.3*
Indigenous rate (no. per 1,000 live births)												
Males	13.1	12.2	12.7	12.8	14.1	11.1	10.1	7.6	8.8	9.0	–0.6*	–40.7*
Females	9.2	12.9	9.0	7.5	8.8	8.9	7.8	7.5	4.8	5.9	–0.6*	–55.2*
Persons	11.2	12.5	10.9	10.2	11.5	10.0	9.0	7.5	6.8	7.5	–0.6*	–46.4*
Non-Indigenous rate (no. per 1,000 live births)												
Males	5.5	4.7	4.2	4.7	4.8	5.1	4.2	4.5	4.6	4.7	–0.1*	–7.6*
Females	4.5	4.1	3.8	3.8	4.4	3.8	3.8	3.5	3.7	3.3	–0.2*	–19.4*
Persons	5.0	4.4	4.0	4.3	4.6	4.5	4.0	4.0	4.1	4.0	–0.1*	–12.7*
Rate Ratio[(i)]												
Males	2.4	2.6	3.0	2.7	2.9	2.2	2.4	1.7	1.9	1.9	–0.1	–40.1
Females	2.1	3.1	2.4	2.0	2.0	2.3	2.1	2.2	1.3	1.8	–0.1	–41.6
Persons	2.2	2.8	2.7	2.4	2.5	2.2	2.2	1.9	1.7	1.9	–0.1	–40.5
Rate difference[(j)]												
Males	7.6	7.5	8.5	8.0	9.3	6.1	5.8	3.1	4.2	4.3	–0.4*	–64.8*
Females	4.7	8.8	5.2	3.7	4.4	5.0	4.0	4.0	1.1	2.6	–0.3*	–89.2*
Persons	6.2	8.1	6.9	6.0	6.9	5.5	4.9	3.5	2.7	3.5	–0.4*	–73.5*

(continued)

Table 1.20.11 (continued): Infant mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2010[(a)(b)(c)(d)(e)(f)(g)]

* Represents results with statistically significant increases or decreases at the p < 0.05 level over the period 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous infant deaths and, depending on the under-identification in births, may either underestimate or overestimate the rates.

(c) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the Indigenous and other infant mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) 'Infant' includes persons with an age at death of under 1 year.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

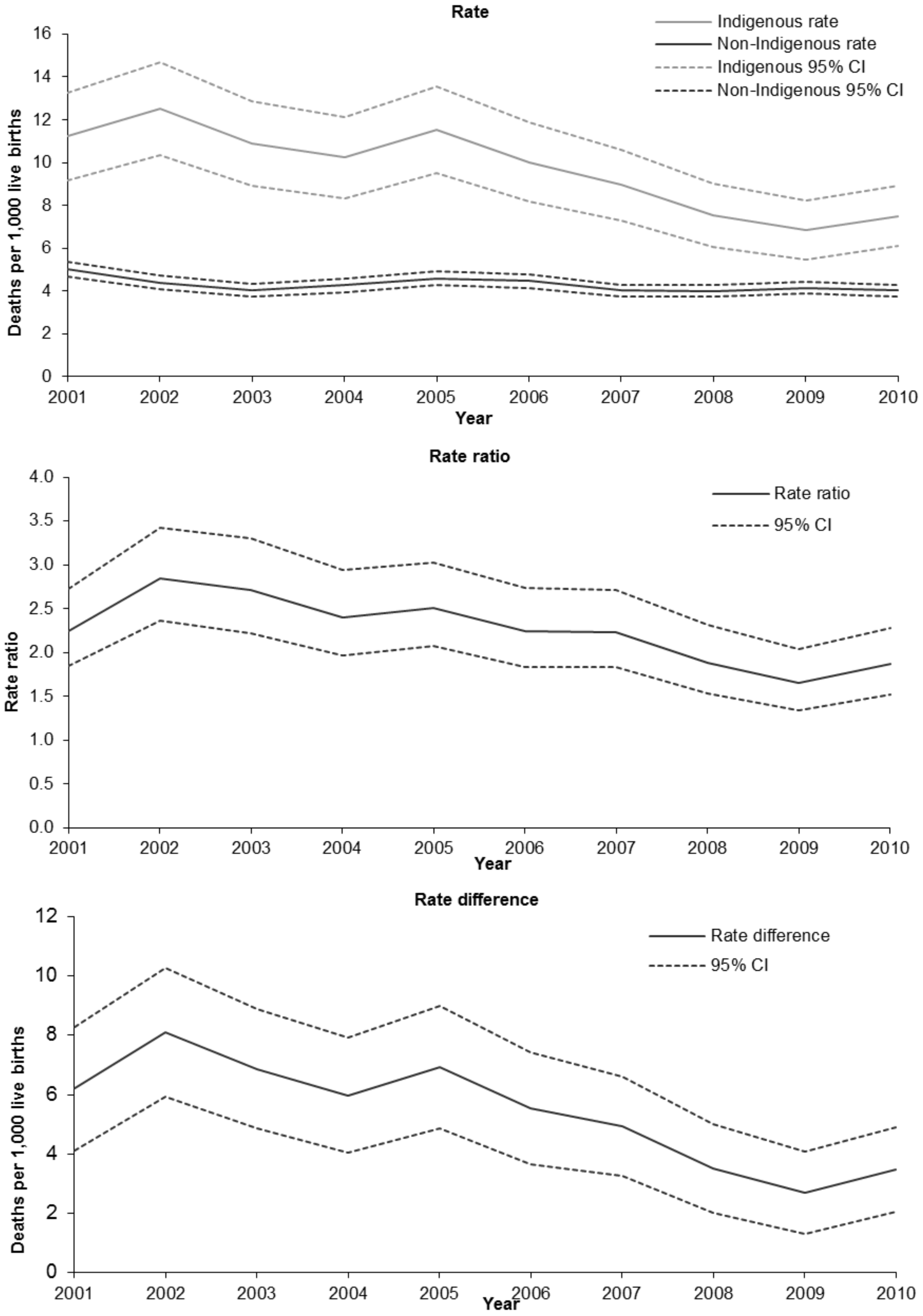
(h) Per cent change between 2001 and 2010 based on the average annual change over the period.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Rate

Rate ratio

Rate difference

Source: AIHW analysis of ABS Mortality Database.

Figure 1.20.2: Infant mortality rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians, NSW, Qld, WA, SA and NT, 2001–2010

Infant mortality time series by state/territory

Table 1.20.12 presents infant deaths, mortality rates and rate ratios for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory with selected periods from 1991–1993 to 2009–2010.

- In general, infant mortality rates for Indigenous babies declined in all of the reported states and territories between each of the selected periods, while for non-Indigenous babies only slight variations in infant mortality rates were observed (Table 1.20.12).
- In particular, in the Northern Territory, the infant mortality rate declined steadily from 27.5 per 1,000 live births in 1991–1993 to 12.3 in 2009–2010. The rate difference between Indigenous and non-Indigenous infant mortality declined from 19.6 in 1991–1993 to 8.6 in 2009–2010 (Table 1.20.12).

Table 1.20.12: Infant mortality rates per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and NT selected time periods[(a)(b)(c)(d)(e)(f)(g)]

	Indigenous				Other Australians[(h)]					
	Deaths	No. per 1,000[(i)]	LCL[(j)]	UCL[(k)]	Deaths	No. per 1,000[(i)]	LCL[(j)]	UCL[(k)]	Rate ratio[(l)]	Rate difference[(m)]
					1991–1993					
WA[(n)]	102	22.1	17.8	26.4	403	5.7	5.1	6.3	3.9*	16.4*
SA	34	20.3	13.5	27.1	296	5.2	4.6	5.8	3.9*	15.1*
NT	109	27.5	22.3	32.7	55	7.9	5.8	10	3.5*	19.6*
					1994–1996					
WA	95	20.6	16.5	24.7	334	4.7	4.2	5.2	4.4*	15.9*
SA	20	12.2	6.9	17.5	278	5	4.4	5.6	2.4*	7.2*
NT	76	18.8	14.6	23	56	8.1	6	10.2	2.3*	10.7*
					1997–1999					
Qld	115	12.6	10.3	14.9	722	5.5	5.1	5.9	2.3*	7.1*
WA	71	15.8	12.1	19.5	300	4.3	3.8	4.8	3.7*	11.5*
SA	13	6.9	3.1	10.7	225	4.3	3.7	4.9	1.6	2.6
NT	93	23.5	18.7	28.3	39	5.7	3.9	7.5	4.1*	17.8*
					2000–2002					
NSW	90	9.5	7.5	11.5	1,203	4.8	4.5	5.1	2.0*	4.7*
Qld	113	11.5	9.4	13.6	737	5.5	5.1	5.9	2.1*	6.0*
WA	79	16.5	12.9	20.1	254	3.7	3.2	4.2	4.5*	12.8*
SA	20	10.4	5.8	15	231	4.5	3.9	5.1	2.3*	5.9*
NT	86	18.1	14.3	21.9	40	6.2	4.3	8.1	2.9*	11.9*
					2003–2005					
NSW	83	8.4	6.6	10.2	1,139	4.6	4.3	4.9	1.8*	3.8*
Qld	114	10.9	8.9	12.9	642	4.6	4.2	5.0	2.4*	6.3*
WA	66	12.8	9.7	15.9	253	3.6	3.2	4.0	3.6*	9.2*
SA	15	7.7	3.8	11.6	195	3.9	3.4	4.4	2.0*	3.8
NT	72	15.6	12	19.2	33	5.2	3.4	7.0	3.0*	10.4*
					2006–2008					
NSW	87	7.7	6.1	9.3	1,136	4.4	4.1	4.7	1.8*	3.3*
Qld	98	7.9	6.3	9.5	797	4.8	4.5	5.1	1.6*	3.1*
WA	62	9.5	7.2	11.9	253	3.1	2.7	3.5	3.1*	6.5*
SA	16	6.4	3.3	9.5	190	3.4	2.9	3.9	1.9*	3.0
NT	64	13.6	10.3	16.9	26	3.8	2.3	5.3	3.6*	9.8*

(continued)

Table 1.20.12 (continued): Infant mortality rates per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and NT selected time periods[(a)(b)(c)(d)(e)(f)(g)]

	Indigenous				Other Australians[(h)]					
	Deaths	No. per 1,000[(i)]	LCL[(j)]	UCL[(k)]	Deaths	No. per 1,000[(i)]	LCL[(j)]	UCL[(k)]	Rate ratio[(l)]	Rate difference[(m)]
					2009–2010[(f)]					
NSW	42	4.9	3.4	6.4	735	4.1	3.8	4.4	1.2	0.8
Qld	84	8.0	6.3	9.7	600	5.0	4.6	5.4	1.6*	3.0*
WA	32	6.7	4.4	9.0	180	3.1	2.6	3.6	2.2*	3.6*
SA	10	5.5	2.1	8.9	139	3.7	3.1	4.3	1.5	1.8
NT	38	12.3	8.4	16.2	17	3.7	1.9	5.5	3.3*	8.6*

* Represents results with statistically significant differences in individual jurisdictions over time at the $p < 0.05$ level.

(a) Jurisdictions presented for time periods are those considered to have adequate levels of Indigenous identification in mortality data for these periods.

(b) Data are presented in 3- and 2-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate.

(d) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the Indigenous and other infant mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) 'Infant' includes persons with an age at death of under 1 year.

(h) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(i) Rates are crude rates per 1,000 live births.

(j) LCL = lower confidence limit.

(k) UCL = upper confidence limit.

(l) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for Other Australians.

(m) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for Other Australians.

(n) Infant mortality rates calculated using reference year births for South Australia and the Northern Territory, and averaged 1993–1995 Western Australia births. This is due to data quality issues in 1991 and 1992 Western Australia births data.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Infant mortality by cause of death time series

Table 1.20.13 presents infant mortality rates by cause of death for the periods 2001–2005 and 2006–2010 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the periods 2001–2005 and 2006–2010, for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the three most common causes of death among Indigenous infants were certain conditions originating in the perinatal period, signs, symptoms & ill-defined conditions and congenital malformations.
- Between 2001–2005 and 2006–2010, there were declines in infant mortality rates for all causes of infant death apart from diseases of the circulatory system, which showed a slight increase.

Table 1.20.13: Causes of infant death, by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2005 and 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Number of deaths		No. per 1,000(h)					Number of deaths		No. per 1,000(i)				
Cause of death	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio(i)**	**Rate difference(j)**	**Rate difference %(k)**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio(i)**	**Rate difference(j)**	**Rate difference %(k)**
				2001–2005							**2006–2010(g)**			
Certain conditions originating in the perinatal period (P00–P96)	257	1,928	4.9	2.3	2.1*	2.6*	37.6	268	1,948	4.1	2.0	2.0*	2.1*	51.3
Signs, symptoms & ill-defined conditions (R00–R99)	138	381	2.6	0.5	5.7*	2.2*	31.6	77	378	1.2	0.4	3.0*	0.8*	19.3
SIDS (R95)(l)	*73*	*240*	*1.4*	*0.3*	*4.8**	*1.1**	*16.1*	*40*	*263*	*0.6*	*0.3*	*2.0**	*0.3**	*7.4*
Congenital malformations (Q00–Q99)	80	878	1.5	1.0	1.4*	0.5*	6.8	85	1,026	1.3	1.0	1.2	0.2	6.0
Diseases of the respiratory system (J00–J99)	39	69	0.7	0.1	9.0*	0.7*	9.6	21	95	0.3	0.1	3.3*	0.2*	5.5
Injury & poisoning (V01–Y99)	29	105	0.5	0.1	4.4*	0.4*	6.2	24	120	0.4	0.1	3.0*	0.2*	6.0
Infectious and parasitic diseases (A00–B99)	19	58	0.4	0.1	5.2*	0.3*	4.3	14	52	0.2	0.1	4.0*	0.2*	3.9
Diseases of the circulatory system (I00–I99)	7	59	0.1	0.1	1.9	0.1	0.9	16	74	0.2	0.1	3.2*	0.2*	4.1
Other conditions(m)	27	259	0.5	0.3	1.7*	0.2*	3.0	28	262	0.4	0.3	1.6*	0.2*	3.9
All causes	**596**	**3,737**	**11.3**	**4.5**	**2.5***	**6.8***	**100.0**	**533**	**3,955**	**8.1**	**4.0**	**2.0***	**4.1***	**100.0**

(continued)

Table 1.20.13 (continued): Causes of infant death, by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2005 and 2006–2010(a)(b)(c)(d)(e)(f)(g)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are considered to have adequate levels of Indigenous identification in mortality data. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous infant deaths and, depending on the under-identification in births, may either underestimate or overestimate the rates. Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

(c) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous infant mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) 'Infant' includes persons with an age at death of under 1 year.

(g) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(h) Rates are crude rates per 1,000 live births.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all causes.

(l) Data presented for SIDS are a subset of data presented for signs, symptoms and ill-defined conditions presented in this table.

(m) Other conditions include: neoplasms; diseases of blood and blood-forming organs; endocrine, nutritional and metabolic diseases; mental and behavioural disorders; diseases of the nervous system; diseases of the eye and adnexa; diseases of the ear and mastoid process; diseases of the digestive system; diseases of the musculoskeletal system and connective tissues; diseases of the genitourinary system; and diseases of the skin and subcutaneous tissue.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

SIDS time series

Due to changes in the classification and coding of causes of death from ICD–9 (used until 1996) to ICD–10 (used from 1997 onwards) which affects the comparability of the data, the analysis reported for this indicator has been done for two time periods—1991–1996 and 1997–2010. Data are presented in 3- to 4-year groupings because of low numbers of deaths from SIDS each year.

- Over the period 1991–1993 to 1994–1996, there were non-significant declines in mortality rates for SIDS for Indigenous infants in Western Australia, South Australia and the Northern Territory combined. Over the same period there were significant declines in mortality rates for SIDS for other infants (a decline of around 0.4 deaths per 1,000 live births) (Table 1.20.14).
- Over the period 1997–1999 to 2009–2010, there were significant declines in mortality rates for SIDS for both Indigenous and other infants in Western Australia, South Australia and the Northern Territory combined. The fitted trend implies an average yearly decline in the rate of around 0.3 per 1,000 births for Indigenous infants (equivalent to a 110% decline over the period) and 0.04 per 1,000 births for other infants (equivalent to a 89% decline) (Table 1.20.14).
- Over the same period, there was a significant decline in the mortality rate ratio between Indigenous and other infants of around 0.5 per 1,000 live births. There was also a significant decline in the mortality rate difference of around 0.3 per 1,000 live births.

Analysis of infant mortality data in Western Australia has, in recent years, shifted away from a classification of 'SIDS' towards a classification of 'unascertainable', particularly for Aboriginal infants. This has implications for the analysis of trends in SIDS over time (Freemantle et al. 2005).

Table 1.20.14: SIDS mortality rates, rate ratios and rate differences per 1,000 live births, by Indigenous status, WA, SA and NT, 1991–1993 to 2009–2010[a][b][c][d][e]

	Deaths		No. per 1,000[f]			
	Indigenous	Other[g]	Indigenous	Other[g]	Rate ratio[h]	Rate difference[i]
1991–1996						
1991–1993	62	149	6.6	1.1	6.0	5.5
1994–1996	44	92	4.3	0.7	6.1	3.6
Difference in rates[j]	. .	. .	–2.3	–0.4*	5.8	–1.9
1997–2010						
1997–1999	38	70	3.7	0.5	6.8	3.1
2000–2002	23	35	2.0	0.3	7.2	1.7
2003–2005	6	15	0.5	0.1	4.3	0.4
2006–2008	n.p.	11	n.p.	0.1	n.p.	n.p.
2009–2010	n.p.	13	n.p.	0.1	n.p.	n.p.
Annual change[k]	–3.2*	–4.8*	–0.3*	–0.04*	–0.5*	–0.3*
Per cent change over period[l]	–109.6*	–89.6*	–107.6*	–88.8*	–92.9*	–110.8*

* Represents results with statistically significant differences at the $p < 0.05$ level over the period 1991–1993 to 1994–1996 and 1997–1999 to 2009–2010.

(a) SIDS - Sudden Infant Death Syndrome, ICD–10 code: R95; ICD9 code 7980.0. SIDS data in this table is for deaths under 1 year of age.

(b) Data are reported for South Australia, Western Australia and the Northern Territory only. These three states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) Rates are crude rates per 1,000 live births.

(g) Other includes non-Indigenous and Indigenous not stated.

(h) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(i) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(j) Mortality rate for 1994–1996 minus mortality rate for 1991–1993.

(k) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the periods 1997–2010.

(l) Per cent change between 1997 and 2010 based on the average annual change over the period.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2010 for Indigenous and non-Indigenous infants in Table 1.20.15.

- Over the period 2001–2002 to 2009–2010, there were significant declines in mortality rates for SIDS for Indigenous infants in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (a 79% decline). Over the same period there were no significant changes in mortality rates for SIDS for non-Indigenous infants (Table 1.20.15).
- Over the same period, there was a significant decline in the mortality rate ratio between Indigenous and non-Indigenous infants of around 0.5 per 1,000 live births. There was also a significant decline in the mortality rate difference of around 0.2 per 1,000 live births.

Table 1.20.15: SIDS mortality rates, rate ratios and rate differences per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2010[(a)(b)(c)(d)(e)(f)]

	2001–2002	2003–2004	2005–2006	2007–2008	2009–2010	Annual change[(g)]	Per cent change[(h)]
Indigenous deaths from SIDS	40	22	24	13	14	–3.1*	–68.6*
Non-Indigenous deaths from SIDS	121	70	102	105	105	0.2	1.1
Indigenous rate per 1,000[(i)]	1.9	1.0	1.1	0.5	0.5	–0.2*	–78.8*
Non-Indigenous rate per 1,000[(i)]	0.4	0.2	0.3	0.3	0.3	–0.01	–25.4
Rate ratio[(j)]	5.4	5.0	3.8	1.9	1.9	–0.5*	–84.1*
Rate difference[(k)]	1.6	0.8	0.8	0.2	0.2	–0.2*	–92.9*

* Represents results with statistically significant differences at the $p < 0.05$ level over the period 2001–2010.

(a) SIDS - Sudden Infant Death Syndrome, ICD–10 code: R95. SIDS data in this table is for deaths under 1 year of age.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous infants are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the periods 2001–2010.

(h) Per cent change between 2001 and 2010 based on the average annual change over the period.

(i) Rates are crude rates per 1,000 live births.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Child mortality time series

Child mortality rates, rate ratios and rate differences between Indigenous and other Australian children aged 0–4 years over the period 1991–2010 in Western Australia, South Australia and the Northern Territory are presented in Table 1.20.16.

- Over the period 1991–2010, there were significant declines in recorded mortality rates for Indigenous children and other children in Western Australia, South Australia and the Northern Territory. The fitted trend implies an average yearly decline in the rate of around 15 deaths per 100,000 for Indigenous children (equivalent to a 47% reduction in the rate over the period) and 3 deaths per 100,000 for other infants (equivalent to a 44% reduction in the rate over the period).
- Over the same period, there were also significant declines in the mortality rate ratios (16%) and rate differences between Indigenous and other Australian children (48%).

Table 1.20.16: Mortality rates, rate ratios and rate differences for children aged 0–4 years, WA, SA and NT, 1991–2010(a)(b)(c)(d)(e)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number of Indigenous deaths																				
Males	58	53	57	40	37	52	41	32	34	48	40	32	31	39	44	31	33	28	31	34
Females	49	45	37	40	39	36	39	29	35	38	29	42	28	19	30	28	21	26	18	19
Persons	107	98	94	80	76	88	80	61	69	86	69	74	59	58	74	59	54	54	49	53
Indigenous rate (no. per 100,000)(h)																				
Males	656.9	577.6	602.2	412.0	378.4	527.2	414.3	321.3	337.5	473.2	385.8	305.1	297.9	381.5	437.7	311.7	333.5	282.2	306.3	329.8
Females	580.6	519.9	414.1	435.8	421.9	387.1	423.7	312.9	374.8	400.1	299.7	427.7	280.1	191.9	309.9	291.1	219.9	272.3	185.8	192.2
Persons	619.6	549.6	510.8	423.5	399.6	459.2	418.7	317.3	355.5	438.0	344.2	364.6	289.3	288.3	375.1	301.6	277.7	277.3	247.4	262.4
Other Australians rate (no. per 100,000)(h)																				
Males	144.3	159.6	151.7	119.2	157.0	151.1	132.9	122.0	135.3	115.3	125.1	108.0	97.1	99.7	107.1	87.3	94.3	87.9	91.2	104.3
Females	122.7	136.2	106.2	115.6	97.5	96.8	99.4	90.9	72.6	68.6	92.7	96.3	85.3	64.7	112.3	105.6	61.9	72.5	70.5	64.6
Persons	133.8	148.2	129.6	117.5	128.0	124.7	116.6	106.9	104.7	92.5	109.2	102.3	91.3	82.7	109.6	96.2	78.5	80.4	81.1	84.9
Rate ratio(i)																				
Males	4.6	3.6	4.0	3.5	2.4	3.5	3.1	2.6	2.5	4.1	3.1	2.8	3.1	3.8	4.1	3.6	3.5	3.2	3.4	3.2
Females	4.7	3.8	3.9	3.8	4.3	4.0	4.3	3.4	5.2	5.8	3.2	4.4	3.3	3.0	2.8	2.8	3.6	3.8	2.6	3.0
Persons	4.6	3.7	3.9	3.6	3.1	3.7	3.6	3.0	3.4	4.7	3.2	3.6	3.2	3.5	3.4	3.1	3.5	3.4	3.1	3.1
Rate difference(j)																				
Males	512.5	418.0	450.4	292.8	221.4	376.1	281.4	199.3	202.2	357.9	260.7	197.1	200.9	281.8	330.5	224.3	239.2	194.3	215.1	225.5
Females	457.9	383.7	307.9	320.2	324.4	290.3	324.3	222.0	302.2	331.5	207.0	331.4	194.7	127.2	197.7	185.6	158.0	199.7	115.3	127.5
Persons	485.8	401.4	381.2	306.1	271.6	334.5	302.2	210.4	250.7	345.5	235.0	262.3	198.0	205.6	265.5	205.4	199.2	196.9	166.3	177.5

(continued)

Table 1.20.16 (continued): Mortality rates, rate ratios and rate differences for children aged 0–4 years, WA, SA and NT, 1991–2010[a][b][c][d][e]

	Long term 1991–2010		Medium term 1998–2010		Short term 2001–2010	
	Annual change[f]	% change over period[g]	Annual change[f]	% change over period[g]	Annual change[f]	% change over period[g]
Number of Indigenous deaths						
Males	–1.1*	–37.6*	–0.5	–19.2	–0.6	–14.6
Females	–1.3*	–51.0*	–1.3*	–55.2*	–1.6*	–49.7*
Persons	–2.5*	–43.7*	–1.8*	–36.3*	–2.2*	–29.3*
Indigenous rate (no. per 100,000)[h]						
Males	–14.1*	–40.7*	–4.8	–17.9	–5.1	–11.9
Females	–16.4*	–53.8*	–14.6*	–56.1*	–16.0*	–48.0*
Persons	–15.2*	–46.7*	–9.6*	–36.4*	–10.4*	–27.3*
Other Australians rate (no. per 100,000)[h]						
Males	–3.6*	–47.5*	–3.1*	–30.3*	–2.3*	–16.9*
Females	–2.5*	–39.2*	–1.1	–14.4	–3.1	–30.1
Persons	–3.1*	–43.8*	–2.1*	–23.7*	–2.7*	–22.3*
Rate ratio[i]						
Males	–0.01	–5.2	0.04	20.4	0.02*	6.6
Females	–0.01*	–30.4*	–0.1*	–50.8*	–0.06	–17.9
Persons	–0.04*	–15.7*	–0.03	–13.2	–0.02	–6.5
Rate difference[j]						
Males	–10.5*	–38.8*	–1.7	–10.3	–2.7	–9.6
Females	–13.9*	–57.7*	–13.5*	–73.2*	–12.9*	–55.9*
Persons	–12.2*	–47.6*	–7.5*	–42.9*	–7.7*	–29.6*

(continued)

Table 1.20.16 (continued): Mortality rates, rate ratios and rate differences for children aged 0–4 years, WA, SA and NT, 1991–2010(a)(b)(c)(d)(e)

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the selected periods.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous child mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates.

(c) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous infant mortality rates. It is also difficult to exactly identify the difference between the infant mortality rates for Indigenous and Other Australians because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Includes all deaths of children aged 0–4 years.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the specified periods.

(g) Per cent change between the first year and the last year of the specified periods based on the average annual change over the specified periods.

(h) Rates are crude rates per 100,000 population.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Additional trends analysis is presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2010 for Indigenous and non-Indigenous children aged 0–4 years in Table 1.20.17.

- Over the period 2001–2010, there were significant declines in recorded mortality rates for Indigenous children and non-Indigenous children in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (19% and 10%, respectively).
- Over the same period, there was also a significant decrease in the mortality rate difference between Indigenous and non-Indigenous children (26%).

Table 1.20.17: Mortality rates, rate ratios and rate differences for children aged 0–4 years, NSW, Qld, WA, SA and NT, 2001–2010[(a)(b)(c)(d)(e)]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[(f)] 2001–2010	Per cent change[(g)] 2001–2010
Number of Indigenous deaths												
Males	85	77	78	85	95	75	80	62	81	73	–1.2	–12.5
Females	58	74	56	51	61	56	55	63	48	52	–1.2	–18.2
Persons	143	151	134	136	156	131	135	125	129	125	–2.4*	–14.8*
Indigenous rate per 100,000[(h)]												
Males	284.3	257.1	262.4	287.1	321.5	255.3	269.9	205.6	262.8	231.4	–5.1	–16.1
Females	204.5	259.6	196.1	179.6	216.0	198.1	193.7	219.0	163.1	172.4	–5.0	–22.0
Persons	245.5	258.3	229.9	234.5	269.9	227.2	232.6	212.2	214.1	202.6	–5.0*	–18.5*
Non-Indigenous rate per 100,000[(h)]												
Males	127.6	113.7	105.1	116.6	115.0	119.2	110.2	114.3	108.9	112.7	–0.8	–5.8
Females	101.3	93.2	91.0	92.4	101.9	93.9	90.1	86.0	88.8	77.7	–1.7*	–15.2*
Persons	114.8	103.7	98.2	104.8	108.6	106.9	100.4	100.6	99.1	95.6	–1.3*	–9.9*
Rate ratio[(i)]												
Males	2.2	2.3	2.5	2.5	2.8	2.1	2.4	1.8	2.4	2.1	–0.03	–11.5
Females	2.0	2.8	2.2	1.9	2.1	2.1	2.2	2.5	1.8	2.2	–0.01	–6.2
Persons	2.1	2.5	2.3	2.2	2.5	2.1	2.3	2.1	2.2	2.1	–0.02	–9.6
Rate difference[(j)]												
Males	156.7	143.4	157.3	170.6	206.6	136.1	159.7	91.3	153.9	118.7	–4.3	–24.4
Females	103.3	166.3	105.2	87.2	114.1	104.2	103.6	133.0	74.3	94.7	–3.3	–28.7
Persons	130.7	154.6	131.7	129.6	161.3	120.3	132.2	111.6	115.0	106.9	–3.8*	–26.1*

(continued)

Table 1.20.17 (continued): Mortality rates, rate ratios and rate differences for children aged 0–4 years, NSW, Qld, WA, SA and NT, 2001–2010(a)(b)(c)(d)(e)

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous child mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates.

(c) Because of changes in the level of accuracy of Indigenous identification in the births and deaths data over time, caution should be used in interpreting changes in Indigenous child mortality rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous child mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Rates are crude rates per 100,000 population.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

International comparisons

International Indigenous data are available for New Zealand, the United States and Canada.

There are several common issues that adversely affect the quality of Indigenous mortality data in these three countries and Australia. These include the lack of an accurate denominator value for the Indigenous population and the lack of agreement over which population denominator values to use if they do exist. There are differences in how Indigenous status is defined in the different countries. There have also been frequent modifications to the ethnicity question recorded in the censuses in some of these countries. These frequent changes in the census ethnicity question have led to difficulties in comparing mortality trends over time and have also produced difficulties in estimating inter-census population denominator counts. Another difficulty is that data are not always available for the same time periods.

The most important issue in relation to the quality of Indigenous mortality data is the under-counting of deaths (the numerator for mortality data). In each of the four countries, the undercounting of Indigenous deaths is likely to lead to an underestimation of the relative size of disparities that exist between Indigenous and non-Indigenous populations.

Note that the figures provided for Australia and New Zealand are based on births according to the race of the parents, whereas those provided for the United States are based on births according to the race of the mother.

Infant mortality

International statistics on infant mortality show that Indigenous infants in the United States, Canada and New Zealand have higher mortality rates than infants in the general population but the gap is not as great as for Aboriginal and Torres Strait Islander infants. Over the period 2006–2010 the infant mortality rate for Aboriginal and Torres Strait Islander infants was twice that for non-Indigenous infants (8.1 per 1,000 live births compared with 4.1 per 1,000 live births) in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined. The latest available data from the United States, Canada and New Zealand are outlined below.

- For the period 2003–2007, the infant mortality rate of babies born to American Indian or Alaskan Native mothers was 8.6 per 1,000 live births, compared with 6.8 per 1,000 live births for babies born to all mothers in the United States (United States Department of Health and Human Services unpublished data).
- For the period 2006–2010 in New Zealand, the mortality rate of Maori infants was 6.7 per 1,000 live births, compared with 4.1 per 1,000 live births for non-Indigenous infants (Statistics New Zealand unpublished data).
- In 2000, the mortality rate of Canadian First Nations infants was 6.4 per 1,000 live births, compared with the 2001 Canadian rate of 5.2 per 1,000 live births (Health Canada 2005).

Time series

Infant mortality data are available from 1996 to 2010 for the Maori population in New Zealand, and from 1995 to 2007 for the American Indian and Alaskan Native populations in the United States. These data are presented in Table 1.20.18 and Figure 1.20.3 along with data for Australia for the period 1995 to 2010. Reliable time series of infant mortality data for Canadian First Nations is not available at present.

- In New Zealand between 1996 and 2010 there was a significant decline in mortality for Maori infants. The fitted trend implies an average yearly decline in the rate of around 0.3 per 1,000 live births, which is equivalent to a 37% reduction in the rate over this period. There were also significant declines in other infant mortality rates between 1996 and 2010 (a reduction of 23%) (Statistics New Zealand unpublished data, Table 1.20.18).
- In the United States between 1995 and 2007 there was no significant change in infant mortality for American Indians and Alaskan Natives. Over the same period there were significant declines in other infant mortality rates (a reduction of 9%) (United States Department of Health and Human Services, unpublished data, Table 1.20.18).

Table 1.20.18: Infant mortality rates per 1,000 live births, by Indigenous status, Australia (1995–2010), New Zealand (1996–2010) and the United States (1995–2007)(a)

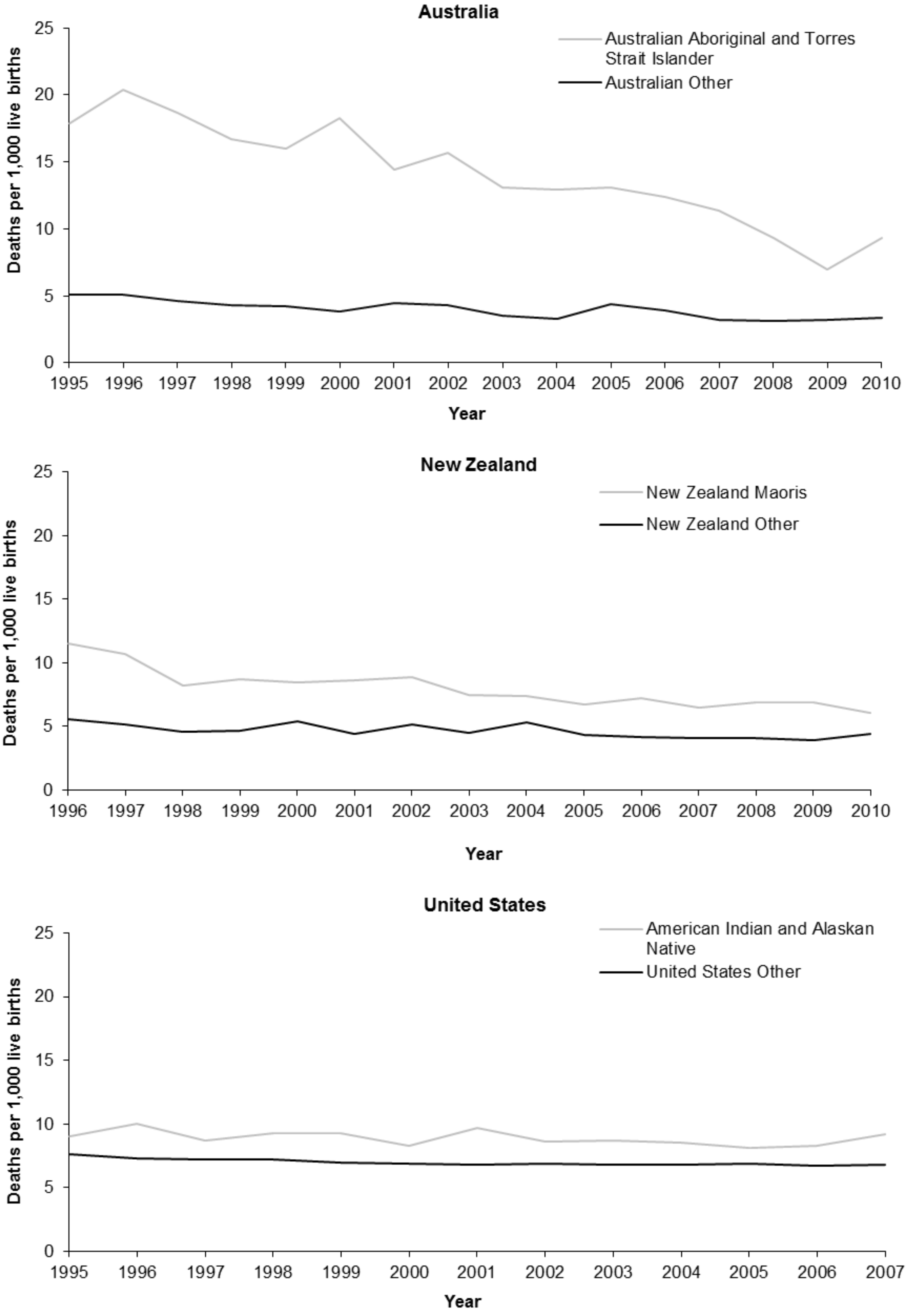
	Australia		New Zealand		United States	
Year	**Indigenous**	**Other**	**New Zealand Maoris**	**New Zealand Other**	**American Indian & Alaskan Native**	**United States Other**
1995	17.9	5.1	. .	. .	9.0	7.6
1996	20.4	5.1	11.5	5.6	10.0	7.3
1997	18.7	4.6	10.7	5.2	8.7	7.2
1998	16.7	4.3	8.2	4.6	9.3	7.2
1999	16.0	4.2	8.7	4.7	9.3	7.0
2000	18.3	3.8	8.5	5.4	8.3	6.9
2001	14.4	4.5	8.6	4.4	9.7	6.8
2002	15.7	4.3	8.9	5.2	8.6	6.9
2003	13.1	3.5	7.5	4.5	8.7	6.8
2004	12.9	3.3	7.4	5.3	8.5	6.8
2005	13.1	4.4	6.7	4.3	8.1	6.9
2006	12.4	3.9	7.2	4.2	8.3	6.7
2007	11.4	3.2	6.5	4.1	9.2	6.8
2008	9.3	3.1	6.9	4.1	n.a.	n.a.
2009	7.0	3.2	6.9	3.9	n.a.	n.a.
2010	9.3	3.4	6.1	4.4	n.a.	n.a.
Annual change	–0.8*	–0.1*	–0.3*	–0.1*	–0.1	–0.1*
% change	–63.2*	–34.6*	–36.8*	–22.8*	–9.5	–9.2*

* Represents statistically significant differences at the $p < 0.05$ level over the reporting period.

(a) Australia, New Zealand and the United States use distinctly different methods for identification and definition of indigenous people, and how statistics are adjusted to allow for known data issues. As such, caution should be used when drawing comparisons between countries.

Note: Australia data is for Western Australia, South Australia & the Northern Territory combined.

Source: AIHW analysis of ABS Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.



Note: Australia data is for Western Australia, South Australia & the Northern Territory combined.

Source: AIHW analysis of ABS Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.

Figure 1.20.3: Infant mortality rates per 1,000 live births, by Indigenous status, Australia (1995–2010), New Zealand (1996–2010) and the United States (1995–2007)

SIDS

International statistics on infant mortality show that Indigenous infants in the United States and New Zealand have higher mortality rates for SIDS than other infants, but the gap is not as great as for Aboriginal and Torres Strait Islander infants. In 2006–2010, the infant mortality rate for SIDS for Aboriginal and Torres Strait Islander infants was twice that for non-Indigenous infants (0.6 per 1,000 live births compared with 0.3 per 1,000 live births) in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined. The latest available data from the United States and New Zealand are outlined below. Data are not provided for Canada, as information on the cause of death of infants is incomplete and not suitable for the calculation of rates.

- During the period 2003–2007, the death rate from SIDS was 1.2 per 1,000 live births among American Indians and Alaskan Natives compared with 0.5 per 1,000 live births for other people in the United States (United States Department of Health and Human Services unpublished data).
- For the period 2004–2008, the mortality rate for SIDS was 1.7 per 1,000 live births among New Zealand Maoris, compared with 0.4 per 1,000 live births among non-Indigenous people in New Zealand (Statistics New Zealand unpublished data).

Time series

SIDS mortality data are available from 1996 to 2008 for the Maori population in New Zealand, and from 1996 to 2007 for the American Indian and Alaskan Native population in the United States. These data are presented in Table 1.20.19 and Figure 1.20.4 along with data for Australia for the period 1996–2010.

- In New Zealand between 1996 and 2008 there were significant declines in mortality from SIDS in the Maori population. The fitted trend implies an average yearly decline in the rate of around 0.2 per 1,000 live births, which is equivalent to a 54% reduction in the rate over this period. There were also significant declines in other SIDS mortality rates between 1996 and 2008 (a reduction of 41%) (Statistics New Zealand unpublished data).
- In the United States between 1996 and 2007 there were significant declines in mortality from SIDS in the American Indian and Alaskan Native population. The fitted trend implies an average yearly decline in the rate of around 0.05 per 1,000 live births, which is equivalent to a 29% reduction in the rate over this period. There were also significant declines in SIDS mortality rates for other persons in the United States between 1996 and 2007 (a reduction of 32%) (United States Department of Health and Human Services unpublished data).

Table 1.20.19: SIDS mortality rates per 1,000 live births, by Indigenous status, Australia (1996–2010) New Zealand (1996–2008), United States (1996–2007)

	Australia		New Zealand		United States	
	Indigenous	**Other**	**NZ Maoris**	**Other**	**American Indian and Alaska Native**	**Other**
1996	5.5	0.7	4.6	0.9	2.0	0.8
1997	4.5	0.5	3.6	0.6	1.6	0.8
1998	4.7	0.6	2.7	0.7	1.5	0.7
1999	1.9	0.5	2.9	0.6	1.5	0.7
2000	1.8	0.3	2.7	0.5	1.2	0.6
2001	1.3	0.3	2.0	0.4	1.5	0.5
2002	3.0	0.2	1.8	0.5	1.2	0.6
2003	0.5	0.2	2.4	0.3	1.2	0.5
2004	0.5	0.0	2.1	0.3	1.0	0.5
2005	0.5	0.1	1.6	0.3	1.1	0.5
2006	0.5	0.1	1.6	0.5	1.2	0.5
2007	0.0	0.0	1.4	0.6	1.4	0.6
2008	0.2	0.1	1.6	0.4	n.a	n.a
2009	0.0	0.1	n.a	n.a	n.a	n.a
2010	0.4	0.2	n.a	n.a	n.a	n.a
Annual change[(a)]	–0.4*	–0.04*	–0.2*	–0.03*	–0.05*	–0.02*
Total % change[(b)]	–91.4*	–84.4*	–54.0*	–41.3*	–29.0*	–32.1*

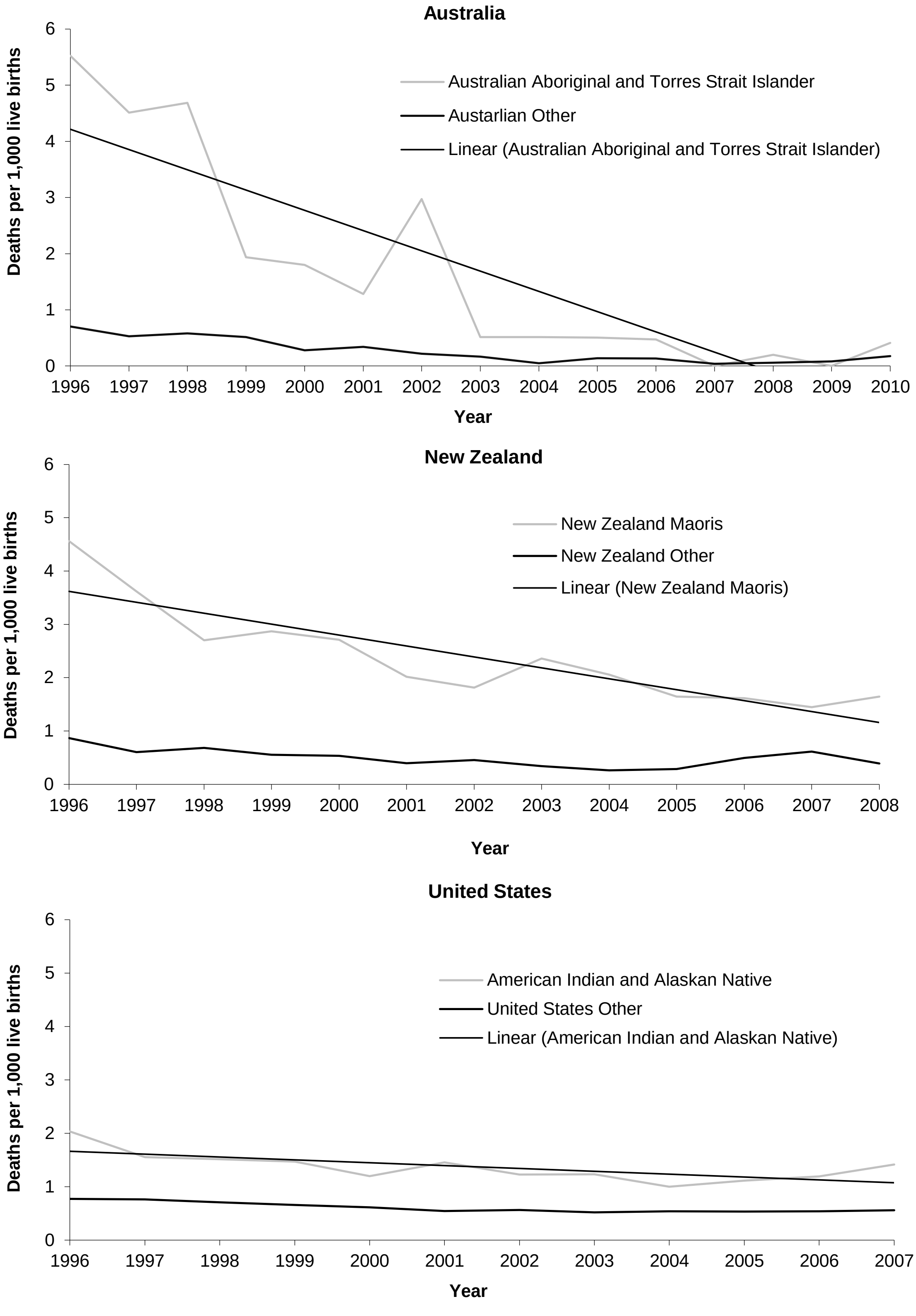
* Represents statistically significant differences at the $p < 0.05$ level over the reported period.

(a) Average annual change in rates determined using linear regression analysis.

(b) Per cent change based on the average annual change over the reported period.

Note: Australia data are for Western Australia, South Australia and the Northern Territory combined.

Source: AIHW analysis of ABS Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.



Source: AIHW analysis of ABS Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.

Figure 1.20.4: SIDS mortality rates per 1,000 live births, by Indigenous status, Australia (1996–2010), New Zealand (1996–2008), United States (1996–2007)

Additional information

Sleeping position

Infants sleeping in the prone (front down) or semi-foetal positions have been associated with an increased risk of SIDS (Dwyer et al. 1991).

Table 1.20.20 presents data from the 2008 NATSISS on the proportion of Indigenous infants that usually slept in various positions.

- The most common sleeping position among Indigenous infants in 2008 was the child sleeping on their back (46%), while the least common sleeping position was sleeping on their tummy.

Table 1.20.20: Usual sleeping position of Indigenous infants(a), 2008

	Number	Proportion
Child sleeps on back	24,397	45.9
Child sleeps on side	17,738	33.3
Child sleeps on tummy	11,061	20.8
Total(b)	**53,196**	**100.0**
Not known	685	. .

(a) Children aged 0–3 years.

(b) Total excludes unknown responses.

Source: 2008 NATSISS.

Data quality issues

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006–07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021 (ABS 2009).

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years.

Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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1.21 Perinatal mortality

The number of Aboriginal and Torres Strait Islander babies who die in the perinatal period, expressed as a rate (per 1,000 births)

Data sources

Data for this measure come from the Australian Bureau of Statistics (ABS) Deaths Registration Database.

Deaths Registration Database

The ABS Deaths Registration Database contains details of all deaths registered in Australia. This includes information on foetal (stillbirths) and neonatal deaths (deaths occurring in live births up to 28 days of age), by age of the baby, sex, state/territory of birth, Indigenous status and cause of death (ICD-10).

Data from the ABS Deaths Registration Database have been used to report on perinatal mortality for this indicator.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

Analyses

Mortality by sex

- Over the period 2006–2010, there were 810 deaths (462 males, 348 females) of Indigenous perinatal infants and 8,069 deaths (4,364 males, 3,705 females) of non-Indigenous perinatal infants in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.
- The perinatal mortality rate for Indigenous infants was 12 per 1,000 births compared with 8.1 per 1,000 births for non-Indigenous infants.

- Perinatal mortality rates were higher for males than females for both Indigenous and non-Indigenous infants. The perinatal mortality rate for Indigenous males was 13.4 per 1,000 births compared with 10.6 per 1,000 births for Indigenous females. The perinatal mortality rate for non-Indigenous males was 8.6 per 1,000 births compared with 7.6 per 1,000 births for non-Indigenous females (Table 1.21.1).

Table 1.21.1: Perinatal mortality rates per 1,000 births, by Indigenous status and sex, NSW, Qld, WA, SA and NT combined, 2006–2010[a][b][c][d][e][f][g][h]

	Indigenous		Non-Indigenous			
	Deaths	Number per 1,000 births[h]	Deaths	Number per 1,000 births[h]	Rate ratio[i]	Rate difference[j]
Males[k]	462	13.4	4,364	8.6	1.6	4.8
Females	348	10.6	3,705	7.6	1.4	2.9
Persons	810	12.0	8,069	8.1	1.5	3.9

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the four jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous perinatal mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous perinatal mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Causes of death data for 2010 are preliminary and subject to a revisions process. See ABS Causes of Death (cat. no. 3303.0) Australia 2010, Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006, Causes of Death Revisions, 2008 and 2009 and Retrospective deaths by cause of death, Queensland, 2010.

(f) These data exclude **364** registered deaths where the Indigenous status was not stated over the period 2006–2010.

(g) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birthweight) plus all neonatal deaths.

(h) Foetal death rates and perinatal death rates are calculated per 1,000 all births for the calendar year. Neonatal death rates are calculated per 1,000 live births for the calendar year.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Male deaths include those perinatal deaths of sex indeterminate.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: ABS and AIHW analysis of ABS Deaths Registration Database.

Mortality by state/territory

Perinatal mortality rates per 1,000 births among Indigenous and non-Indigenous babies are presented in Table 1.21.2 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory for the period 2006–2010.

- In 2006–10 Indigenous babies in the Northern Territory died in the perinatal period at 3.2 times the rate of non-Indigenous babies. In South Australia the perinatal death rate for Indigenous babies was lower than for non-Indigenous babies (rate ratio of 0.8). In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the rate ratio was 1.5.
- The majority of perinatal deaths are foetal deaths. In 2006–2010, the foetal death rate was 7 per 1,000 births among Indigenous babies and 5.3 for non-Indigenous babies. The neonatal death rate among Indigenous babies for the same period was 5 per 1,000 live births compared with 2.8 among non-Indigenous babies.

Table 1.21.2: Foetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT combined, 2006–2010[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

	Number	No. per 1,000[(j)]	LCL 95%[(k)]	UCL 95%[(l)]	Rate ratio[(m)]	Rate difference[(n)]
			Foetal deaths[(g)]			
NSW						
Indigenous	88	4.4	2.3	6.4	0.9	–0.7
Non-Indigenous	2,293	5.0	4.6	5.5	. .	. .
Qld						
Indigenous	195	8.8	6.0	11.6	1.4*	2.5*
Non-Indigenous	1,863	6.3	5.7	7.0	. .	. .
WA						
Indigenous	75	6.0	3.0	9.1	1.2	1.1
Non-Indigenous	687	5.0	4.1	5.8	. .	. .
SA						
Indigenous	9	1.8	–0.8	4.5	0.4*	–2.3*
Non-Indigenous	393	4.1	3.2	5.0	. .	. .
NT						
Indigenous	105	13.3	7.6	19.0	2.9*	8.8*
Non-Indigenous	54	4.5	1.8	7.2	. .	. .
NSW, Qld, WA, SA & NT[(a)(d)(e)]						
Indigenous	472	7.0	5.6	8.4	1.3*	1.7*
Non-Indigenous	5,290	5.3	5.0	5.6	. .	. .
			Neonatal deaths[(h)]			
NSW						
Indigenous	86	4.3	2.3	6.3	1.4*	1.3*
Non-Indigenous	1,356	3.0	2.6	3.3	. .	. .
Qld						
Indigenous	129	5.8	3.6	8.1	1.8*	2.6*
Non-Indigenous	940	3.2	2.7	3.7	. .	. .
WA						
Indigenous	47	3.8	1.4	6.2	2.0*	1.9*
Non-Indigenous	261	1.9	1.4	2.4	. .	. .
SA						
Indigenous	14	2.9	–0.5	6.2	1.4	0.8
Non-Indigenous	197	2.1	1.4	2.7	. .	. .
NT						
Indigenous	62	7.9	3.5	12.3	3.8*	5.8*
Non-Indigenous	25	2.1	0.3	3.9	. .	. .

(continued)

Table 1.21.2 (continued): Foetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, NSW, Qld, SA and NT combined, 2006–2010[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

	Number	No. per 1,000[(j)]	LCL 95%[(k)]	UCL 95%[(l)]	Rate ratio[(m)]	Rate difference[(n)]
NSW, Qld, WA, SA & NT[(a)(d)(e)]						
Indigenous	338	5.0	3.8	6.2	1.8*	2.2*
Non-Indigenous	2,779	2.8	2.6	3.0	. .	. .
	Perinatal deaths[(i)]					
NSW						
Indigenous	174	8.7	5.8	11.5	1.1	0.6
Non-Indigenous	3,649	8.0	7.4	8.6	. .	. .
Qld						
Indigenous	324	14.6	11.1	18.2	1.5*	5.1*
Non-Indigenous	2,803	9.5	8.7	10.3	. .	. .
WA						
Indigenous	122	9.8	5.9	13.7	1.4*	3.0*
Non-Indigenous	948	6.8	5.9	7.8	. .	. .
SA						
Indigenous	23	4.7	0.4	9.0	0.8	–1.5
Non-Indigenous	590	6.2	5.1	7.3	. .	. .
NT						
Indigenous	167	21.2	14.0	28.4	3.2*	14.6*
Non-Indigenous	79	6.6	3.4	9.9	. .	. .
NSW, Qld, WA, SA & NT[(a)(d)(e)]						
Indigenous	810	12.0	10.2	13.9	1.5*	3.9*
Non-Indigenous	8,069	8.1	7.7	8.5	. .	. .

(continued)

Table 1.21.2 (continued): Foetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, NSW, Qld, SA and NT combined, 2006–2010[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous perinatal mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous perinatal mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Causes of death data for 2010 are preliminary and subject to a revisions process. See ABS Causes of Death (cat. no. 3303.0) Australia 2010, Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006, Causes of Death Revisions, 2008 and 2009 and Retrospective deaths by cause of death, Queensland, 2010.

(f) These data exclude 364 registered deaths where the Indigenous status was not stated over the period 2006–2010.

(g) Foetal deaths of at least 20 weeks gestation or with a birthweight of at least 400 grams.

(h) Neonatal death is death of a live-born baby within 28 days of birth.

(i) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birthweight) plus all neonatal deaths.

(j) Foetal death rates and perinatal death rates are calculated per 1,000 all births for the calendar year. Neonatal death rates are calculated per 1,000 live births for the calendar year.

(k) LCL = lower confidence limit.

(l) UCL = upper confidence limit.

(m) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(n) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: ABS and AIHW analysis of ABS Deaths Registration Database.

Time series

Perinatal mortality rates per 1,000 births among Indigenous and non-Indigenous babies are presented in Table 1.21.3 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory for the periods 2001–2005 and 2006–2010.

- Over the two 5-year periods 2001–2005 and 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the perinatal mortality rate declined for both Indigenous babies (from 14.2 per 1,000 births in 2001–2005 to 12.0 in 2006–2010) and non-Indigenous babies (9.6 to 8.1).
- In South Australia, the perinatal mortality rate for Indigenous infants significantly declined from 17.8 per 1,000 births in 2001–2005 to 4.7 per 1,000 births in 2006–2010. This is mainly a reflection of a large drop in foetal deaths. In New South Wales, Queensland, Western Australia and the Northern Territory, there was no significant change in the perinatal mortality rate for Indigenous infants between these two periods.
- The rate difference between Indigenous and non-Indigenous perinatal mortality was lower in 2006–2010 than in 2001–2005 in the five jurisdictions for which data are reported, except for the Northern Territory in which the rate difference was higher in 2006–2010.

Table 1.21.3: Foetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2005 to 2006–2010(a)(b)(c)(d)(e)(f)(g)(h)(i)(j)

	2001–2005						2006–2010(e)					
	Number	No. per 1,000(j)	LCL 95%(k)	UCL 95%(l)	Rate ratio(m)	Rate difference(n)	Number	No. per 1,000(j)	LCL 95%(k)	UCL 95%(l)	Rate ratio(m)	Rate difference(n)
	Foetal deaths(g)											
NSW												
Indigenous	105	6.4	3.7	9.2	1.2	1.0	88	4.4	2.3	6.4	0.9	–0.7
Non-Indigenous	2,266	5.4	4.9	5.9	. .	. .	2,293	5.0	4.6	5.5	. .	. .
Qld												
Indigenous	137	8.0	5.0	11.0	1.1	0.9	195	8.8	6.0	11.6	1.4*	2.5*
Non-Indigenous	1,572	7.1	6.3	7.9	. .	. .	1,863	6.3	5.7	7.0	. .	. .
WA												
Indigenous	76	8.9	4.4	13.4	1.2	1.2	75	6.0	3.0	9.1	1.2	1.1
Non-Indigenous	820	7.7	6.5	8.9	. .	. .	687	5.0	4.1	5.8	. .	. .
SA												
Indigenous	36	12.3	3.3	21.3	1.7*	5.2*	9	1.8	0.0	4.5	0.4*	–2.3*
Non-Indigenous	597	7.1	5.8	8.4	. .	. .	393	4.1	3.2	5.0	. .	. .
NT												
Indigenous	88	10.6	5.7	15.6	1.4*	3.3*	105	13.3	7.6	19.0	2.9*	8.8*
Non-Indigenous	80	7.4	3.8	11.0	. .	. .	54	4.5	1.8	7.2	. .	. .
NSW, Qld, WA, SA & NT(a)(d)(e)												
Indigenous	442	8.3	6.6	10.0	1.3*	1.9*	472	7.0	5.6	8.4	1.3*	1.7*
Non-Indigenous	5,335	6.4	6.0	6.7	. .	. .	5,290	5.3	5.0	5.6	. .	. .

(continued)

Table 1.21.3 (continued): Foetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2005 to 2006–2010[(a)(b)(c)(d)(e)(f)(g)(h)(i)(j)]

	2001–2005						2006–2010[(e)]					
	Number	No. per 1,000[(j)]	LCL 95%[(k)]	UCL 95%[(l)]	Rate ratio[(m)]	Rate difference[(n)]	Number	No. per 1,000[(j)]	LCL 95%[(k)]	UCL 95%[(l)]	Rate ratio[(m)]	Rate difference[(n)]
	Neonatal deaths[(h)]											
NSW												
Indigenous	67	4.1	1.9	6.3	1.2	0.8	86	4.3	2.3	6.3	1.4*	1.3*
Non-Indigenous	1,384	3.3	2.9	3.7	. .	. .	1,356	3.0	2.6	3.3	. .	. .
Qld												
Indigenous	117	6.9	4.1	9.6	1.9*	3.3*	129	5.8	3.6	8.1	1.8*	2.6*
Non-Indigenous	787	3.6	3.0	4.2	. .	. .	940	3.2	2.7	3.7	. .	. .
WA												
Indigenous	42	5.0	1.6	8.3	1.9*	2.3*	47	3.8	1.4	6.2	2.0*	1.9*
Non-Indigenous	279	2.6	1.9	3.3	. .	. .	261	1.9	1.4	2.4	. .	. .
SA												
Indigenous	16	5.5	0.0	11.6	1.9*	2.7	14	2.9	0.0	6.2	1.4	0.8
Non-Indigenous	237	2.9	2.0	3.7	. .	. .	197	2.1	1.4	2.7	. .	. .
NT												
Indigenous	73	9.0	4.4	13.6	2.4*	5.2*	62	7.9	3.5	12.3	3.8*	5.8*
Non-Indigenous	41	3.8	1.2	6.4	. .	. .	25	2.1	0.3	3.9	. .	. .
NSW, Qld, WA, SA & NT[(a)(d)(e)]												
Indigenous	315	6.0	4.5	7.4	1.8*	2.7*	338	5.0	3.8	6.2	1.8*	2.2*
Non-Indigenous	2,728	3.3	3.0	3.5	. .	. .	2,779	2.8	2.6	3.0	. .	. .

(continued)

Table 1.21.3 (continued): Foetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2005 to 2006–2010(a)(b)(c)(d)(e)(f)(g)(h)(i)(j)

	2001–2005						2006–2010(e)					
	Number	No. per 1,000(j)	LCL 95%(k)	UCL 95%(l)	Rate ratio(m)	Rate difference(n)	Number	No. per 1,000(j)	LCL 95%(k)	UCL 95%(l)	Rate ratio(m)	Rate difference(n)
	Perinatal deaths(i)											
NSW												
Indigenous	172	10.5	7.0	14.0	1.2*	1.8*	174	8.7	5.8	11.5	1.1	0.6
Non-Indigenous	3,650	8.8	8.1	9.4	. .	. .	3,649	8.0	7.4	8.6	. .	. .
Qld												
Indigenous	254	14.8	10.7	18.9	1.4*	4.1*	324	14.6	11.1	18.2	1.5*	5.1*
Non-Indigenous	2,359	10.7	9.7	11.7	. .	. .	2,803	9.5	8.7	10.3	. .	. .
WA												
Indigenous	118	13.8	8.2	19.4	1.3*	3.5*	122	9.8	5.9	13.7	1.4*	3.0*
Non-Indigenous	1,099	10.3	9.0	11.7	. .	. .	948	6.8	5.9	7.8	. .	. .
SA												
Indigenous	52	17.8	7.0	28.6	1.8*	7.9*	23	4.7	0.4	9.0	0.8	–1.5
Non-Indigenous	834	10.0	8.4	11.5	. .	. .	590	6.2	5.1	7.3	. .	. .
NT												
Indigenous	161	19.4	12.7	26.2	1.7*	8.3*	167	21.2	14.0	28.4	3.2*	14.6*
Non-Indigenous	121	11.1	6.7	15.6	. .	. .	79	6.6	3.4	9.9	. .	. .
NSW, Qld, WA, SA & NT(a)(d)(e)												
Indigenous	757	14.2	12.0	16.5	1.5*	4.6*	810	12.0	10.2	13.9	1.5*	3.9*
Non-Indigenous	8,063	9.6	9.1	10.1	. .	. .	8,069	8.1	7.7	8.5	. .	. .

(continued)

Table 1.21.3 (continued): Foetal, neonatal and perinatal mortality rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2005 to 2006–2010(a)(b)(c)(d)(e)(f)(g)(h)(i)(j)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are considered to have adequate levels of Indigenous identification in mortality data. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous perinatal mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous perinatal mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Causes of death data for 2010 are preliminary and subject to a revisions process. See ABS Causes of Death (cat. no. 3303.0) Australia 2010, Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006, Causes of Death Revisions, 2008 and 2009 and Retrospective deaths by cause of death, Queensland, 2010.

(f) These data exclude **370** registered deaths where the Indigenous status was not stated over the period 2006–2010.

(g) Foetal deaths of at least 20 weeks gestation or with a birthweight of at least 400 grams.

(h) Neonatal death is death of a live-born baby within 28 days of birth.

(i) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birthweight) plus all neonatal deaths.

(j) Foetal death rates and perinatal death rates are calculated per 1,000 all births for the calendar year. Neonatal death rates are calculated per 1,000 live births for the calendar year.

(k) LCL = lower confidence limit.

(l) UCL = upper confidence limit.

(m) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(n) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: ABS and AIHW analysis of ABS Deaths Registration Database.

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Mortality by cause of death

Table 1.21.4 presents foetal, neonatal and total perinatal deaths of Indigenous and non-Indigenous babies by main underlying cause of death. Note that perinatal cause of death data should be used with caution as the level of identification by cause is unknown and may not be suitable for the calculation of rates.

- Over the period 2006–2010, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, of conditions which originate in the foetus or infant, the most common cause of perinatal death among Indigenous babies was “disorders related to length of gestation and foetal growth” which were reported as an underlying cause of death in 39% of deaths of Indigenous babies. 35% of perinatal deaths were caused by “other conditions originating in the perinatal period” (such as birth trauma).
- Of conditions which originate in the mother, the most common cause of perinatal death for Indigenous babies was the ‘foetus or newborn affected by complications of the placenta, cord and membranes’ which caused 12.5% of perinatal deaths. For approximately 12% of Indigenous perinatal deaths, the ‘foetus and newborn affected by maternal complications of pregnancy’ was reported as an underlying cause of death.
- For foetal deaths, the most common cause of death for Indigenous babies was “other conditions originating in the perinatal period” (49%), followed by “disorders related to length of gestation and foetal growth” (38%). For neonatal deaths, the most common cause of death for Indigenous babies was “disorders related to length of gestation and foetal growth” (41%), followed by “congenital malformations, deformations and chromosomal abnormalities’ (17%).

Table 1.21.4: Main underlying cause of death for perinatal babies, by Indigenous status, NSW, Qld, WA, SA, and NT, 2006–2010[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

	Foetal deaths[(j)]				Neonatal deaths[(k)]				Perinatal deaths[(l)]			
	Total Number		Per cent		Total Number		Per cent		Total Number		Per cent	
Cause of death	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
					Main condition in the foetus/infant							
Disorders related to length of gestation and foetal growth (P05-P08)	177	1,961	37.5	37.1	137	912	40.5	32.8	314	2,873	38.8	35.6
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	18	212	3.8	4.0	50	358	14.8	12.9	68	570	8.4	7.1
Infections specific to the perinatal period (P35-P39)	3	32	0.6	0.6	18	89	5.3	3.2	21	121	2.6	1.5
Other conditions originating in the perinatal period (P10-P15 and P50-P96)	231	2,365	48.9	44.7	51	524	15.1	18.9	282	2,889	34.8	35.8
Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	42	704	8.9	13.3	58	722	17.2	26.0	100	1,426	12.3	17.7
Other conditions[(m)]	1	16	0.2	0.3	24	174	7.1	6.3	25	190	3.1	2.4
Total deaths	**472**	**5,290**	**100.0**	**100.0**	**338**	**2,779**	**100.0**	**100.0**	**810**	**8,069**	**100.0**	**100.0**
					Main condition in the mother							
Foetus and newborn affected by complications of placental, cord and membranes (P02)	61	718	12.9	13.6	40	294	11.8	10.6	101	1,012	12.5	12.5
Foetus and newborn affected by maternal complications of pregnancy (P01)	46	515	9.7	9.7	49	444	14.5	16.0	95	959	11.7	11.9
Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy (P00)	40	256	8.5	4.8	22	135	6.5	4.9	62	391	7.7	4.8

(continued)

Table 1.21.4 (continued): Main underlying cause of death for perinatal babies, by Indigenous status, NSW, Qld, WA, SA, and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)(h)(i)

	Foetal deaths[j]				Neonatal deaths[k]				Perinatal deaths[l]			
	Total Number		Per cent		Total Number		Per cent		Total Number		Per cent	
Cause of death	**Indig.**	**Non-Indig.**[f]	**Indig.**	**Non-Indig.**[f]	**Indig.**	**Non-Indig.**[f]	**Indig.**	**Non-Indig.**[f]	**Indig.**	**Non-Indig.**[f]	**Indig.**	**Non-Indig.**[f]
Foetus and newborn affect by other complications of labour and delivery and noxious influences transmitted via placenta or breast milk (P03-P04)	16	164	3.4	3.1	10	137	3.0	4.9	26	301	3.2	3.7
Total deaths	**472**	**5,290**	**100.0**	**100.0**	**338**	**2,779**	**100.0**	**100.0**	**810**	**8,069**	**100.0**	**100.0**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, South Australia and the Northern Territory only. These four states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the four jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous perinatal mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous perinatal mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Causes of death data for 2010 are preliminary and subject to a revisions process. See ABS Causes of Death (cat. no. 3303.0) Australia 2010, Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006, Causes of Death Revisions, 2008 and 2009 and Retrospective deaths by cause of death, Queensland, 2010.

(f) These data exclude **364** registered deaths where the Indigenous status was not stated over the period 2006–2010.

(g) Causes of death data from 2007 onwards have been revised and are subject to further revisions. See Causes of Death, Australia, 2010 (cat. No. 3303.0).

(h) 2008 data have been subject to a process improvement which has increased the quality of these data. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 1: 2008 COD Collection - Process Improvement for further information.

(i) Causes of death data for 2010 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2011 (cat. No. 3303.0)

(j) Foetal deaths of at least 20 weeks gestation or with a birthweight of at least 400 grams.

(k) Neonatal death is death of a live-born baby within 28 days of birth.

(l) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birthweight) plus all neonatal deaths.

(m) Includes all other causes of death not already included in the table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.
Source: ABS and AIHW analysis of ABS Deaths Registration Database.

Time series analysis

Perinatal mortality rates

Perinatal mortality rates, rate ratios and rate differences between Indigenous and other babies for Western Australia, South Australia and the Northern Territory combined over the period 1991–2010 are presented in Table 1.21.5 and Figure 1.21.1.

- Over the period 1991–2010, there were significant declines in perinatal mortality rates of Indigenous babies in Western Australia, South Australia and the Northern Territory combined. The fitted trend implies an average yearly decline in the rate of around 0.9 deaths per 1,000 births, which is equivalent to a 62% decline in the rate over this period.
- Over the same period, there were also significant declines in perinatal mortality rates of other babies, with an average yearly decline in the rate of around 0.2 deaths per 1,000 births, which is equivalent to a 34% decline in the rate over this period.
- There were significant declines in both the mortality rate ratios and mortality rate differences between Indigenous and other babies from 1991 and 2010 (38% decline in the rate ratio and 58% decline in the rate difference).
- There were large declines in the number of Indigenous perinatal deaths in Western Australia in 2002 and 2004, which have resulted in a decline in the perinatal mortality rate for Indigenous infants in the three jurisdictions combined for that year (Figure 1.21.1). It is not known why there were so few Indigenous perinatal deaths in Western Australia in these years.

Table 1.21.5: Perinatal mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010[(a)(b)(c)(d)(e)]

	Indigenous rate (no. per 1,000 births)[(f)]		Other rate (no. per 1,000 births)[(f)(g)]			
	Number	Rate	Number	Rate	Rate ratio[(h)]	Rate difference[(i)]
1991	90	26.2	501	11.1	2.4	15.1
1992	104	29.6	495	11.0	2.7	18.6
1993	106	30.5	480	10.5	2.9	20.0
1994	88	25.2	440	9.8	2.6	15.4
1995	70	20.3	505	11.2	1.8	9.1
1996	67	19.3	488	11.0	1.8	8.3
1997	81	24.0	441	10.1	2.4	13.9
1998	72	20.8	365	8.4	2.5	12.4
1999	82	22.4	408	9.5	2.4	12.9
2000	99	25.1	420	9.8	2.6	15.3
2001	76	19.3	411	9.9	1.9	9.4
2002	41	11.0	396	9.5	1.2	1.5
2003	78	19.8	426	10.2	1.9	9.6
2004	57	14.6	401	9.5	1.5	5.1
2005	79	19.7	420	9.5	2.1	10.2
2006	75	17.7	355	7.8	2.3	9.9
2007	57	12.5	327	6.8	1.9	10.7
2008	54	10.7	370	7.2	1.5	9.2
2009	64	13.1	389	7.8	1.7	11.4
2010	62	12.7	362	7.1	1.8	5.6
Annual change[(j)]	**–1.9***	**–0.9***	**–7.4***	**–0.2***	**–0.05***	**–0.5***
Per cent change[(k)]	**–39.9***	**–61.9***	**–28.1***	**–34.1***	**–38.0***	**–58.3***

(continued)

Table 1.21.5 (continued): Perinatal mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010[(a)(b)(c)(d)(e)]

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991–2010.

(a) Data are reported for New South Wales, Queensland, South Australia and the Northern Territory only. These four states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the four jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous perinatal mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and other perinatal mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) ABS to advise appropriate footnote re WA Indigenous deaths for 2007, 2008 and 2009.

(e) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birthweight) plus all neonatal deaths (death of a live born baby up to 28 days after birth).

(f) Perinatal death rates are calculated per 1,000 all births for the calendar year.

(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(h) Per cent change between 1991 and 2010 based on the average annual change over the period.

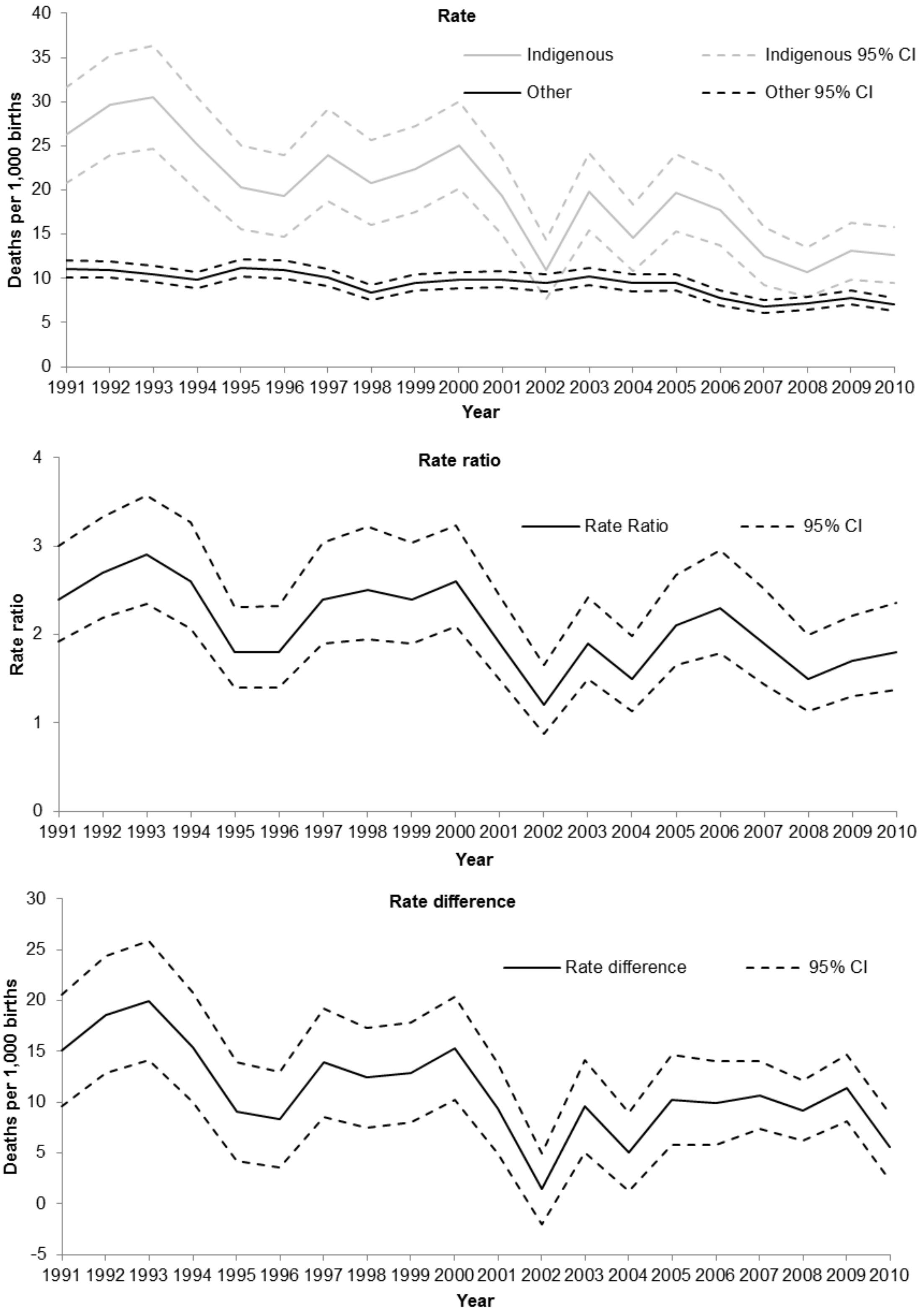
(i) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: ABS and AIHW analysis of ABS Deaths Registration Database.



Source: ABS and AIHW analysis of ABS Deaths Registration Database.

Figure 1.21.1: Perinatal mortality rates, rate ratios and rate differences, Indigenous and Other babies, WA, SA and NT, 1991–2010

Foetal and neonatal mortality rates

Foetal and neonatal mortality rates for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined are available for the period 2001–2010.

- Over the period 2001 to 2010, the foetal mortality rate decreased significantly for both Indigenous and non-Indigenous babies. It decreased by 0.3 per 1,000 births annually (equivalent to a 27% decline over the period) for Indigenous babies and by 0.1 per 1,000 (17% over the period) for non-Indigenous babies.
- Over the same period there were declines in the foetal mortality rate ratios and rate differences rates between Indigenous and non-Indigenous babies, but these were not statistically significant (Table 1.21.6; Figure 1.21.2 and Figure 1.21.3).
- Similar to foetal mortality, the neonatal mortality rate for both Indigenous and non-Indigenous babies significantly decreased over the period 2001 to 2010 (0.2 per 1,000 annually or 22% over the period for Indigenous babies; and 0.1 per 1,000 annually or 17% over the period for non-Indigenous babies). Rate ratios and rate differences decreased but not significantly.

Table 1.21.6: Foetal and neonatal deaths by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2010[(a)(b)(c)(d)(e)]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change(f)	Per cent change(g)
Foetal deaths[(h)]												
Indigenous	113	80	91	69	89	103	101	80	97	91	–0.1	–1.2
Non-Indigenous	1,067	1,028	1,020	1,085	1,135	958	1,045	1,084	1,130	1,073	4.8	4.0
Neonatal deaths[(i)]												
Indigenous	66	59	63	56	71	69	71	62	59	77	0.8	11.3
Non-Indigenous	604	539	485	514	586	541	541	557	584	556	1.7	2.5
Foetal mortality number per 1,000 births (live & stillborn)[(h)(j)]												
Indigenous	10.8	7.6	8.5	6.3	8.2	9.1	7.9	5.9	6.8	6.2	–0.3*	–27.4*
Non-Indigenous	6.5	6.1	6.1	6.4	6.5	5.4	5.5	5.4	5.7	5.4	–0.1*	–16.8*
Rate ratio[(k)]	1.7	1.2	1.4	1.0	1.3	1.7	1.4	1.1	1.2	1.2	0.0	–14.1
Rate difference[(l)]	4.3	1.5	2.5	–0.1	1.7	3.7	2.4	0.5	1.1	0.9	–0.2	–43.0
Neonatal mortality number per 1,000 live births[(i)(j)]												
Indigenous	6.3	5.6	5.9	5.1	6.5	6.1	5.5	4.6	4.1	5.3	–0.2*	–21.8*
Non-Indigenous	3.7	3.2	2.9	3.0	3.4	3.0	2.8	2.8	2.9	2.8	–0.1*	–17.2*
Rate ratio[(k)]	1.7	1.8	2.0	1.7	1.9	2.0	1.9	1.6	1.4	1.9	–0.01	–7.4
Rate difference[(l)]	2.7	2.4	3.0	2.1	3.2	3.1	2.7	1.8	1.2	2.5	–0.1	–29.3

(continued)

Table 1.21.6 (continued): Foetal and neonatal deaths by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2010[a][b][c][d][e]

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the four jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous children are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate Indigenous perinatal mortality and, depending on the under-identification in births, may either underestimate or overestimate the rates. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous perinatal mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Causes of death data for 2010 are preliminary and subject to a revisions process. See ABS Causes of Death (cat. no. 3303.0) Australia 2010, Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006, Causes of Death Revisions, 2008 and 2009 and Retrospective deaths by cause of death, Queensland, 2010.

(e) These data exclude **370** registered deaths where the Indigenous status was not stated over the period 2001–2010.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Foetal deaths of at least 20 weeks gestation or with a birthweight of at least 400 grams.

(i) Neonatal death is death of a live-born baby within 28 days of birth.

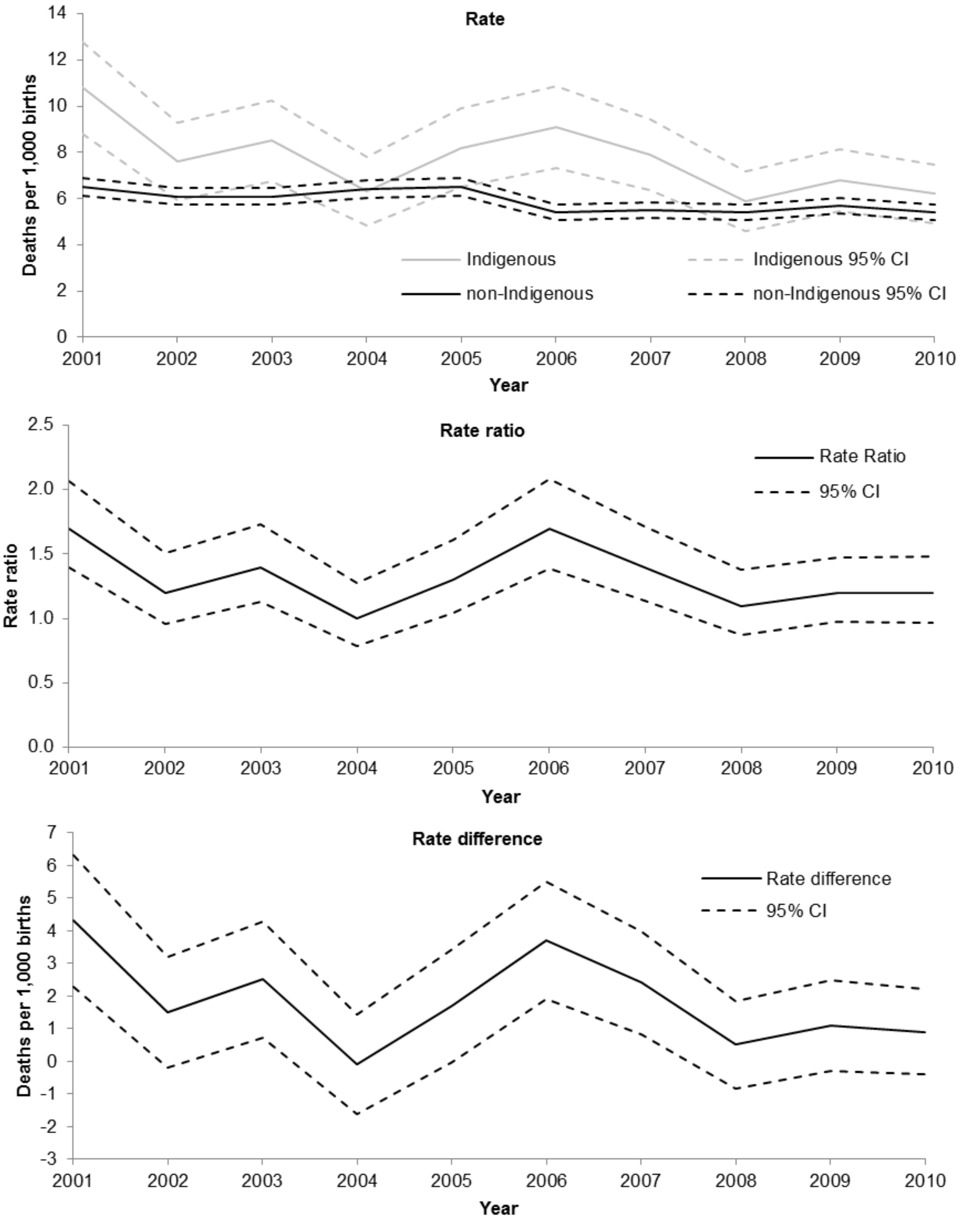
(j) Foetal death rates are calculated per 1,000 all births for the calendar year. Neonatal death rates are calculated per 1,000 live births for the calendar year.

(k) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(l) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

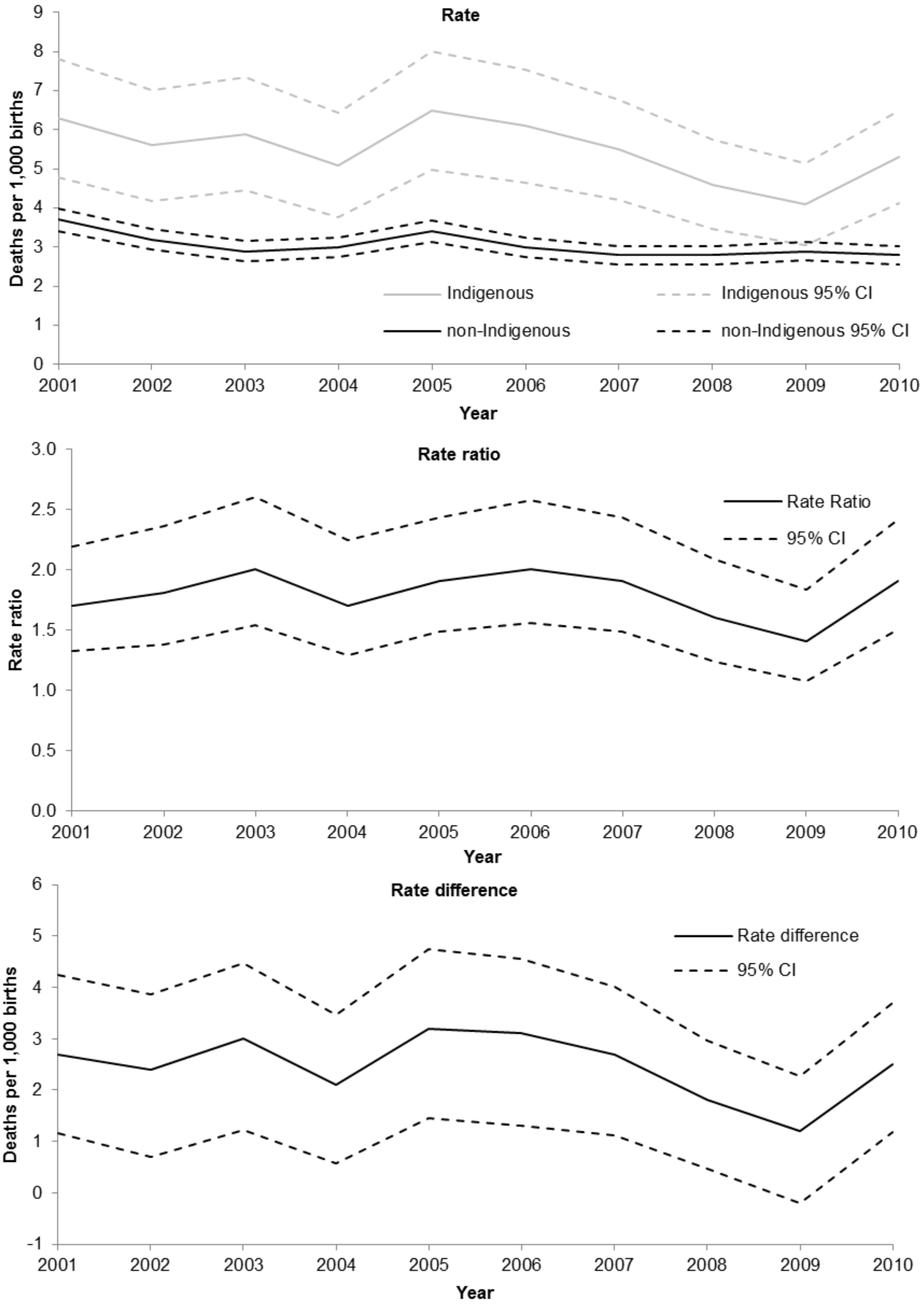
Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: ABS and AIHW analysis of ABS Deaths Registration Database.



Source: ABS and AIHW analysis of ABS Deaths Registration Database.

Figure 1.21.2: Foetal death rates, rate ratios and rate differences, by Indigenous Status, NSW, Qld, WA, SA and NT combined, 2001–2010



Source: ABS and AIHW analysis of ABS Deaths Registration Database.

Figure 1.21.3: Neonatal death rates, rate ratios and rate differences, by Indigenous Status, NSW, Qld, WA, SA and NT combined, 2001–2010

International comparisons

International data are available for New Zealand, the United States and Canada using the World Health Organization (WHO) definition of perinatal mortality. However, the WHO definition differs significantly from the Australian definition of the perinatal period. Australian data include babies of at least 400 grams (or at least 20 weeks if birthweight is unavailable) whereas the WHO definition starts at 500 grams (22 weeks if birthweight is unavailable). In addition, the WHO defines perinatal deaths as less than 7 days whereas Australia includes deaths up to 28 days. Perinatal mortality rates of Aboriginal and Torres Strait Islander babies are therefore not comparable to rates for Indigenous populations in the other countries. Therefore, international comparisons have not been presented here.

Additional information

Influencing factors

The main risk factors for perinatal mortality are low birthweight and pre-term birth. Other factors which may be associated with perinatal mortality are smoking during pregnancy, infection, maternal nutrition and underutilisation of antenatal services. Data on these influencing factors are available from the National Perinatal Data Collection.

Low birthweight

- Over the period 2007–2009, babies born to Indigenous mothers were around twice as likely to be low birthweight as babies born to non-Indigenous mothers (12.3% compared with 5.9%) (see *Indicator 1.01: Low birthweight* for more information on low birthweight infants).

Smoking during pregnancy

- Data on smoking during pregnancy show that in 2009 Indigenous mothers were 3.7 times more likely to smoke during pregnancy than non-Indigenous mothers (52% compared with 13.2%) (see *Indicator 2.21: Health behaviours during pregnancy* for more information on smoking during pregnancy).

Underutilisation of antenatal care services

- In 2009, in New South Wales, Queensland, South Australia and the Northern Territory combined, 97% of Indigenous mothers and 99% of non-Indigenous mothers attended at least one antenatal care session (see *Measure 3.01: Antenatal care* for more information on antenatal care).

Data quality issues

ABS Deaths Registration Database

Data from the ABS Deaths Registration Database has been used to report on perinatal mortality in this indicator.

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Numerator and denominator

The perinatal mortality rate also relies on birth registration data. Unfortunately, as with deaths, some Indigenous births are not correctly identified as Indigenous. It is estimated that Indigenous identification is higher in births data than in deaths data and therefore Indigenous perinatal mortality rates may be under-estimates.

Data quality issues

The numerator and denominator are not based on the same collection or the same method of collection. Births are registered by the parents whereas death registration forms are completed by doctors and funeral directors. Therefore there would be inconsistency of Indigenous identification between the numerator and denominator.

Cause of death coding

Causes of death are based on the 10th revision of the International Classification of Diseases (ICD-10). Mortality coding using ICD-10 was introduced into Australia on 1 January 1997.

International data

International data are available for New Zealand, the United States and Canada using the WHO definition of perinatal mortality. However, the WHO definition differs markedly from the Australian definition of the perinatal period (see above) which was developed to be relevant for the Australian context. Therefore, Australian data include babies of at least at 400 grams (at least 20 weeks if birthweight is unavailable) whereas the WHO definition starts at 500 grams (22 weeks if birthweight is unavailable). In addition, the WHO defines perinatal deaths as less than 7 days whereas Australia includes deaths up to 28 days (Laws & Sullivan 2004). It would be possible to analyse Australian data on the WHO definitional basis, but it is not recommended for this performance measure.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

Laws PJ & Sullivan EA 2004. Australia's mothers and babies 2002. Perinatal statistics series no. 15. Cat. no. PER 28. Sydney: AIHW National Perinatal Epidemiology and Statistics Unit.

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1.22 All-causes age-standardised death rates

The number of Aboriginal and Torres Strait Islander Australian deaths, expressed as a rate by age group, age-standardised rate and rate ratio

Data sources

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

Analyses

Age-standardised rates and ratios have been used as a measure of mortality in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of mortality among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

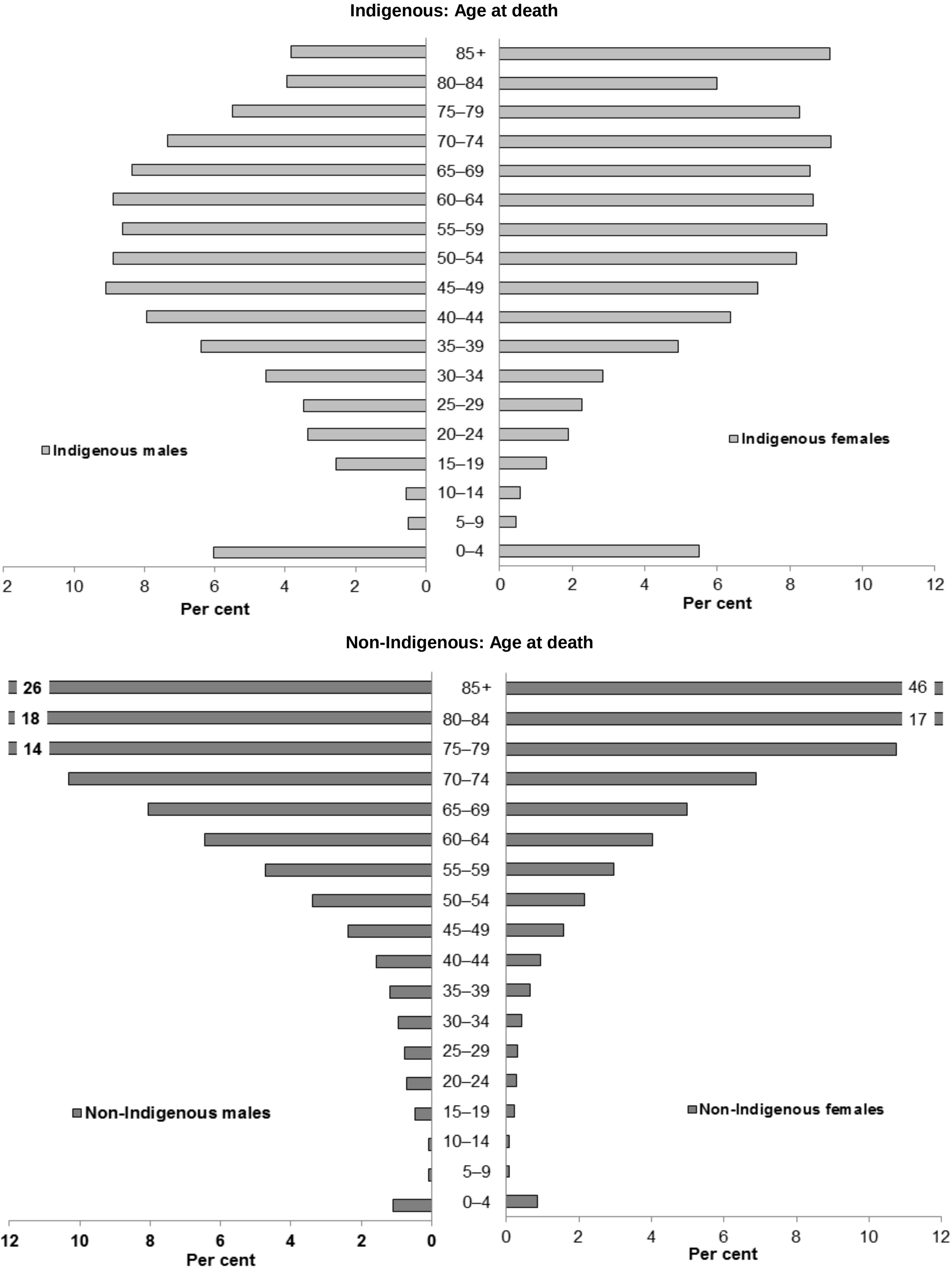
Mortality

- For the period 2006–2010, there were 491,065 deaths in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, 11,132 (2.3%) of which were deaths of people who identified as Aboriginal or Torres Strait Islander origin (Table 1.22.1).

Mortality by age and sex

Figure 1.22.1 and Table 1.22.1 present the age distribution of deaths among Aboriginal and Torres Strait Islander people compared with non-Indigenous Australians, and Table 1.22.2 presents age-specific mortality rates for the period 2006–2010 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- For the period 2006–2010, the age distribution of deaths among Aboriginal and Torres Strait Islander people is very different from that for non-Indigenous Australians. The Indigenous population has a high proportion of deaths occurring in the lower and middle age groups. In comparison, the non-Indigenous population has the large majority of deaths occurring in the older age groups (Figure 1.22.1; Table 1.22.1). Over 70% of deaths among Indigenous males and nearly 60% of deaths among Indigenous females occur before the age of 65 years, compared with 24% of deaths among non-Indigenous males and about 14% of deaths among non-Indigenous females.
- Indigenous males and females had higher mortality rates than non-Indigenous males and females across all age groups (Table 1.22.2).
- The greatest rate ratios of Indigenous compared with non-Indigenous mortality occurred in the 35–44 year age group where Indigenous people died at about five times (4.8 for males, 5.3 for females and 4.9 for persons) the rate of non-Indigenous people (Table 1.22.2). The greatest rate differences occurred in the 65–74 year age group (2,136 per 100,000).



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.22.1: Age distribution of deaths among Indigenous and non-Indigenous Australians, NSW, Qld, WA, SA and NT, 2006–2010

Table 1.22.1: Number and percentage of deaths by age group, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

	Number of deaths				Percentage of deaths			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Males	Females	Males	Females	Males	Females	Males	Females
<1	313	220	2,278	1,677	5.1	4.4	0.9	0.7
1–4	58	54	424	296	0.9	1.1	0.2	0.1
0–4	*371*	*274*	*2,702*	*1,973*	*6.0*	*5.5*	*1.1*	*0.9*
5–9	32	22	234	181	0.5	0.4	0.1	0.1
10–14	35	28	259	182	0.6	0.6	0.1	0.1
1–14	*125*	*104*	*917*	*659*	*2.0*	*2.1*	*0.4*	*0.3*
15–19	157	64	1,177	517	2.6	1.3	0.5	0.2
20–24	207	94	1,766	631	3.4	1.9	0.7	0.3
25–29	214	113	1,953	750	3.5	2.3	0.8	0.3
30–34	279	142	2,364	949	4.6	2.8	1.0	0.4
35–39	392	246	2,975	1,484	6.4	4.9	1.2	0.6
40–44	488	317	3,920	2,190	8.0	6.4	1.6	0.9
45–49	559	355	5,896	3,695	9.1	7.1	2.4	1.6
50–54	545	408	8,347	5,023	8.9	8.2	3.4	2.2
55–59	529	450	11,700	6,858	8.6	9.0	4.7	3.0
60–64	546	431	15,929	9,407	8.9	8.6	6.4	4.0
65–69	512	427	19,934	11,568	8.3	8.6	8.1	5.0
70–74	451	456	25,522	16,036	7.4	9.1	10.3	6.9
75–79	338	413	35,399	25,040	5.5	8.3	14.3	10.8
80–85	242	299	44,004	40,132	3.9	6.0	17.8	17.3
85+	236	454	63,137	106,060	3.8	9.1	25.5	45.6
Total(f)	**6,138**	**4,994**	**247,245**	**232,688**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators. See data quality statements for a more detailed explanation.

(f) The ‘Total’ includes the number of deaths with age not stated.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.22.2: All causes age-specific mortality rates per 100,000, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e]

	Males				Females				Persons			
	Indig. rate[f]	**Non-Indig. rate**[f]	**Rate ratio**[g]	**Rate difference**[h]	**Indig. rate**[f]	**Non-Indig. rate**[f]	**Rate ratio**[g]	**Rate difference**[h]	**Indig. rate**[f]	**Non-Indig. rate**[f]	**Rate ratio**[g]	**Rate difference**[h]
Less than 1[f]	922.0	457.4	2.0*	464.6*	685.5	355.2	1.9*	330.3*	807.1	407.7	2.0*	399.4*
1–4	48.4	22.3	2.2*	26.1*	47.0	16.5	2.8*	30.6*	47.7	19.5	2.4*	28.3*
0–4 years	*244.8*	*113.0*	*2.2**	*131.8**	*188.9*	*87.1*	*2.2**	*101.8**	*217.5*	*100.4*	*2.2**	*117.1**
5–14	22.6	10.3	2.2*	12.3*	17.7	8.0	2.2*	9.8*	20.2	9.2	2.2*	11.1*
1–14 years	*28.0*	*13.8*	*2.0**	*14.2**	*24.4*	*10.5*	*2.3**	*13.9**	*26.3*	*12.2*	*2.2**	*14.01**
15–24	148.4	55.8	2.7*	92.6*	67.6	23.0	2.9*	44.6*	109.0	39.8	2.7*	69.1*
25–34	294.7	82.6	3.6*	212.2*	150.5	33.0	4.6*	117.5*	222.1	57.9	3.8*	164.2*
35–44	611.0	128.6	4.8*	482.4*	359.2	68.1	5.3*	291.1*	479.8	98.2	4.9*	381.6*
45–54	1,071.6	277.4	3.9*	794.2*	680.7	167.4	4.1*	513.3*	867.9	222.0	3.9*	645.9*
55–64	1,904.9	650.8	2.9*	1,254.0*	1,381.6	384.7	3.6*	996.8*	1,627.3	518.1	3.1*	1109.2*
65–74	4,144.4	1,743.8	2.4*	2,400.6*	3,014.0	1,024.1	2.9*	1989.9*	3,514.0	1,377.9	2.6*	2136.1*
75 and over	8,950.3	7,336.4	1.2*	1,613.9*	8,191.7	6,263.4	1.3*	1928.3*	8,487.9	6,709.1	1.3*	1778.7*
Total (crude)	**513.0**	**668.5**	**0.8***	**–155.5***	**413.9**	**624.9**	**0.7***	**–211.0***	**463.2**	**646.6**	**0.7***	**–183.4***
Total (age standardised)[i]	**1,316.9**	**690.3**	**1.9***	**626.6***	**1,011.7**	**515.1**	**2.0***	**496.7***	**1,151.1**	**597.0**	**1.9***	**554.0***

(continued)

Table 1.22.2 (continued): All causes age-specific mortality rates per 100,000, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) Age-specific death rates per 100,000 using the midpoint populations for the relevant years. Rates for persons aged less than 1 are per 100,000 live births.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(i) Total rates have been directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

Source: AIHW analysis of ABS Mortality Database.

Mortality by state/territory

Table 1.22.3 presents the number of deaths and mortality rates for the five-year period 2006–2010 for Indigenous and non-Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory.

- In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous Australians died at almost twice the rate of non-Indigenous Australians.
- In New South Wales, Queensland and South Australia, Indigenous Australians died at 1.6 to 1.8 times the rate of non-Indigenous Australians. In Western Australia and the Northern Territory, Indigenous Australians died at around two and a half times the rate of non-Indigenous Australians. The Northern Territory had the greatest absolute difference in mortality rates between Indigenous and non-Indigenous Australians.

Table 1.22.3: All causes mortality, by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)]

	Number of deaths			No. per 100,000[(f)]			
State/territory	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Rate ratio**[(g)]	**Rate difference**[(h)]
NSW	2,903	231,732	1,859	961.7	598.3	1.6*	363.4*
Qld	3,031	125,074	2,728	1,089.1	597.2	1.8*	491.9*
WA	2,230	59,276	458	1,431.2	574.2	2.5*	857.0*
SA	710	61,226	371	1,059.9	614.5	1.7*	445.4*
NT	2,258	2,625	25	1,540.7	645.2	2.4*	895.5*
NSW, Qld, WA, SA & NT[(a)]	**11,132**	**479,933**	**5,441**	**1,151.1**	**597.0**	**1.9***	**554.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Time series analysis

Longer term mortality trend data are limited to three jurisdictions—Western Australia, South Australia and the Northern Territory, which have over 10 years of adequate identification of Indigenous deaths in their recording systems.

As there is a consistent time series of population estimates from 1991, data for the period 1991–2010 have been used for the analysis of Indigenous mortality in this measure.

Because of the late inclusion of a 'not stated' category of Indigenous status in 1998 (before which 'not stated' responses were included with non-Indigenous deaths), Indigenous mortality rates have been compared with the mortality rates of other Australians (which include deaths of both non-Indigenous people and people for whom Indigenous status was not stated).

Mortality rates, rate ratios and rate differences between Indigenous and other Australians over the period 1991–2010 are presented in Table 1.22.4 and Figure 1.22.2.

- Over the period 1991–2010, there were significant declines in both the crude and age-standardised mortality rates in Western Australia, South Australia and the Northern Territory combined for Indigenous Australians. The fitted trend implies an average yearly decline of 7.7 per 100,000 (18% reduction over this period) for the crude mortality rate and 36.6 per 100,000 (33% reduction over the period) for the age-standardised mortality rate. (Table 1.22.4).
- There were also significant declines in age-standardised mortality rates for other persons between 1991 and 2010. The fitted trend implies an average yearly decline around 12 per 100,000 for other Australians (equivalent to a 29% reduction in the rate over this period).
- There were significant declines in the mortality rate ratios between Indigenous females and persons and other females and persons over the period 1991–2010. There were no significant changes in the rate ratios between Indigenous males and other males over the same period.
- There was a significant decrease in the mortality rate difference for males, females and persons over period 1991–2008.

Fluctuations in the level of Indigenous mortality over time partly reflect changing levels of coverage of Indigenous deaths and population estimates. Given the variability in the measures of Indigenous mortality, caution should be exercised in assessing trends in Indigenous mortality over time and comparisons between jurisdictions and with the non-Indigenous population.

Table 1.22.4: Age-standardised mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010[(a)(b)(c)(d)]

		Number of Indigenous deaths			Indigenous rate per 100,000 (crude)		
		Males	**Females**	**Persons**	**Males**	**Females**	**Persons**
	1991	513	435	948	891.5	746.2	818.4
	1992	480	370	850	812.4	618.3	714.7
	1993	490	383	873	807.6	623.7	715.1
	1994	497	383	880	798.3	607.9	702.5
	1995	521	371	892	816.7	574.5	694.9
	1996	490	326	816	749.4	493.0	620.5
	1997	538	403	941	803.9	596.4	699.7
	1998	533	387	920	777.7	559.7	668.2
	1999	491	374	865	699.4	528.5	613.6
	2000	562	439	1,001	782.2	605.8	693.6
	2001	551	348	899	749.0	469.3	608.6
	2002	499	441	940	663.8	581.8	622.6
	2003	555	355	910	723.3	458.6	590.3
	2004	548	432	980	701.2	547.5	624.0
	2005	574	428	1,002	721.1	532.5	626.4
	2006	577	442	1,019	711.7	539.4	625.1
	2007	583	465	1,048	706.1	557.4	631.4
	2008	595	499	1,094	707.6	587.5	647.2
	2009	540	467	1,007	630.5	539.9	585.0
	2010	581	449	1,030	666.0	509.7	587.4
	Annual change[(i)]	4.9*	4.9*	9.9*	–9.5*	–5.9*	–7.7*
Long term 1991–2010	Per cent change[(j)]	18.3*	21.6*	19.8*	–20.2*	–15.1*	–17.9*
	Annual change[(i)]	5.1*	8.3*	13.4*	–7.4*	–0.3	–3.9
Medium term 1998–2010	Per cent change[(j)]	11.6*	25.6*	17.5*	–11.4*	–0.7	–6.9
	Annual change[(i)]	5.2	11.7*	16.9*	–6.4	4.6	–0.9
Short term 2001–2010	Per cent change[(j)]	8.6	30.2*	16.9*	–7.7	8.7	–1.3

(continued)

Table 1.22.4 (continued): Age-standardised mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010[(a)(b)(c)(d)]

		Indigenous rate per 100,000 (age-standardised)[(e)]			Other Australians[(f)] rate per 100,000		
		Males	Females	Persons	Males	Females	Persons
	1991	2,303.6	1,947.6	2,117.2	974.4	626.6	779.5
	1992	2,206.6	1,668.9	1,915.3	950.5	621.3	766.5
	1993	2,104.1	1,710.8	1,888.6	971.8	639.6	786.6
	1994	2,145.0	1,807.1	1,969.3	971.5	623.5	776.5
	1995	2,185.8	1,581.4	1,859.1	913.7	602.9	741.2
	1996	1,984.9	1,277.2	1,603.9	930.3	615.0	755.6
	1997	2,147.1	1,475.4	1,775.9	885.3	599.3	727.3
	1998	2,019.0	1,351.0	1,656.5	858.4	575.6	703.2
	1999	1,777.3	1,370.2	1,560.9	824.8	555.6	677.0
	2000	1,953.1	1,453.7	1,680.1	810.3	547.6	666.1
	2001	1,920.5	1,106.8	1,466.0	777.1	547.9	652.3
	2002	1,673.3	1,278.8	1,451.8	772.6	553.3	653.2
	2003	1,765.5	1,021.7	1,351.4	761.0	541.9	642.0
	2004	1,709.7	1,348.4	1,517.7	716.9	512.4	606.9
	2005	1,644.1	1,158.9	1,379.8	717.8	507.2	605.1
	2006	1,694.7	1,243.6	1,450.1	692.6	510.8	595.6
	2007	1,670.4	1,267.3	1,448.7	714.2	515.4	608.1
	2008	1,679.2	1,283.3	1,459.6	703.3	529.5	611.7
	2009	1,462.8	1,178.1	1,305.6	675.7	513.8	590.4
	2010	1,576.0	1,144.8	1,341.4	679.2	514.1	592.3
	Annual change[(i)]	–39.2*	–33.8*	–36.6*	–17.9*	–7.4*	–11.7*
Long term 1991–2010	Per cent change[(j)]	–32.3*	–33.0*	–32.9*	–35.0*	–22.3*	–28.5*
	Annual change[(i)]	–33.8*	–12.8	–22.4*	–14.5*	–4.8*	–8.8*
Medium term 1998–2010	Per cent change[(j)]	–20.1*	–11.4	–16.2*	–20.3*	–9.9*	–15.0*
	Annual change[(i)]	–30.7*	4.8	–10.5	–11.4*	–3.8*	–6.9*
Short term 2001–2010	Per cent change[(j)]	–14.4*	3.9	–6.5	–13.2*	–6.3*	–9.5*

(continued)

Table 1.22.4 (continued): Age-standardised mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010(a)(b)(c)(d)

		Rate ratio(g)			Rate difference(h)		
		Males	Females	Persons	Males	Females	Persons
	1991	2.4	3.1	2.7	1,329.1	1,321.0	1,337.6
	1992	2.3	2.7	2.5	1,256.1	1,047.5	1,148.9
	1993	2.2	2.7	2.4	1,132.4	1,071.2	1,102.0
	1994	2.2	2.9	2.5	1,173.4	1,183.7	1,192.8
	1995	2.4	2.6	2.5	1,272.1	978.6	1,117.9
	1996	2.1	2.1	2.1	1,054.5	662.2	848.3
	1997	2.4	2.5	2.4	1,261.7	876.1	1,048.6
	1998	2.4	2.3	2.4	1,160.6	775.4	953.3
	1999	2.2	2.5	2.3	952.5	814.5	884.0
	2000	2.4	2.7	2.5	1,142.8	906.1	1,014.0
	2001	2.5	2.0	2.2	1,143.5	558.9	813.7
	2002	2.2	2.3	2.2	900.7	725.5	798.6
	2003	2.3	1.9	2.1	1,004.5	479.8	709.4
	2004	2.4	2.6	2.5	992.8	836.0	910.8
	2005	2.3	2.3	2.3	926.3	651.7	774.6
	2006	2.4	2.4	2.4	1,002.1	732.8	854.5
	2007	2.3	2.5	2.4	956.2	751.9	840.6
	2008	2.4	2.4	2.4	975.9	753.8	847.9
	2009	2.2	2.3	2.2	787.1	664.3	715.2
	2010	2.3	2.2	2.3	896.8	630.7	749.1
	Annual change(i)	0.0	–0.03*	–0.01*	–21.3*	–26.4*	–24.9*
Long term 1991–2010	Per cent change(j)	1.6	–16.6*	–8.1*	–30.4*	–38.0*	–35.4*
	Annual change(i)	0.0	0.0	0.0	–19.3*	–8.0	–13.6*
Medium term 1998–2010	Per cent change(j)	–1.9	–1.5	–1.4	–20.0*	–12.4	–17.1*
	Annual change(i)	0.0	0.0	0.0	–19.3*	8.6	–3.7
Short term 2001–2010	Per cent change(j)	–3.2	11.8	4.6	–15.2*	13.8	–4.0

(continued)

Table 1.22.4 (continued): Age-standardised mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2010[a][b][c][d]

* Represents results with statistically significant increases or declines at the p < 0.05 level over the selected periods.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) ‘Other Australians’ include deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

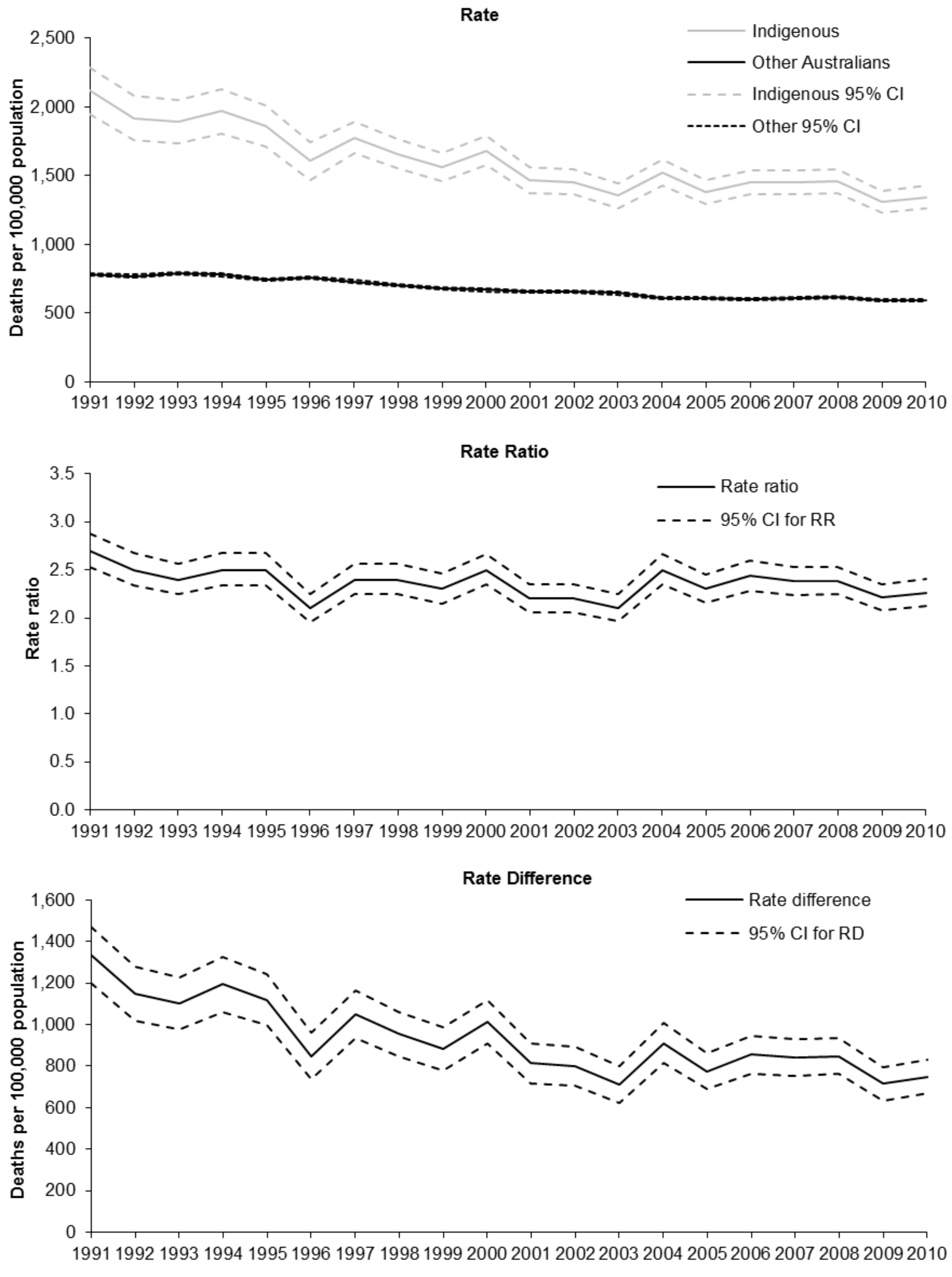
(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(i) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the specified periods.

(j) Per cent change between the first and the last year of the specified periods based on the average annual change over the periods.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.22.2: Age-standardised mortality rates, rate ratios and rate differences between Indigenous and other Australians, WA, SA and NT, 1991–2010

Additional trends analysis is presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2010 for Indigenous and non-Indigenous Australians in Table 1.22.5 and Figure 1.22.3.

- Over the period 2001–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there was no significant change in the crude mortality rate for Indigenous Australians. Over the same period, there were significant declines in the age-standardised mortality rate for Indigenous Australians (5.4% for the period).
- Over the same period, the age-standardised mortality rate for non-Indigenous Australians declined significantly by 6.5 per 100,000 per year (9.1% for the period).
- There were no significant changes in the mortality rate ratios and rate differences between Indigenous and non-Indigenous Australians over the period 2001–2010.

Table 1.22.5: Age-standardised mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2010(a)(b)(c)(d)(e)

	Males	Females	Persons	Males	Females	Persons
	Number of Indigenous deaths			Indigenous rate per 100,000 (crude)		
2001	1,145	791	1,936	557.6	381.7	469.3
2002	1,126	920	2,046	535.7	433.6	484.4
2003	1,177	787	1,964	547.6	362.7	454.7
2004	1,160	889	2,049	528.2	401.1	464.3
2005	1,154	874	2,028	514.2	386.1	449.9
2006	1,213	920	2,133	529.1	397.7	463.1
2007	1,227	1,016	2,243	524.0	430.2	476.9
2008	1,208	1,007	2,215	505.1	417.6	461.1
2009	1,194	1,036	2,230	488.7	420.6	454.5
2010	1,296	1,015	2,311	519.1	403.4	461.0
Annual change[i] 2001–2010	13.6*	264*	40.0*	–5.4*	2.9	–1.2
Per cent change[j] 2001–2010	10.7*	30.0*	18.6*	–8.7*	6.8	–2.3
Annual change[i] 2006–2010	13.3	21.0	34.3	–5.5	0.2	–2.7
Per cent change[j] 2006–2010	4.4	9.1	6.4	–4.2	0.2	–2.3
	Indigenous rate per 100,000 (age-standardised)[f]			Non-Indigenous rate per 100,000		
2001	1523.7	963.1	1213.3	765.3	531.4	638.1
2002	1415.7	1042.3	1209.4	766.7	545.8	646.8
2003	1432.2	907.3	1143.5	743.8	533.2	630.1
2004	1407.1	1022.2	1194.1	738.1	530.5	626.3
2005	1266.2	952.5	1099.2	702.7	508.5	598.6
2006	1391.0	976.1	1161.0	699.1	512.6	599.2
2007	1351.1	1048.9	1186.2	703.1	518.6	604.5
2008	1326.2	1013.7	1154.3	711.9	532.5	616.5
2009	1229.9	1035.1	1127.1	672.1	504.4	583.0
2010	1298.7	988.1	1132.8	668.3	508.0	583.5
Annual change[i] 2001–2010	–23.6*	4.9	–7.3*	–10.9*	–3.2*	–6.5*
Per cent change[j] 2001–2010	–14.0*	4.6	–5.4*	–12.9*	–5.5*	–9.1*
Annual change[i] 2006–2010	–30.6*	1.0	–11.5*	–9.3*	–2.3	–5.3
Per cent change[j] 2006–2010	–8.8*	0.4	–4.0*	–5.3*	–1.8	–3.5

(continued)

Table 1.22.5 (continued): Age-standardised mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2010(a)(b)(c)(d)(e)

	Males	Females	Persons	Males	Females	Persons
	Rate ratio(f)			Rate difference(g)		
2001	2.0	1.8	1.9	758.4	431.7	575.2
2002	1.8	1.9	1.9	649.0	496.5	562.7
2003	1.9	1.7	1.8	688.4	374.0	513.4
2004	1.9	1.9	1.9	669.0	491.7	567.8
2005	1.8	1.9	1.8	563.5	443.9	500.6
2006	2.0	1.9	1.9	691.9	463.5	561.8
2007	1.9	2.0	2.0	648.0	530.3	581.7
2008	1.9	1.9	1.9	614.3	481.3	537.8
2009	1.8	2.1	1.9	557.8	504.4	583.0
2010	1.9	1.9	1.9	630.5	508.0	583.5
Annual change(h) 2001–2010	0.0	0.0	0.0	–12.7*	8.6	2.7
Per cent change(i) 2001–2010	–1.7	10.6	3.9	–15.1*	17.9	4.2
Annual change(h) 2006–2010	0.0	0.0	0.0	–21.3	6.3	4.5
Per cent change(i) 2006–2010	–3.7	2.3	–0.5	–12.3	5.4	3.2

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the selected periods.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous all-causes mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

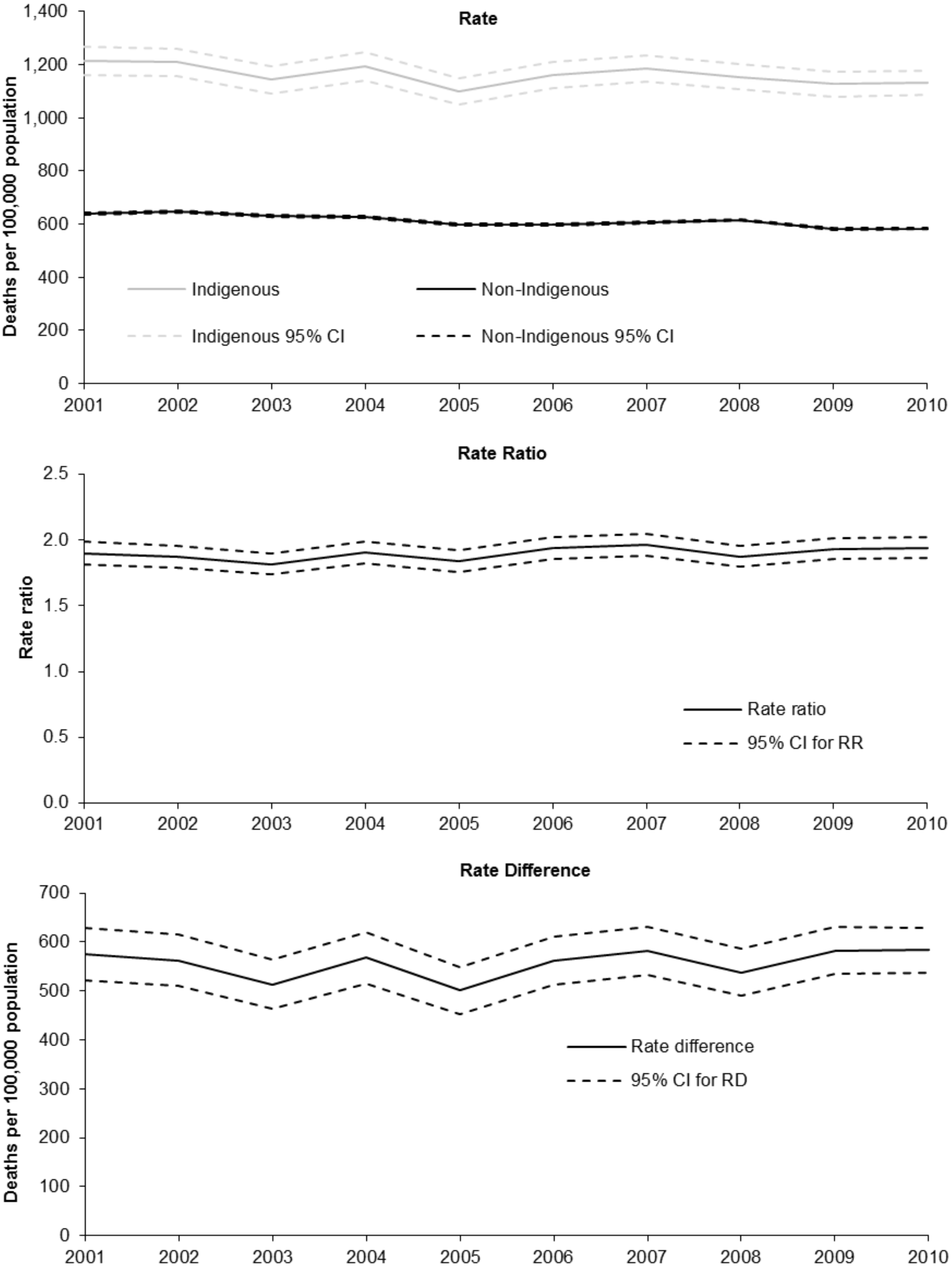
(g) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(h) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the specified periods.

(i) Per cent change between the first and the last year of the specified periods based on the average annual change over the periods.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.22.3: Age- standardised mortality rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians, NSW, Qld, WA, SA and NT, 2001–2010

International comparisons

Numerous studies have indicated that the gap between Indigenous and non-Indigenous people‘s life expectancy in Australia is greater than in New Zealand, Canada and the United States of America (USA).

However, difficulties related to concepts, data and methods behind such estimates throw doubt on conclusions drawn from country comparison studies. This suggests that the uncertainty associated with indigenous life expectancy estimates could be quite large.

Australia, New Zealand, Canada, and the USA differ in how they define and measure their Indigenous population. The two main differences relate to the 'inclusiveness' of the underlying Indigenous population and the accuracy of Indigenous deaths recorded.

- Australian estimates of the Indigenous population are based on self-identification of Indigenous status from the Census. While Indigenous status is reported in the national mortality database, there are known problems with non-reporting and incorrect reporting of Indigenous deaths.
- In New Zealand, Census respondents are asked what ‘ethnic group’ they belong to and multiple answers are permitted. The Maori life tables from 1990–1992 include all who identify as Maori, including those who identify with other ethnicities. Since 1995, Maori deaths have been identified in a similar way.
- Life expectancy estimates in the USA are restricted to American Indians and Alaska Natives who live ‘on or near reservations‘. Based on 2002 Census data, this was around 57% of the estimated American Indians and Alaska Natives population. American Indians and Alaska Natives identification is available on official death certificates, however, unlike the Census, multiple race information was not available before 2003. As of 2007, only 27 of the 52 registration areas collected multiple race information.
- Canadian estimates of the Aboriginal population are obtained from a 20% sample of the five-yearly population Census. Aboriginal status is not collected on the death registration form. Data linkages are used to ascertain Aboriginal deaths. Published life expectancy estimates are restricted to Registered Indians, who account for around one-half of the Aboriginal population.

Countries that adopted the least inclusive definitions of 'Indigenous' in their health and population data collection systems, tended to report the best life expectancy estimates.

In general, cross-country comparisons give little or no consideration to the level of uncertainty associated with the data and methodologies used.

- Most publications present and discuss differences between country estimates of Indigenous life expectancy as though they represent real differences.
- Only a few publications provide general cautions about drawing conclusions in the presence of uncertainties of largely unknown magnitude.

Based on an informed evaluation, this suggests that the uncertainty associated with Indigenous life expectancy estimates could be quite large.

The mortality rates presented below have been directly age-standardised to the WHO World Standard population 2001–2025 to allow for comparisons to be made between the four countries.

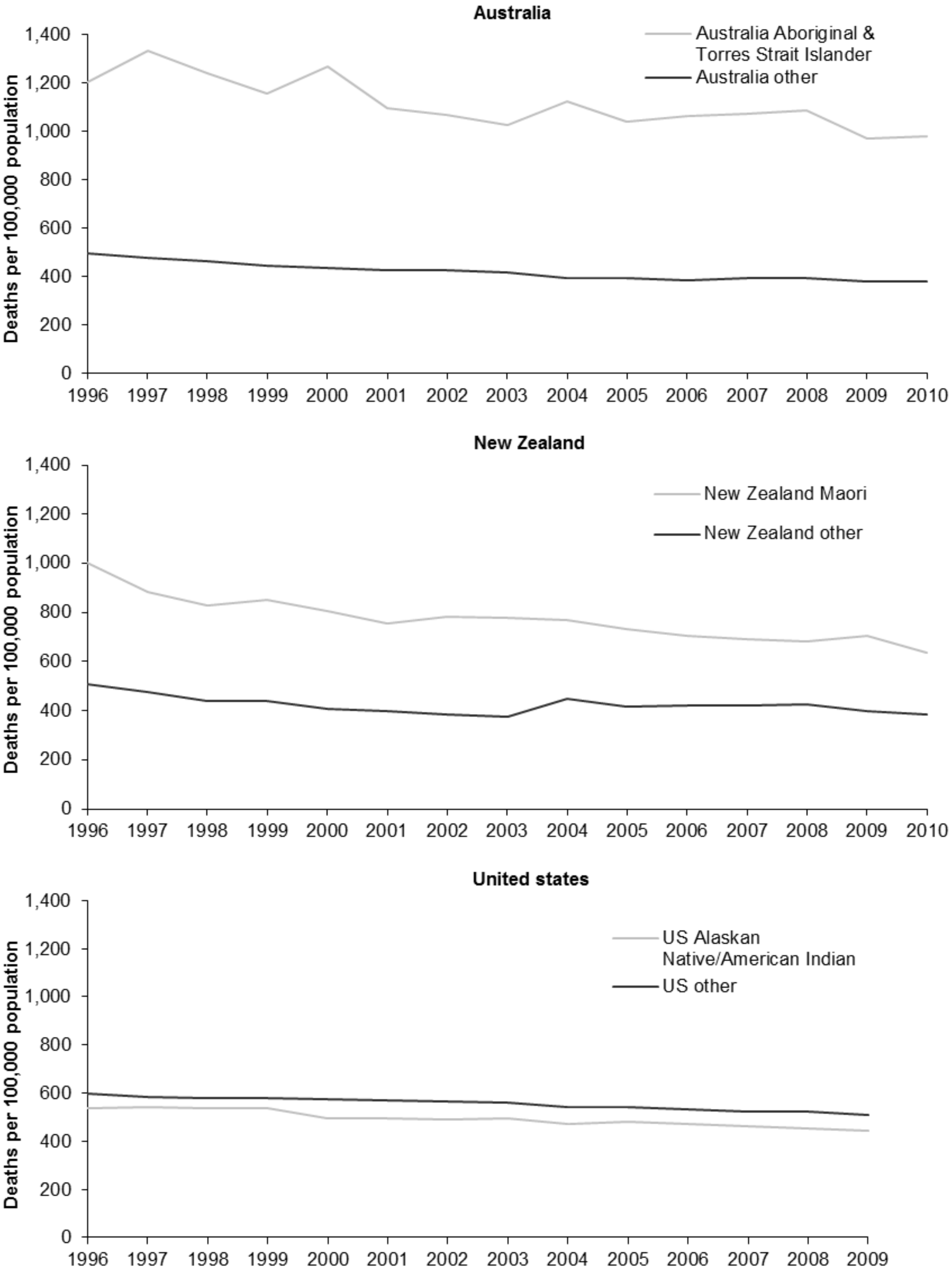
International statistics on all-cause mortality show that indigenous people in the United States have lower mortality rates than the general population, and in Canada and New Zealand, indigenous people have higher mortality rates than the general population, but the gap is not as great as for Aboriginal and Torres Strait Islander Australians. The all-cause mortality rate for Aboriginal and Torres Strait Islander Australians for the period 2006–2010 is around twice that for non-Indigenous Australians (823 per 100,000 compared with 384 per 100,000 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined when directly age-standardised to the World Standard Population). The latest available data from the United States, New Zealand and Canada are outlined below:

- For the period 2006–2010 in New Zealand, the age-standardised all-cause mortality rate for the Maori population was 674 per 100,000, compared with 402 per 100,000 for other New Zealanders (Statistics New Zealand unpublished data).
- For the period 2005–2009 in the United States, the age-standardised all-cause mortality rate for American Indians/Alaska Natives was 461 per 100,000, which was lower than the age-standardised all-cause mortality rate for non-Indigenous persons over this period (525 per 100,000) (United States Department of Health and Human Services unpublished data).
- For the period 2001–2002 in Canada, the age-standardised all-cause mortality rate for First Nations was 1,062 per 100,000 for males and 754 per 100,000 for females, which was higher than the age-standardised all-cause mortality rate for total Canadian persons over this period (559 per 100,000 for males and 384 per 100,000 for females) (Health Canada unpublished data).

Time series

Figure 1.22.4 and Table 1.22.6 present the age-standardised all-cause mortality rates for the Indigenous and non-Indigenous populations in Australia, New Zealand over the period 1996–2010, and the United States over the period 1996–2009. Reliable time series of mortality data for the First Nations population in Canada is not currently available.

- In New Zealand between 1996 and 2010 there was a significant decline in all-cause mortality rates for the Maori population. The fitted trend implies an average yearly decline in the rate of around 19 per 100,000 which is equivalent to a 27% reduction in the rate over this period. There was also a significant decline in non-Indigenous all-cause mortality rates in New Zealand between 1996 and 2010 (a reduction of 13%).
- In the United States between 1996 and 2009 there was a significant decline in all-cause mortality rates for American Indians/Alaskan Natives. The fitted trend implies an average yearly decline in the rate of around 8 per 100,000 which is equivalent to a 19% reduction in the rate over this period. There was also a significant decline in non-Indigenous all-cause mortality rates in the United States between 1996 and 2009 (a reduction of 14%).
- The age-standardised all-cause mortality rate for Aboriginal and Torres Strait Islander people was higher than that for Maori and Alaskan Natives/American Indians for all years between 1996 and 2009.



Notes

1. Australia data are for Western Australia, South Australia & the Northern Territory combined.
2. Rates are directly age-standardised to the World Standard Population 2001–2025.

Source: AIHW analysis of National Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.

Figure 1.22.4: Age-standardised mortality rates, by Indigenous status, Australia (1996–2010), New Zealand (1996–2010) and the United States (1996–2009)

Table 1.22.6: Age standardised mortality rates, by Indigenous status, Australia(a), New Zealand and the United States, 1996–2010(b)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change	Per cent change
								Deaths per 100,000 head of population									
US Alaskan Native/American Indian	535.3	541.0	535.3	539.4	495.9	496.1	491.1	495.3	473.7	480.8	469.4	460.6	454.3	441.8	n.a.	–7.6*	–18.5*
US Other	598.7	585.3	579.2	581.3	575.0	570.1	566.9	559.3	540.8	542.7	531.8	522.3	522.3	508.6	n.a.	–6.5*	–14.2*
New Zealand Maori	1,001.0	885.3	827.7	849.7	807.3	753.6	784.7	777.5	767.1	731.0	706.3	690.8	682.7	703.4	635.0	–19.2*	–26.9*
New Zealand Other	510.5	474.9	440.2	440.8	409.7	400.7	385.4	373.9	449.0	415.8	421.8	422.4	426.2	400.3	384.6	–4.8*	–13.1*
Australia Aboriginal & Torres Strait Islander	1,200.5	1,332.6	1,237.2	1,157.5	1,268.2	1,093.1	1,067.4	1,023.5	1,121.5	1,039.1	1,064.5	1,071.9	1,083.8	967.2	979.4	–19.7*	–23.0*
Australia Other	495.4	475.9	461.9	443.0	435.7	424.8	423.1	416.4	394.2	393.4	384.7	392.3	391.6	379.6	379.3	–7.8*	–22.1*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the reported period.

(a) Australia data is for WA, SA & NT combined

(b) Rates are directly age-standardised to the World Standard Population 2001–2025.

Source: AIHW analysis of National Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.

Data quality issues

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Qld deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006–07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2008. Information Paper : Census Data Enhancement - Indigenous Mortality Quality Study. Cat. No. 472 3.0. 2006 – 07

ABS 2009. Experimental estimates and projections, Aboriginal and Torres Strait Islander Australians, 1991 to 2021. Cat. no. 3238.0. Canberra: ABS.

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1.23 Leading causes of mortality

Causes of death of Aboriginal and Torres Strait Islander Australians, expressed as a rate by age group, age-standardised rate and rate ratio

Data sources

Data for this measure come from the Australian Institute of Health and Welfare (AIHW) National Mortality Database.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

Analyses

Age-standardised rates and ratios have been used as a measure of mortality in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of mortality among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Mortality

Mortality by cause of death

Tables 1.23.1 and 1.23.2 present data on the major causes of death of Indigenous Australians over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, the most common cause of death among Indigenous Australians was circulatory diseases which caused 26% of deaths, followed by neoplasms (19%) and external causes (15%). Indigenous Australians died from these causes of death at 1.7, 1.4 and 2.3 times the rate of non-Indigenous Australians respectively (Table 1.23.1).
- Among neoplasms, digestive organ cancers were the most common type, which caused 5.3% of deaths of Indigenous Australians. Indigenous Australians died from digestive organ cancers at 1.4 times the rate of non-Indigenous Australians.
- Over the period 2006–2010, Indigenous Australians died from diabetes at 6.7 times the rate of non-Indigenous Australians, and from kidney diseases at 3.5 times the rate of non-Indigenous Australians.
- Indigenous Australians aged 75 years and over had the highest rates of mortality across all major causes of death except for cervical cancer. The highest mortality rate for cervical cancer was in the 65–74 year age group for Indigenous women (Table 1.23.2).
- Mortality rates for external causes of death (which includes assault, suicide and transport accidents) were notably high among Indigenous Australians aged 25–34 and 35–44 (122 and 124 per 100,000 respectively) (Table 1.23.2).

Table 1.23.1: Causes of mortality, by Indigenous status, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Number			Per cent			Rate per 100,000(h)				
Underlying cause of death	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Rate ratio(i)**	**Rate difference(j)**	**Rate difference %(k)**
						Males					
Circulatory diseases (I00–I99)	1,611	77,292	991	26.2	31.3	32.7	400.6	218.8	1.8*	181.8*	29.0
Neoplasms (C00–C97, D00–D48)	1,078	81,640	643	17.6	33.0	21.2	283.0	223.7	1.3*	59.3*	9.5
Digestive organ cancers (C15–C26)(l)	*334*	*22,143*	*180*	*5.4*	*9.0*	*5.9*	*78.3*	*59.9*	*1.3**	*18.3**	*2.9*
Lung cancer (C34)(l)	*289*	*16,891*	*124*	*4.7*	*6.8*	*4.1*	*81.6*	*45.8*	*1.8**	*35.8**	*5.7*
Cervical cancer (C53)(l)(m)	—	—	—	—	—	—	—	—	—	—	—
External causes (V01–Y98)	1,152	19,017	524	18.8	7.7	17.3	119.0	51.8	2.3*	67.1*	10.7
Endocrine, metabolic & nutritional disorders (E00–E89)	454	8,799	107	7.4	3.6	3.5	116.7	24.7	4.7*	92.0*	14.7
Diabetes (E10–E14)(l)	*388*	*6,337*	*74*	*6.3*	*2.6*	*2.4*	*102.0*	*17.8*	*5.7**	*84.2**	*13.4*
Respiratory diseases (J00–J99)	458	20,818	244	7.5	8.4	8.1	135.4	59.4	2.3*	76.0*	12.1
Digestive diseases (K00–K93)	357	8,225	117	5.8	3.3	3.9	62.5	22.6	2.8*	39.9*	6.4
Kidney diseases (N00–N29)	154	4,356	43	2.5	1.8	1.4	41.9	12.6	3.3*	29.3*	4.7
Conditions originating in perinatal period (P00–P96)	155	1,116	38	2.5	0.5	1.3	6.8	3.1	2.2*	3.7*	0.6
Nervous system diseases (G00–G99)	168	8,781	95	2.7	3.6	3.1	32.3	24.8	1.3*	7.5*	1.2
Infectious & parasitic diseases (A00–B99)	141	3,731	34	2.3	1.5	1.1	29.3	10.4	2.8*	18.9*	3.0
Other causes(n)	410	13,470	192	6.7	5.4	6.3	89.5	38.5	2.3*	51.1*	8.1
All causes	**6,138**	**247,245**	**3,028**	**100.0**	**100.0**	**100.0**	**1,316.9**	**690.3**	**1.9***	**626.6***	**100.0**

(continued)

Table 1.23.1 (continued): Causes of mortality, by Indigenous status, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Number			Per cent			Rate per 100,000(h)				
Underlying cause of death	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Rate ratio(i)**	**Rate difference(j)**	**Rate difference %(k)**
						Females					
Circulatory diseases (I00–I99)	1,314	85,258	881	26.3	36.6	36.5	308.5	183.6	1.7*	124.9*	25.1
Neoplasms (C00–C97, D00–D48)	1,029	61,929	501	20.6	26.6	20.8	215.5	141.6	1.5*	73.9*	14.9
Digestive organ cancers (C15–C26)(l)	*260*	*16,385*	*135*	*5.2*	*7.0*	*5.6*	*58.5*	*37.1*	*1.6**	*21.4**	*4.3*
Lung cancer (C34)(l)	*213*	*10,173*	*77*	*4.3*	*4.4*	*3.2*	*43.5*	*23.4*	*1.9**	*20.1**	*4.1*
Cervical cancer (C53)(l)(m)	*58*	*793*	*7*	*1.2*	*0.3*	*0.3*	*8.8*	*1.9*	*4.6**	*6.9**	*1.4*
External causes (V01–Y98)	515	9,468	239	10.3	4.1	9.9	52.5	22.7	2.3*	29.8*	6.0
Endocrine, metabolic & nutritional disorders (E00–E89)	530	8,789	99	10.6	3.8	4.1	117.6	19.3	6.1*	98.3*	19.8
Diabetes (E10–E14)(l)	*458*	*5,938*	*65*	*9.2*	*2.6*	*2.7*	*101.3*	*13.0*	*7.8**	*88.4**	*17.8*
Respiratory diseases (J00–J99)	400	18,499	213	8.0	8.0	8.8	95.4	40.5	2.4*	54.8*	11.0
Digestive diseases (K00–K93)	302	8,158	82	6.0	3.5	3.4	52.9	18.0	2.9*	34.9*	7.0
Kidney diseases (N00–N29)	169	4,843	35	3.4	2.1	1.5	39.0	10.5	3.7*	28.5*	5.7
Conditions originating in perinatal period (P00–P96)	115	856	23	2.3	0.4	1.0	5.2	2.5	2.1*	2.7*	0.6
Nervous system diseases (G00–G99)	109	10,506	91	2.2	4.5	3.8	21.4	23.1	0.9	–1.7	–0.4
Infectious & parasitic diseases (A00–B99)	117	3,252	31	2.3	1.4	1.3	22.5	7.2	3.1*	15.2*	3.1
Other causes(n)	394	21,130	218	7.9	9.1	9.0	81.2	46.1	1.8*	35.2*	7.1
All causes	**4,994**	**232,688**	**2,413**	**100.0**	**100.0**	**100.0**	**1,011.7**	**515.1**	**2.0***	**496.7***	**100.0**

(continued)

Table 1.23.1 (continued): Causes of mortality, by Indigenous status, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Number			Per cent			Rate per 100,000(h)				
Underlying cause of death	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Rate ratio(i)**	**Rate difference(j)**	**Rate difference %(k)**
						Persons					
Circulatory diseases (I00–I99)	2,925	162,550	1,872	26.3	33.9	34.4	351.0	201.0	1.7*	150.0*	27.1
Neoplasms (C00–C97, D00–D48)	2,107	143,569	1,144	18.9	29.9	21.0	244.6	178.0	1.4*	66.6*	12.0
Digestive organ cancers (C15–C26)(l)	*594*	*38,528*	*315*	*5.3*	*8.0*	*5.8*	*67.9*	*47.7*	*1.4**	*20.2**	*3.6*
Lung cancer (C34)(l)	*502*	*27,064*	*201*	*4.5*	*5.6*	*3.7*	*59.6*	*33.4*	*1.8**	*26.1**	*4.7*
Cervical cancer (C53)(l)(m)	*58*	*793*	*7*	*0.5*	*0.2*	*0.1*	*4.8*	*1.0*	*4.8**	*3.8**	*0.7*
External causes (V01–Y98)	1,667	28,485	763	15.0	5.9	14.0	84.3	37.1	2.3*	47.2*	8.5
Endocrine, metabolic & nutritional disorders (E00–E89)	984	17,588	206	8.8	3.7	3.8	117.7	21.8	5.4*	95.8*	17.3
Diabetes (E10–E14)(l)	*846*	*12,275*	*139*	*7.6*	*2.6*	*2.6*	*101.8*	*15.2*	*6.7**	*86.6**	*15.6*
Respiratory diseases (J00–J99)	858	39,317	457	7.7	8.2	8.4	112.3	48.7	2.3*	63.6*	11.5
Digestive diseases (K00–K93)	659	16,383	199	5.9	3.4	3.7	57.8	20.3	2.8*	37.5*	6.8
Kidney diseases (N00–N29)	323	9,199	78	2.9	1.9	1.4	40.3	11.4	3.5*	28.9*	5.2
Conditions originating in perinatal period (P00–P96)	270	1,972	61	2.4	0.4	1.1	6.0	2.8	2.2*	3.2*	0.6
Nervous system diseases (G00–G99)	277	19,287	186	2.5	4.0	3.4	26.5	24.0	1.1	2.5	0.4
Infectious & parasitic diseases (A00–B99)	258	6,983	65	2.3	1.5	1.2	25.4	8.7	2.9*	16.7*	3.0
Other causes(n)	804	34,600	410	7.2	7.2	7.5	85.1	43.1	2.0*	42.0*	7.6
All causes	**11,132**	**479,933**	**5,441**	**100.0**	**100.0**	**100.0**	**1,151.1**	**597.0**	**1.9***	**554.0***	**100.0**

(continued)

Table 1.23.1 (continued): Causes of mortality, by Indigenous status, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) These data exclude **5,441** registered deaths where the Indigenous status was not stated over the period 2006–2010.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all causes.

(l) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

(m) Data for cervical cancer are for females only.

(n) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.2: Causes of Indigenous mortality rates, by age group, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

Underlying cause of death	Under 1	1–4	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75 and over	Total(g)
	Rate per 1,000 live births	**Rate per 100,000 population**										
Circulatory diseases (I00–I99)	0.2	3.4	8.1	1.0	7.5	40.1	129.0	259.9	454.2	1,003.2	3,010.6	121.7
Neoplasms (C00–C97, D00–D48)	0.0	1.7	2.4	1.7	3.6	13.1	58.2	179.9	466.7	1,029.8	1,563.1	87.7
Digestive organ cancers (C15–C26)(h)	*0.0*	*0.0*	*0.0*	*0.0*	*0.8*	*3.6*	*16.0*	*48.8*	*154.7*	*266.5*	*424.0*	*24.7*
Lung cancer (C34)(h)	*0.0*	*0.0*	*0.3*	*0.0*	*0.0*	*0.3*	*8.3*	*47.0*	*119.0*	*285.5*	*346.9*	*20.9*
Cervical cancer (C53)(h)(i)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*2.7*	*4.7*	*3.7*	*11.7*	*19.0*	*12.9*	*2.4*
External causes (V01–Y98)	0.4	22.6	26.0	10.7	83.5	122.3	124.4	92.5	54.9	64.7	175.6	69.4
Endocrine, metabolic & nutritional disorders (E00–E89)	0.0	1.3	2.0	0.2	0.8	4.8	28.6	80.9	223.8	439.7	843.7	41.0
Diabetes (E10–E14)(h)	*0.0*	*0.0*	*0.0*	*0.0*	*0.6*	*4.5*	*21.3*	*68.3*	*209.7*	*384.5*	*749.4*	*35.7*
Respiratory diseases (J00–J99)	0.3	5.1	11.1	0.9	2.3	8.6	25.3	49.3	129.8	382.6	1,032.1	35.7
Digestive diseases (K00–K93)	0.2	0.9	4.1	0.0	0.4	9.5	48.2	95.8	100.7	140.9	286.9	27.4
Kidney diseases (N00–N29)	0.0	0.0	0.3	0.2	0.8	0.9	11.0	27.4	65.7	112.3	355.5	13.4
Conditions originating in perinatal period (P00–P96)	4.1	0.9	91.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2
Nervous system diseases (G00–G99)	0.1	4.3	6.4	2.8	3.6	8.3	12.6	14.9	33.3	76.1	201.3	11.5
Infectious & parasitic diseases (A00–B99)	0.2	0.9	5.4	0.4	0.8	5.4	17.3	25.1	29.1	66.6	179.9	10.7
Other causes(j)	2.5	6.8	60.7	2.4	5.6	9.2	25.3	42.3	69.1	198.0	839.4	33.5
All causes	**8.1**	**47.7**	**217.5**	**20.2**	**109.0**	**222.1**	**479.8**	**867.9**	**1,627.3**	**3,514.0**	**8,487.9**	**463.3**

(continued)

Table 1.23.2 (continued): Causes of Indigenous mortality rates, by age group, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

(a) Rates for infants (under 1 year) calculated per 1,000 live births; age-specific death rates for age groups calculated per 100,000 estimated resident population for selected age group.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(g) Includes age not stated.

(h) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

(i) Data for cervical cancer are for females only.

(j) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, disease of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Endocrine, metabolic and nutritional disorders

Tables 1.23.3 and 1.23.4 present data on deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, the mortality rate from endocrine, metabolic and nutritional disorders among Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory was 118 per 100,000 population. Indigenous Australians died from endocrine, metabolic and nutritional disorders at 5.4 times the rate of non-Indigenous Australians (Table 1.23.3).
- The mortality rates from endocrine, metabolic and nutritional disorders were similar for Indigenous males and females (117 and 118 per 100,000 respectively).
- Diabetes accounted for 86% of deaths from endocrine, metabolic and nutritional disorders for Indigenous Australians.
- 71% of Indigenous deaths due to endocrine, metabolic and nutritional disorders occurred in the 55 years and older age group (Table 1.23.4).

Table 1.23.3: Deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders, by sex, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)]

	Number	Per cent	No. per 100,000[(f)]	95% LCL[(g)]	95% UCL[(h)]	Rate ratio[(i)]	Rate difference[(j)]	Rate difference %[(k)]
					Males			
Endocrine, metabolic & nutritional disorders (E00–E89)	454	7.4	116.7	103.7	129.8	4.7	92.0	14.7
Diabetes (E10–E14)[(l)]	*388*	*6.3*	*102.0*	*89.7*	*114.3*	*5.7*	*84.2*	*13.4*
All causes	**6,138**	**100.0**	**1,255.4**	**1,273.8**	**1,360.1**	**1.9**	**626.6**	**100.0**
					Females			
Endocrine, metabolic & nutritional disorders (E00–E89)	530	10.6	117.6	106.4	128.9	6.1	98.3	19.8
Diabetes (E10–E14)[(l)]	*458*	*9.2*	*101.3*	*91.0*	*111.7*	*7.8*	*88.4*	*17.8*
All causes	**4,994**	**100.0**	**1,011.7**	**978.8**	**1,044.7**	**2.0**	**496.7**	**100.0**
					Persons			
Endocrine, metabolic & nutritional disorders (E00–E89)	984	8.8	117.7	109.1	126.2	5.4	95.8	17.3
Diabetes (E10–E14)[(l)]	*846*	*7.6*	*101.8*	*93.9*	*109.7*	*6.7*	*86.6*	*15.6*
All causes	**11,132**	**100.0**	**1,151.1**	**1,124.7**	**1,177.4**	**1.9**	**554.0**	**100.0**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all causes.

(l) Data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.4: Deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders, by age, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75+	Total(f)
Endocrine, metabolic & nutritional disorders (E00–E89)	6	0	n.p.	n.p.	n.p.	5	11	35	51	76	98	134	135	117	114	197	984
Diabetes (E10–E14)(g)	*0*	*0*	*0*	*0*	*n.p.*	*4*	*11*	*22*	*42*	*64*	*82*	*127*	*124*	*99*	*101*	*168*	*846*
All causes	**645**	**54**	**63**	**221**	**301**	**327**	**421**	**638**	**805**	**914**	**953**	**979**	**977**	**939**	**907**	**1,982**	**11,132**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Includes age not stated.

(g) Data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Circulatory diseases

Tables 1.23.5 and 1.23.6 present data on deaths of Indigenous Australians from circulatory diseases over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, there were 2,925 deaths (351 per 100,000 population) of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from circulatory diseases. Indigenous Australians died from circulatory diseases at 1.7 times the rate of non-Indigenous Australians (Table 1.23.5).
- The mortality rate from circulatory diseases was higher for Indigenous males than for Indigenous females (401 per 100,000 compared with 309 per 100,000).
- The most common type of circulatory disease causing death for Indigenous Australians was ischaemic heart disease (including acute myocardial infarction), which accounted for 54% of Indigenous deaths from circulatory diseases, followed by cerebrovascular disease (including stroke) (18%). Indigenous Australians died from these diseases at 1.8 and 1.5 times the rate of non-Indigenous Australians, respectively.
- Over the period 2006–2010, Indigenous Australians died from rheumatic heart disease (which predominantly affects children) at 4.7 times the rate of non-Indigenous Australians.
- The largest number of Indigenous deaths due to circulatory diseases occurred in the 75 years and over age group (703, 24%), followed by the 45–54 age group (559, 19%) (Table 1.23.6).

Table 1.23.5: Deaths of Indigenous Australians from circulatory diseases, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

	Number	Per cent	No. per 100,000(f)	95% LCL(g)	95% UCL(h)	Rate ratio(i)	Rate difference(j)	Rate difference %(k)
					Males			
Ischaemic heart disease (I20–I25)	978	60.7	226.1	208.4	243.9	1.9	106.8	58.8
Acute myocardial infarction (I21)(l)	*385*	*23.9*	*90.5*	*79.2*	*101.9*	*1.6*	*34.6*	*19.1*
Cerebrovascular disease (I60–I69)	237	14.7	80.7	68.6	92.9	1.7	34.2	18.8
Stroke (I60–I64)(l)	*189*	*11.7*	*59.4*	*49.2*	*69.6*	*1.7*	*25.3*	*13.9*
Other heart disease (I26–I52)	261	16.2	58.1	49.0	67.2	1.7	24.5	13.5
Rheumatic heart disease (I00–I09)	29	1.8	3.3	1.9	4.7	3.5	2.4	1.3
Hypertension disease (I10–I15)	49	3.0	16.8	11.3	22.3	2.9	11.0	6.1
Other diseases of the circulatory system (I70–I99)	57	3.5	15.5	10.5	20.5	1.2	2.9	1.6
Total circulatory diseases (I00–I99)	**1,611**	**100.0**	**400.6**	**376.0**	**425.2**	**1.8**	**181.8**	**100.0**
					Females			
Ischaemic heart disease (I20–I25)	589	44.8	135.2	122.9	147.5	1.7	55.8	44.7
Acute myocardial infarction (I21)(l)	*253*	*19.3*	*60.6*	*52.3*	*68.9*	*1.5*	*19.9*	*16.0*
Cerebrovascular disease (I60–I69)	282	21.5	73.9	64.2	83.6	1.4	20.3	16.3
Stroke (I60–I64)(l)	*225*	*17.1*	*55.6*	*47.3*	*63.8*	*1.4*	*16.5*	*13.2*
Other heart disease (I26–I52)	254	19.3	57.5	49.4	65.7	1.8	25.6	20.5
Rheumatic heart disease (I00–I09)	61	4.6	7.7	5.4	9.9	5.3	6.2	5.0
Hypertension disease (I10–I15)	69	5.3	18.3	13.6	23.1	2.2	9.9	7.9
Other diseases of the circulatory system (I70–I99)	59	4.5	15.9	11.4	20.3	1.8	7.0	5.6
Total circulatory diseases (I00–I99)	**1,314**	**100.0**	**308.5**	**289.6**	**327.5**	**1.7**	**124.9**	**100.0**
					Persons			
Ischaemic heart disease (I20–I25)	1,567	53.6	176.3	166.0	186.7	1.8	78.3	52.2
Acute myocardial infarction (I21)(l)	*638*	*21.8*	*74.3*	*67.5*	*81.1*	*1.6*	*26.5*	*17.7*
Cerebrovascular disease (I60–I69)	519	17.7	76.9	69.3	84.4	1.5	26.0	17.4
Stroke (I60–I64)(l)	*414*	*14.2*	*57.2*	*50.8*	*63.6*	*1.5*	*20.1*	*13.4*
Other heart disease (I26–I52)	515	17.6	58.6	52.4	64.7	1.8	25.6	17.1
Rheumatic heart disease (I00–I09)	90	3.1	5.7	4.3	7.1	4.7	4.5	3.0
Hypertension disease (I10–I15)	118	4.0	17.7	14.1	21.3	2.4	10.3	6.9
Other diseases of the circulatory system (I70–I99)	116	4.0	15.9	12.5	19.3	1.5	5.3	3.6
Total circulatory diseases (I00–I99)	**2,925**	**100.0**	**351.0**	**335.9**	**366.1**	**1.7**	**150.0**	**100.0**

(continued)

Table 1.23.5 (continued): Deaths of Indigenous Australians from circulatory diseases, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

(m) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(n) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(o) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(p) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(q) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(r) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(s) LCL = lower confidence limit.

(t) UCL = upper confidence limit.

(u) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(v) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(w) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all circulatory diseases.

(x) Data presented for acute myocardial infarction are a subset of data presented for ischaemic heart disease; data presented for stroke are a subset of data presented for cerebrovascular disease in this table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.6: Deaths of Indigenous Australians from circulatory diseases, by age, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)]

	Under 1	**1–4**	***0–4***	**5–14**	**15–24**	**25–34**	**35–44**	**45–54**	**55–64**	**65–74**	**75 and over**	**Total[(e)]**
Ischaemic heart disease (I20–I25)	0	0	*0*	0	6	68	226	344	333	284	305	1,567
Acute myocardial infarction (I21)[(f)]	*0*	*0*	*0*	*n.p.*	*n.p.*	*23*	*91*	*122*	*139*	*126*	*134*	*638*
Cerebrovascular disease (I60–I69)	n.p.	n.p.	*4*	0	7	9	39	82	85	94	199	519
Stroke (I60–I64)[(f)]	*n.p.*	*n.p.*	*n.p.*	*0*	*7*	*9*	*37*	*75*	*74*	*71*	*138*	*414*
Other heart disease (I26–I52)	12	n.p.	*14*	n.p.	13	33	83	86	75	92	115	515
Rheumatic heart disease (I00–I09)	0	4	*4*	n.p.	10	22	18	15	12	5	n.p.	90
Hypertension disease (I10–I15)	0	0	*0*	n.p.	0	n.p.	12	13	22	26	44	118
Other diseases of the circulatory system (I70–I99)	n.p.	n.p.	n.p.	n.p.	0	n.p.	10	19	19	26	n.p.	116
Total circulatory diseases (I00–I99)	**16**	**8**	***24***	**6**	**36**	**135**	**388**	**559**	**546**	**527**	**703**	**2,925**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(e) Includes age not stated.

(f) Data presented for acute myocardial infarction are a subset of data presented for ischaemic heart disease; data presented for stroke are a subset of data presented for cerebrovascular disease in this table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

External causes (injury and poisoning)

Tables 1.23.7 and 1.23.8 present data on deaths of Indigenous Australians from external causes poisoning over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, there were 1,667 deaths (84 per 100,000) of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from external causes. Indigenous Australians died from external causes at 2.3 times the rate of non-Indigenous Australians (Table 1.23.7).
- The mortality rate from external causes for Indigenous males was over twice the rate for Indigenous females (119 compared with 53 per 100,000). The ratio of mortality rates from external causes between Indigenous males and non-Indigenous males was the same as between Indigenous and non-Indigenous females.
- The most common type of external cause of death among Indigenous Australians was intentional self-harm (suicide) which accounted for 30% of death from external causes, followed by transport accidents (28%), accidental poisoning by and exposure to noxious substances (10%), and assault (9%).
- Indigenous Australians died from intentional self-harm and transport accidents at 2.1 and three times the rate of non-Indigenous Australians respectively. Indigenous males and females died from assault at 8 and 11 times the rate of non-Indigenous males and females respectively.
- Over the period 2006–2010, the largest number of deaths of Indigenous Australians from external causes occurred in the 20–24 year age group (222 per 100,000, 13.3% of all deaths from external causes), followed by the 30–34 year age group (208, 12.5%) (Table 1.23.8).

Table 1.23.7: Deaths of Indigenous Australians from external causes (injury and poisoning), by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

	Number	Per cent	No. per 100,000(f)	95% LCL(g)	95% UCL(h)	Rate ratio(i)	Rate difference(j)	Rate difference %(k)
					Males			
Intentional self-harm (X60–X84)	377	32.7	33.9	29.8	38.0	2.2	18.4	27.4
Accidents								
Transport accidents (V01–V99)	316	27.4	29.5	25.8	33.3	2.6	18.4	27.4
Accidental drowning or accidental threats to breathing (W65–W84)	49	4.3	5.8	3.3	8.3	2.0	3.0	4.4
Accidental poisoning by and exposure to noxious substances (X40–X49)	109	9.5	10.6	8.5	12.7	2.1	5.5	8.2
Exposure to electric current/smoke/fire/ animals/nature (W85–W99,X00–X39)	34	3.0	4.7	2.5	6.9	5.1	3.8	5.6
Accidental falls (W00–W19)	44	3.8	8.7	5.2	12.2	1.5	2.7	4.1
Exposure to inanimate mechanical forces (W20–W49)	18	1.6	1.5	0.8	2.3	2.0	0.8	1.1
Other external causes of accidental injury (W50–W64 X50–X59)	18	1.6	4.0	1.4	6.7	1.2	0.7	1.0
Assault (X85–Y09)	101	8.8	10.3	8.1	12.5	8.0	9.0	8.8
Complications of medical or surgical care (Y40–Y84)	8	0.7	1.0	0.3	1.6	0.8	–0.2	0.7
Other external causes(l)	78	6.8	8.9	6.2	11.6	2.4	5.1	6.8
Total external causes (V01–Y98)	**1,152**	**100.0**	**118.9**	**110.1**	**127.8**	**2.3**	**67.1**	**100.0**

(continued)

Table 1.23.7 (continued): Deaths of Indigenous Australians from external causes (injury and poisoning), by sex, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e]

	Number	Per cent	No. per 100,000[f]	95% LCL[g]	95% UCL[h]	Rate ratio[i]	Rate difference[j]	Rate difference %[k]
	Females							
Intentional self-harm (X60–X84)	114	22.1	8.9	7.2	10.6	2.0	4.5	14.9
Accidents								
Transport accidents (V01–V99)	147	28.5	13.9	11.3	16.4	4.0	10.4	34.9
Accidental drowning or accidental threats to breathing (W65–W84)	22	4.3	1.5	0.8	2.2	1.2	0.3	1.0
Accidental poisoning by and exposure to noxious substances (X40–X49)	58	11.3	5.8	4.2	7.4	2.7	3.6	12.1
Exposure to electric current/smoke/fire/ animals/nature (W85–W99,X00–X39)	14	2.7	1.6	0.5	2.7	4.0	1.2	4.1
Accidental falls (W00–W19)	22	4.3	4.4	2.3	6.6	1.0	–0.1	–0.2
Exposure to inanimate mechanical forces (W20–W49)	5	1.0	0.4	0.0	0.7	3.5	0.3	0.9
Other external causes of accidental injury (W50–W64 X50–X59)	19	3.7	4.2	1.9	6.4	1.3	0.9	3.0
Assault (X85–Y09)	77	8.8	7.0	5.4	8.6	10.9	6.3	8.8
Complications of medical or surgical care (Y40–Y84)	10	0.7	2.3	0.7	4.0	2.4	1.4	0.7
Other external causes[l]	27	6.8	2.6	1.5	3.6	1.7	1.0	6.8
Total external causes (V01–Y98)	**515**	**100.0**	**52.5**	**47.0**	**58.0**	**2.3**	**29.8**	**100.0**

(continued)

Table 1.23.7 (continued): Deaths of Indigenous Australians from external causes (injury and poisoning), by sex, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)]

	Number	Per cent	No. per 100,000[(f)]	95% LCL[(g)]	95% UCL[(h)]	Rate ratio[(i)]	Rate difference[(j)]	Rate difference %[(k)]
	Persons							
Intentional self-harm (X60–X84)	491	29.5	21.0	18.9	23.0	2.1	11.1	23.4
Accidents								
Transport accidents (V01–V99)	463	27.8	21.5	19.3	23.8	3.0	14.2	30.2
Accidental drowning or accidental threats to breathing (W65–W84)	71	4.3	3.4	2.3	4.5	1.7	1.4	3.0
Accidental poisoning by and exposure to noxious substances (X40–X49)	167	10.0	8.2	6.8	9.5	2.2	4.5	9.6
Exposure to electric current/smoke/fire/ animals/nature (W85–W99,X00–X39)	48	2.9	3.0	1.9	4.2	4.6	2.4	5.0
Accidental falls (W00–W19)	66	4.0	6.3	4.4	8.3	1.2	1.1	2.4
Exposure to inanimate mechanical forces (W20–W49)	23	1.4	0.9	0.5	1.3	2.2	0.5	1.1
Other external causes of accidental injury (W50–W64 X50–X59)	37	2.2	4.1	2.4	5.8	1.2	0.8	1.7
Assault (X85–Y09)	178	8.8	8.6	7.2	9.9	8.9	7.6	8.8
Complications of medical or surgical care (Y40–Y84)	18	0.7	1.8	0.8	2.8	1.7	0.8	0.7
Other external causes[(l)]	105	6.8	5.5	4.2	6.8	2.1	2.9	6.8
Total external causes (V01–Y98)	**1,667**	**100.0**	**84.3**	**79.3**	**89.3**	**2.3**	**47.2**	**100.0**

(continued)

Table 1.23.7 (continued): Deaths of Indigenous Australians from external causes (injury and poisoning), by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all external causes.

(l) All other external causes of death not presented elsewhere in this table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.8: Deaths of Indigenous Australians from external causes (injury and poisoning), by age, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f]

	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75+	Total[g]
Intentional self-harm (X60–X84)	0	0	13	84	100	83	62	60	37	26	11	6	4	n.p.	n.p.	n.p.	491
Accidents																	
Transport accidents (V01–V99)	23	15	12	62	57	46	68	49	43	35	18	12	10	n.p.	6	n.p.	463
Accidental drowning or accidental threats to breathing (W65–W84)	25	n.p.	n.p.	n.p.	n.p.	5	4	8	5	4	n.p.	n.p.	n.p.	n.p.	0	n.p.	71
Accidental poisoning by and exposure to noxious substances (X40–X49)	n.p.	0	n.p.	n.p.	n.p.	23	22	36	25	18	8	n.p.	n.p.	n.p.	0	n.p.	167
Assault (X85–Y09)	n.p.	n.p.	n.p.	9	22	22	22	24	32	20	n.p.	n.p.	5	n.p.	n.p.	0	178
Other external causes[h]	21	5	4	16	21	25	30	27	28	27	21	12	9	11	7	31	297
Total external causes (V01–Y98)	**77**	**27**	**35**	**178**	**222**	**204**	**208**	**204**	**170**	**130**	**69**	**34**	**32**	**19**	**15**	**41**	**1,667**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Includes age not stated.

(h) All other external causes of death not presented elsewhere in this table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Neoplasms (cancer)

Tables 1.23.9 and 1.23.10 present data on deaths of Indigenous Australians from neoplasms (cancer) over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, there were 2,107 deaths (245 per 100,000) of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from cancer. Indigenous Australians died from cancer at 1.4 times the rate of non-Indigenous Australians (Table 1.23.9).
- The most common type of cancer causing mortality among Indigenous Australians was cancer of the digestive organs, which caused 28% of deaths from neoplasms. The ratio of mortality rates for cancer of the digestive organs between Indigenous and non-Indigenous Australians was 1.4.
- The second most common type of cancer causing mortality among Indigenous Australians was cancer of the respiratory and inthrathoracic organs (26%), which comprise predominantly bronchus and lung cancer. Indigenous Australians died from these cancers at almost twice the rate of non-Indigenous Australians.
- Over the period 2006–2010, there were 58 deaths of Indigenous females in the five jurisdictions from cervical cancer. Indigenous females died from cervical cancer at 4.6 times the rate of non-Indigenous Australians.
- Over the same period, the largest number of deaths of Indigenous Australians from cancer was in the 55–64 age group (561 per 100,000 population, 27% of all deaths due to neoplasms), followed by the 65–74 year age group (541 per 100,000 population, 26% of all deaths due to neoplasms) (Table 1.23.10).

Table 1.23.9: Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)]

Site of neoplasm	Number	Per cent	No. per 100,000[(g)]	95% LCL[(h)]	95% UCL[(i)]	Rate ratio[(j)]	Rate difference[(k)]	Rate difference %[(l)]
				Males				
Digestive organs (C15–C26)	334	31.0	78.3	68.2	88.4	1.3	18.3	30.9
Bowel cancer(C18–C20)[(m)]	*69*	*6.4*	*17.0*	*12.1*	*21.9*	*0.8*	*–3.2*	*–5.5*
Respiratory and inthrathoracic organs (C30–C39)	326	30.2	90.3	78.8	101.8	1.9	42.2	71.2
Bronchus & lung (C34)[(m)]	*289*	*26.8*	*81.6*	*70.6*	*92.7*	*1.8*	*35.8*	*60.4*
Ill-defined, secondary & unspecified site (C76–C80)	71	6.6	19.4	14.0	24.8	1.5	6.6	11.2
Malignant neoplasm, without specification of site (C80)[(m)]	*61*	*5.7*	*16.6*	*11.7*	*21.6*	*1.4*	*4.9*	*8.3*
Lymphoid, haematopoietic and related tissue (C81–C96)	54	5.0	15.8	10.6	21.0	0.8	–4.8	–8.1
Female genital organs (C51–C58)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cervix (C53)[(m)]	*0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Lip, oral cavity and pharynx (C00–C14)	98	9.1	19.4	14.9	23.9	4.2	14.8	24.9
Breast (C50)	0	0.0	0.0	0.0	0.0	0.0	–0.2	–0.4
Malignant neoplasms of urinary tract (C64–C68)	30	2.8	7.6	4.5	10.8	0.6	–4.5	–7.5
Male genital organs (C60–C63)	70	6.5	27.9	20.6	35.2	0.9	–2.5	–4.1
Other malignant neoplasms[(n)]	65	6.0	16.6	11.6	21.6	0.6	–9.5	–16.1
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	***1,064***	***98.7***	***279.7***	***259.5***	***299.8***	***1.3***	***58.2***	***98.2***
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	14	1.3	3.3	1.0	5.7	1.5	1.1	1.8
Total neoplasms	**1,078**	**100.0**	**283.0**	**262.7**	**303.3**	**1.3**	**59.3**	**100.0**

(continued)

Table 1.23.9 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

Site of neoplasm	Number	Per cent	No. per 100,000(g)	95% LCL(h)	95% UCL(i)	Rate ratio(j)	Rate difference(k)	Rate difference %(l)
					Females			
Digestive organs (C15–C26)	260	25.3	58.5	50.5	66.4	1.6	21.4	29.0
Bowel cancer(C18–C20)(m)	*59*	*5.7*	*12.3*	*8.8*	*15.9*	*0.9*	*–1.3*	*–1.8*
Respiratory and inthrathoracic organs (C30–C39)	221	21.5	45.4	38.8	52.1	1.9	21.6	29.2
Bronchus & lung (C34)(m)	*213*	*20.7*	*43.5*	*37.0*	*50.0*	*1.9*	*20.1*	*27.2*
Ill-defined, secondary & unspecified site (C76–C80)	71	6.9	15.8	11.7	19.9	1.6	6.1	8.3
Malignant neoplasm, without specification of site (C80)(m)	*61*	*5.9*	*13.3*	*9.6*	*17.0*	*1.5*	*4.6*	*6.2*
Lymphoid, haematopoietic and related tissue (C81–C96)	74	7.2	17.2	12.8	21.6	1.4	4.7	6.4
Female genital organs (C51–C58)	123	12.0	22.9	18.3	27.5	1.9	10.7	14.5
Cervix (C53)(m)	*58*	*5.6*	*8.8*	*6.3*	*11.3*	*4.6*	*6.9*	*9.3*
Lip, oral cavity and pharynx (C00–C14)	30	2.9	5.0	2.9	7.0	3.3	3.4	4.7
Breast (C50)	134	13.0	26.3	21.3	31.4	1.2	4.3	5.9
Malignant neoplasms of urinary tract (C64–C68)	16	1.6	3.0	1.3	4.7	0.6	–2.3	–3.0
Male genital organs (C60–C63)	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other malignant neoplasms(n)	63	6.1	13.2	9.4	17.0	1.1	0.7	0.9
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	***1,012***	***98.3***	***212.2***	***197.5***	***227.0***	***1.5***	***72.6***	***98.1***
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	17	1.7	3.3	1.6	5.0	1.7	1.4	1.9
Total neoplasms	**1,029**	**100.0**	**215.5**	**200.6**	**230.4**	**1.5**	**73.9**	**100.0**

(continued)

Table 1.23.9 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f]

Site of neoplasm	Number	Per cent	No. per 100,000[g]	95% LCL[h]	95% UCL[i]	Rate ratio[j]	Rate difference[k]	Rate difference %[l]
					Persons			
Digestive organs (C15–C26)	594	28.2	67.9	61.6	74.2	1.4	20.2	30.3
Bowel cancer(C18–C20)[m]	*128*	*6.1*	*14.4*	*11.5*	*17.3*	*0.9*	*–2.3*	*–3.5*
Respiratory and inthrathoracic organs (C30–C39)	547	26.0	64.5	58.4	70.7	1.9	29.8	44.7
Bronchus & lung (C34)[m]	*502*	*23.8*	*59.6*	*53.6*	*65.5*	*1.8*	*26.1*	*39.2*
Ill-defined, secondary & unspecified site (C76–C80)	142	6.7	17.4	14.1	20.6	1.6	6.3	9.4
Malignant neoplasm, without specification of site (C80)[m]	*122*	*5.8*	*14.7*	*11.7*	*17.7*	*1.5*	*4.6*	*7.0*
Lymphoid, haematopoietic and related tissue (C81–C96)	128	6.1	16.6	13.2	19.9	1.0	0.4	0.6
Female genital organs (C51–C58)	123	5.8	12.8	10.1	15.5	2.0	6.3	9.4
Cervix (C53)[m]	*58*	*2.8*	*4.8*	*3.4*	*6.2*	*4.8*	*3.8*	*5.7*
Lip, oral cavity and pharynx (C00–C14)	128	6.1	11.5	9.2	13.8	3.8	8.5	12.7
Breast (C50)	134	6.4	14.8	11.9	17.8	1.3	3.1	4.6
Malignant neoplasms of urinary tract (C64–C68)	46	2.2	5.0	3.4	6.7	0.6	–3.3	–5.0
Male genital organs (C60–C63)	70	3.3	11.5	8.5	14.4	0.9	–1.7	–2.6
Other malignant neoplasms[n]	128	6.1	14.7	11.7	17.8	0.8	–4.0	–6.1
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	***2,076***	***98.5***	***241.3***	***229.3***	***253.4***	***1.4***	***65.4***	***98.3***
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	31	1.5	3.2	1.9	4.6	1.6	1.2	1.7
Total neoplasms	**2,107**	**100.0**	**244.6**	**232.5**	**256.7**	**1.4**	**66.6**	**100.0**

(continued)

Table 1.23.9 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(l) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all neoplasms.

(m) Data presented for bowel cancer are a subset for all cancers of the digestive organs; data presented for bronchus & lung cancer are a subset of data presented for all respiratory and inthrathoracic organs; data presented for cervix cancer are a subset of data presented for all cancers of the female genital organs in this table.

(n) Includes neoplasms of bone and articular cartilage; melanoma & other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; C9 Malignant neoplasms of independent (primary) multiple sites.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.10: Deaths of Indigenous Australians from neoplasms (cancer), by age, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

	Under 1	1–4	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75 and over	Total(g)
						Number						
Digestive organs (C15–C26)	0	0	0	0	4	12	48	105	186	140	99	594
Bowel cancer(C18–C20)(h)	*0*	*0*	*0*	*0*	*n.p.*	*n.p.*	*12*	*21*	*39*	*30*	*20*	*128*
Respiratory and inthrathoracic organs (C30–C39)	n.p.	0	n.p.	0	0	n.p.	26	114	156	163	86	547
Bronchus & lung (C34)(h)	*n.p.*	*0*	*n.p.*	*0*	*0*	*n.p.*	*25*	*101*	*143*	*150*	*81*	*502*
Ill-defined, secondary & unspecified site (C76–C80)	0	0	0	0	n.p.	n.p.	10	19	38	41	28	142
Unspecified site (C80)	*0*	*0*	*0*	*0*	*n.p.*	*n.p.*	*7*	*17*	*32*	*38*	*22*	*122*
Lymphoid, haematopoietic and related tissue (C81–C96)	0	0	n.p.	n.p.	6	4	10	16	23	35	32	128
Female genital organs (C51–C58)	0	0	0	0	0	12	19	21	29	25	17	123
Cervix (C53)(h)	*0*	*0*	*0*	*n.p.*	*0*	*9*	*14*	*8*	*14*	*10*	*n.p.*	*58*
Lip, oral cavity and pharynx (C00–C14)	0	0	n.p.	0	0	n.p.	17	42	40	17	9	128
Breast (C50)	0	0	n.p.	0	0	n.p.	19	33	30	27	23	134
Malignant neoplasms of urinary tract (C64–C68)	0	n.p.	n.p.	0	n.p.	0	n.p.	10	12	16	5	46
Male genital organs (C60–C63)	0	0	0	0	0	n.p.	n.p.	n.p.	10	28	27	70
Other malignant neoplasms(i)	n.p.	n.p.	n.p.	8	4	n.p.	20	21	33	38	35	164
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	n.p.	n.p.	5	10	17	41	173	382	557	530	361	2,076
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	n.p.	n.p.	n.p.	0	0	n.p.	n.p.	n.p.	4	11	4	31
Total neoplasms (C00–D48)	**n.p.**	**4**	**7**	**10**	**17**	**44**	**175**	**387**	**561**	**541**	**365**	**2,107**

(continued)

Table 1.23.10 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by age, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

	Under 1	1–4	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65–74	75 and over	Total(g)
						Rate per 100,000 population						
Digestive organs (C15–C26)	—	0.0	0.0	0.0	0.8	3.6	16.0	48.8	154.7	266.5	424.0	24.7
Bowel cancer(C18–C20)(h)	—	*0.0*	*0.0*	*0.0*	*n.p.*	*n.p.*	*4.0*	*9.8*	*32.5*	*57.1*	*85.7*	*5.3*
Respiratory and inthrathoracic organs (C30–C39)	n.p.	0.0	n.p.	0.0	0.0	n.p.	8.6	53.0	129.8	310.3	368.3	22.8
Bronchus & lung (C34)(h)	*n.p.*	*0.0*	*n.p.*	*0.0*	*0.0*	*n.p.*	*8.3*	*47.0*	*119.0*	*285.5*	*346.9*	*20.9*
Ill-defined, secondary & unspecified site (C76–C80)	—	0.0	0.0	0.0	n.p.	1.2	3.3	8.8	31.6	78.1	119.9	5.9
Unspecified site (C80)	—	*0.0*	*0.0*	*0.0*	*n.p.*	*1.2*	*2.3*	*7.9*	*26.6*	*72.3*	*94.2*	*5.1*
Lymphoid, haematopoietic and related tissue (C81–C96)	—	0.0	n.p.	n.p.	1.3	1.2	3.3	7.4	19.1	66.6	137.0	5.3
Female genital organs (C51–C58)	—	0.0	0.0	0.0	0.0	3.6	6.3	9.8	24.1	47.6	72.8	5.1
Cervix (C53)(h)	—	*0.0*	*0.0*	*n.p.*	*0.0*	*2.7*	*4.7*	*3.7*	*11.7*	*19.0*	*n.p.*	*2.4*
Lip, oral cavity and pharynx (C00–C14)	—	0.0	n.p.	0.0	0.0	n.p.	5.7	19.5	33.3	32.4	38.5	5.3
Breast (C50)	—	0.0	n.p.	0.0	0.0	n.p.	6.3	15.3	25.0	51.4	98.5	5.6
Malignant neoplasms of urinary tract (C64–C68)	—	n.p.	n.p.	0.0	n.p.	0.0	n.p.	4.7	10.0	30.5	21.4	1.9
Male genital organs (C60–C63)	—	0.0	0.0	0.0	0.0	n.p.	n.p.	n.p.	8.3	53.3	115.6	2.9
Other malignant neoplasms(i)	n.p.	n.p.	n.p.	1.4	0.8	n.p.	6.7	9.8	27.5	72.3	149.9	6.8
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	n.p.	n.p.	1.7	1.7	3.6	12.2	57.5	177.6	463.4	1,008.9	1,546.0	86.4
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	n.p.	n.p.	n.p.	0.0	0.0	n.p.	n.p.	n.p.	3.3	20.9	17.1	1.3
Total neoplasms (C00–D48)	**n.p.**	**1.7**	**2.4**	**1.7**	**3.6**	**13.1**	**58.2**	**179.9**	**466.7**	**1,029.8**	**1,563.1**	**87.7**

(continued)

Table 1.23.10 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by age, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)]

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 10-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 20

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(g) Includes age not stated.

(h) Data presented for bowel cancer are a subset for all cancers of the digestive organs; data presented for bronchus & lung cancer are a subset of data presented for all respiratory and inthrathoracic organs; data presented for cervix cancer are a subset of data presented for all cancers of the female genital organs in this table.

(i) Includes neoplasms of bone and articular cartilage; melanoma & other neoplasms of skin; neoplasms of mesothelial and soft tissue; neoplasms of eye, brain and other parts of central nervous system; neoplasms of thyroid and other endocrine glands; C9 Malignant neoplasms of idependent (primary multiple sites; D45 Polycythaemia vera; D46 Myelodysplastic syndromes; D47.1 Chronic myeloproliferative disease; D47.3 Essential (haemorrhagic) thrombocythaemia.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Respiratory diseases

Tables 1.23.11 and 1.23.12 present data on deaths of Indigenous Australians from respiratory diseases over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, there were 858 deaths (112 per 100,000) of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from respiratory diseases. Indigenous Australians died from respiratory diseases at 2.3 times the rate of non-Indigenous Australians (Table 1.23.11).
- The mortality rate from respiratory diseases for Indigenous males was higher than that for Indigenous females (135 per 100,000 compared with 95 per 100, 000). The rate ratio between Indigenous males and non-Indigenous males was similar to the ratio between Indigenous females and non-Indigenous females (2.3 for males and 2.4 for females).
- The most common type of respiratory disease causing death among Indigenous Australians was chronic lower respiratory diseases (including asthma, bronchitis and emphysema), which caused 62% of all Indigenous deaths from respiratory diseases, followed by pneumonia and influenza (21%). Indigenous Australians died at three and 2.1 times the rates of non-Indigenous Australians for these diseases respectively.
- Over the period 2006–2010, the largest number of deaths of Indigenous Australians from respiratory diseases was in the 75 years and over age group (241 deaths, 28% of all deaths from respiratory diseases), followed by the 65–74 year age group (201) (Table 1.23.12).

Table 1.23.11: Deaths of Indigenous Australians from respiratory diseases, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

	Number	Per cent	No. per 100,000(f)	95% LCL(g)	95% UCL(h)	Rate ratio(i)	Rate difference(j)	Rate difference %(k)
				Males				
Chronic lower respiratory diseases (J40–J47)	270	59.0	88.2	75.8	100.6	2.9	57.6	75.8
COPD (J40–J44)(l)	*223*	*48.7*	*78.9*	*67.0*	*90.8*	*2.8*	*50.5*	*66.5*
Asthma (J45–J46)(l)	*16*	*3.5*	*3.5*	*1.3*	*5.8*	*2.5*	*2.1*	*2.8*
Pneumonia and influenza (J09–J18)	103	22.5	23.6	17.6	29.6	2.4	13.8	18.2
Other respiratory disease (J00–06, J20–39, J60–99)	85	18.6	23.6	17.2	29.9	1.2	4.5	6.0
Total respiratory diseases (J00–J99)	**458**	**100.0**	**135.4**	**120.2**	**150.6**	**2.3**	**76.0**	**100.0**
				Females				
Chronic lower respiratory diseases (J40–J47)	263	65.8	65.0	56.3	73.7	3.2	45.0	82.1
COPD (J40–J44)(l)	*212*	*53.0*	*55.0*	*46.9*	*63.1*	*3.3*	*38.3*	*69.9*
Asthma (J45–J46)(l)	*30*	*7.5*	*5.7*	*3.4*	*8.0*	*2.9*	*3.7*	*6.8*
Pneumonia and influenza (J09–J18)	80	20.0	16.1	11.9	20.3	1.8	7.0	12.8
Other respiratory disease (J00–06, J20–39, J60–99)	57	14.3	14.3	9.9	18.6	1.2	2.8	5.2
Total respiratory diseases (J00–J99)	**400**	**100.0**	**95.4**	**84.8**	**105.9**	**2.4**	**54.8**	**100.0**
				Persons				
Chronic lower respiratory diseases (J40–J47)	533	62.1	74.6	67.4	81.7	3.0	50.0	78.6
COPD (J40–J44)(l)	*435*	*55.0*	*64.8*	*58.0*	*71.6*	*3.0*	*43.1*	*67.8*
Asthma (J45–J46)(l)	*46*	*5.7*	*4.7*	*3.1*	*6.4*	*2.8*	*3.0*	*4.7*
Pneumonia and influenza (J09–J18)	183	21.3	19.4	15.9	22.9	2.1	10.0	15.7
Other respiratory disease (J00–06, J20–39, J60–99)	142	16.6	18.4	14.7	22.0	1.2	3.6	5.7
Total respiratory diseases (J00–J99)	**858**	**100.0**	**112.3**	**103.5**	**121.1**	**2.3**	**63.6**	**100.0**

(continued)

Table 1.23.11 (continued): Deaths of Indigenous Australians from respiratory diseases, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 20

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all respiratory diseases.

(l) Data presented for COPD and asthma are a subset of data presented for all chronic lower respiratory diseases.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.12: Deaths of Indigenous Australians from respiratory diseases, by age, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

	Under 1	**1–4**	**0–4**	**5–14**	**15–24**	**25–34**	**35–44**	**45–54**	**55–64**	**65–74**	**75 and over**	**Total(g)**
Chronic lower respiratory diseases (J40–J47)	0	n.p.	n.p.	n.p.	n.p.	11	36	54	117	155	154	533
COPD (J40–J44)(h)	*0*	*n.p.*	*n.p.*	*0*	*0*	*n.p.*	*14*	*40*	*97*	*138*	*140*	*435*
Asthma (J45–J46)(h)	*0*	*0*	*0*	*n.p.*	*n.p.*	*n.p.*	*9*	*n.p.*	*11*	*10*	*7*	*46*
Pneumonia and influenza (J09–J18)	13	4	17	n.p.	6	10	32	29	21	28	39	183
Other respiratory disease (J00–06, J20–39, J60–99)	8	5	13	n.p.	4	8	8	23	18	18	48	142
Total respiratory diseases (J00–J99)	**21**	**12**	**33**	**5**	**11**	**29**	**76**	**106**	**156**	**201**	**241**	**858**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 10-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(g) Includes age not stated.

(h) Data presented for COPD and asthma are a subset of data presented for all chronic lower respiratory diseases.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Diseases of the genitourinary system

Tables 1.23.13 and 1.23.14 present data on deaths of Indigenous Australians from diseases of the genitourinary system over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2006–2010, there were 365 deaths (48 per 100,000) of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from diseases of the genitourinary system. Indigenous Australians died from genitourinary disease at 3.4 times the rate of non-Indigenous Australians (Table 1.23.13).
- The mortality rate from diseases of the genitourinary system for Indigenous males was higher than that for Indigenous females (52 per 100,000 compared with 45 per 100, 000). The rate ratio between Indigenous males and non-Indigenous males was similar to the ratio between Indigenous females and non-Indigenous females (3.4 for males and 3.5 for females).
- The most common type of genitourinary disease causing mortality among Indigenous Australians was renal failure, which caused 76% of deaths from genitourinary diseases. Indigenous Australians died from renal failure at 3.5 times the rate of non-Indigenous Australians.
- Over the period 2006–2010, the largest number of deaths of Indigenous Australians from diseases of the genitourinary system was in the 75 years and over age group (106), followed by the 55–59 year age group (42). 70% of deaths were observed in ages 55 and over (Table 1.23.14).

Table 1.23.13: Deaths of Indigenous Australians from diseases of the genitourinary system, by sex, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)]

	Number	Per cent	No. per 100,000[(f)]	95% LCL[(g)]	95% UCL[(h)]	Rate ratio[(i)]	Rate difference[(j)]	Rate difference %[(k)]
					Males			
Renal failure (N17–N19)	126	72.4	36.0	28.3	43.8	3.2	24.7	65.9
Other diseases of the urinary system (N30–N39)	11	6.3	4.4	1.5	7.4	2.4	2.6	7.3
Renal tubulo-intestinal diseases (N10–N16)	11	6.3	3.4	1.0	5.9	9.0	3.0	9.6
Glomerular disease (N00–N08)	6	3.4	0.7	0.1	1.3	1.9	0.4	0.2
Other diseases of the genitourinary system[(l)]	20	11.5	6.9	3.2	10.5	5.9	5.7	16.9
Total genitourinary diseases (N00–N99)	**174**	**100.0**	**51.5**	**42.1**	**60.9**	**3.4**	**36.4**	**100.0**
					Females			
Renal failure (N17–N19)	150	78.5	36.0	29.5	42.5	3.9	26.7	86.4
Other diseases of the urinary system (N30–N39)	19	9.9	5.5	2.8	8.1	2.3	3.1	8.0
Renal tubulo-intestinal diseases (N10–N16)	8	4.2	1.5	0.3	2.6	2.5	0.9	1.2
Glomerular disease (N00–N08)	7	3.7	1.0	0.2	1.7	3.8	0.7	1.5
Other diseases of the genitourinary system[(l)]	7	3.7	1.4	0.2	2.5	2.9	0.9	2.9
Total genitourinary diseases (N00–N99)	**191**	**100.0**	**45.3**	**38.1**	**52.5**	**3.5**	**32.3**	**100.0**
					Persons			
Renal failure (N17–N19)	276	75.6	36.1	31.1	41.0	3.5	25.9	80.4
Other diseases of the urinary system (N30–N39)	30	8.2	5.0	3.0	7.0	2.3	2.9	7.4
Renal tubulo-intestinal diseases (N10–N16)	19	5.2	2.2	1.1	3.4	4.6	1.8	4.6
Glomerular disease (N00–N08)	13	3.6	0.9	0.4	1.4	2.8	0.6	0.7
Other diseases of the genitourinary system[(l)]	27	7.4	3.6	2.0	5.2	4.7	2.8	6.9
Total genitourinary diseases (N00–N99)	**365**	**100.0**	**47.8**	**42.1**	**53.5**	**3.4**	**33.9**	**100.0**

(continued)

Table 1.23.13 (continued): Deaths of Indigenous Australians from diseases of the genitourinary system, by sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all genitourinary diseases.

(l) Includes: urolithiasis; other disorders of the kidney & urether; disease of male genital organs; disorders of breast; inflammatory disorders of the female pelvic organs; non-inflammatory disorders of the female genital tract; other disorders of the genitourinary tract.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

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Table 1.23.14: Deaths of Indigenous Australians from diseases of the genitourinary system, by age, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)]

	0–4	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75+	Total[(g)]
Renal failure (N17–N19)	n.p.	0	0	n.p.	n.p.	n.p.	n.p.	n.p.	11	26	25	34	30	30	23	79	276
Other diseases of the genitourinary system[(h)]	0	0	n.p.	0	n.p.	n.p.	n.p.	n.p.	8	8	6	8	11	5	9	27	89
Total genitourinary diseases (N00–N99)	**n.p.**	**0**	**n.p.**	**n.p.**	**n.p.**	**n.p.**	**n.p.**	**15**	**19**	**34**	**31**	**42**	**41**	**35**	**32**	**106**	**365**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(g) Includes age not stated.

(h) Includes: other diseases of the urinary system; renal tubulo-intestinal diseases; glomerular disease; urolithiasis; other disorders of the kidney & urether; disease of male genital organs; disorders of breast; inflammatory disorders of the female genital tract; other disorders of the genitourinary tract.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Time series analysis

Longer term mortality trend data are limited to three jurisdictions—Western Australia, South Australia and the Northern Territory, which have over 20 years of adequate identification of Indigenous deaths in their recording systems.

There is a consistent time series of population estimates from 1991. Because of changes in the classification and coding of Causes of death from ICD-9 (used up until 1996) to ICD-10 (used from 1997 onwards) which affect the comparability of the data, the analysis reported for this measure is for two time periods—1991–1996 and 1997–2010.

Because of the late inclusion of a ‘not stated’ category of Indigenous status in 1998 (before which ‘not stated’ responses were included with non-Indigenous deaths), Indigenous mortality rates have been compared with the mortality rates of other Australians (which include deaths of both non-Indigenous people and people for whom Indigenous status was not stated).

Mortality rates, rate ratios and rate differences between Indigenous and other Australians for circulatory diseases, external causes (injury and poisoning), cancer, respiratory diseases, diabetes and kidney-related diseases over the period 1991–1996 and 1997–2010 are presented in tables 1.23.15, 1.23.17, 1.23.19, 1.23.21, 1.23.23, 1.23.26 and Figure 1.23.1.

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2010 for Indigenous and non-Indigenous Australians (excluding deaths for which Indigenous status was not stated) in tables 1.23.16, 1.23.18, 1.23.20, 1.23.22, 1.23.24, 1.23.26 and Figure 1.23.2. Queensland has had adequate identification of Indigenous deaths in its recording systems since 1998; New South Wales has had adequate identification of Indigenous deaths since 2001.

Note that fluctuations in the level of Indigenous mortality over time partly reflect changing levels of coverage of Indigenous deaths and population estimates. Given the volatility in the measures of Indigenous mortality, caution should be exercised in assessing trends in Indigenous mortality over time and comparisons between jurisdictions and with the non-Indigenous population.

Circulatory diseases

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there were non significant declines in mortality rates for circulatory diseases among Indigenous Australians and significant declines in mortality rates for circulatory diseases among other Australians (Table 1.23.15).
- Over the period 1997–2010 in Western Australia, South Australia and the Northern Territory combined, there were significant declines in mortality rates for circulatory diseases among Indigenous and other Australians. The fitted trend implies an average yearly decline in the rate of 21.5 deaths per 100,000 for Indigenous Australians (a 41% decline) and 8.4 deaths per 100,000 for other Australians (a 37% decline). Over the same period, there was no significant change in mortality rate ratios, but a significant decrease in mortality rate differences between Indigenous and other Australians from circulatory diseases (Table 1.23.15).
- Over the period 2001–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant declines in mortality rates for circulatory diseases among Indigenous Australians (23% decline) and non-Indigenous Australians (25% decline). There was a significant change in the mortality rate differences between Indigenous and non-Indigenous Australians from circulatory diseases (Table 1.23.16).

Table 1.23.15: Age-standardised mortality rates, rate ratios and rate differences, circulatory diseases, WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

	Indigenous rate (deaths per 100,000[(e)])	Other rate (deaths per 100,000[(e)(f)])	Rate ratio[(g)]	Rate difference[(h)]
1991	726.4	362.5	2.0	364.0
1992	642.7	347.9	1.8	294.8
1993	576.3	356.4	1.6	219.9
1994	782.2	343.7	2.3	438.4
1995	632.5	323.2	2.0	309.3
1996	485.5	315.7	1.5	169.8
Annual change[(i)]	**–29.4**	**–9.2***	**0.0**	**–20.3**
Per cent change[(j)]	**–20.2**	**–12.6***	**–8.6**	**–27.8**
1997	687.3	297.1	2.3	390.2
1998	604.5	284.5	2.1	320.0
1999	560.0	266.9	2.1	293.1
2000	541.8	251.3	2.2	290.5
2001	437.2	245.0	1.8	192.1
2002	420.3	236.7	1.8	183.7
2003	409.9	229.7	1.8	180.2
2004	478.6	210.1	2.3	268.5
2005	400.1	208.0	1.9	192.1
2006	361.5	198.5	1.8	163.0
2007	443.2	201.8	2.2	241.4
2008	379.7	197.1	1.9	182.6
2009	337.7	189.5	1.8	148.2
2010	367.5	183.8	2.0	183.7
Annual change[(i)]	**–21.5***	**–8.4***	**0.0**	**–13.1***
Per cent change[(j)]	**–40.6***	**–36.8***	**–10.0**	**–43.5***

(continued)

Table 1.23.15 (continued): Age-standardised mortality rates, rate ratios and rate differences, circulatory diseases, WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

* Represents results with statistically significant increases or declines at the p < 0.05 level over the periods 1991–1996 and 1997–2010.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represented Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(i) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(j) Per cent change between 1991 and 1996 and between 1997 and 2010 based on the average annual change over the period.

Notes

1. 1991–1996 ICD9 codes 390–459, 1997–2010 ICD–10 codes I00–I99.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.16: Age-standardised mortality rates, rate ratios and rate differences, circulatory diseases, NSW, Qld, WA, SA and NT, 2001–2010[(a)(b)(c)(d)(e)]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[(f)]	Per cent change[(g)]
Indigenous rate (deaths per 100,000[(h)])	427.5	429.8	398.4	393.9	363.2	362.3	390.5	338.0	340.3	329.5	–11.0*	–23.2*
Non-Indigenous rate (deaths per 100,000[(h)])	248.8	245.9	235.7	228.5	213.2	209.2	207.3	211.0	192.5	186.4	–6.8*	–24.7*
Rate ratio[(i)]	1.7	1.7	1.7	1.7	1.7	1.7	1.9	1.6	1.8	1.8	0.01	3.8
Rate difference[(j)]	178.7	183.9	162.8	165.4	150.0	153.0	183.2	127.0	147.8	143.1	–4.2*	–21.3*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represented Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indictors.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD–10 codes I00–I99.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

External causes (injury and poisoning)

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory, there was a significant decline in mortality rates for external causes among Indigenous Australians, an annual change of 7.1 deaths per 100,000. During the same period there were no significant changes in the mortality rates for other Australians. There were also significant decreases in the mortality rate ratio and rate difference between Indigenous and other Australians from external causes over the period 1991–1996 (Table 1.23.17).
- Across the period 1997–2010 there was an apparent increase in the mortality rate from external causes for Indigenous Australians, but this increase did not obtain statistical significance. During this period there was no significant change in the mortality rate for other Australians. There were no significant increases in the mortality rate ratio and rate difference between Indigenous and other Australians for external causes (Table 1.23.17).
- Throughout the period 2001–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant changes in mortality rates for external causes among Indigenous and non-Indigenous Australians. There were also no significant changes in mortality rate ratios or rate differences between Indigenous and non-Indigenous Australians for external causes (Table 1.23.18).

Cancer

- Across the period 1991–1996 in Western Australia, South Australia and the Northern Territory, there was a significant decline in the mortality rate for cancer for Indigenous Australians (16%). During this period there was no significant change in the mortality rate for cancer for other Australians. There was a significant decrease in mortality rate difference (61%) between Indigenous and other Australians for cancer (Table 1.23.19).
- Over the period 1997–2010, there were no significant changes in mortality rates for cancer among Indigenous Australians and significant declines in mortality rates for cancer among other Australians (12% decline over the period). There were significant increases in the mortality rate ratios and rate differences between Indigenous and other Australians for cancer over the period 1997–2010 reflecting both a relative and an absolute increase in the gap between mortality rates for Indigenous and other Australians from cancer (Table 1.23.19).
- Throughout the period 2001–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were non-significant increases in mortality rates for cancer among Indigenous Australians and significant declines in mortality rates for cancer among non-Indigenous Australians (7.1% decline). There were significant increases in the mortality rate ratios and rate differences between Indigenous and non-Indigenous Australians for cancer (Table 1.23.20).

Table 1.23.17: Age-standardised mortality rates, rate ratios and rate differences, external causes (injury and poisoning), WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

	Indigenous rate (deaths per 100,000[(e)])	Other rate (deaths per 100,000[(e)(f)])	Rate ratio[(g)]	Rate difference[(h)]
1991	185.1	43.5	4.3	141.6
1992	155.7	42.5	3.7	113.2
1993	140.3	43.7	3.2	96.6
1994	151.0	41.8	3.6	109.2
1995	128.7	41.1	3.1	87.6
1996	149.5	44.4	3.4	105.1
Annual change[(i)]	**–7.1***	**–0.05**	**–0.2***	**–7.0***
Per cent change[(j)]	**–19.2***	**–0.5**	**–19.6***	**–24.9***
1997	116.3	41.8	2.8	74.5
1998	143.9	47.7	3.0	96.2
1999	105.6	41.8	2.5	63.7
2000	135.2	43.8	3.1	91.4
2001	129.4	41.0	3.2	88.4
2002	127.2	38.9	3.3	88.3
2003	124.9	39.9	3.1	85.1
2004	114.4	37.9	3.0	76.5
2005	147.3	39.9	3.7	107.4
2006	141.1	38.3	3.7	102.8
2007	121.1	42.2	2.9	78.9
2008	155.4	42.9	3.6	112.5
2009	107.1	40.9	2.6	66.2
2010	116.9	42.3	2.8	74.6
Annual change[(i)]	**0.1**	**–0.2**	**0.0**	**0.3**
Per cent change[(j)]	**1.5**	**–5.6**	**7.5**	**5.5**

(continued)

Table 1.23.17 (continued): Age-standardised mortality rates, rate ratios and rate differences, external causes (injury and poisoning), WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2010.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(i) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(j) Per cent change between 1991 and 1996 and between 1997 and 2010 based on the average annual change over the period.

Notes

1. 1991–1996 ICD9 codes 800–999, 1997–2010 ICD–10 codes V01–Y98.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.18: Age-standardised mortality rates, rate ratios and rate differences, external causes, NSW, Qld, WA, SA and NT, 2001–2010(a)(b)(c)(d)(e)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change(f)	Per cent change(g)
Indigenous rate (deaths per 100,000(h))	91.3	88.6	88.8	82.2	95.3	84.8	86.6	95.8	76.7	78.1	–1.0	–9.9
Non-Indigenous rate (deaths per 100,000(h))	39.3	38.1	37.4	36.8	36.1	36.0	37.5	38.1	37.1	36.8	–0.1	–3.3
Rate ratio(i)	2.3	2.3	2.4	2.2	2.6	2.4	2.3	2.5	2.1	2.1	–0.02	–6.1
Rate difference(j)	51.9	50.5	51.3	45.4	59.2	48.8	49.0	57.7	39.6	41.2	–0.8	–14.7

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further Information.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD–10 codes V01–Y98.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.19: Age-standardised mortality rates, rate ratios and rate differences, cancer, WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

	Indigenous rate (deaths per 100,000[(e)])	Other rate (deaths per 100,000[(e)(f)])	Rate ratio[(g)]	Rate difference[(h)]
1991	284.2	204.6	1.4	79.6
1992	294.2	198.7	1.5	95.5
1993	264.0	209.1	1.3	54.9
1994	255.0	210.0	1.2	45.0
1995	278.0	201.3	1.4	76.6
1996	230.6	205.2	1.1	25.4
Annual change[(i)]	**–9.3***	**0.3**	**–0.1**	**–9.6***
Per cent change[(j)]	**–16.4***	**0.8**	**–19.4**	**–60.6***
1997	265.7	201.2	1.3	64.5
1998	244.6	193.1	1.3	51.4
1999	215.6	193.8	1.1	21.8
2000	271.1	191.1	1.4	80.1
2001	220.6	189.5	1.2	31.2
2002	251.1	189.9	1.3	61.2
2003	238.6	186.3	1.3	52.3
2004	242.3	179.3	1.4	63.0
2005	223.5	178.9	1.2	44.6
2006	258.6	180.1	1.4	78.5
2007	262.9	178.9	1.5	84
2008	256.3	179.8	1.4	76.5
2009	265.5	175.5	1.5	90
2010	242.9	174.3	1.4	68.6
Annual change[(i)]	**0.8**	**–1.8***	**0.0***	**2.6***
Per cent change[(j)]	**3.8**	**–12.0***	**17.5***	**52.9***

(continued)

Table 1.23.19 (continued): Age-standardised mortality rates, rate ratios and rate differences, cancer, WA, SA and NT, 1991–1996 and 1997–2010[a][b][c][d]

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2010.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(i) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(j) Per cent change between 1991 and 1996 and between 1997 and 2010 based on the average annual change over the period.

Notes

1. 1991–1996 ICD9 codes 140–239, 1997–2010 ICD–10 codes C00–C97, D45, D46, D47.1, D47.3.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.20: Age-standardised mortality rates, rate ratios and rate differences, cancer, NSW, Qld, WA, SA and NT, 2001–2010(a)(b)(c)(d)(e)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change(f)	Per cent change(g)
Indigenous rate (deaths per 100,000(h))	239.7	211.0	230.3	229.3	212.2	231.1	236.2	252.2	236.0	250.5	2.6	9.6
Non-Indigenous rate (deaths per 100,000(h))	186.5	186.2	183.1	184.4	181.5	176.9	174.7	179.7	173.3	175.3	–1.5*	–7.1*
Rate ratio(i)	1.3	1.1	1.3	1.2	1.2	1.3	1.4	1.4	1.4	1.4	0.02*	17.1*
Rate difference(j)	53.2	24.8	47.3	44.9	30.7	54.3	61.5	72.5	62.6	75.2	4.0*	67.9*

* Represents results with statistically significant increases or declines at the p < 0.05 level over the periods 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of death

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. Codes for malignant neoplasms: C00–C97, D45, D46, D47.1, D47.3.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Respiratory diseases

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there were significant declines in mortality rates for respiratory diseases among Indigenous Australians (decrease of 27%). There were significant decreases in the rate ratio (20%) and rate difference (30%) between Indigenous and other Australians for respiratory diseases. There were non-significant increases in mortality rates for respiratory disease among other Australians (Table 1.23.21).
- During the period 1997–2010, there were significant decreases in the mortality rates for respiratory diseases for both Indigenous Australians (39% decline) and other Australians (28% decline). There was no significant change in the mortality rate ratio, but a significant decrease in the mortality rate difference (45% decline) between Indigenous and other Australians for respiratory diseases over this period (Table 1.23.21).
- Across the period 2001–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant decreases in the mortality rates for respiratory diseases for Indigenous (20%) and non-Indigenous Australians (18%). There were no significant changes in neither the mortality rate ratio nor mortality rate difference between Indigenous and non-Indigenous Australians for respiratory diseases over this period (Table 1.23.22).

Diabetes

- During 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there were no significant changes in mortality rates for diabetes among Indigenous Australians, however there were significant increases in mortality rates for diabetes among other Australians (increase of 40%) (Table 1.23.23).
- Over the period 1997–2010, there was no significant change in the mortality rates for diabetes for Indigenous Australians, but a significant increase in mortality rates for diabetes among other Australians (12%). There were no significant changes in either the mortality rate ratio or mortality rate difference between Indigenous and other Australians for diabetes over this period (Table 1.23.23).
- Throughout the period 2001–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant changes in mortality rates for diabetes among Indigenous Australians; however there were significant increases in mortality rates for diabetes among non-Indigenous Australians (16% increase). There were no significant changes in the mortality rate ratios and rate differences between Indigenous and non-Indigenous Australians over this period (Table 1.23.24).

Table 1.23.21: Age-standardised mortality rates, rate ratios and rate differences, respiratory diseases, WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

	Indigenous rate (deaths per 100,000[(e)])	Other rate (deaths per 100,000[(e)(f)])	Rate ratio[(g)]	Rate difference[(h)]
1991	348.9	60.3	5.8	288.6
1992	304.0	65.2	4.7	238.7
1993	313.2	60.8	5.2	252.4
1994	276.9	58.8	4.7	218.0
1995	253.6	53.7	4.7	200.0
1996	254.9	58.8	4.3	196.1
Annual change[(i)]	**–18.8***	**–1.3**	**–0.2***	**–17.5***
Per cent change[(j)]	**–26.9***	**–10.4**	**–19.7***	**–30.3***
1997	168.5	63.1	2.7	105.4
1998	215.6	57.5	3.7	158.1
1999	162.2	54.1	3.0	108.1
2000	173.7	60.0	2.9	113.7
2001	172.9	57.5	3.0	115.4
2002	173.9	63.1	2.8	110.9
2003	146.1	62.3	2.3	83.8
2004	191.9	55.0	3.5	136.9
2005	132.9	50.5	2.6	82.4
2006	167.8	48.2	3.5	119.6
2007	136.0	46.6	2.9	89.4
2008	122.3	46.4	2.6	75.9
2009	106.1	43.1	2.5	63.0
2010	140.5	46.9	3.0	93.6
Annual change[(i)]	**–5.0***	**–1.4***	**0.0**	**–3.7***
Per cent change[(j)]	**–38.9***	**–28.2***	**–10.5**	**–45.3***

(continued)

Table 1.23.21 (continued): Age-standardised mortality rates, rate ratios and rate differences, respiratory diseases, WA, SA and NT, 1991–1996 and 1997–2010(a)(b)(c)(d)

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2010.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the three jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(i) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(j) Per cent change between 1991 and 1996 and between 1997 and 2010 based on the average annual change over the period.

Notes

1. 1991–1996 ICD9 codes 460–519, 1997–2010 ICD–10 codes J00–J99.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.22: Age-standardised mortality rates, rate ratios and rate differences, respiratory diseases, NSW, Qld, WA, SA and NT, 2001–2010[(a)(b)(c)(d)(e)]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[(f)]	Per cent change[(g)]
Indigenous rate (deaths per 100,000[(h)])	145.6	131.0	116.2	133.6	102.8	116.7	122.3	95.6	109.3	118.4	–3.1*	–19.5*
Non-Indigenous rate (deaths per 100,000[(h)])	52.5	56.9	57.5	55.5	50.4	49.4	51.3	48.3	46.0	48.8	–1.02*	–17.6*
Rate ratio[(i)]	2.8	2.3	2.0	2.4	2.0	2.4	2.4	2.0	2.4	2.4	–0.02	–5.1
Rate difference[(j)]	93.1	74.1	58.7	78.0	52.5	67.3	71.0	47.4	63.3	69.6	–2.1	–20.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD–10 codes J00–J99.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.23: Age-standardised mortality rates, rate ratios and rate differences, diabetes, WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

	Indigenous rate (deaths per 100,000[(e)])	Other rate (deaths per 100,000[(e)(f)])	Rate ratio[(g)]	Rate difference[(h)]
1991	138.5	13.6	10.2	124.9
1992	147.7	13.9	10.6	133.8
1993	176.6	16.0	11.0	160.6
1994	142.9	17.4	8.2	125.5
1995	146.1	16.8	8.7	129.3
1996	149.4	19.1	7.8	130.3
Annual change[(i)]	**0.5**	**1.1***	**–0.6***	**–0.6**
Per cent change[(j)]	**1.7**	**39.5***	**–28.7***	**–2.5**
1997	149.6	17.5	8.5	132.1
1998	103.8	15.0	6.9	88.8
1999	133.0	15.0	8.9	118.0
2000	161.7	15.1	10.7	146.6
2001	160.9	15.4	10.4	145.5
2002	147.0	15.8	9.3	131.2
2003	110.7	15.1	7.3	95.6
2004	140.1	16.3	8.6	123.8
2005	135.5	15.8	8.6	119.7
2006	139.4	17.0	8.2	122.4
2007	129.3	18.4	7.0	110.9
2008	173.3	18.3	9.5	155.0
2009	145.4	17	8.6	128.4
2010	114.9	16.9	6.8	98.0
Annual change[(i)]	**0.1**	**0.2***	**–0.1**	**–0.1**
Per cent change[(j)]	**0.6**	**12.4***	**–12.2**	**–1.0**

(continued)

Table 1.23.23 (continued): Age-standardised mortality rates, rate ratios and rate differences, diabetes, WA, SA and NT, 1991–1996 and 1997–2010(a)(b)(c)(d)

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2010.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the three jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(i) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(j) Per cent change between 1991 and 1996 and between 1997 and 2010 based on the average annual change over the period.

Notes

1. 1991–1996 ICD9 code 250, 1997–2010 ICD–10 codes E10–E14.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.24: Age-standardised mortality rates, rate ratios and rate differences, diabetes, NSW, Qld, WA, SA and NT, 2001–2010[a][b][c][d][e]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[f]	Per cent change[g]
Indigenous rate (deaths per 100,000[h])	99.0	113.0	87.6	113.0	90.9	106.1	92.5	115.4	102.2	93.0	–0.2	–2.1
Non-Indigenous rate (deaths per 100,000[h])	13.1	14.0	13.8	14.7	14.0	14.3	15.2	16.6	15.7	14.4	0.2*	16.1*
Rate ratio[i]	7.5	8.1	6.3	7.7	6.5	7.4	6.1	7.0	6.5	6.5	–0.1	–15.2
Rate difference[j]	85.8	99.0	73.8	98.3	76.9	91.9	77.3	98.8	86.5	78.6	–0.5	–4.8

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD–10 codes E10–E14.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Kidney diseases

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there were significant decreases (29%) in mortality rates for kidney diseases among Indigenous Australians and non-significant increases in mortality rates for kidney diseases among other Australians. There were non-significant declines in the mortality rate ratios and significant declines in the rate differences between Indigenous and other Australians from kidney diseases (Table 1.23.25).
- Over the period 1997–2010, there were no significant changes in mortality rates for kidney diseases for Indigenous Australians and significant increases in mortality rates for other Australians (17%). There were significant declines (58%) in the mortality rate ratios and non-significant declines in the mortality rate differences between Indigenous and other Australians for kidney diseases (Table 1.23.25).
- Over the period 2001–2010, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in the mortality rates for kidney diseases for Indigenous (89%) and non-Indigenous Australians (19%). There was also a significant increase in the rate differences between Indigenous and non-Indigenous Australians for kidney diseases (148%) (Table 1.23.26).

Table 1.23.25: Age-standardised mortality rates, rate ratios and rate differences, kidney diseases, WA, SA and NT, 1991–1996 and 1997–2010[(a)(b)(c)(d)]

	Indigenous rate (deaths per 100,000[(e)])	Other rate (deaths per 100,000[(e)(f)])	Rate ratio[(g)]	Rate difference[(h)]
1991	96.8	9.2	10.5	87.6
1992	n.p.	8.2	n.p.	n.p.
1993	80.3	9.7	8.3	70.6
1994	n.p.	8.4	n.p.	n.p.
1995	83.5	8.9	9.3	74.6
1996	62.4	10.6	5.9	51.8
Annual change[(i)]	**–5.5***	**0.2**	**–0.7**	**–5.7***
Per cent change[(j)]	**–28.6***	**8.8**	**–32.9**	**–32.5***
1997	59.5	11.1	5.4	48.4
1998	78.6	10.5	7.5	68.1
1999	97.4	9.8	10	87.7
2000	90	10.2	8.8	79.8
2001	n.p.	10.9	n.p.	n.p.
2002	51.7	10.7	4.8	41
2003	65.2	10.5	6.2	54.7
2004	38.8	10.5	3.7	28.3
2005	36.9	9.9	3.7	26.9
2006	75.9	10.6	7.2	65.3
2007	60.1	12.2	4.9	47.9
2008	68.8	12.7	5.4	56.1
2009	45.2	12.7	3.6	32.5
2010	65.8	11.4	5.8	54.4
Annual change[(i)]	**–1.7**	**0.1***	**–0.2***	**–1.9**
Per cent change[(j)]	**–37.8**	**16.9***	**–58.0***	**–50.4**

(continued)

Table 1.23.25 (continued): Age-standardised mortality rates, rate ratios and rate differences, kidney diseases, WA, SA and NT, 1991–1996 and 1997–2010(a)(b)(c)(d)

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2010.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(e) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(f) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(h) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(i) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(j) Per cent change between 1991 and 1996 and between 1997 and 2010 based on the average annual change over the period.

Notes

1. 1991–1996 ICD9 codes 580–593, 1997–2010 ICD–10 codes N00–N29.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.26: Age-standardised mortality rates, rate ratios and rate differences, kidney diseases, NSW, Qld, WA, SA and NT, 2001–2010[a][b][c][d][e]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[f]	Per cent change[g]
Indigenous rate (deaths per 100,000[h])	21.1	26.3	28.3	28.2	25.7	49.8	35.6	40.3	38.4	38.0	2.1*	88.7*
Non-Indigenous rate (deaths per 100,000[h])	9.7	10.3	10.2	9.7	9.8	10.5	12.0	12.4	11.7	10.3	0.2*	19.2*
Rate ratio[i]	2.2	2.6	2.8	2.9	2.6	4.7	3.0	3.3	3.3	3.7	0.1*	56.2*
Rate difference[j]	11.4	16.0	18.1	18.6	15.9	39.3	23.5	27.9	26.7	27.7	1.9*	147.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Cause of Death, Australia, 2010 (cat.no. 3303.0 Explanatory Notes for further information.

(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 2001 and 2010 based on the average annual change over the period.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD–10 codes N00–N29.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

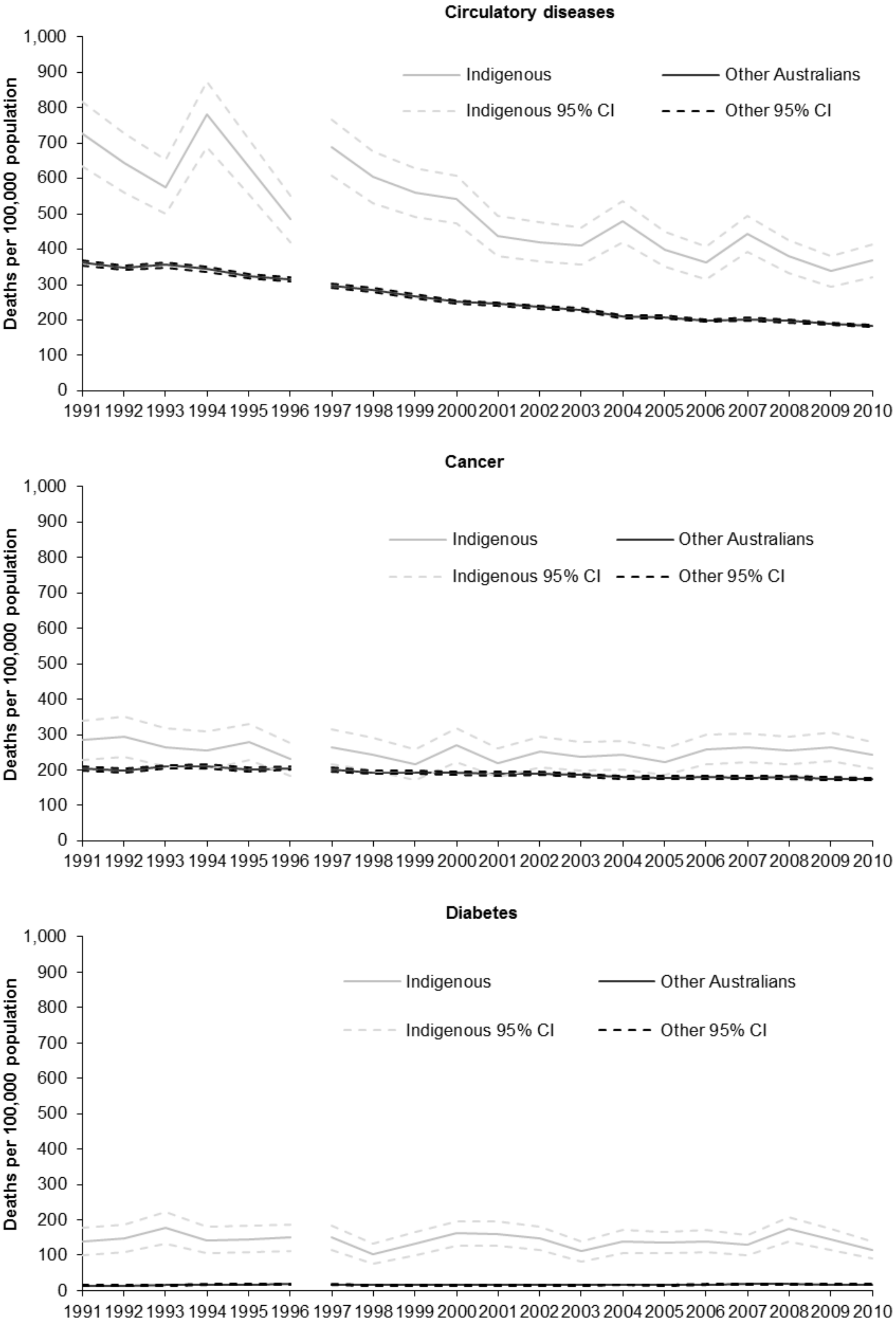
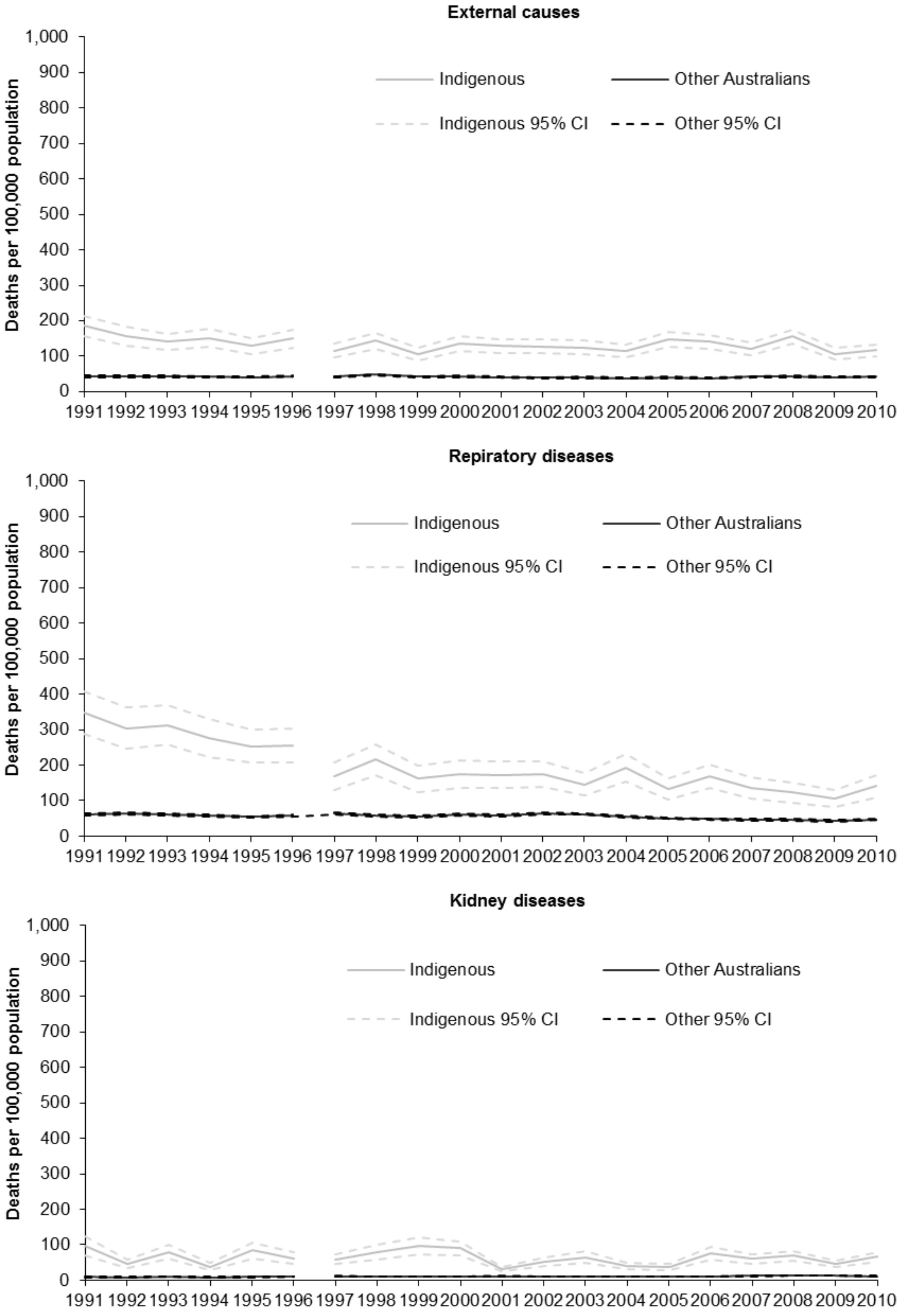


Figure 1.23.1: Mortality rates for Indigenous and other Australians, selected causes of death, WA, SA and NT, 1991–1996 and 1997–2010

(continued)



Source: AIHW analysis of ABS Mortality Database.

Figure 1.23.1 (continued): Mortality rates for Indigenous and other Australians, selected causes of death, WA, SA and NT, 1991–1996 and 1997–2010

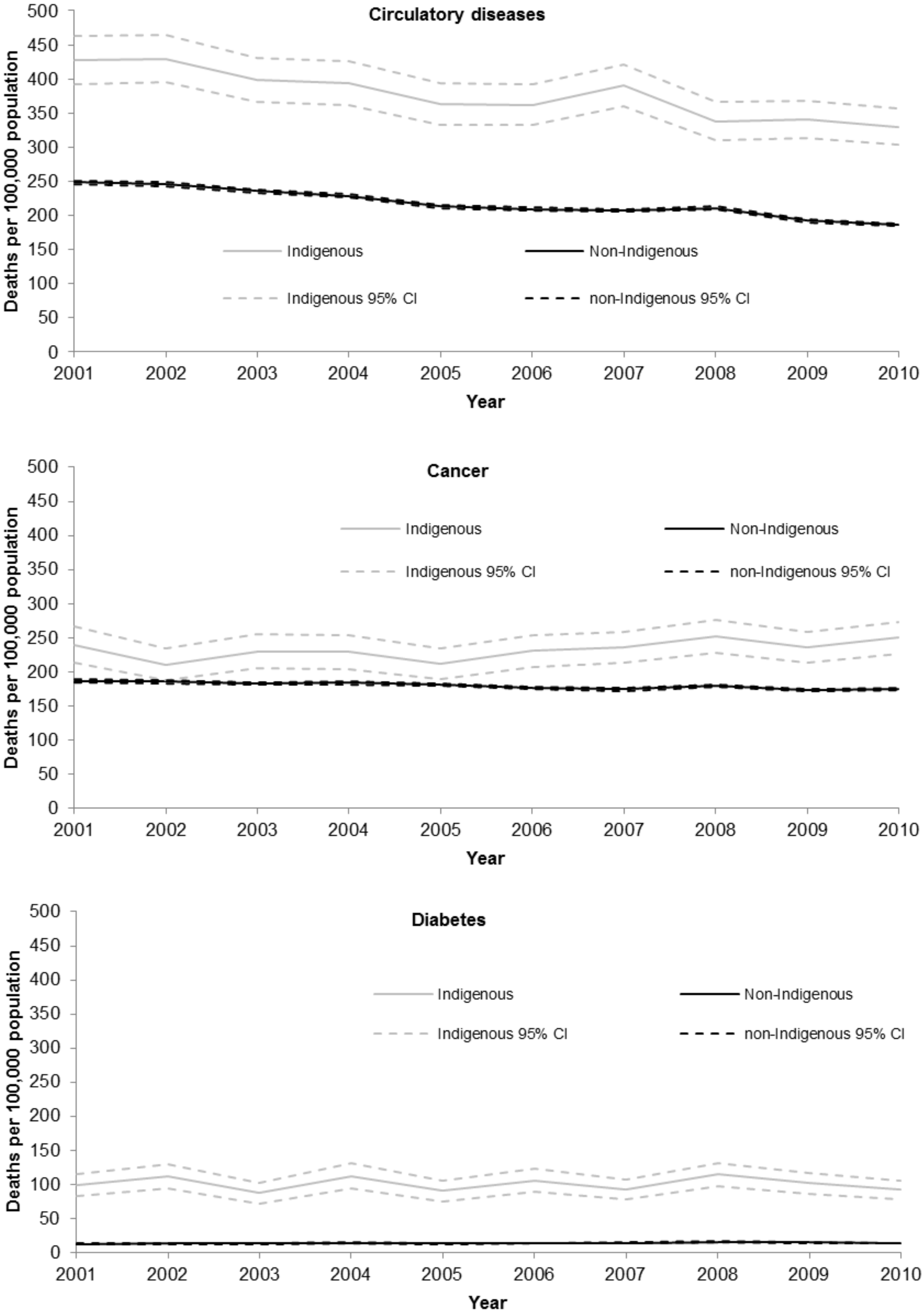
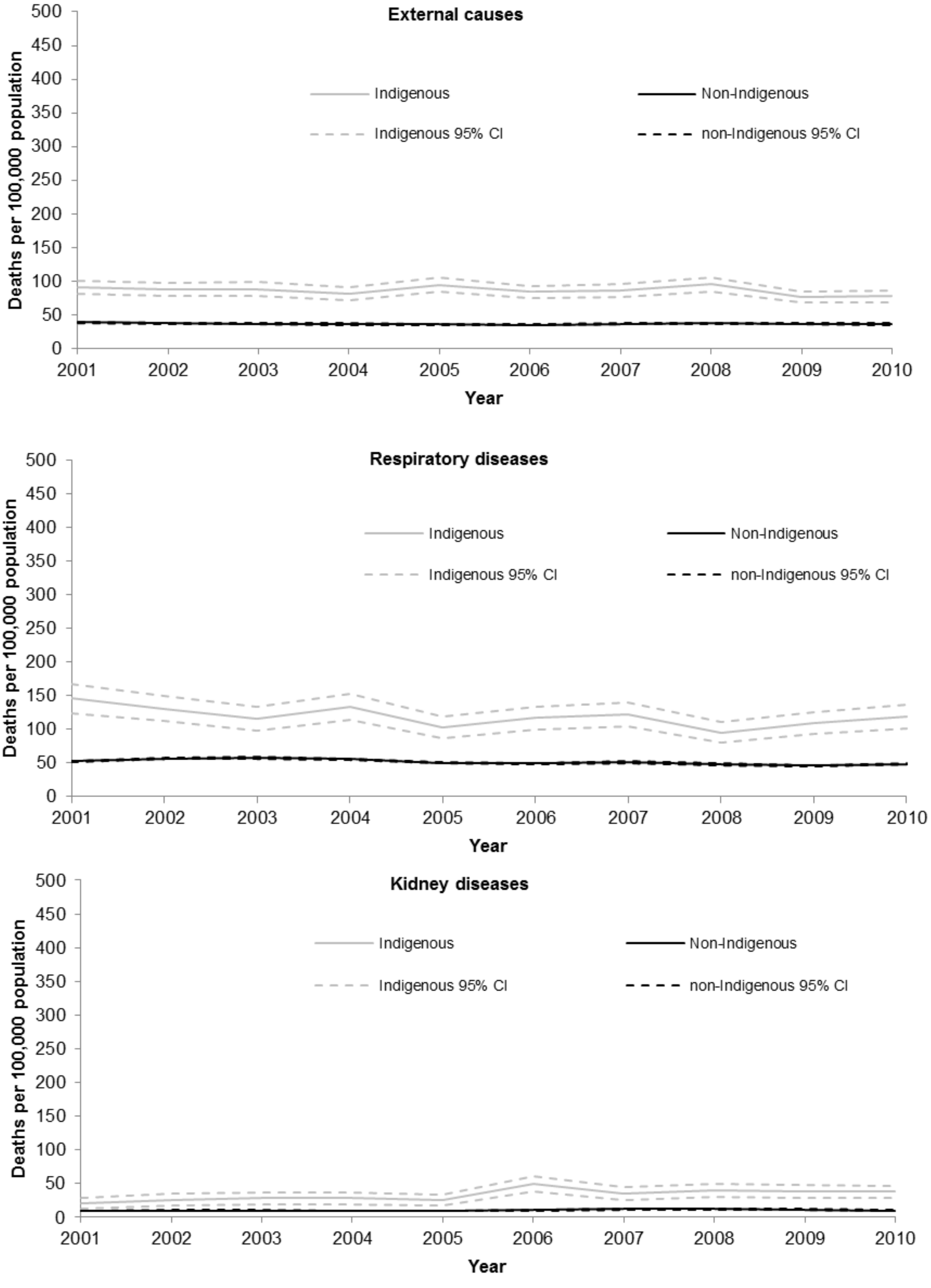


Figure 1.23.2: Mortality rates for Indigenous and other Australians, selected causes of death, NSW, Qld, WA, SA and NT, 2001–2010

(continued)



Source: AIHW analysis of ABS Mortality Database.

Figure 1.23.2 (continued): Mortality rates for Indigenous and other Australians, selected causes of death, NSW, Qld, WA, SA and NT, 2001–2010

Cause of death analysis

This section presents data on selected underlying, associated and multiple causes of death for Indigenous and non-Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, over the period 2006–10.

An underlying cause of death is the cause that led directly to the death; associated causes of death are all causes of death other than the underlying cause; multiple causes of death include all causes and conditions reported on the death certificate (i.e. both underlying and associated causes). These statistics are valuable in providing an accurate portrayal of mortality in deaths attributable to a number of concurrent disease processes.

Multiple causes of death

Table 1.23.27 presents data on crude and age-standardised mortality rates of selected multiple causes of deaths for Indigenous and non-Indigenous Australians, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, over the period 2006–10.

- Over the period 2006–10 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the mean number of causes of death was similar for Indigenous (3.1) and non-Indigenous Australians (3.3).
- The mean number of causes of death was 3.2 for Indigenous males and 3.4 for Indigenous females.
- The top three reported multiple causes of death for Indigenous Australians were circulatory diseases (reported in 50% of deaths), followed by other causes (33%) and respiratory diseases (26%).
- After adjusting for differences in age-structure, circulatory diseases were reported as a multiple cause of death in similar proportions for Indigenous (60%) and non-Indigenous deaths (58%). In contrast, diabetes was reported as a multiple cause of death in 23% of Indigenous deaths, compared with only 10% of non-Indigenous deaths.

Table 1.23.27: Selected multiple causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Indig.	Non-Indig.
	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	Crude Mean no. of causes(i)	Crude Mean no. of causes(i)
Males																		
All causes	**513.3**	**100**	**1321.9**	**100**	**668.4**	**100**	**690.8**	**100**	**513.3**	**100**	**1321.9**	**100**	**668.4**	**100**	**690.8**	**100**	**3.2**	**3.2**
Circulatory diseases (I00–I99)	134.7	26.2	401.9	30.4	208.9	31.3	218.9	31.7	248.7	48.5	772.2	58.4	372.8	55.8	390.4	56.5	3.3	3.4
External causes (V01–Y98)	96.3	18.8	119.2	9.0	51.4	7.7	51.9	7.5	117.3	22.9	169.9	12.9	78.5	11.7	80.0	11.6	3.1	3.3
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	89.0	17.3	280.8	21.2	218.5	32.7	221.6	32.1	98.3	19.1	322.1	24.4	252.4	37.8	257.6	37.3	2.7	2.6
Digestive organ cancers (C15–C26)(j)	*27.9*	*5.4*	*78.6*	*5.9*	*59.9*	*9.0*	*60.0*	*8.7*	*30.6*	*6.0*	*87.3*	*6.6*	*68.5*	*10.3*	*69.1*	*10.0*	*2.6*	*2.4*
Lung cancer (C34)(j)	*24.2*	*4.7*	*82.0*	*6.2*	*45.7*	*6.8*	*45.8*	*6.6*	*25.4*	*5.0*	*88.1*	*6.7*	*49.8*	*7.5*	*50.2*	*7.3*	*2.8*	*2.6*
Cervical cancer (C53)(j)(k)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	1.2	0.2	n.p.	n.p.	2.2	0.3	2.3	0.3	1.6	0.3	n.p.	n.p.	4.0	0.6	4.2	0.6	3.3	3.2

(continued)

Table 1.23.27 (continued): Selected multiple causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Indig.	Non-Indig.
	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	Crude Mean no. of causes(i)	Crude Mean no. of causes(i)
Endocrine, metabolic & nutritional disorders (E00–E89)	38.0	7.4	117.2	8.9	23.8	3.6	24.7	3.6	104.3	20.3	322.9	24.4	94.7	14.2	98.2	14.2	4.4	4.3
Diabetes (E10–E14)(j)	*32.4*	*6.3*	*102.4*	*7.7*	*17.1*	*2.6*	*17.8*	*2.6*	*84.3*	*16.4*	*269.5*	*20.4*	*67.0*	*10.0*	*69.6*	*10.1*	*4.4*	*4.3*
Respiratory diseases (J00–J99)	38.3	7.5	135.8	10.3	56.3	8.4	59.5	8.6	132.0	25.7	447.4	33.8	207.5	31.0	218.3	31.6	3.4	3.4
Digestive diseases (K00–K93)	29.9	5.8	62.6	4.7	22.2	3.3	22.6	3.3	65.7	12.8	152.5	11.5	61.0	9.1	62.1	9.0	3.9	3.9
Conditions originating in perinatal period (P00–P96)	13.0	2.5	n.p.	n.p.	3.0	0.5	n.p.	n.p.	15.7	3.1	n.p.	n.p.	4.1	0.6	n.p.	n.p.	2.1	2.3
Nervous system diseases (G00–G99)	14.0	2.7	32.4	2.5	23.7	3.6	24.8	3.6	37.6	7.3	103.0	7.8	59.5	8.9	62.3	9.0	3.1	3.0
Kidney diseases (N00–N29)	12.9	2.5	42.3	3.2	11.8	1.8	12.6	1.8	66.2	12.9	230.0	17.4	79.0	11.8	83.7	12.1	3.8	3.8
Infectious & parasitic diseases (A00–B99)	11.8	2.3	29.4	2.2	10.1	1.5	10.4	1.5	51.3	10.0	138.2	10.5	51.0	7.6	52.6	7.6	3.9	3.8
Other causes(l)	34.3	6.7	90.1	6.8	36.4	5.4	38.5	5.6	169.4	33.0	460.0	34.8	191.7	28.7	200.6	29.0	3.0	3.4

(continued)

Table 1.23.27 (continued): Selected multiple causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Indig.	Non-Indig.
	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	Crude Mean no. of causes(i)	Crude Mean no. of causes(i)
									Females									
All causes	**414.2**	**100**	**1016.6**	**100**	**625.0**	**100**	**515.2**	**100**	**414.2**	**100**	**1016.6**	**100**	**625.0**	**100**	**515.2**	**100**	**3.4**	**3.2**
Circulatory diseases (I00–I99)	109.0	26.3	310.0	30.5	229.0	36.6	183.6	35.6	217.8	52.6	621.1	61.1	376.1	60.2	303.4	58.9	3.6	3.4
External causes (V01–Y98)	42.7	10.3	52.7	5.2	25.4	4.1	22.7	4.4	59.7	14.4	94.3	9.3	51.1	8.2	43.8	8.5	3.3	3.9
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	83.9	20.3	213.2	21.0	164.0	26.2	139.8	27.1	92.9	22.4	243.2	23.9	185.8	29.7	157.4	30.5	2.6	2.4
Digestive organ cancers (C15–C26)(j)	*21.6*	*5.2*	*58.8*	*5.8*	*44.0*	*7.0*	*37.1*	*7.2*	*24.3*	*5.9*	*68.7*	*6.8*	*49.9*	*8.0*	*41.9*	*8.1*	*2.6*	*2.3*
Lung cancer (C34)(j)	*17.7*	*4.3*	*43.7*	*4.3*	*27.3*	*4.4*	*23.4*	*4.5*	*19.3*	*4.7*	*48.9*	*4.8*	*29.2*	*4.7*	*25.0*	*4.8*	*2.7*	*2.4*
Cervical cancer (C53)(j)(k)	*4.8*	*1.2*	*8.8*	*0.9*	*2.1*	*0.3*	*1.9*	*0.4*	*5.3*	*1.3*	*10.3*	*1.0*	*2.6*	*0.4*	*2.3*	*0.4*	*2.5*	*2.4*
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	1.4	0.3	n.p.	n.p.	2.3	0.4	1.9	0.4	2.6	0.6	5.9	0.6	4.2	0.7	3.5	0.7	3.4	3.1

(continued)

Table 1.23.27 (continued): Selected multiple causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Crude		Age-standardised(h)		Indig.	Non-Indig.
Site of neoplasm	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	Crude Mean no. of causes(i)	Crude Mean no. of causes(i)
Endocrine, metabolic & nutritional disorders (E00–E89)	44.0	10.6	118.2	11.6	23.6	3.8	19.3	3.7	118.8	28.7	331.8	32.6	90.7	14.5	74.2	14.4	4.3	4.4
Diabetes (E10–E14)(j)	*38.0*	*9.2*	*101.8*	*10.0*	*15.9*	*2.6*	*13.0*	*2.5*	*97.0*	*23.4*	*267.1*	*26.3*	*56.2*	*9.0*	*45.9*	*8.9*	*4.2*	*4.3*
Respiratory diseases (J00–J99)	33.2	8.0	95.8	9.4	49.7	8.0	40.5	7.9	110.9	26.8	315.6	31.0	179.9	28.8	146.6	28.5	3.5	3.2
Digestive diseases (K00–K93)	25.0	6.0	53.1	5.2	21.9	3.5	18.0	3.5	54.1	13.1	123.5	12.1	56.5	9.0	46.8	9.1	4.0	3.8
Conditions originating in perinatal period (P00–P96)	9.5	2.3	n.p.	n.p.	2.3	0.4	n.p.	n.p.	11.7	2.8	n.p.	n.p.	2.9	0.5	n.p.	n.p.	2.1	2.3
Nervous system diseases (G00–G99)	9.0	2.2	21.5	2.1	28.2	4.5	23.1	4.5	27.5	6.6	66.8	6.6	63.0	10.1	51.5	10.0	3.3	2.8
Kidney diseases (N00–N29)	14.0	3.4	39.2	3.9	13.0	2.1	10.5	2.0	78.1	18.9	208.9	20.6	69.9	11.2	56.6	11.0	3.7	3.6
Infectious & parasitic diseases (A00–B99)	9.7	2.3	22.5	2.2	8.7	1.4	7.2	1.4	51.1	12.3	122.5	12.0	44.6	7.1	36.9	7.2	4.0	3.7
Other causes(l)	32.7	7.9	81.6	8.0	56.8	9.1	46.1	8.9	139.4	33.7	360.8	35.5	227.1	36.3	184.3	35.8	3.3	3.3

(continued)

Table 1.23.27 (continued): Selected multiple causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f][g]

	Underlying cause								**Multiple cause**									
	Indigenous				**Non-Indigenous**				**Indigenous**				**Non-Indigenous**					
	Crude		**Age-standardised[h]**		**Crude**		**Age-standardised[h]**		**Crude**		**Age-standardised[h]**		**Crude**		**Age-standardised[h]**		**Indig.**	**Non-Indig.**
	No.	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**No.**	**Proportion of total deaths %**	**Crude Mean no. of causes[i]**	**Crude Mean no. of causes[i]**
									Persons									
All causes	**463.5**	**100**	**1156.1**	**100**	**646.6**	**100**	**597.3**	**100**	**463.5**	**100**	**1156.1**	**100**	**646.6**	**100**	**597.3**	**100**	**3.3**	**3.2**
Circulatory diseases (I00–I99)	121.8	26.3	352.5	30.5	219.0	33.9	201.1	33.7	233.2	50.3	690.2	59.7	374.4	57.9	344.1	57.6	3.4	3.4
External causes (V01–Y98)	69.4	15.0	84.5	7.3	38.4	5.9	37.1	6.2	88.4	19.1	130.7	11.3	64.7	10.0	61.5	10.3	3.1	3.5
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	86.4	18.6	242.4	21.0	191.2	29.6	176.1	29.5	95.6	20.6	277.1	24.0	219.0	33.9	201.6	33.8	2.7	2.5
Digestive organ cancers (C15–C26)[j]	*24.7*	*5.3*	*68.2*	*5.9*	*51.9*	*8.0*	*47.8*	*8.0*	*27.4*	*5.9*	*77.8*	*6.7*	*59.2*	*9.2*	*54.4*	*9.1*	*2.6*	*2.4*
Lung cancer (C34)[j]	*20.9*	*4.5*	*59.8*	*5.2*	*36.5*	*5.6*	*33.5*	*5.6*	*22.4*	*4.8*	*65.4*	*5.7*	*39.5*	*6.1*	*36.3*	*6.1*	*2.7*	*2.5*
Cervical cancer (C53)[j][k]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	1.3	0.3	3.3	0.3	2.3	0.3	2.1	0.3	2.1	0.4	5.3	0.5	4.1	0.6	3.8	0.6	3.3	3.1

(continued)

Table 1.23.27 (continued): Selected multiple causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f][g]

	Underlying cause								Multiple cause									
	Indigenous				Non-Indigenous				Indigenous				Non-Indigenous					
	Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Crude		Age-standardised[h]		Indig.	Non-Indig.
	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	No.	Proportion of total deaths %	Crude Mean no. of causes[i]	Crude Mean no. of causes[i]
Endocrine, metabolic & nutritional disorders (E00–E89)	41.0	8.8	118.1	10.2	23.7	3.7	21.8	3.7	111.6	24.1	329.8	28.5	92.7	14.3	85.4	14.3	4.3	4.4
Diabetes (E10–E14)[j]	*35.2*	*7.6*	*102.2*	*8.8*	*16.5*	*2.6*	*15.2*	*2.5*	*90.7*	*19.6*	*269.0*	*23.3*	*61.6*	*9.5*	*56.7*	*9.5*	*4.3*	*4.3*
Respiratory diseases (J00–J99)	35.7	7.7	112.8	9.8	53.0	8.2	48.7	8.2	121.4	26.2	372.2	32.2	193.6	29.9	178.2	29.8	3.4	3.3
Digestive diseases (K00–K93)	27.4	5.9	58.0	5.0	22.1	3.4	20.3	3.4	59.9	12.9	137.7	11.9	58.8	9.1	54.2	9.1	4.0	3.9
Conditions originating in perinatal period (P00–P96)	11.2	2.4	n.p.	n.p.	2.7	0.4	n.p.	n.p.	13.7	3.0	n.p.	n.p.	3.5	0.5	n.p.	n.p.	2.1	2.3
Nervous system diseases (G00–G99)	11.5	2.5	26.6	2.3	26.0	4.0	24.0	4.0	32.6	7.0	82.6	7.1	61.3	9.5	56.5	9.5	3.2	2.9
Kidney diseases (N00–N29)	13.4	2.9	40.6	3.5	12.4	1.9	11.4	1.9	72.2	15.6	217.0	18.8	74.4	11.5	68.4	11.5	3.7	3.7
Infectious & parasitic diseases (A00–B99)	10.7	2.3	25.5	2.2	9.4	1.5	8.7	1.5	51.2	11.0	129.6	11.2	47.8	7.4	44.1	7.4	4.0	3.7
Other causes[l]	33.5	7.2	85.7	7.4	46.6	7.2	43.1	7.2	154.4	33.3	406.3	35.1	209.5	32.4	193.1	32.3	3.1	3.3

(continued)

Table 1.23.27 (continued): Selected multiple causes of death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the four jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) These data exclude 5441 registered deaths where the Indigenous status was not stated over the period 2006–2010.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Cause of Death, Australia, 2010 (cat. no. 3303.0) Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(h) Figures are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Mean number of causes is calculated based on the average number of causes of death present for a death with the selected underlying cause of death. This data item provides insight into co-morbidity.

(j) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

(k) Data for cervical cancer are for females only.

(l) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Associated causes of death

Tables 1.23.28, 1.23.29 and 1.23.30 present data on selected underlying causes of death with associated causes of death for Indigenous and non-Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, over the period 2006–10.

- Over the period 2006–10, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, 16% of Indigenous deaths were reported with no associated cause (Table 1.23.28).
- Deaths of Indigenous Australians were most commonly reported with circulatory diseases, respiratory diseases and endocrine, metabolic and nutritional disorders as associated causes of death (233, 121 and 112 deaths per 100,000 respectively) (Table 1.23.28).
- After adjusting for differences in age-structure, circulatory diseases were the most commonly reported associated causes of death for both Indigenous and non-Indigenous Australians (690 and 344 per 100,000, respectively) (Tables 1.23.29 and 1.23.30).
- Indigenous Australians with an underlying cause of death of kidney diseases were 8 times as likely as their non-Indigenous counterparts to have diabetes as an associated cause of death (8 deaths per 100,000 compared with 1 per 100,000, respectively), and 3 times as likely to have circulatory diseases as an associated cause of death (22 deaths per 100,000 compared with 7 per 100,000, respectively). Similarly, Indigenous Australians with an underlying cause of death of circulatory diseases were 4 times more likely as their non-Indigenous counterparts to have diabetes as an associated cause of death (74 deaths per 100,000 compared with 19 per 100,000, respectively), and more than twice as likely to have kidney diseases as an associated cause of death (54 deaths per 100,000 compared with 24 per 100,000, respectively) (Tables 1.23.29 and 1.23.30).

Table 1.23.28: Selected underlying cause of death with associated cause, Indigenous Australians, crude figures, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

Selected underlying cause			Reported with selected associated cause															
	No.	Reported alone %	I00–I99	V01–Y98	Cancer-malign.	C15–C26[g]	C34[g]	C53[g][h]	Non-malig.	E00–E89	E10–E14[g]	J00–J99	K00–K93	P00–P96	G00–G99	N00–N29	A00–B99	Other causes[i]
All causes	11,132	16.0	233.2	88.4	95.6	2.7	22.4	27.4	2.1	111.6	90.7	121.4	59.9	13.7	32.6	72.2	51.2	154.4
Circulatory diseases (I00–I99)	2,925	16.5	121.8	6.5	3.4	—	0.6	0.5	—	30.0	24.7	29.2	9.2	n.p.	7.0	16.3	6.2	31.1
External causes (V01–Y98)	1,667	0.0	6.1	69.4	n.p.	—	—	—	n.p.	1.7	1.0	3.8	1.7	—	1.6	1.2	1.5	17.6
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	2,076	31.5	21.1	2.1	86.4	2.5	21.2	25.3	n.p.	12.7	9.8	19.4	8.1	—	2.9	7.5	5.7	20.9
Digestive organ cancers (C15–C26)[g]	*594*	*33.8*	*5.6*	*0.6*	*24.7*	—	*n.p.*	*24.7*	—	*3.9*	*3.1*	*3.7*	*4.9*	—	*0.7*	*2.1*	*2.0*	*5.0*
Lung cancer (C34)[g]	*502*	*27.5*	*5.8*	*n.p.*	*20.9*	—	*20.9*	—	—	*3.3*	*2.5*	*7.0*	*0.8*	—	*1.0*	*0.8*	*0.8*	*5.7*
Cervical cancer (C53)[g][h]	*58*	*32.8*	*0.5*	*n.p.*	*2.4*	*2.4*	—	—	—	*0.4*	*n.p.*	*n.p.*	—	—	—	*0.5*	*n.p.*	*0.6*
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	31	12.9	0.6	—	n.p.	—	—	—	1.3	0.3	0.3	0.3	—	—	n.p.	n.p.	—	0.6
Endocrine, metabolic & nutritional disorders (E00–E89)	984	1.8	32.6	1.9	1.4	—	n.p.	0.4	n.p.	41.0	36.6	8.2	3.6	—	2.1	16.1	5.7	12.9
Diabetes (E10–E14)[g]	*846*	*1.3*	*28.4*	*1.7*	*1.2*	—	—	*0.4*	*n.p.*	*35.2*	*35.2*	*6.6*	*2.9*	—	*1.7*	*14.5*	*5.2*	*10.4*
Respiratory diseases (J00–J99)	858	14.2	15.5	1.2	1.2	—	n.p.	0.3	—	6.6	4.6	35.7	2.1	n.p.	2.0	3.9	4.3	12.9
Digestive diseases (K00–K93)	659	8.3	9.6	2.0	0.8	—	n.p.	0.3	—	5.5	4.2	6.3	27.4	n.p.	2.0	5.5	7.6	11.7
Conditions originating in perinatal period (P00–P96)	270	41.9	n.p.	—	—	—	—	—	—	n.p.	—	—	—	11.2	—	—	n.p.	0.3
Nervous system diseases (G00–G99)	277	18.8	3.6	1.2	0.3	—	—	n.p.	—	1.8	1.4	4.2	0.3	n.p.	11.5	1.0	0.9	4.2

(continued)

Table 1.23.28 (continued): Selected underlying cause of death with associated cause, Indigenous Australians, crude figures, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

Selected underlying cause			Reported with selected associated cause															
	No.	Reported alone %	I00–I99	V01–Y98	Cancer-malign.	C15–C26(g)	C34(g)	C53(g)(h)	Non-malig.	E00–E89	E10–E14 (g)	J00–J99	K00–K93	P00–P96	G00–G99	N00–N29	A00–B99	Other causes(i)
Kidney diseases (N00–N29)	323	10.2	7.4	1.3	0.4	—	n.p.	n.p.	—	4.0	2.9	3.6	2.0	—	0.5	13.4	2.8	3.7
Infectious & parasitic diseases (A00–B99)	258	11.2	4.1	0.5	0.5	—	—	0.3	n.p.	2.6	1.8	3.0	2.9	—	0.8	2.8	10.7	5.2
Other causes(i)	804	27.9	10.8	2.1	0.7	—	—	n.p.	n.p.	5.0	3.4	7.7	2.4	1.8	2.0	4.3	5.5	33.5

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the four jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Cause of Death, Australia, 2010 (cat. no. 3303.0) Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(g) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

(h) Data for cervical cancer are for females only.

(i) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.29: Selected underlying cause of death with associated cause, Indigenous Australians, age-standardised figures, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

Selected underlying cause			Reported with selected associated cause														
	No.	Reported alone %	I00–I99	V01–Y98	Cancer-malign	*C15–C26(g)*	*C34 (g)*	*C53 (g)(h)*	Non-malig	E00–E89	*E10–E14 (g)*	J00–J99	K00–K93	G00–G99	N00–N29	A00–B99	Other causes(i)
All causes	11,132	16.0	690.2	130.7	277.1	77.8	65.4	5.6	5.3	329.8	269.0	372.2	137.7	82.6	217.0	129.6	406.3
Circulatory diseases (I00–I99)	2,925	16.5	352.3	16.4	13.4	n.p.	n.p.	—	n.p.	90.3	74.3	100.3	23.4	21.1	53.8	16.4	99.7
External causes (V01–Y98)	1,667	0.0	12.2	84.5	n.p.	n.p.	n.p.	—	n.p.	4.5	2.7	7.9	2.6	2.0	3.5	3.3	23.5
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	2,076	31.5	69.4	4.8	242.4	70.2	60.5	5.3	n.p.	40.4	31.4	59.3	22.2	8.2	22.7	13.7	59.2
Digestive organ cancers (C15–C26)(h)	*594*	*33.8*	*17.5*	*n.p.*	*68.2*	*68.2*	*n.p.*	—	—	*11.6*	*9.1*	*11.2*	*12.1*	*n.p.*	*6.1*	*5.1*	*13.4*
Lung cancer (C34)(h)	*502*	*27.5*	*19.1*	*n.p.*	*59.8*	*n.p.*	*59.8*	—	*n.p.*	*11.2*	*8.7*	*21.5*	*n.p.*	*2.9*	*2.6*	*1.6*	*16.3*
Cervical cancer (C53)(h)(i)	*58*	*32.8*	*n.p.*	*n.p.*	*4.8*	—	—	*4.8*	*n.p.*	*n.p.*	*n.p.*	*n.p.*	*n.p.*	—	*n.p.*	*n.p.*	*n.p.*
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	31	12.9	n.p.	n.p.	n.p.	—	—	—	3.3	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Endocrine, metabolic & nutritional disorders (E00–E89)	984	1.8	96.7	4.9	5.8	n.p.	n.p.	—	n.p.	118.1	106.0	24.1	9.4	5.1	44.0	15.6	36.3
Diabetes (E10–E14)(h)	*846*	*1.3*	*84.6*	*4.2*	*5.2*	*n.p.*	*n.p.*	—	*n.p.*	*102.2*	*102.2*	*19.9*	*7.6*	*4.3*	*39.5*	*14.0*	*28.7*
Respiratory diseases (J00–J99)	858	14.2	54.3	3.6	4.6	n.p.	n.p.	n.p.	n.p.	21.6	15.3	112.8	5.2	6.7	13.4	12.3	41.7
Digestive diseases (K00–K93)	659	8.3	22.9	4.8	2.9	n.p.	n.p.	n.p.	n.p.	12.9	9.8	14.1	58.0	3.8	12.4	17.1	23.7
Nervous system diseases (G00–G99)	277	18.8	10.2	2.2	n.p.	n.p.	—	n.p.	—	5.8	4.6	9.6	n.p.	26.6	2.9	1.7	10.4
Kidney diseases (N00–N29)	323	10.2	21.6	3.5	n.p.	n.p.	n.p.	—	n.p.	10.9	8.0	11.2	4.5	n.p.	40.6	7.5	11.9

(continued)

Table 1.23.29 (continued): Selected underlying cause of death with associated cause, Indigenous Australians, age-standardised figures, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)(g)]

Selected underlying cause			Reported with selected associated cause														
	No.	Reported alone %	I00–I99	V01–Y98	Cancer-malign	*C15–C26*[g)]	*C34*[(g)]	*C53*[(g)(h)]	Non-malig	E00–E89	*E10–E14*[(g)]	J00–J99	K00–K93	G00–G99	N00–N29	A00–B99	Other causes[(i)]
Infectious & parasitic diseases (A00–B99)	258	11.2	11.5	n.p.	n.p.	n.p.	—	—	n.p.	7.4	5.1	7.3	5.6	n.p.	8.8	25.5	12.7
Other causes[(j)]	804	27.9	37.2	5.1	n.p.	n.p.	—	—	n.p.	17.0	10.7	24.6	6.1	5.4	14.3	16.2	85.7

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the four jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Cause of Death, Australia, 2010 (cat. no. 3303.0) Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(g) Figures are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(h) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

(i) Data for cervical cancer are for females only.

(j) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.23.30: Selected underlying cause of death with associated cause, non-Indigenous Australians, age-standardised figures, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Selected underlying cause		Reported with selected associated cause														
	No.	Reported alone %	I00–I99	V01–Y98	Cancer-malign	*C15–C26(g)*	*C34 (g)*	*C53 (g)(h)*	Non-malig	E00–E89	*E10–E14 (g)*	J00–J99	K00–K93	G00–G99	N00–N29	A00–B99	Other causes(i)
All causes	479,933	18.3	344.1	61.5	201.6	54.4	36.3	1.2	3.8	85.4	56.7	178.2	54.2	56.5	68.4	44.1	193.1
Circulatory diseases (I00–I99)	162,550	12.0	201.1	9.3	13.0	2.6	1.0	0.1	0.6	27.0	18.7	48.7	9.1	15.4	23.5	6.9	57.9
External causes (V01–Y98)	28,485	0.0	7.3	37.1	1.0	0.2	0.1	n.p.	0.0	1.5	0.8	5.4	1.1	1.6	1.3	1.2	8.3
Cancer - malignant neoplasms (C00–C97, D45, D46, D47.1, D47.3)	141,897	35.5	48.5	4.8	176.1	49.4	34.1	1.1	0.4	16.1	10.7	33.4	14.0	5.5	11.8	9.1	33.5
Digestive organ cancers (C15–C26)(h)	*38,528*	*39.4*	*12.0*	*1.3*	*47.8*	*47.8*	*0.1*	*n.p.*	*0.1*	*4.8*	*3.4*	*5.9*	*7.3*	*1.1*	*2.4*	*2.6*	*7.6*
Lung cancer (C34)(h)	*27,064*	*33.4*	*9.4*	*0.6*	*33.5*	*0.2*	*33.5*	*n.p.*	*0.1*	*2.6*	*1.8*	*10.4*	*1.1*	*0.8*	*1.0*	*0.8*	*6.6*
Cervical cancer (C53)(h)(i)	*793*	*39.8*	*0.2*	*0.0*	*1.0*	*n.p.*	*—*	*1.0*	*n.p.*	*0.1*	*0.0*	*0.1*	*0.1*	*0.0*	*0.1*	*0.1*	*0.2*
Non-malignant neoplasms (D00–D44, D47.0, D47.2, D47.7–D48)	1,672	19.9	0.9	0.2	0.2	0.0	n.p.	n.p.	2.1	0.3	0.2	0.5	0.2	0.3	0.2	0.1	0.6
Endocrine, metabolic & nutritional disorders (E00–E89)	17,588	2.0	18.0	0.9	1.5	0.3	0.1	n.p.	0.1	21.8	15.9	4.9	1.4	1.9	5.2	1.9	8.2
Diabetes (E10–E14)(h)	*12,275*	*1.4*	*13.1*	*0.6*	*1.1*	*0.2*	*0.1*	*n.p.*	*0.1*	*15.2*	*15.2*	*3.1*	*0.8*	*1.2*	*4.1*	*1.5*	*5.4*
Respiratory diseases (J00–J99)	39,317	13.6	22.7	1.9	3.4	0.6	0.5	n.p.	0.2	4.7	3.0	48.7	2.4	3.1	4.2	3.8	16.4
Digestive diseases (K00–K93)	16,383	8.4	9.1	2.0	1.5	0.4	0.1	n.p.	0.1	3.0	1.6	4.9	20.3	1.3	3.4	4.2	8.1
Nervous system diseases (G00–G99)	19,287	18.0	7.9	1.3	1.1	0.2	0.0	n.p.	0.1	2.5	1.4	10.0	0.8	24.0	1.1	1.0	8.7

(continued)

Table 1.23.30 (continued): Selected underlying cause of death with associated cause, non-Indigenous Australians, age-standardised figures, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

Selected underlying cause			Reported with selected associated cause														
	No.	Reported alone %	I00–I99	V01–Y98	Cancer-malign	*C15–C26*(g)	*C34* (g)	*C53* (g)(h)	Non-malig	E00–E89	*E10–E14* (g)	J00–J99	K00–K93	G00–G99	N00–N29	A00–B99	Other causes(i)
Kidney diseases (N00–N29)	9,199	8.1	6.9	0.7	0.7	0.2	0.0	n.p.	0.0	1.9	1.0	3.2	0.9	0.6	11.4	1.6	4.1
Infectious & parasitic diseases (A00–B99)	6,983	8.8	4.1	0.5	0.8	0.2	0.1	n.p.	0.0	1.3	0.8	2.6	1.6	0.6	1.8	8.7	4.0
Other causes(j)	34,600	14.6	17.8	2.7	2.3	0.4	0.1	n.p.	0.2	5.3	2.7	16.0	2.3	2.3	4.5	5.5	43.1

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the four jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). See Cause of Death, Australia, 2010 (cat. no. 3303.0) Explanatory Notes 35–39 and Technical Notes, Causes of Death Revisions, 2006 and Causes of Death Revisions, 2008 and 2009.

(g) Figures are directly age-standardised using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(h) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers; data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

(i) Data for cervical cancer are for females only.

(j) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Data quality issues

Mortality data

Deaths

The mortality rate for Indigenous Australians can be influenced by identification of Indigenous deaths, late registration of deaths, and changes to death forms and/or processing systems. Because of the small size of the Indigenous population, these factors can significantly affect trends over time and between jurisdictions. At present, there is considerable variation across the states and territories in the completeness of mortality and hospital data for Indigenous people.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms. However, although data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked. Detailed breakdowns of Indigenous deaths are therefore provided for only five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

Indigenous status information from the two sources is kept in the database, although this may not be consistent for an individual.

In 2004, a new range of codes were introduced as part of the effort to standardise and improve indigenous identification in data collection nationally.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records and examined differences in the reporting of Indigenous status across the two data sets.

There were 106,945 registered death records available to be linked in the study. Of these, 1,800 (1.7%) were identified as Indigenous on the death registration. Of the total registered deaths, 98,898 (92%) were linked to a Census record. However, a much lower linkage rate was achieved for Indigenous deaths, with more than one quarter of all Indigenous death registrations (26% or 473) unable to be linked to a Census record. As a result, Indigenous death records were over-represented in the unlinked death registrations.

As well as being over-represented in unlinked death registrations, unlinked Indigenous death records had different characteristics to linked Indigenous death registrations. Indigenous death records with older ages at death and from non-remote regions were more likely to be linked.

Under-identification

Almost all deaths in Australia are registered. However, the Indigenous status of the deceased is not always recorded/recorded correctly. The incompleteness of Indigenous identification means the number of deaths registered as Indigenous is an underestimate of deaths occurring in the Aboriginal and Torres Strait Islander population (ABS 2009a). As a result, the observed differences between Indigenous and non-Indigenous mortality are underestimates of the true differences.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) with 10 years of adequate identification of Indigenous deaths in their recording systems (ABS and AIHW 2005). The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

The ABS calculated the implied coverage (identification) of Indigenous deaths for the period 2002–2006 using population estimates: New South Wales 45%, Victoria 32%, Queensland 51%, South Australia 62%, Western Australia 72%, Northern Territory 90%, Australia 55% (Tasmania and the Australian Capital Territory were not calculated because of small numbers) (ABS 2007).

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

There are also current concerns about data quality for Causes of death, especially relating to external Causes of death of all Australians (not just Indigenous) (ABS 2006).

Problems associated with identification result in an underestimation of deaths and hospital separations for Indigenous people.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009b).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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ABS 2007. Deaths Australia 2006. ABS cat. no. 3302.0. Canberra: ABS.

ABS 2008. Information Paper : Census Data Enhancement – Indigenous Mortality Quality Study. Cat. No. 472 3.0 . 2006– 07.

ABS 2009a. Deaths Australia 2009. ABS Cat. no. 3302.0. Canberra: ABS.

ABS 2009b. Experimental estimates and projections, Aboriginal and Torres Strait Islander Australians, 1991 to 2021. Cat. no. 3238.0. Canberra: ABS.

ABS & AIHW (Australian Institute of Health and Welfare) 2005. The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2005. ABS cat. no. 4704.0, AIHW Cat. no. IHW14. Canberra: ABS and AIHW.

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1.24 Avoidable and preventable deaths

The number of deaths of Aboriginal and Torres Strait Islander people aged 0–74 years from avoidable and preventable conditions, expressed as a standardised rate and rate ratio

Data sources

Data for this measure come from the Australian Institute of Health and Welfare (AIHW) National Mortality Database.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

Avoidable and preventable mortality

The ICD-9 and ICD-10 codes used for avoidable mortality in this measure come from the report *Australian and New Zealand atlas of avoidable mortality* (Page et al. 2006).

Avoidable and preventable mortality refers to deaths from certain conditions that are considered avoidable given timely and effective health care. This also includes deaths amenable to legal measures, such as traffic safety (for example, speed limits and use of seat belts and motorcycle helmets). Avoidable and preventable conditions are sometimes further differentiated into conditions where death can be averted by prevention ('preventable') or by treatment ('amenable', 'treatable'):

- *Amenable* conditions are defined as those from which it is reasonable to expect death to be averted even after the condition has developed, for example, through early detection and effective treatment (such as cervical cancer).
- *Preventable* conditions include those for which there are effective ways of preventing the condition from occurring, for example, where the aetiology is to a considerable extent related to lifestyle factors (such as smoking).

Potentially avoidable deaths can sometimes be further assigned to primary (prevention), secondary (early intervention) and tertiary (medical treatment) levels of health intervention (National Health Performance Committee 2004).

Analyses

Age-standardised rates and ratios have been used as a measure of mortality in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of mortality among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Mortality

- Over the period 2006–2010, there were 118,866 deaths of people aged 0–74 years from avoidable causes in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, 6,777 (5.7%) of which were recorded as Aboriginal and Torres Strait Islander people (Table 1.24.2).
- Avoidable causes represented almost three-quarters (74%) of all deaths of Indigenous Australians aged 0–74 years in these five jurisdictions. This was higher than the proportion of deaths from avoidable causes in the non-Indigenous population (66%) (Table 1.24.3).
- After adjusting for differences in age structure, Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory died from all avoidable causes at 3.5 times the rate of non-Indigenous Australians (Table 1.24.1).

Avoidable mortality by age, sex and state/territory

- Over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, males had higher mortality rates from avoidable causes than females for both Indigenous and non-Indigenous Australians (Table 1.24.1).
- Indigenous males and females died from avoidable causes at 3.3 and 3.9 times the rate of non-Indigenous males and females respectively.
- Indigenous males and females had higher mortality rates for avoidable causes than non-Indigenous males and females across all age groups. The greatest difference in rates between Indigenous and non-Indigenous mortality was in the 65–74 year age group (rate difference of 1,588 per 100,000). The highest rate ratio was in the 35–44 year age group, at 4.9 for males and 5.5 for females.
- The Northern Territory had the highest rates of mortality from avoidable causes among Indigenous persons (787 per 100,000), followed by Western Australia (685 per 100,000). These two jurisdictions had the largest rate differences between Indigenous and non-Indigenous avoidable mortality (Table 1.24.2).
- In Western Australia, Indigenous Australians aged 0–74 years died from avoidable causes at nearly five times the rate of non-Indigenous Australians. In the Northern Territory, the rate ratio was 4.1. In New South Wales, Queensland and South Australia, the rate ratio ranged from 2.6 to 3.5 (Table 1.24.2).
- The proportion of deaths at ages 0–74 years from avoidable causes which were considered to be amenable to health care was similar for Indigenous and non-Indigenous Australians (38% Indigenous, 39% non-Indigenous) (Table 1.24.3).

Table 1.24.1: Avoidable mortality, by Indigenous status, age group and sex, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)(g)]

Age group (years)	Deaths per 100,000[(h)] Indig.	95% LCL[(i)]	95% UCL[(j)]	Non-Indig.	Rate ratio[(k)]	Rate difference[(l)]
			Males			
Less than 1	491.9	417.3	566.6	268.3	1.8*	223.7*
1–4	29.2	19.5	38.9	12.6	2.3*	16.6*
0–4 years	*133.3*	*114.9*	*151.7*	*65.9*	*2.0**	*67.4**
1–14 years	*17.7*	*13.8*	*21.6*	*7.2*	*2.5**	*10.5**
5–14	14.8	10.5	19.2	4.9	3.0*	9.9*
15–24	128.4	114.2	142.6	44.8	2.9*	83.6*
25–34	246.3	222.5	270.1	66.4	3.7*	179.9*
35–44	471.4	436.1	506.8	96.6	4.9*	374.8*
45–54	827.0	771.7	882.3	197.0	4.2*	630.0*
55–64	1,426.4	1,328.6	1,524.3	432.7	3.3*	993.7*
65–74	2,982.4	2,763.7	3,201.2	1,113.9	2.7*	1,868.6*
Total 0–74 years (crude)[(m)]	**337.0**	**326.6**	**347.4**	**200.8**	**1.7***	**136.3***
Total 0–74 years (age standardised)[(m)(n)]	**638.1**	**615.4**	**660.8**	**192.0**	**3.3***	**446.1***
			Females			
Less than 1	380.2	312.7	447.6	211.6	1.8*	168.5*
1–4	31.4	21.1	41.6	8.2	3.8*	23.2*
0–4 years	*109.0*	*92.0*	*125.9*	*50.6*	*2.2**	*58.3**
1–14 years	*15.3*	*11.5*	*19.0*	*5.0*	*3.0**	*10.2**
5–14	10.3	6.5	14.0	3.6	2.8*	6.7*
15–24	54.4	44.9	63.8	16.4	3.3*	38.0*
25–34	107.4	91.8	123.0	23.8	4.5*	83.6*
35–44	274.4	248.5	300.3	49.6	5.5*	224.7*
45–54	509.4	467.8	551.1	114.7	4.4*	394.7*
55–64	1,063.2	983.6	1,142.8	249.0	4.3*	814.3*
65–74	2,048.0	1,885.8	2,210.2	641.6	3.2*	1406.4*
Total 0–74 years (crude)[(m)]	**232.7**	**224.1**	**241.4**	**115.5**	**2.0***	**117.3***
Total 0–74 years (age standardised)[(m)(n)]	**415.2**	**398.3**	**432.1**	**107.0**	**3.9***	**308.2***

(continued)

Table 1.24.1 (continued): Avoidable mortality, by Indigenous status, age group and sex, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Deaths per 100,000(h)					
Age group (years)	**Indig.**	**95% LCL(i)**	**95% UCL(j)**	**Non-Indig.**	**Rate ratio(k)**	**Rate difference(l)**
	Persons					
Less than 1	437.6	387.2	488.1	240.7	1.8*	196.9*
1–4	30.3	23.2	37.3	10.4	2.9*	19.8*
0–4 years	*121.4*	*108.9*	*133.9*	*58.4*	*2.1**	*63.0**
1–14 years	*16.5*	*13.8*	*19.2*	*6.1*	*2.7**	*10.4**
5–14	12.6	9.7	15.5	4.3	2.9*	8.3*
15–24	92.3	83.7	100.9	31.0	3.0*	61.3*
25–34	176.4	162.2	190.6	45.3	3.9*	131.1*
35–44	368.7	347.1	390.4	73.0	5.1*	295.7*
45–54	661.5	627.3	695.8	155.6	4.3*	506.0*
55–64	1,233.8	1,171.3	1,296.2	341.0	3.6*	892.7*
65–74	2,461.3	2,328.8	2,593.8	873.8	2.8*	1,587.6*
Total 0–74 years (crude)(m)	**284.8**	**278.0**	**291.5**	**158.4**	**1.8***	**126.3***
Total 0–74 years (age standardised)(m)(n)	**519.4**	**505.5**	**533.2**	**149.2**	**3.5***	**370.2***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) This table presents data for Avoidable Mortality as defined in Table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality.

(c) Data are presented in 5-year groupings because of the small numbers each year.

(d) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(h) Age-specific death rates for age groups calculated per 100,000 estimated resident population for selected age group.

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(l) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(m) Totals exclude those aged 75 years and over and those for whom age was not stated.

(n) Total rate is directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.24.2: Avoidable mortality, by Indigenous status and state/territory, NSW, Qld, WA, SA and NT, persons aged 0–74 years, 2006–2010[a][b][c][d][e][f][g]

	Number			Indigenous			Non-Indigenous				
State/territory	**Indig.**	**Non-Indig.**	**Not stated**	**No. per 100,000[h]**	**95% LCL[i]**	**95% UCL[j]**	**No. per 100,000[h]**	**95% LCL[i]**	**95% UCL[j]**	**Ratio[k]**	**Rate difference[l]**
NSW	1,630	50,767	567	381.6	316.6	446.7	147.6	143.4	151.9	2.6*	234.0*
Qld	1,808	31,229	882	470.7	389.8	551.6	153.2	147.6	158.8	3.1*	317.5*
WA	1,417	14,449	295	684.7	546.4	823.0	141.9	134.4	149.5	4.8*	542.8*
SA	445	12,534	149	535.5	350.4	720.5	151.9	143.1	160.7	3.5*	383.6*
NT	1,477	1,204	13	787.1	632.5	941.7	193.1	154.4	231.7	4.1*	594.0*
NSW, Qld, WA, SA & NT[m]	**6,777**	**110,183**	**1,906**	**519.4**	**473.1**	**565.6**	**149.2**	**146.3**	**152.1**	**3.5***	**370.2***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) This table presents data for Avoidable Mortality as defined in Table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality.

(c) Data are presented in 5-year groupings because of the small numbers each year.

(d) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age groups.

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(l) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(m) Totals exclude those aged 75 years and over and those for whom age was not stated.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.24.3: Avoidable mortality, by Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Number			**Per cent**			**No. per 100,000(h)**			
Mortality category	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Rate ratio(i)**	**Rate difference(j)**
Avoidable mortality	6,777	110,183	1,906	74.1	66.3	71.7	519.4	149.2	3.5*	370.2*
Amenable mortality as a percentage of avoidable mortality(k)	2,578	42,810	644	*38.0*	*38.9*	*33.8*	203.8	57.8	3.5*	145.9*
Amenable mortality as a percentage of total mortality(l)	2,578	42,810	644	*28.2*	*25.8*	*24.2*	203.8	57.8	3.5*	145.9*
Unavoidable mortality(m)	2,367	55,939	753	25.9	33.7	28.3	*184.8*	*75.5*	*2.4**	109.3*
Total mortality(n)	**9,144**	**166,122**	**2,659**	**100.0**	**100.0**	**100.0**	**704.2**	**224.7**	**3.1***	**479.4***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) This table presents data for Avoidable and Amenable Mortality as defined in Table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality.

(c) Data are presented in 5-year groupings because of small numbers each year.

(d) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Amenable Mortality/Avoidable Mortality * 100.

(l) Amenable Mortality/Total Mortality * 100.

(m) Unavoidable Mortality is all causes other than those specified as Avoidable Mortality.

(n) Totals exclude those aged 75 years and over and those for whom age was not stated.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Avoidable mortality by subcategory, cause of death

Tables 1.24.4 and 1.24.5 present avoidable mortality by subcategory, cause of death and Indigenous status for persons aged 0–74 years in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined over the period 2006–2010.

- Indigenous Australians aged 0–74 years died from primary, secondary and tertiary avoidable causes at 3.3 to almost 4 times the rate of non-Indigenous Australians of the same age (Table 1.24.4).
- The most common types of avoidable conditions causing death among Aboriginal and Torres Strait Islander people were ischaemic heart disease, which caused 18.5% of avoidable mortality, followed by cancer (16.7%), diabetes (10%) and suicide (8.5%). Indigenous Australians died from cancer and suicide at around twice the rate of non-Indigenous Australians; and from Ischaemic heart disease and diabetes at 4.1 and 13.5 times the respective rates of non-Indigenous Australians (Table 1.24.5).
- Indigenous Australians died from selected invasive bacterial and protozoal infections at 5.7 times the rate of non-Indigenous Australians; alcohol-related disease at almost 6.6 times the rate; violence at over 9 times the rate; nephritis and nephrosis at more than 11 times the rate; and the highest in rheumatic heart disease at greater than 13 times the rate of non-Indigenous Australians.

Table 1.24.4: Avoidable mortality, by subcategory, by Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)(f)(g)]

	Number			Per cent			No. per 100,000[(h)]			
Mortality category	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Ratio**[(i)]	**Rate difference**[(j)]
Avoidable mortality	6,777	110,183	1,906	74.1	66.3	71.7	519.4	149.2	3.5*	370.2*
Primary[(k)(l)]	*3,526*	*60,575*	*1,029*	*52.0*	*55.0*	*54.0*	*269.9*	*81.7*	*3.3**	*188.2**
Secondary[(k)(m)]	*1,652*	*25,077*	*421*	*24.4*	*22.8*	*22.1*	*133.0*	*34.0*	*3.9**	*99.1**
Tertiary[(k)(n)]	*1,595*	*25,273*	*458*	*23.5*	*22.9*	*24.0*	*116.0*	*34.5*	*3.4**	*81.5**
Unavoidable mortality[(o)]	2,367	55,939	753	25.9	33.7	28.3	*184.8*	*75.5*	*2.4**	109.3*
Total mortality[(p)]	**9,144**	**166,122**	**2,659**	**100.0**	**100.0**	**100.0**	***704.2***	***224.7***	***3.1****	**479.4***

(continued)

Table 1.24.4 (continued): Avoidable mortality, by subcategory, by Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) This table presents data for avoidable mortality as defined in table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality. It presents primary, secondary and tertiary weighted data as defined in table 3 of the Report of the New South Wales Chief Health Officer.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Data are presented in 5-year groupings because of small numbers each year.

(d) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Primary, secondary and tertiary weightings by cause do not always add to 100%, therefore primary, secondary and tertiary death counts may not add to the number of Avoidable deaths.

(l) Per cent = Primary Mortality divided by Avoidable Mortality multiplied by 100.

(m) Per cent = Secondary Mortality divided by Avoidable Mortality multiplied by 100.

(n) Per cent = Tertiary Mortality divided by Avoidable Mortality multiplied by 100.

(o) Unavoidable Mortality is all causes other than those specified as Avoidable Mortality.

(p) Totals exclude those aged 75 years and over and those for whom age was not stated.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 1.24.5: Avoidable mortality, by cause of death and Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Number			Per cent			Indigenous			Non-Indigenous					
Cause of death	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**No. per 100,000(h)**	**95% LCL(i)**	**95% UCL(j)**	**No. per 100,000(h)**	**95% LCL(i)**	**95% UCL(j)**	**Ratio(k)**	**Rate difference(l)**	**Rate difference %(m)**
Ischaemic heart disease	1,261	19,360	411	18.6	17.6	21.6	107.5	101.1	113.9	25.9	25.6	26.3	4.1*	81.6*	22.0
Cancer	1131	42,219	384	16.7	38.3	20.1	105.8	99.2	112.4	56	55.4	56.5	1.9*	49.8*	13.5
Digestive organ cancers (C15–C26)(n)	*340*	*13,171*	*118*	*5.0*	*12.0*	*6.2*	*31.6*	*28*	*35.2*	*17.5*	*17.2*	*17.8*	*1.8**	*14.2**	*3.8*
Lung cancer(n)	*422*	*14,954*	*134*	*6.2*	*13.6*	*7.0*	*42.1*	*37.9*	*46.4*	*19.7*	*19.4*	*20.0*	*2.1**	*22.4**	*6.1*
Cervical cancer (C53)(n)	*55*	*521*	*5*	*0.8*	*0.5*	*0.3*	*4.3*	*3.1*	*5.5*	*0.7*	*0.6*	*0.8*	*6.1**	*3.6**	*1*
Diabetes	678	3,534	68	10.0	3.2	3.6	64.2	59	69.4	4.8	4.6	4.9	13.5*	59.4*	16
Suicide	575	8,304	251	8.5	7.5	13.2	25.7	23.4	27.9	11.8	11.5	12.0	2.2*	13.9*	3.8
Road traffic injuries	433	4,521	126	6.4	4.1	6.6	20.8	18.6	22.9	6.4	6.3	6.6	3.2*	14.3*	3.9
Alcohol-related disease	369	2,941	67	5.4	2.7	3.5	25.6	22.9	28.3	3.9	3.8	4.1	6.6*	21.7*	5.9
Cerebrovascular disease	320	6,415	73	4.7	5.8	3.8	29.6	26.1	33.2	8.7	8.5	8.9	3.4*	20.9*	5.6
Selected invasive bacterial and protozoal infections	244	2,388	36	3.6	2.2	1.9	18.4	15.8	21.0	3.3	3.1	3.4	5.7*	15.2*	4.1
Chronic obstructive pulmonary disease	275	4,994	94	4.1	4.5	4.9	31.3	27.4	35.2	6.7	6.5	6.9	4.7*	24.6*	6.6
Nephritis and nephrosis	253	1,493	21	3.7	1.4	1.1	23.3	20.2	26.4	2	1.9	2.1	11.4*	21.2*	5.7
Complications of perinatal period	142	1,017	25	2.1	0.9	1.3	3.4	2.8	3.9	1.5	1.4	1.6	2.2*	1.8*	0.5
Violence	178	687	25	2.6	0.6	1.3	9.1	7.7	10.5	1.0	0.9	1.1	9.2*	8.1*	2.2
Birth defects	157	1,893	43	2.3	1.7	2.3	4.9	4	5.8	2.8	2.7	2.9	1.8*	2.1*	0.6

(continued)

Table 1.24.5 (continued): Avoidable mortality, by cause of death and Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)(g)

	Number			Per cent			Indigenous			Non-Indigenous					
Cause of death	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**No. per 100,000(h)**	**95% LCL(i)**	**95% UCL(j)**	**No. per 100,000(h)**	**95% LCL(i)**	**95% UCL(j)**	**Ratio(k)**	**Rate difference(l)**	**Rate difference %(m)**
Rheumatic and other valvular heart disease	87	290	5	1.3	0.3	0.3	5.2	4	6.4	0.4	0.3	0.4	13.3*	4.8*	1.3
Other(o)	674	10,127	277	9.9	9.2	14.5	44.7	40.9	48.4	14	13.8	14.3	3.2*	30.6*	8.3
Total	**6,777**	**110,183**	**1,906**	**100.0**	**100.0**	**100.0**	**519.4**	**473.1**	**565.6**	**149.2**	**146.3**	**152.1**	**3.5***	**370.2***	**100.0**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) This table presents data for Avoidable Mortality as defined in Table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Data are presented in 5-year groupings because of small numbers each year.

(d) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(h) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group.

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(l) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(m) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for all avoidable causes.

(n) Data for lung cancer, cervical cancer and digestive organ cancers are a subset of the data presented for all cancers.

(o) Other includes all avoidable mortality not specifically detailed in the table.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Time series analysis

Longer term mortality trend data are limited to three jurisdictions—Western Australia, South Australia and the Northern Territory, which have over 20 years of adequate identification of Indigenous deaths in their recording systems.

There is a consistent time series of population estimates from 1991. Because of changes in the classification and coding of causes of death from ICD-9 (used up until 1996) to ICD-10 (used from 1997 onwards) which affect the comparability of the data, the analysis reported for this measure has been done for two time periods—1991–1996 and 1997–2010.

Because of the late inclusion of a 'not stated' category of Indigenous status in 1998 (before which 'not stated' responses were included with non-Indigenous deaths), Indigenous mortality rates have been compared with the mortality rates of other Australians (which include deaths of both non-Indigenous people and people for whom Indigenous status was not stated).

Mortality rates, rate ratios and rate differences between Indigenous and other Australians for avoidable causes over the periods 1991–1996 and 1997–2010 are presented in Table 1.24.6 and Figure 1.24.1.

- Over the period 1991–1996, in Western Australia, South Australia and the Northern Territory combined, there were significant declines in mortality rates for avoidable causes among Indigenous Australians aged 0–74 years. The fitted trend implies an average yearly decline in the rate of almost 27 per 100,000, which is equivalent to a 13.4% reduction in the rate over this period. These declines were significant for Indigenous females but not for males.
- Over the same period, there were significant declines in mortality rates for avoidable causes for other Australians (10%).
- Over the period 1991–1996, there were significant declines in the mortality rate ratios and rate differences between Indigenous and other Australians for avoidable causes for Indigenous females, but not for Indigenous males.
- Over the period 1997–2010, in Western Australia, South Australia and the Northern Territory combined there were also significant declines in the mortality rates for avoidable causes among Indigenous Australians aged 0–74 years. The fitted trend implies an average yearly decline in the rate of around 17 per 100,000, which is equivalent to a 23.5% reduction in the rate over the period. These declines were significant for both males and females.
- Over the same period, there were significant declines in mortality rates for avoidable causes for other Australians (36%). These declines were significant for both males and females.
- Over the period 1997–2010, there were significant increases in the mortality rate ratios and rate differences between Indigenous and other persons for avoidable mortality (18% and 20% respectively). The reduction in rates was significant for both males and females, but the change in rate differences was significant for males but not females.

Table 1.24.6: Age-standardised avoidable mortality rates, rate ratios and rate differences, avoidable causes, persons aged 0–74 years, WA, SA and NT, 1991–1996 and 1997–2010(a)(b)(c)(d)(e)

	Indigenous rate (deaths per 100,000(f))			Other Australian rate (deaths per 100,000(f)(g))			Rate ratio(h)			Rate difference(i)		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
1991	1115.0	886.1	1000.7	346.5	177.0	259.5	3.2	5.0	3.9	768.6	709.1	741.1
1992	1030.4	850.0	941.0	332.3	173.1	250.5	3.1	4.9	3.8	698.1	676.9	690.5
1993	1096.1	812.8	950.5	334.2	168.1	249.0	3.3	4.8	3.8	761.9	644.6	701.5
1994	1173.5	739.4	946.7	328.0	165.1	244.7	3.6	4.5	3.9	845.6	574.3	702.0
1995	1124.9	682.9	892.5	311.9	159.4	234.1	3.6	4.3	3.8	813.0	523.5	658.4
1996	1003.6	693.0	842.5	310.4	159.2	233.7	3.2	4.4	3.6	693.2	533.9	608.8
Annual change(j)	**–5.6**	**–44.0***	**–26.9***	**–7.1***	**–3.8***	**–5.2***	**0.1**	**–0.2***	**–0.03**	**1.5**	**–40.2***	**–21.6***
Per cent change(k)	**–2.5**	**–24.8***	**–13.4***	**–10.2**	**–10.8***	**–10.1***	**8.4**	**–15.7***	**–3.8**	**1.0**	**–28.3***	**–14.6***
1997	1161.5	761.6	943.8	294.1	152.2	222.1	3.9	5.0	4.2	867.3	609.4	721.7
1998	987.0	728.8	853.9	287.5	141.5	213.6	3.4	5.2	4.0	699.6	587.4	640.3
1999	950.4	609.3	772.3	264.2	136.3	199.6	3.6	4.5	3.9	686.2	473.0	572.7
2000	1034.8	752.9	886.5	262.7	135.0	198.2	3.9	5.6	4.5	772.1	617.8	688.3
2001	1031.8	532.5	762.4	243.2	128.0	185.2	4.2	4.2	4.1	788.6	404.4	577.3
2002	844.7	667.8	753.2	233.1	127.4	179.8	3.6	5.2	4.2	611.6	540.4	573.4
2003	1016.8	529.9	755.9	225.4	121.9	173.3	4.5	4.3	4.4	791.4	407.9	582.5
2004	918.6	615.5	757.8	208.4	108.7	158.3	4.4	5.7	4.8	710.2	506.8	599.5
2005	910.1	538.6	707.5	210.9	104.3	157.4	4.3	5.2	4.5	699.2	434.3	550.0
2006	855.1	541.7	689.2	196.7	105.4	150.9	4.3	5.1	4.6	658.3	436.3	538.3
2007	925.3	576.2	734.4	203.5	107.5	155.4	4.5	5.4	4.7	721.8	468.8	579.0
2008	939.8	576.7	742.5	191.3	102.8	147.0	4.9	5.6	5.1	748.5	473.8	595.5
2009	769.2	577.6	668.6	187.9	104.7	146.3	4.1	5.5	4.6	581.3	472.9	522.3

Table 1.24.6 (continued): Age-standardised avoidable mortality rates, rate ratios and rate differences, avoidable causes, persons aged 0–74 years, WA, SA and NT, 1991–1996 and 1997–2010[a][b][c][d][e]

	Indigenous rate (deaths per 100,000[f])			Other Australian rate (deaths per 100,000[f][g])			Rate ratio[h]			Rate difference[i]		
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
2010	848.6	473.6	644.8	185.6	100.3	142.9	4.6	4.7	4.5	662.9	373.3	501.8
Annual change[j]	–17.8*	–15.8*	–17.1*	–8.6*	–3.9*	–6.1*	0.1*	0.0	0.1*	–9.3*	–11.9*	–10.9*
Per cent change[k]	**–20.0***	**–27.0***	**–23.5***	**–37.8***	**–33.2***	**–36.0***	**25.8***	**8.0**	**17.7***	**–13.9***	**–25.4***	**–19.7***

* Represents results with statistically significant increases or declines at the p < 0.05 level over the periods 1991–1996 and 1997–2010.

(a) This table presents data for Avoidable Mortality as defined in Table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality.

(b) Data are reported for Western Australia, South Australia and the Northern Territory only. These three states and territories are considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these three jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for these jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group.

(g) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(h) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for Other Australians.

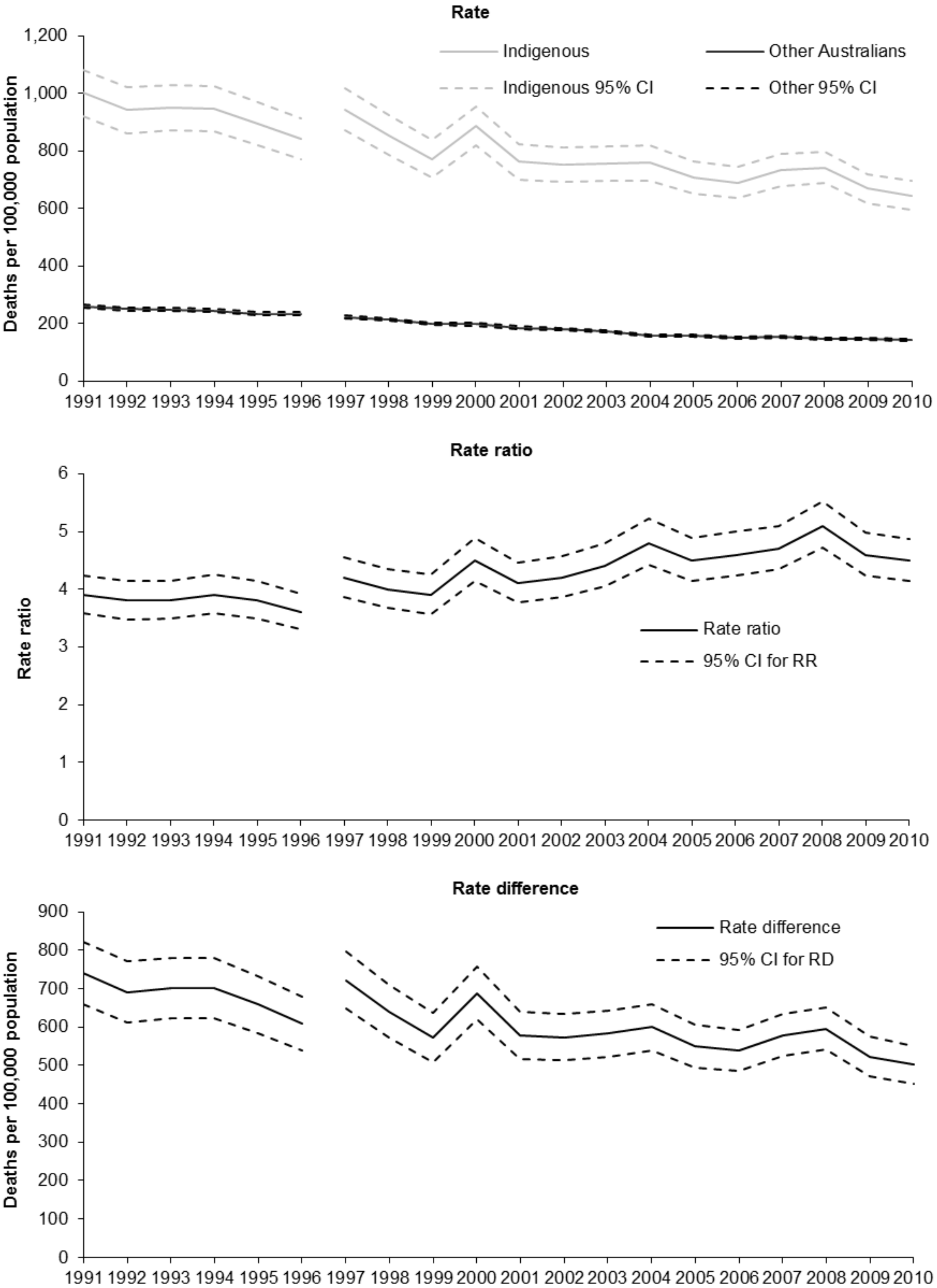
(i) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for Other Australians.

(j) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 1991–2010.

(k) Per cent change between 1991–1997 and 1998–2010 based on the average annual change over the period.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Note: Confidence intervals for 2007 and 2008 data could not be calculated due to data availability limitations

Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.24.1: Mortality rates, rate ratios and rate differences for avoidable causes of death, Indigenous and other Australians aged 0–74 years, WA, SA & NT, 1991–1996 and 1997–2010

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2010 for Indigenous and non-Indigenous Australians in Table 1.24.7 and Figure 1.24.2.

- Over the period 2001–2010, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined there were significant declines in the mortality rates for avoidable causes among Indigenous Australians aged 0–74 years. The fitted trend implies an average yearly decline in the rate of around 15 per 100,000 which is equivalent to a 21.4% reduction in the rate over the period.
- Over the same period, there were significant declines in mortality rates for avoidable causes for non-Indigenous Australians (23%).
- Over the period 2001–2010, there were no significant changes in the mortality rate ratio between Indigenous and non-Indigenous Australians for avoidable mortality. However, there was a significant decline in the mortality rate differences (21%).

Table 1.24.7: Age-standardised avoidable mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2010[a][b][c][d][e][f]

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[g]	Per cent change[h]
Indigenous rate (deaths per 100,000[i])												
Males	834.0	757.3	759.5	694.4	650.8	669.7	669.3	635.1	578	629.6	–22.9*	–24.7*
Females	450.0	510.7	415.5	456.7	392.7	429.5	425.1	408.7	430	375.4	–8.1*	–16.1*
Persons	627.5	627.2	576.4	568	514.1	542	538.4	514.1	500	493.8	–14.9*	–21.4*
Non-Indigenous rate (deaths per 100,000[i])												
Males	244.8	233	221.5	213.8	202	197.1	195.2	193.2	186	180.2	–6.7*	–24.8*
Females	128.6	126.8	118.7	116.5	108.6	107.6	109.1	107.1	104.1	102	–2.9*	–20.3*
Persons	186.2	179.4	169.6	164.7	155	152.0	151.8	149.9	144.7	140.8	–4.8*	–23.2*
Rate ratio[j]												
Males	3.4	3.3	3.4	3.2	3.2	3.4	3.4	3.3	3.1	3.5	0.00	–0.3
Females	3.5	4.0	3.5	3.9	3.6	4	3.9	3.8	4.1	3.7	0.0	6.9
Persons	3.4	3.5	3.4	3.4	3.3	3.6	3.5	3.4	3.5	3.5	0.0	2.4
Rate difference[k]												
Males	589.2	524.3	538	480.7	448.7	472.6	474.1	441.9	392.1	449.4	–16.1*	–24.6*
Females	321.3	383.9	296.8	340.3	284.1	322	316.0	301.5	325.9	273.4	–5.1*	–14.4*
Persons	441.3	447.9	406.8	403.3	359.1	390	386.6	364.3	355.3	352.9	–10.2*	–20.7*

(continued)

Table 1.24.7 (continued): Age-standardised avoidable mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2010(a)(b)(c)(d)(e)(f)

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2010.

(a) This table presents data for Avoidable Mortality as defined in Table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the period 2001–2010.

(h) Per cent change between 2001 and 2010 based on the average annual change over the period.

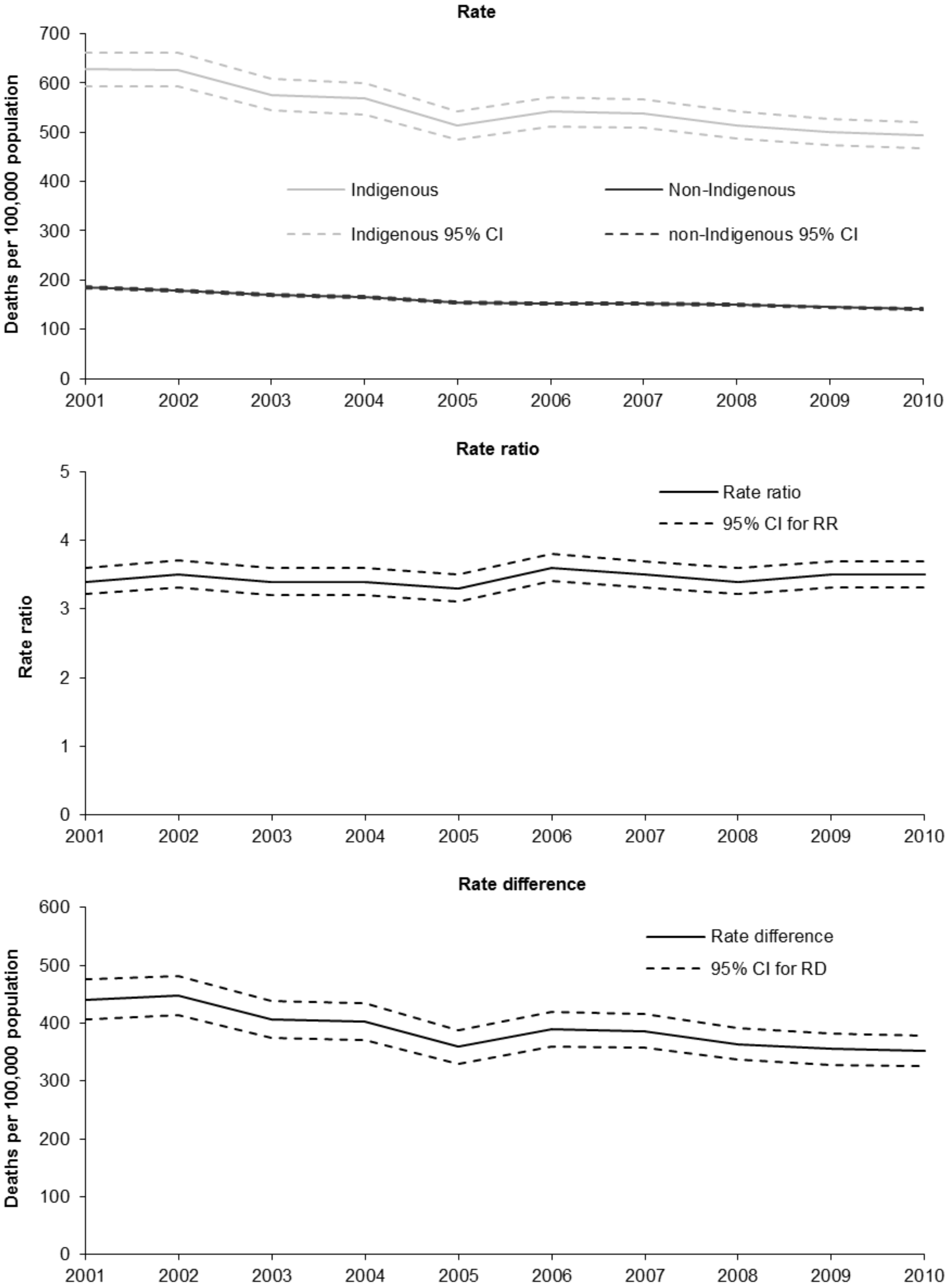
(i) Directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group.

(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.24.2: Mortality rates, rate ratios and rate differences for avoidable causes of death, Indigenous and non-Indigenous Australians aged 0–74 years, NSW, Qld, WA, SA & NT, 2001–2010

Additional information

Potential years of life lost

Potential years of life lost (PYLL) is an indicator of premature mortality. It represents the total number of years not lived before a given age (e.g. 75 years). This indicator gives more importance to the causes of death that occurred at younger ages than those that occurred at older ages.

The PYLL due to death is calculated for each person who died before age 75 years. Deaths of people aged 75 years and over are not included in the calculation. Potential years of life lost correspond to the sum of the PYLL contributed for each individual.

The impact of avoidable mortality on the Indigenous population is more evident at ages below 45 years than it is for the non-Indigenous population, for whom the impact is more noticeable at older ages.

- The proportions of PYLL from amenable causes for Indigenous persons were higher than those of non-Indigenous for age groups under 45 years. For example, the proportion of PYLL from amenable causes for Indigenous persons aged 25–44 was 27%, compared with 16% for the non-Indigenous population (Table 1.24.8).
- For the age groups above 45 years, the proportions of PYLL from amenable mortality in the Indigenous population were lower than those of the non-Indigenous population. For example, the proportion of PYLL from amenable mortality in Indigenous persons aged 65–74 years was 4% compared with 13% for non-Indigenous persons of the same age.

Table 1.24.8: Potential years of life lost to amenable mortality by Indigenous status and age group, persons aged 0–74 years, NSW, Qld, WA, SA & NT, 2006–2010[(a)(b)(c)(d)(e)(f)(g)]

	Number		Per cent	
Age group (years)	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Less than 1	20,288	168,225	28.51	22.28
1–14	3,188	21,360	4.48	2.83
15–24	2,547	20,084	3.58	2.66
25–44	18,873	120,231	26.52	15.92
45–64	23,150	327,248	32.53	43.33
65–74	3,124	98,013	4.39	12.98
Total[(h)]	**71,168**	**755,161**	**100.0**	**100.0**

(a) This table presents data for Amenable Mortality as defined in Table A1 in Appendix 1.1 of the Australian and New Zealand Atlas of Avoidable Mortality.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(c) Data are presented in 5-year groupings because of small numbers each year.

(d) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(e) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(f) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(g) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(h) Excludes those aged 75 years and over and those for whom age was not stated.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Data quality issues

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010**.**

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006–07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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Tier 2 Determinants of Health

2.01 Housing

Factors related to housing, such as overcrowding in housing, housing tenure type and homelessness

Data sources

Data for this measure come from the 2008 National Aboriginal and Torres Strait Islander Social Survey, the 2006 Census of Population and Housing and the Supported Accommodation Assistance Program (SAAP) National Data Collection, the 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Census of Population and Housing

The Census of Population and Housing is conducted by the ABS at 5-yearly intervals, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

Although the Census data are adjusted for undercount at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

The 2011 Census is the most recent, however data for the Indigenous population was not yet released at the time of writing this report. Therefore data included in this report come from the 2006 Census. In 2006, the ABS enhanced the sample for the Post-Enumeration Survey to include remote areas. The measured undercount for Indigenous Australians was 11.5%.

Supported Accommodation Assistance Program National Data Collection

The Supported Accommodation Assistance Program National Data Collection (SAAP NDC) was collected from 1996 to June 2011. It was designed to capture data on government response to homelessness, and focuses on services provided by agencies funded under the

Supported Accommodation Assistance Program which specifically target and provide services to people who are homeless or at risk of homelessness. Therefore, service providers who do not receive government funding and general service providers (that is, which are not 'specialist homelessness agencies') are not included in this data collection.

From July 2011, the SAAP NDC was replaced by the Specialist Homelessness Services Collection (SHSC). The SHSC was developed by the AIHW in collaboration with the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs and relevant departments of all state and territory governments. Key differences between the SAAP NDC and SHSC include the expanded scope of agencies included in the SHSC, to agencies funded under the National Affordable Housing Agreement (NAHA) and National Partnership Agreement on Homelessness (NPAH); the inclusion of children as clients in their own right in SHSC (whereas accompanying children were recorded on their parent's form in SAAP NDC); and the monthly collection of client information and services provided for the SHSC (whereas SAAP NDC information was only collected at the end of a support period).

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Measures of overcrowding

There is no single standard measure of housing overcrowding in Australia. The Canadian National Occupancy Standard is commonly used to measure overcrowding and is described below.

Canadian National Occupancy Standard

The Canadian National Occupancy Standard is most widely used in Australia. This standard specifies the number of bedrooms required in a dwelling based on the numbers, age, sex and relationships of household members. Households that require one more bedroom to meet the standard are considered to experience 'a moderate degree of overcrowding', whereas households requiring two or more additional bedrooms are said to experience a 'high degree of overcrowding'.

The Canadian National Occupancy Standard states that:

- there should be no more than two persons per bedroom

- a household of one unattached individual may reasonably occupy a bed-sit (that is, have no bedroom)
- parents or couples may share a bedroom
- children less than 5 years of age of different sexes may reasonably share a bedroom
- children 5 years of age or over of the opposite sex should not share a bedroom
- children less than 18 years of age and of the same sex may reasonably share a bedroom
- single household members aged 18 years or over should have a separate bedroom (AIHW 2005).

The overcrowding data presented for this indicator are based on the Canadian National Occupancy Standard.

Data analyses

Overcrowding

The 2008 NATSISS collected information on the number of people and the number of bedrooms in each household. These data are presented in the following tables. Note that tables in this measure show *total* figures for all additional bedrooms required ('one or more additional bedrooms required').

- In 2008, 25% of Indigenous Australians aged 15 years and over were living in overcrowded households. In comparison 4% of non-Indigenous Australians aged 15 years and over were living in overcrowded households (Table 2.01.1).
- There has been no significant change in the proportion of Indigenous Australians aged 15 years and over living in overcrowded households between 2002 (26%) and 2008 (25%) (ABS 2009).

Overcrowding by state/territory

Persons aged 15 years and over

- In 2008, the Northern Territory had the highest proportion of Indigenous persons aged 15 years and over living in overcrowded households (58%), followed by Western Australia (29%) and Queensland (26%). The Australian Capital Territory had the lowest proportion of Indigenous persons living in overcrowded households (6%) (Table 2.01.1).

All persons

- In 2008, there were 142,107 Indigenous Australians living in overcrowded households, representing 28% of all Indigenous persons. There were around 1 million non-Indigenous Australians living in overcrowded households in 2008, representing 5% of all other persons (Table 2.01.2).
- The Northern Territory had the highest proportion of Indigenous people living in overcrowded households (62%) and the Australian Capital Territory had the lowest (7%) (Table 2.01.2).

Households

- In 2008, there were 25,940 overcrowded Indigenous households, representing 13% of all Indigenous households, comparatively only 3% of non-Indigenous households were classed as overcrowded. (Table 2.01.3).

- The Northern Territory had the highest proportion of overcrowded Indigenous households (34%) in 2008, followed by South Australia (15%) and Queensland (15%) (Table 2.01.3).

Table 2.01.1: Number and proportion of people aged 15 years and over living in overcrowded households[(a)], by Indigenous status and state/territory, 2008

	Total requiring additional bedroom(s)								
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT[(b)]	Australia
Estimated number of Indigenous people living in overcrowded households	14,756	2,473	23,458	12,420	3,506	1,046[(c)]	177[(c)]	23,689	81,525
% of Indigenous people living in overcrowded households	15.4*	11.4*	26.1*	28.5*	19.6*	8.5[(c)]	6.3[(c)]*	57.8*	25.1*
Total number of Indigenous persons[(d)]	**96,030**	**21,611**	**89,943**	**43,630**	**17,851**	**12,344**	**2,796**	**40,953**	**325,158**
Estimated number of non-Indigenous people living in overcrowded households	283,439	181,252	106,043	29,360[(c)]	52,831	21,981	1,873[(e)]	6,549[(d)]	683,227
% of non-Indigenous people living in overcrowded households	5.3*	4.4*	3.3*	1.8[(c)]*	4.2*	5.8	0.7[(e)]*	6.2[(c)]*	4.2*
Total number of non-Indigenous persons[(d)]	**5,390,485**	**4,157,001**	**3,211,850**	**1,611,762**	**1,250,778**	**377,275**	**268,674**	**105,462**	**16,373,287**
Rate ratio	**2.9**	**2.6**	**7.9**	**15.8**	**4.7**	**1.5**	**9.0**	**9.3**	**6.0**

* Difference between Indigenous and non-Indigenous rates are statistically significant at $p < 0.05$ for this category.

(a) Based on Canadian National Occupancy Standard for Housing Appropriateness.

(b) SIH data for non-Indigenous persons excludes those in households in collection districts defined as very remote, accounting for about 23% of the population in the NT.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Persons in households for which housing utilisation could be determined.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 SIH.

Table 2.01.2: Number and proportion of all persons living in overcrowded households(a), by Indigenous status and state/territory, 2008

	Total requiring additional bedrooms							
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT(b)**	**Australia**
Estimated number of Indigenous people living in overcrowded households	27,066	4,766	41,552	20,660	6,561	2,314	291(c)	38,897	142,107
% of Indigenous people living in overcrowded households	17.6*	14.0*	28.3*	30.0*	23.3*	12.1	6.7(c)*	61.8*	27.5*
Total number of Indigenous persons(d)	**153,626**	**34,025**	**146,580**	**68,772**	**28,121**	**19,049**	**4,358**	**62,917**	**517,448**
Estimated number of non-Indigenous people living in overcrowded households	445,071	273,239	174,963	44,452(c)	72,376	36,165	4,338(e)	11,517(c)	1,062,120
% of non-Indigenous people living in overcrowded households	6.6*	5.3*	4.3*	2.2(c)*	4.7*	7.6	1.3(e)*	8.1(c*)	5.2*
Total number of non-Indigenous persons(d)	**6,720,240**	**5,144,608**	**4,049,183**	**2,018,355**	**1,535,690**	**473,415**	**331,976**	**142,336**	**20,415,803**
Rate ratio	**2.7**	**2.6**	**6.6**	**13.6**	**5.0**	**1.6**	**5.2**	**7.6**	**5.3**

* Difference between Indigenous and non-Indigenous rates are statistically significant at $p < 0.05$ for this category.

(a) Based on the Canadian National Occupancy Standard for Housing Appropriateness.

(b) SIH data for non-Indigenous persons excludes those in households in collection districts defined as very remote, accounting for about 23% of the population in the NT.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Persons in households for which housing utilisation could be determined.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: NATSISS 2008 and 2007–08 SIH.

Table 2.01.3: Number and proportion of overcrowded households[(a)], by Indigenous status and state/territory, 2008

	Total households requiring additional bedroom(s)								
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Indigenous									
Estimated number of overcrowded Indigenous households	6,550	1,166	7,886	1,212	3,324	577	93(b)	5,131	25,940
% of overcrowded Indigenous households	10.2	7.4	14.8	10.4	15.1	6.2	4.7(b)	34.0	13.4
Total number of Indigenous households	**64,341**	**15,819**	**53,179**	**11,710**	**21,956**	**9,323**	**1,985**	**15,108**	**193,421**
Non-Indigenous									
Estimated number of overcrowded non-Indigenous households	100,302	68,440	40,739	14,195	11,898	n.p.	2,639	n.p.	243,552
% of overcrowded non-Indigenous households	3.8	3.4	2.6	1.8	1.9	n.p.	2.1	n.p.	3.0
Total number of non-Indigenous households	**2,613,275**	**1,995,722**	**1,576,186**	**807,403**	**641,037**	**196,075**	**127,618**	**56,843**	**8,014,159**

(a) Based on Canadian National Occupancy Standard for Housing Appropriateness.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Overcrowding by remoteness

Persons aged 15 years and over

- In 2008, overcrowding increased with remoteness, with 58% of Indigenous people aged 15 years and over living in overcrowded households in *Very Remote* areas, 33% in remote areas and only 17% in non-remote areas (Table 2.01.4).

Persons aged 18 years and over

- For Indigenous Australians aged 18 years and older in 2008, overcrowding also increased with remoteness, with 61% of Indigenous people in *Very remote* areas living in overcrowded households, 38% in *remote* areas and 20% in non-remote areas (Table 2.01.5).

Households

- A similar pattern was observed for the proportion of overcrowded Indigenous households, 36% of Indigenous household in *Very remote* areas were overcrowded, 19% in *remote* areas and 10% in non-remote areas (Table 2.01.6).

Table 2.01.4: Number and proportion of people aged 15 years and over living in overcrowded households[(a)], by Indigenous status and remoteness, 2008

	Total requiring additional bedrooms							
	Major cities	Inner regional	Outer regional	Total non-remote	Remote	Very remote(b)	Total remote	Australia
Estimated number of Indigenous people living in overcrowded households	13,895	11,759	16,360	42,014	9,672	29,839	39,511	81,525
% of Indigenous people living in overcrowded households	13.3	17.5	22.5	17.2	32.6	58.2	48.8	25.1
Total Indigenous people(c)	**104,186**	**67,306**	**72,743**	**244,235**	**29,684**	**51,239**	**80,923**	**325,158**
Not known (Indigenous only)	1,031	110	223	1,365	155	423	578	1,943
Estimated number of non-Indigenous people living in overcrowded households	542,255	88,767(d)	46,265(d)	677,286	5,941(d)	. .	. .	683,227
% of non-Indigenous people living in overcrowded households	4.8	2.7(d)	2.9(d)	4.2	3.6(d)	. .	. .	4.2
Total number of non-Indigenous persons	**11,285,722**	**3,347,412**	**1,573,742**	**16,206,875**	**166,412**	**. .**	**. .**	**16,373,287**
Rate ratio	**2.8**	**6.5**	**7.8**	**4.1**	**9.1**	**. .**	**. .**	**6.0**

(a) Based on the Canadian National Occupancy Standard for Housing Appropriateness.

(b) Persons in households for which housing utilisation could be determined.

(c) SIH data for non-Indigenous persons excludes those in households in collection districts defined as *Very remote*, accounting for about 23% of the population in the NT.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 SIH.

Table 2.01.5: Number and proportion of people aged 18 years and over living in overcrowded households[(a)], by Indigenous status and remoteness area, 2008

	Total requiring additional bedrooms							
	Major cities	Inner regional	Outer regional	Total non-remote	Remote	Very remote[(b)]	Total remote	Australia
Estimated number of Indigenous people living in overcrowded households	25,674	21,582	29,291	76,547	17,860	47,700	65,560	142,107
% of Indigenous people living in overcrowded households	15.5*	19.3*	25.7*	19.5*	37.5*	61.0	52.1	27.5*
Total Indigenous people[(c)]	**165,473**	**112,040**	**114,118**	**391,631**	**47,607**	**78,210**	**125,817**	**517,448**
Not known (Indigenous only)	1,398[(d)]	141[(e)]	376[e)]	1,914[(d)]	305[(d)]	682[(d)]	987[(d)]	2,902
Estimated number of non-Indigenous people living in overcrowded households	812,770	145,679[(d)]	92,889[(d)]	1,051,338	10,783[(d)]	. .	. .	1,062,120
% of non-Indigenous people living in overcrowded households	5.8*	3.5[(d)]*	4.7[(d)]*	5.2*	4.7[(d)]*	. .	. .	5.2*
Total number of non-Indigenous persons	**13,998,187**	**4,193,069**	**1,994,000**	**20,185,256**	**230,547**	**. .**	**. .**	**20,415,803**
Rate ratio	**2.7**	**5.5**	**5.5**	**3.8**	**8.0**	**. .**	**. .**	**5.3**

* Differences between Indigenous and non-Indigenous rates are statistically significant at the $p < 0.05$ level for these categories.

(a) Based on the Canadian National Occupancy Standard for Housing Appropriateness.

(b) SIH data for non-Indigenous persons excludes those in households in collection districts defined as *Very remote*, accounting for about 23% of the population in the NT.

(c) Persons in households for which housing utilisation could be determined.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 SIH.

Table 2.01.6: Number and proportion of overcrowded households[(a)], by Indigenous status and remoteness, 2008

	Total households requiring additional bedrooms							
	Major cities	**Inner regional**	**Outer regional**	**Total non-remote**	**Remote**	**Very remote**	**Total remote**	**Australia**
Indigenous								
Estimated number of overcrowded Indigenous households	6,359	4,745	5,665	16,769	3,020	6,152	9,172	25,940
% of overcrowded Indigenous households	8.8	10.5	13.2	10.4	19.3	35.9	28.0	13.4
Total number of Indigenous households	**72,579**	**45,027**	**43,059**	**160,664**	**15,614**	**17,142**	**32,756**	**193,421**
Not known (Indigenous only)	822[(b)]	n.p.	n.p.	1,172	147[(b)]	180[(b)]	326[(b)]	1,498
Non-Indigenous								
Estimated number of overcrowded non-Indigenous households	196,536	27,645	17,431	241,612	n.p.	—	n.p.	243,552
% of overcrowded non-Indigenous households	3.6	1.6	2.3	3.0	n.p.	—	n.p.	3.0
Total number of non-Indigenous households	**5,426,041**	**1,750,880**	**752,834**	**7,929,755**	**n.p.**	**n.p.**	**84,404**	**8,014,159**

(a) Based on the Canadian National Occupancy Standard for Housing Appropriateness.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Overcrowding by selected health and socioeconomic characteristics

The 2008 NATSISS and the 2004–05 NATSIHS collected information on the number of people and the number of bedrooms in each household as well as data on selected socioeconomic characteristics for Indigenous Australians. Non-Indigenous comparisons for the 2004–05 NATSIHS are available from the 2004–05 National Health Survey.

- In 2008, Indigenous Australians aged 15 years and over were more likely to be living in overcrowded households if their household income was in the lowest (1st) income quintile rather than the highest (5th) income quintile (30% compared with 8%); if the highest year of school they completed was Year 9 or below rather than Year 12 (29% compared with 19%); and if they were unemployed or not in the labour force than if they were employed (27% and 31% compared with 20%) (Table 2.01.7).
- A similar pattern was observed in 2004–05; Indigenous Australians aged 15 years and over were more likely to be living in overcrowded households if their household income was in the lowest (1st) quintile rather than the highest (5th) quintile (27% compared with 1.1%); if the highest year of school completed was Year 9 or below than if Year 12 was the highest year of school completed (28% compared with 15%); and if they were unemployed or not in the labour force than if they were employed (34% and 29% compared with 18%) (Table 2.01.8).
- Of those Indigenous Australians aged 15 years and over living in an overcrowded household in 2008, 79% did not have a non-school qualification and 47% were not in the labour force (Table 2.01.9).

Table 2.01.7: Proportion[(a)] of Indigenous persons aged 15 years and over living in overcrowded households[(b)], Indigenous people, by selected population and socioeconomic characteristics, 2008

	In overcrowded household	Not in overcrowded household	Total number
Self-assessed health status			
Excellent/very good	22.2*	77.8*	141,955
Good	23.6*	76.4*	110,913
Fair/poor	21.9*	78.1*	72,291
Household income[(c)(d)]			
1st quintile (lowest)	29.8*	70.2*	130,290
5th quintile (highest)	8.0*[(e)]	92.0*	11,579
Highest year of school completed			
Year 12	18.5*	81.5*	65,889
Year 9 or below	29.1*	70.9*	101,410
Whether has non-school qualification			
Has a non-school qualification	16.5*	83.5*	105,060
Does not have a non-school qualification	29.2*	70.8*	220,098
Employment			
Employed	20.4*	79.6*	168,109
Unemployed	27.2*	72.8*	33,104
Not in the labour force	30.8*	69.2*	123,945
Total	**25.1***	**74.9***	**325,158**

* Differences between rates for Indigenous persons in overcrowded households and households that were not overcrowded are statistically significant at the $p < 0.05$ level for these categories.

(a) Proportions of self-assessed health status only are age-standardised using the Australian 2001 standard population.

(b) Based on Canadian National Occupancy Standard for Housing Appropriateness.

(c) Equivalised income of household.

(d) Total excludes not known and not stated.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.01.8: Proportion[(a)] of people aged 15 years and over living in overcrowded households[(b)], by Indigenous status, by selected population and socioeconomic characteristics, 2004–05

	Indigenous Australians		Non-Indigenous Australians	
	Overcrowded	**Not overcrowded**	**Overcrowded**	**Not overcrowded**
Self-assessed health status				
Excellent/very good	20.7	79.3	4.3	95.7
Good	25.1	74.9	5.1	94.9
Fair/poor	21.6	78.4	6.0	94.0
Household income				
1st quintile (lowest)	26.9	73.1	7.0	93.0
5th quintile (highest)	1.1	98.9	2.1	97.9
Highest year of school completed				
Year 12	14.6	85.4	4.4	95.6
Year 9 or below	27.9	72.1	10.0	90.0
Whether has non-school qualification				
Has a non-school qualification	18.3	81.7	4.4	95.6
Does not have a non-school qualification	25.5	74.5	5.4	94.6
Employment				
Employed	18.3	81.7	4.1	95.9
Unemployed	34.4	65.6	6.2	93.8
Not in the labour force	29.0	71.0	7.0	93.0

(a) Proportions are age-standardised using the Australian 2001 standard population.

(b) Based on Canadian National Occupancy Standard for Housing Appropriateness.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 2.01.9: Proportion[(a)] of Indigenous persons aged 15 years and living in overcrowded households[(b)], by selected population and socioeconomic characteristics, 2008

	In overcrowded household	Not in overcrowded household
Self-assessed health status		
Excellent/very good	36.9	38.2
Good	35.2	33.5
Fair/poor	27.9	28.3
Household income[(c)(d)]		
1st quintile (lowest)	69.5*	44.7*
5th quintile (highest)	1.7[(e)]*	5.2*
Highest year of school completed		
Year 12	16.3*	24.0*
Year 9 or below	39.4*	32.2*
Whether has non-school qualification		
Has a non-school qualification	21.3*	36.0*
Does not have a non-school qualification	78.7*	64.0*
Employment		
Employed	42.1*	54.9*
Unemployed	11.0	9.9
Not in the labour force	46.8*	35.2*
Total	**100.0**	**100.0**

* For Indigenous persons, differences between rates for those in overcrowded households and in households that were not overcrowded are statistically significant at the $p < 0.05$ level for these categories.

(a) Proportions of self-assessed health status only are age-standardised using the Australian 2001 standard population.

(b) Based on Canadian National Occupancy Standard for Housing Appropriateness.

(c) Equivalised income of household.

(d) Total excludes not known and not stated.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2008 NATSISS.

Overcrowding by tenure type

The 2008 NATSISS and 2006 Census collected information on overcrowding by housing tenure type. The 2006 Census collected comparable information on housing tenure for both Indigenous and non-Indigenous persons and households. The 2008 NATSISS collected information on Indigenous Australians only.

- In 2008, 79% of Indigenous overcrowded households were renters and 20% were owner/purchasers (Table 2.01.10).
- The Northern Territory had the largest percentage of Indigenous Australian renters (93%) and lowest percentage of home owners (6%) who were living in overcrowded households in 2008. Tasmania had the lowest percentage (54%) of Indigenous Australian renters and highest percentage of home owners (46%) living in overcrowded households (Table 2.01.10).
- In 2006, household overcrowding varied by tenure type. Approximately 40% of Indigenous households in co-operative/community/church group housing, 16% of

state/territory housing authority households, 11% of private and other renter households and 6.9% of home owners or purchaser households were overcrowded (Table 2.01.11).

- Comparatively, 3.6% of non-Indigenous households in housing co-operative /community/church group housing, 4.9% of state/territory housing authority households, 5.6% of private renter households and 2.0% of home owners or purchaser households were overcrowded in 2006 (Table 2.01.11).

Table 2.01.10: Overcrowded Indigenous households[(a)], by state/territory and tenure type, 2008

	NSW/ ACT[(b)]	Vic	Qld	WA	SA	Tas	NT	Australia
Owner/purchaser	31.3[(c)]	21.2[(c)]	15.7[(c)]	18.7[(c)]	29.0[(c)]	45.8[(c)]	5.6[(c)]	19.6
Renter (excludes boarders)	67.1	78.3	83.9	80.5	69.8	54.2	93.0	79.4
Total[(d)(e)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Based on the Canadian National Occupancy Standard for Housing Appropriateness.

(b) ACT has been combined with NSW but this has had little effect on the NSW rate.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Total excludes not stated responses.

(e) Total includes other tenure types.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.01.11: Number and proportion of overcrowded households[(a)], by Indigenous status, tenure type and state/territory, 2006

Tenure type	NSW & ACT	Vic	Qld	WA	SA	Tas	NT	Australia(b)
				Number of overcrowded Indigenous households				
Home owner/purchaser	1,323	318	1,081	366	194	187	218	3,687
Renter								
State or territory housing authority	1,353	323	1,511	894	390	133	366	4,970
Housing co-operative/community/church group	478	50	1,253	811	223	6	2,743	5,567
Private and other(c)	1,930	411	1,997	392	198	174	232	5,337
Not stated	68	12	91	21	12	n.p.	26	233
Total rented	*3,829*	*796*	*4,852*	*2,118*	*823*	*316*	*3,367*	*16,107*
Other tenure types(d)	138	40	246	109	31	22	163	752
Total dwellings(e)	**5,339**	**1,170**	**6,232**	**2,615**	**1,064**	**530**	**3,775**	**20,734**
				Per cent of overcrowded Indigenous households(f)				
Home owner/purchaser	6.6	6.0	7.9	7.2	6.1	4.8	11.6	6.9
Renter								
State or territory housing authority	11.4	12.3	21.5	20.5	14.5	10.7	24.9	15.9
Housing co-operative/community/church group	17.9	15.6	33.0	41.7	36.9	8.7	60.8	39.9
Private and other(c)	11.0	10.1	12.8	9.5	9.1	9.2	16.4	11.4
Not stated	14.9	13.3	24.1	17.9	14.5	7.7	43.3	19.0
Total rented	*11.8*	*11.2*	*18.1*	*20.1*	*14.9*	*9.8*	*45.1*	*17.3*
Other tenure types(d)	11.2	11.4	20.7	19.4	14.6	11.4	39.9	18.1
Total dwellings(e)	**9.8**	**9.0**	**14.8**	**16.0**	**11.8**	**7.2**	**38.5**	**13.6**

(continued)

Table 2.01.11 (continued): Number and proportion of overcrowded households[(a)], by Indigenous status, tenure type and state/territory, 2006

Tenure type	NSW & ACT	Vic	Qld	WA	SA	Tas	NT	Australia[(b)]
Number of overcrowded non-Indigenous households								
Home owner/purchaser	38,645	27,167	14,395	5,183	6,066	1,980	858	94,314
Renter								
State or territory housing authority	5,378	3,338	1,877	595	941	413	138	12,692
Housing co-operative/community/church group	539	199	215	35	153	34	13	1,188
Private and other[(c)]	38,008	19,276	14,355	3,921	3,826	1,135	610	81,134
Not stated	431	255	219	74	80	22	7	1,091
Total rented	*44,356*	*23,068*	*16,666*	*4,625*	*5,000*	*1,604*	*768*	*96,105*
Other tenure types[(d)]	1,986	1,244	1,022	331	289	102	106	5,086
Total dwellings[(e)]	**86,058**	**52,334**	**32,418**	**10,308**	**11,515**	**3,722**	**1,752**	**198,151**
Per cent of overcrowded non-Indigenous households[(f)]								
Home owner/purchaser	2.5	2.2	1.7	1.1	1.6	1.7	3.7	2.0
Renter								
State or territory housing authority	5.3	6.7	4.9	2.6	2.6	4.8	5.0	4.9
Housing co-operative/community/church group	4.7	3.0	3.9	1.3	2.8	3.5	3.7	3.6
Private and other[(c)]	7.4	5.7	4.4	2.9	4.1	4.0	4.7	5.6
Not stated	7.1	7.0	5.7	4.8	4.9	4.3	5.9	6.3
Total rented	*7.0*	*5.8*	*4.5*	*2.8*	*3.7*	*4.2*	*4.7*	*5.5*
Other tenure types[(d)]	4.2	3.8	3.5	1.9	2.1	2.6	5.4	3.5
Total dwellings[(e)]	**3.8**	**3.1**	**2.5**	**1.6**	**2.1**	**2.3**	**4.2**	**3.0**

(continued)

Table 2.01.11 (continued): Number and proportion of overcrowded households[(a)], by Indigenous status, tenure type and state/territory, 2006

(a) Based on the Canadian National Occupancy Standard for Housing Appropriateness.

(b) Includes other territories.

(c) Includes dwellings being rented from a real estate agent, parent/other relative or other person, dwellings being rented through a 'Residential park (includes caravan parks and marinas)', 'Employer—government (includes Defence Housing Authority)' and 'Employer—other employer' (private).

(d) Includes dwellings being purchased under a rent/buy scheme, occupied rent-free, occupied under a life tenure type and other tenure type not further defined.

(e) Includes tenure type not stated.

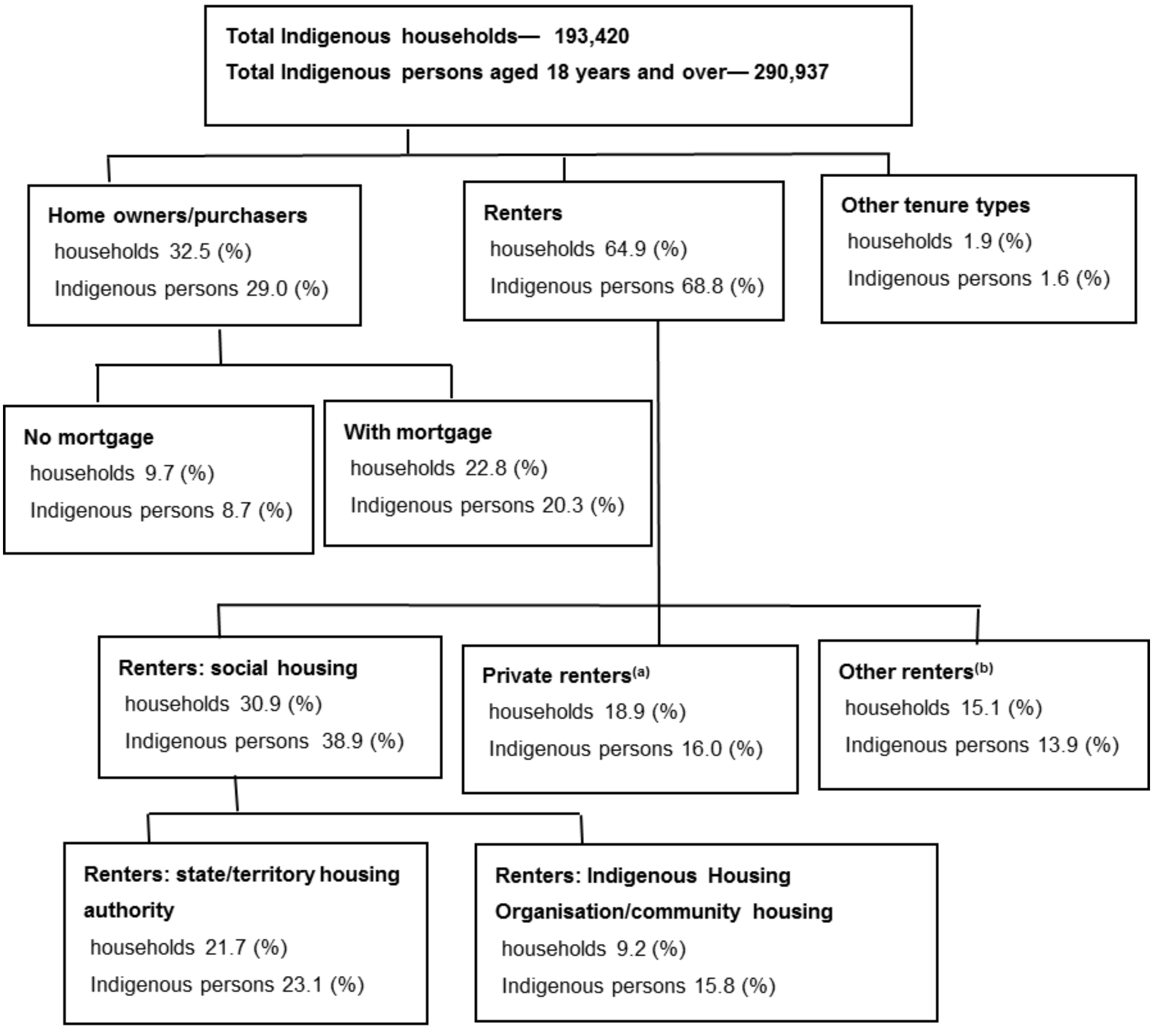
(f) Proportions have been calculated on all occupied private dwellings excluding those where number of bedrooms was not stated. Includes not stated state/territory.

Source: ABS and AIHW analysis of 2006 Census data.

Tenure type

The 2008 NATSISS collected information on housing tenure type for Indigenous Australians. Selected non-Indigenous comparisons are available from the 2007–08 National Health Survey and the 2007–08 Survey of Income and Housing.

- Among the estimated 193,420 Indigenous households in 2008, approximately one third were home owners or purchasers and two thirds were renters (Figure 2.01.1). This can be compared with non-Indigenous households where 66% were home owners or purchasers, and 29% were renters (Table 2.01.12).
- Home ownership provides a relatively secure form of housing tenure but there are much lower rates of home ownership among Indigenous households. This is indicative of the lower socioeconomic status of many Indigenous households and the fact that many Indigenous people who live in remote areas live on Aboriginal and Torres Strait Islander community land where individual home ownership is generally not possible. In 2008, 10% of Indigenous households owned their homes outright and 23% were purchasing their homes (Table 2.01.12).
- In 2008, the majority of Indigenous households lived in some form of rental accommodation (66%). The largest group were renters from private and other landlord types (33%), followed by renters from a state and territory housing authority (22%). In 2008, approximately 29% of Indigenous persons aged 18 years and over were home owners and 69% were renters. In comparison, 65% of non-Indigenous adults were home owners, and 29% were renters (Table 2.01.12).



(a) Includes real estate agents.

(b) Includes unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords, and landlord type not known.

Note: Persons are aged 18 years and over.

Source: AIHW analysis of 2008 NATSISS.

Figure 2.01.1: Indigenous households, by tenure type, 2008

Table 2.01.12: Households and persons, by tenure type and Indigenous status, 2008

	Persons(a)				Households			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Home owners								
Owned without a mortgage	25,232	8.7*	4,246,171	27.3*	17,460	9.9*	2,339,553	29.3*
Being purchased(b)	59,180	20.5*	5,890,139	37.9*	39,811	22.6*	2,908,524	36.5*
Total home owners	*84,411*	*29.2**	*10,136,310*	*65.2**	*57,271*	*32.5**	*5,248,076*	*65.8**
Renters								
Private and other landlord types(c)	84,866	29.3*	3,937,478	25.3*	58,822	33.4*	1,994,561	25*
State/territory housing authority	67,127	23.2*	447,694	2.9*	38,258	21.7*	312,530	3.9*
Housing co-operative or church group	1,804(d)	0.6(d)*	45,313	0.3*	992(d)	0.6(d)*	34,372	0.4*
Indigenous Housing Organisation/ Community housing	46,062	15.9*	. .	. .	16,845	9.6*	. .	. .
Total renters(e)	*200,297*	*69.2**	*4,430,486*	*28.5**	*115,274*	*65.5**	*2,341,463*	*29.4**
Other tenure types(f)	4,619	1.6	987,032	6.3	3,436	2.0	383,890	4.8
Total(g)	**289,327**	**100.0**	**15,553,828**	**100.0**	**175,981**	**100.0**	**7,973,429**	**100.0**
Not stated	1,610	. .	. .	. .	990	. .	. .	. .

* Difference between Indigenous and non-Indigenous rates is statistically significant at the $p < 0.05$ level for these categories.

(a) Persons aged 18 years and over.

(b) Includes with a mortgage and participants in rent/buy schemes.

(c) Includes real estate agents, unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Includes landlord type not known and boarders.

(f) Includes Other tenure types n.f.d.; persons living under life tenure schemes; and those living rent-free.

(g) Excludes tenure type not stated.

Source: AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Time series

- Between 1994 and 2008, there was an increase in the proportion of Indigenous households from 25.5 % to 32.4% and persons aged 18 years and over who were home owners from 21.5 % to 29.2%. Over the same period, there was also an increase in the proportion of households from 21.1% to 30.0% and persons who were private or other renters from 23.0 % to 33.2%, and a decline in the proportion of renters of state/territory housing (Table 2.01.13).

Tenure type by remoteness

- In 2008, household tenure type varied by remoteness, reflecting the availability of different housing options for Indigenous people and their lower socioeconomic status.
- Among Indigenous households in remote areas of Australia, a third (33%) were renters of Indigenous Housing Organisation or community housing, 25% were renters of state or territory housing and 16% were home owners (Table 2.01.14).
- In comparison, among Indigenous households in non-remote areas, 36% were home owners followed by private or other renters (34%) and renters of state and territory housing (21%) (Table 2.01.14).

Tenure type by state/territory

- In 2008, the Northern Territory had the lowest proportion of Indigenous households who were home owners (21%) and the highest proportion living in Indigenous Housing Organisation or community housing (25%) (Table 2.01.15).
- The proportion of Indigenous persons aged 18 years and over who were home owners/purchasers was highest in the Australian Capital Territory (53%) and Tasmania (52%) (Table 2.01.16).

Table 2.01.13: Indigenous households and persons, by tenure type, 1994, 2002 and 2008

	Persons[a]						Households					
	1994		2002		2008		1994		2002		2008	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Home owners												
Owned without a mortgage	20,837	10.9	25,248	10.0	25,232	8.7	13,831	12.7	17,833	10.8	17,460	9.9
Owner with a mortgage	20,195	10.6	41,456	16.5	59,180	20.5	13,881	12.8	32,610	19.7	39,811	22.5
Total home owners	*41,032*	*21.5*	*66,703*	*26.5*	*84,412*	*29.2*	*27,712*	*25.5*	*50,443*	*30.5*	*57,271*	*32.4*
Renters												
Private and other landlord types[b]	40,346	21.1	60,842	24.2	86,669	30.0	24,952	23.0	46,780	28.2	58,822	33.2
State/territory housing authority	63,583	33.3	53,184	21.2	67,127	23.2	37,796	34.8	37,673	22.7	38,258	21.6
Community or cooperative housing (Indigenous housing organisation/community housing)	31,559	16.5	60,788	24.2	46,063	15.9	11,900	11.0	24,493	14.8	17,837	10.1
Total renters[c]	*136,384*	*71.5*	*175,031*	*69.6*	*200,297*	*69.2*	*75,029*	*69.1*	*108,946*	*65.7*	*115,274*	*65.1*
Other[d]	10,016	5.2	9,664	3.9	4,618	1.6	4,210	3.9	6,163	3.7	3,436	1.9
Total[e]	**187,432**	**100.0**	**251,398**	**100.0**	**289,327**	**100.0**	**106,951**	**100.0**	**165,552**	**100.0**	**175,981**	**100.0**
Not stated	3,411	. .		. .	1,610	. .	1,628	. .	122	. .	990	. .

(a) Persons aged 18 years and over.

(b) Includes real estate agents, unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords.

(c) Includes landlord type not stated.

(d) Includes persons living under life tenure schemes, those living rent-free and participants in rent/buy schemes.

(e) Includes tenure type not stated.

Source: ABS and AIHW analysis of 1994 National Aboriginal and Torres Strait Islander Survey, 2002 NATSISS and 2008 NATSISS.

Table 2.01.14: Households and persons, by Indigenous status, tenure type and remoteness, 2008

	Indigenous				Non-Indigenous			
	Persons[(a)]		Households		Persons[(a)]		Households	
Tenure type	**Non-remote**	**Remote**	**Non-remote**	**Remote**	**Non-remote**	**Remote**	**Non-remote**	**Remote**
	Per cent				Per cent			
Home owners								
Owned without a mortgage	9.9	5.4	10.0	8.6	27.3	30.2	29.3	32.0
Owner with a mortgage[(b)]	25.8	5.0	26.1	7.3	37.9	32.8	36.5	32.0
Total home owners	*35.7*	*10.4*	*36.1*	*16.0*	65.2	62.9	65.8	64.0
Renters								
Private and other landlord types[(c)]	32.3	15.9	34.4	19.7	21.2	23.4	21.9	23.2
State/territory housing authority	23.0	23.8	21.2	24.8	2.9	2.0	3.9	2.7
Indigenous Housing Organisation/ Community housing	5.9	44.8	4.5	32.6	0.3	—	0.4	—
Other	1.9	1.7	2.2	2.1	0.4	0.1	0.5	0.2
Total renters[(d)]	*63.3*	*86.3*	*62.5*	*79.5*	24.7	25.5	26.8	26.1
Other[(e)]	1.0	3.3	1.4	4.6	10.1	11.5	7.3	9.9
Total[(f)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Persons aged 18 years and over.

(b) Includes rent/buy/shared equity scheme.

(c) Includes real estate agents, unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords.

(d) Includes landlord type not stated.

(e) Includes Other; persons living under life tenure schemes; those living rent-free; and participants in rent/buy schemes.

(f) Excludes tenure type not stated.

Source: ABS 2008 NATSISS and 2007–08 SIH.

Table 2.01.15: Proportion of households, by tenure type, Indigenous status and state/territory, 2008

		Home owners			Renters							
		Owned without a mortgage	**Being purchased**	***Total home owners***	**Private and other renter(a)**	**State/territory housing authority**	**Housing co-operative or church group**	**Indigenous Housing Organisation/ Community housing**	***Total renters(b)***	**Other tenure types(c)**	**Total(d)**	**Total(d)**
NSW	**Indig.**	12.0	21.5	*33.5*	35.0	21.2	0.6*(e)	7.8	*64.6*	2.0(f)	**100.0**	**58,707**
	Non-Indig.	27.8	35.1	*62.8*	26.6	4.6	0.6*(f)	. .	*31.8*	5.4	**100.0**	**2,602,138**
Vic	**Indig.**	11.0	32.4	*43.3*	29.5	19.3	0.6*(f)	6.2	*55.8*	0.9(f)	**100.0**	**14,155**
	Non-Indig.	31.6	37.4	*69.0*	23.3	2.8	0.3*(f)	. .	*26.4*	4.6	**100.0**	**1,991,527**
Qld	**Indig.**	7.9	21.2	*29.2*	40.0	17.5	1.0*(e)	10.3	*69.3*	1.5(f)	**100.0**	**47,928**
	Non-Indig.	27.2	2.8	*0.1*	30.0	36.0	0.1*(e)	. .	*30.1*	3.9	**100.0**	**1,560,980**
WA	**Indig.**	6.9	20.8	*27.7*	30.2*	28.8	n.p.	10.7	*69.9*	n.p	**100.0**	**20,525**
	Non-Indig.	25.6	39.4	*65.1*	25.01*	3.1	0.7(e)	. .	*28.9*	6.1	**100.0**	**802,625**
SA	**Indig.**	8.7	26.5	*35.2*	22.5*	34.2	n.p.	7.0	*63.8*	n.p.	**100.0**	**10,505**
	Non-Indig.	32.0	36.3	*68.3*	19.62*	7.3	0.5	. .	*27.4*	4.4	**100.0**	**640,186**
Tas	**Indig.**	23.6	26.6*	*50.2*	26.7	17.2	n.p.	1.3	*45.7*	n.p.	**100.0**	**8,647**
	Non-Indig.	37.1	32.45*	*69.6*	19.3	5.4	1.7(e)	. .	*26.3*	4.1	**100.0**	**192,350**
ACT	**Indig.**	12.0	35.6*	*47.6*	32.5	18.3	n.p.	1.1	*52.2*	n.p.	**100.0**	**1,835**
	Non-Indig.	26.7	39.32*	*66.1*	23.4	6.4	0.2(e)	. .	*30.0*	3.9	**100.0**	**127,172**
NT	**Indig.**	3.6*	17.8	*21.4*	25.2*	24.7	n.p.	25.1	*75.3*	n.p.	**100.0**	**13,679**
	Non-Indig.	7.8*(f)	48.9	*56.8*	35.2*	n.p.	—	. .	*39.1*	4.1(e)	**100.0**	**56,451**
Australia	**Indig.**	9.9	22.6	*32.5*	33.4	21.7	0.6*	9.6	*65.5*	2.0	**100.0**	**175,981**
	Non-Indig.	29.3	36.5	*65.8*	25.0	3.9	0.43*	. .	*29.4*	4.8	**100.0**	**7,973,429**

(continued)

Table 2.01.15 (continued): Proportion of households, by tenure type, indigenous status and state/territory, 2008

* Difference between rates for Indigenous and non-Indigenous persons are NOT statistically significant at the $p < 0.05$ level for these categories.

(a) Includes real estate agents, unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords.
(b) Includes landlord type not stated.
(c) Includes persons living under life tenure schemes, those living in rent-free schemes and other tenure types n.f.d.
(d) Excludes tenure type not stated.
(e) Estimate has a relative standard error greater than 50% and is generally unreliable for use.
(f) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: NATSISS 2008 and 2007–08 NHS.

Table 2.01.16: Proportion of persons(a), by tenure type, indigenous status and state/territory, 2008

		Home owners			Renters							
		Owned without a mortgage	**Being purchased**	_**Total home owners**_	**Private and other renter(b)**	**State/territory housing authority**	**Housing co-operative or church group**	**Indigenous Housing Organisation/ Community housing**	_**Total renters(c)**_	**Other tenure types(d)**	**Total(e)**	**Total(e)**
NSW	**Indig.**	11.8*	22.2*	_34.0*_	32.8*	21.6*	0.4(f)	9.6	_64.5_	1.5*(g)	**100.0**	**84,966**
	Non-Indig.	26.1*	36.3*	_62.5*_	26.4*	3.4*	0.4(g)	. .	_30.1_	7.4*	**100.0**	**5,106,453**
Vic	**Indig.**	10.5*	33.5*	_44.0*_	27.6	19.4*	0.8(f)	7.2	_55.2_	0.8*(g)	**100.0**	**19,079**
	Non-Indig.	29.0*	38.9*	_67.9*_	23.6	2.2*	0.2(g)	. .	_26.0_	6.1*	**100.0**	**3,966,725**
Qld	**Indig.**	7.3*	18.8*	_26.1*_	34.9*	20.4*	1.4(f)	15.7	_72.7_	1.2*(g)	**100.0**	**79,662**
	Non-Indig.	26.9*	37.5*	_64.5*_	28.5*	2.0*	0.1(f)	. .	_30.6_	5.0*	**100.0**	**3,040,931**
WA	**Indig.**	6.4*	18.1*	_24.5*_	25.0	29.2*	n.p.	19.0	_73.4_	n.p.	**100.0**	**38,729**
	Non-Indig.	24.3*	41.2*	_65.5*_	24.4	2.2*	0.5*(g)	. .	_27.1_	7.4*	**100.0**	**1,529,520**
SA	**Indig.**	8.1*	22.9*	_30.9*_	18.8	36.8*	n.p.	12.2	_68.0_	n.p.	**100.0**	**16,014**
	Non-Indig.	30.9*	36.8*	_67.7*_	20.9	5.6*	0.4*(g)	. .	_26.8_	5.4*	**100.0**	**1,194,166**
Tas	**Indig.**	23.6*	28.0	_51.6*_	25.3	16.5*	n.p.	n.p.	_43.9_	n.p.	**100.0**	**10,777**
	Non-Indig.	35.2*	35.4	_70.6*_	19.5	4.3*	1.0(f)	. .	_24.8_	4.6*	**100.0**	**352,052**
ACT	**Indig.**	11.8*	40.9	_52.7*_	28.1	17.6*	n.p.	n.p.	_47.0_	n.p.	**100.0**	**2,564**
	Non-Indig.	26.5*	40.6	_67.1*_	23.2	4.4*(g)	0.2(f)	. .	_27.8_	5.2*	**100.0**	**255,733**
NT	**Indig.**	2.0(g)	11.2*	_13.2*_	20.9	24.9*	n.p.	38.6	_84.6_	n.p.	**100.0**	**37,536**
	Non-Indig.	9.0(g)	48.9*	_57.9*_	34.1	n.p.	0.0	. .	_36.9_	5.2	**100.0**	**108,248**
Australia	**Indig.**	**8.7***	**20.5***	_**29.2***_	**29.3***	**23.2***	**0.6**	**15.9**	_**69.2**_	**1.6***	**100.0**	**289,327**
	Non-Indig.	**27.3***	**37.9***	_**65.2***_	**25.3***	**2.9***	**0.3**	**. .**	_**28.5**_	**6.3***	**100.0**	**15,553,828**

(continued)

Table 2.01.16 (continued): Proportion of persons(a), by tenure type, indigenous status and state/territory, 2008

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the $p < 0.05$ level for these categories.

(a) Persons aged 18 years and over.
(b) Includes real estate agents, unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords.
(c) Includes landlord type not stated.
(d) Includes persons living under life tenure schemes, those living in rent-free schemes and other tenure types n.f.d.
(e) Excludes tenure type not stated.
(f) Estimate has a relative standard error greater than 50% and is generally unreliable for use.
(g) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: NATSISS 2008 and 2007–08 NHS.

Tenure type by age

- In 2008, the highest proportion of Indigenous home owners were aged 45–54 years (40%), whereas non-Indigenous Australians aged 55 years and over were most likely to be home owners (83%) (Table 2.01.17).
- Indigenous and non-Indigenous Australians aged 18–34 years were more likely to be renting in 2008 (76% and 50% respectively) than those in the older age groups (Table 2.01.17).
- Across all age groups, Indigenous Australians were more likely to be renting and less likely to be home owners than non-Indigenous Australians in 2008 (Table 2.01.17).

Table 2.01.17: Proportion of Indigenous and non-Indigenous persons,(a) by tenure type and age group, 2008

	18–34		35–44		45–54		55+		Total 18 years and over		Total aged 15 years and over	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
Home owners												
Owned without a mortgage	4.2	3.6	6.6*	10.2*	11.3*	27.0*	23.4*	60.8*	8.7*	27.3*	8.5*	26.8*
Being purchased	17.7*	32.4*	25.6*	59.3*	29.1*	52.2*	12.5*	21.8*	20.3*	37.9*	21.0*	38.6*
Total home owners	*22.0**	*36.0**	*32.4**	*69.6**	*39.6**	*79.2**	*36.0**	*82.7**	*29.2**	*65.2**	*29.5**	*65.4**
Renters												
Private and other renter(b)	35.2*	48.5*	29.8*	23.7*	22.1*	15.5*	17.7*	9.5*	29.3*	25.3*	29.3*	25.1*
State/territory housing authority	24.5*	1.7*	20.4*	3.2*	21.1*	2.7*	25.4*	3.9*	23.2*	2.9*	23.4*	3.0*
Housing co-operative or church group	0.7(c)	0.1(c)	0.2(d)	0.1(d)	0.8(d)	0.3(c)	0.7(d)	0.6	0.6(c)	0.3	0.6(c)	0.3
Indigenous Housing Organisation/ Community housing	15.7	. .	15.5	. .	15.2	. .	18.1	. .	15.9	. .	15.4	. .
Total renters(e)	*76.3**	*50.3**	*66.2**	*27.0**	*59.3**	*18.5**	*62.1**	*14.0**	*69.2**	*28.5**	*68.9**	*28.4**
Other tenure types(f)	1.8*(c)	13.6*	1.4*	3.4*	1.1*(c)	2.3*	1.9*(c)	3.4*	1.6*	6.3*	1.6*	6.3*
Total(g)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total(g)	**136,925**	**4,782,702**	**63,344**	**2,987,518**	**46,713**	**2,864,016**	**42,345**	**4,919,592**	**289,327**	**15,553,828**	**325,305**	**16,374,202**

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at $p < 0.05$ for these categories.

(a) Persons aged 18 years and over.

(b) Includes real estate agents, unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Estimate has a relative standard error greater than 50% and is generally unreliable for use.

(e) Includes landlord type not stated.

(f) Includes persons living under life tenure schemes, those living in rent-free schemes and other tenure types n.f.d.

(g) Excludes tenure type not stated.

Source: NATSISS 2008 and 2007–08 NHS.

Tenure type by selected health and population characteristics

- In the 2008 NATSISS, of the Indigenous Australians that reported excellent/very good health, 33% were home owners and 65% were renters. Of those Indigenous Australians reporting fair/poor health, 26% were home owners and 73% were renters. According to results from the NHS in 2007–08, of the non-Indigenous Australians who reported excellent/very good health 66% were home owners and 28% were renters. Of those non-Indigenous Australians reporting fair/poor heath, 64% were home owners and 30% renters. (Table 2.01.18).
- After adjusting for differences in age structure, 39% of Indigenous Australian home owners reported excellent/very good health compared with 68% of non-Indigenous Australian home owners. Conversely, amongst renters, 73% of Indigenous Australians reported fair/poor heath compared with 37% of non-Indigenous renters (Table 2.01.18).
- In 2008, of the Indigenous Australians who spoke a language other than English at home, 95% were renters and 3% were home owners. This compared with 38% and 52% of non-Indigenous Australians, respectively. Of the Indigenous Australians who were in the lowest index of advantage/disadvantage, 19% were home owners and 80% were renters. This compared with 57% and 38% of non-Indigenous Australians, respectively (Table 2.01.19).
- A higher proportion of Indigenous Australians who were renters than home owners or purchasers spoke a language other than English, were in the lowest (1st) quintile of household income, were unable to raise $2,000 within a week for something important, were unemployed, had a dwelling with major structural problems or had moved in the last 12 months (Table 2.01.20).

Table 2.01.18: Summary health characteristics and housing tenure, by Indigenous status, 2008

		Excellent/very good		Fair/poor		Total Persons 18+	
		Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
				Persons(a)(b)			
Home owners							
Owned without a mortgage	%	8.4	24.1	10.7	35.9	8.7	27.3
	Age standardised	*15.2*	*26.9*	*10.7*	*23.3*	*11.5*	*25.9*
Being purchased(c)	%	24.4	41.7	15.5	27.6	20.5	37.9
	Age standardised	*23.3*	*41.0*	*14.9*	*29.7*	*19.8*	*38.5*
Total home owners	*%*	*32.7*	*65.8*	*26.2*	*63.5*	*29.2*	*65.2*
	Age standardised	*38.6*	*67.9*	*25.6*	*53.1*	*31.3*	*64.4*
Renters							
Private and other landlord types(d)	%	29.3	26.1	28.1	21.2	29.3	25.3
	Age standardised	*24.6*	*24.4*	*28.7*	*29.2*	*26.6*	*26.0*
State/territory housing authority	%	18.6	1.2	29.1	7.9	23.2	2.9
	Age standardised	*17.2*	*1.3*	*29.2*	*7.1*	*23.3*	*2.8*
Housing co-operative or church group	%	0.7(e)	0.2(f)	0.8(e)	0.7	*0.6	0.3
	Age standardised	0.9(f)	0.2(f)	0.7(f)	0.6	0.7	0.3
Indigenous Housing Organisation/ Community housing	%	16.3	. .	14.6	. .	15.9	. .
	Age standardised	16.8	. .	14.5	. .	16.4	. .
Total renters(g)	*%*	*65.2*	*27.5*	*72.6*	*29.7*	*69.2*	*28.5*
	Age standardised	*59.8*	*25.9*	*73.2*	*36.7*	*67.1*	*29.1*
Other tenure types(h)	%	2.1(f)	6.7	1.2(f)	6.9	1.6	6.3
	Age standardised	1.6	6.2	1.2	10.0	1.6	6.4
Total(i)	**%**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(continued)

Table 2.01.18 (continued): Summary health characteristics and housing tenure, by Indigenous status, 2008

		Excellent/very good		Fair/poor		Total Persons 18+	
		Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
				Households[j]			
Home owners							
Owned without a mortgage	%	9.7	26.5	11.6	36.6	9.9	29.3
Being purchased[c]	%	27.0	41.0	17.2	25.4	22.6	36.5
Total home owners	*%*	*36.7*	*67.4*	*28.9*	*62.0*	*32.5*	*65.8*
Renters							
Private and other landlord types[d]	%	33.8	25.6	30.6	22.2	33.4	25.0
State/territory housing authority	%	17.5	1.6	29.0	10.0	21.7	3.9
Housing co-operative or church group	%	0.6[f]	0.2[f]	0.8[e]	0.9	0.6	0.4
Indigenous Housing Organisation/ Community housing	%	8.6	. .	9.5	. .	9.6	. .
Total renters[g]	*%*	*60.9*	*27.5*	*69.8*	*33.0*	*65.5*	*29.4*
Other tenure types[h]	%	2.5[f]	5.1	1.3[f]	4.9	2.0	4.8
Total[i]	**%**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Persons aged 18 years and over.

(b) Households with person(s) aged 18 years and over.

(c) Includes with a mortgage and participants in rent/buy schemes.

(d) Includes real estate agents, unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(f) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(g) Includes landlord type not known and boarders.

(h) Includes life tenure schemes; rent-free; and other tenure types n.f.d.

(i) Excludes tenure type not stated.

(j) Households with person(s) aged 18 years and over.

Note: Age standardised data were calculated using 2001 Australian Estimated Resident population.

Source: AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Table 2.01.19: Tenure type by selected population characteristics, persons aged 18 years and over, by Indigenous status, 2008

	Home owner/purchaser[(a)]		Renter		Total[(b)]	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
			Per cent			
Main language spoken at home						
English	33.3	66.8	65.1	27.4	100.0	100.0
Language other than English	3.1	51.6	95.3	37.7	100.0	100.0
Household income						
1st quintile	15.4	63.3	83.0	31.3	100.0	100.0
5th quintile	64.4*	73.2*	34.6*	22.5*	100.0	100.0
Index of disparity						
1st quintile (lowest)	18.9	56.9	79.5	38.2	100.0	100.0
5th quintile (highest)	45.5	67.3	54.3	25.9	100.0	100.0
Financial stress						
Unable to raise $2,000 within a week for something important	12.1	. .	86.6	. .	100.0	100.0
Employment[(c)]						
Employed	38.3	63.8	59.7	30.1	100.0	100.0
Unemployed	19.0	37.3	79.9	48.1	100.0	100.0
Subtotal in labour force	*35.1*	*62.8*	*63.0*	*30.8*	*100.0*	*100.0*
Not in labour force	17.9	60.1	80.9	32.7	100.0	100.0
Housing						
Dwelling has major structural problems	17.4	. .	81.2	. .	100.0	100.0
Repairs and maintenance carried out in last 12 months	30.5	. .	67.9	. .	100.0	100.0
Dwelling requires additional bedroom(s)	15.5	. .	83.6	. .	100.0	100.0
Mobility						
Moved dwellings in last 12 months	11.5	. .	86.3	. .	100.0	100.0
Total	**29.2**	**. .**	**69.2**	**. .**	**100.0**	**100.0**

* Difference between rates for Indigenous and non-Indigenous persons are NOT statistically significant at the $p < 0.05$ level for these categories.

(a) Includes participants of rent/buy scheme (or shared equity scheme).

(b) Includes persons living under life tenure schemes, those living rent-free and other tenure type; excludes those for whom tenure type was not stated.

(c) For persons aged 15–64 years.

Source: NATSISS 2008 and 2007–08 NHS.

Table 2.01.20: Tenure type by selected population characteristics, persons aged 18 years and over, by Indigenous status, 2008

	Home owner/purchaser(a)		Renter		Total(b)	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
			Per cent			
Main language spoken at home						
English	98.5	91.4	81.3	85.5	86.4	89.1
Language other than English	1.5	8.6	18.7	14.5	13.6	10.9
Household income						
1st quintile	26.0	15.4	58.8	18.3	49.1	16.3
5th quintile	10.8	23.4	2.4(c)	17.2	4.9	21.4
Index of disparity						
1st quintile (lowest)	32.0	14.7	59.0	22.7	50.8	16.9
5th quintile (highest)	5.8	23.0	3.0(c)	20.4	3.8	22.3
Financial stress						
Unable to raise $2,000 within a week for something important	20.4	. .	63.7		50.4	. .
Employment(c)						
Employed	71.1	77.9	46.3	73.5	53.8	76.0
Unemployed	7.0	1.7	12.3	4.4	10.7	2.9
Subtotal in labour force	*78.1**	*79.6**	*58.6*	*77.9*	*64.5*	*78.9*
Not in labour force	21.9*	20.4*	41.4	22.1	35.5	21.1
Housing						
Dwelling has major structural problems	17.0	. .	33.3	. .	28.4	. .
Repairs and maintenance carried out in last 12 months	62.7	. .	60.6	. .	61.2	. .
Dwelling requires additional bedroom(s)	13.2	. .	29.9	. .	24.8	. .
Mobility						
Moved dwellings in last 12 months	8.6	. .	27.4	. .	22.0	. .
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

* Difference between rates for Indigenous and non-Indigenous persons are NOT statistically significant at the $p < 0.05$ level for these categories.

(a) Includes participants of rent/buy scheme (or shared equity scheme).

(b) Includes persons living under life tenure schemes, those living rent-free and other tenure type; excludes those for whom tenure type was not stated.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) For persons aged 15–64 years.

Source: NATSISS 2008 and 2007–08 NHS.

Homelessness

Census data

The ABS collects information on the number of homeless people on Census night. The ABS defines people as homeless if their accommodation falls below the minimum community standard of a small rental flat with a bedroom, living room, kitchen, bathroom and some security of tenure.

- The 2006 Census indicates that there were 4,116 Indigenous people who were homeless on Census night (Table 2.01.21):
  - This included 2,283 with no conventional accommodation (in improvised dwellings or sleeping rough)
  - 662 in hostels, refuges or night shelters
  - 1,171 residing temporarily with others.
- The national rate of Indigenous homelessness was 90 per 10,000 (Table 2.01.21).
- The highest rates of Indigenous homelessness were found in the Northern Territory (213 per 10,000) and Western Australia (111 per 10,000), while Tasmania had the lowest rate (45 per 10,000) (Table 2.01.21).
- Across Australia, the rate of homelessness for Indigenous Australians was 3.8 times higher than the rate for non-Indigenous Australians (Table 2.01.21).
- South Australia had the largest difference between Indigenous and non-Indigenous rates, with the rate of Indigenous homelessness more than five times the rate of non-Indigenous homelessness (Table 2.01.21).

Table 2.01.21: Number and rate of Indigenous people who are homeless, simple definition, by state/territory, 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number				
Primary homeless									
No conventional accommodation	250	55	469	402	152	24	4	927	2,283
Secondary homeless									
Hostel, refuge, night shelter	206	38	198	76	39	9	14	82	662
Friends/ relatives	315	70	352	171	67	43	19	134	1,171
Total number	**771**	**163**	**1,019**	**649**	**258**	**76**	**37**	**1,143**	**4,116**
					Rate				
Number per 10,000	56	54	80	111	101	45	96	213	90
Rate ratio	2.9	3.6	2.1	3.3	5.3	1.8	4.2	1.6	3.8

Source: ABS 2006 Census of Population and Housing.

SAAP clients

Supported Accommodation Assistance Program (SAAP) services are provided to people who are homeless or at imminent risk of homelessness. Those using SAAP services represent a sub set of homeless people, as not all homeless people will use a SAAP service.

Characteristics of clients

- In 2010–11 an estimated 135,043 people who were homeless or at risk of becoming homeless received some form of assistance from SAAP (Table 2.01.22).
- Of these, 25,149 (19%) were Aboriginal and Torres Strait Islanders clients (Table 2.01.22).
- Indigenous females are almost two and a half times as likely as Indigenous males to seek SAAP assistance (Table 2.01.22).
- Indigenous SAAP clients were younger than non-Indigenous clients (Table 2.01.22):
  - There were a higher proportion of Indigenous females in all age categories under 35 years compared with non-Indigenous females, as well as among Indigenous males in all age categories under 25 years compared with non-Indigenous males.
  - The mean age for Indigenous male (32 years) and female (30 years) SAAP clients was below the mean age for non-Indigenous male (35 years) and female (32 years) SAAP clients.

Table 2.01.22: SAAP clients: sex and age, by Indigenous status and age, 2010–11

Total SAAP clients	Indigenous		Non-Indigenous		Total	
Sex and age	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**
Male						
0–14 years	4.3	318	2.1	894	2.4	1,212
15–19 years	17.9	1,326	15.8	6,892	16.1	8,218
20–24 years	14.6	1,081	12.5	5,463	12.8	6,544
25–34 years	21.9	1,616	21.3	9,282	21.4	10,898
35–44 years	22.6	1,670	23.3	10,137	23.2	11,808
45–64 years	17.5	1,294	22.1	9,611	21.4	10,905
65+ years	1.2	86	2.9	1,285	2.7	1,370
Total	**100.0**	**7,392**	**100.0**	**43,564**	**100.0**	**50,955**
Total ASR per 1000[(a)]	**28.3**	**. .**	**4.0**	**. .**	**. .**	**. .**
Female						
0–14 years	2.9	507	2.5	1,678	2.6	2,185
15–19 years	16.5	2,930	16.2	10,747	16.3	13,677
20–24 years	19.4	3,437	15.3	10,123	16.1	13,560
25–34 years	28.2	5,006	25.7	17,044	26.2	22,050
35–44 years	20.3	3,597	23.0	15,253	22.4	18,850
45–64 years	12.0	2,129	15.4	10,231	14.7	12,360
65+ years	0.9	151	1.9	1,255	1.7	1,406
Total	**100.0**	**17,757**	**100.0**	**66,331**	**100.0**	**84,088**
Total ASR per 1000(a)	**62.6**	**. .**	**6.2**	**. .**	**. .**	**. .**
Persons						
0–14 years	3.3	825	2.3	2,572	2.5	3,397
15–19 years	16.9	4,256	16.1	17,639	16.2	21,895
20–24 years	18.0	4,518	14.2	15,586	14.9	20,103
25–34 years	26.3	6,623	24.0	26,325	24.4	32,948
35–44 years	20.9	5,267	23.1	25,391	22.7	30,658
45–64 years	13.6	3,424	18.1	19,842	17.2	23,265
65+ years	0.9	237	2.3	2,540	2.1	2,776
Total	**100.0**	**25,149**	**100.0**	**109,894**	**100.0**	**135,043**
Total ASR per 1000[(a)]	**45.6**	**. .**	**5.1**	**. .**	**. .**	**. .**
Mean age						
Male	. .	32	. .	35	. .	34
Female	. .	30	. .	32	. .	32
Median age						
Male	. .	31	. .	34	. .	34
Female	. .	28	. .	31	. .	30

(a) Directly age-standardised using the Australian 2001 standard population

Notes

1. Number excluded due to errors and omissions in 'Indigenous status' (weighted): 7,506 clients.
2. Figures have been weighted to adjust for agency non-participation and client non-consent.

Source: SAAP Client Collection.

State and region

- In 2010–11, most SAAP support periods for Indigenous clients were in New South Wales (27%) followed by Queensland (23%). For the non-Indigenous clients, most support periods were in Victoria (36%) followed by New South Wales (28%) (Table 2.01.23).
- In 2010–11, 40% of Indigenous SAAP clients were living in *Major cities* compared with 72% of non-Indigenous SAAP clients (Table 2.01.23).
- There were correspondingly higher proportions of Indigenous SAAP clients living in *Outer regional*, *Remote* and *Very remote* locations (24.6%, 7.3% and 10.1%) compared with non-Indigenous clients (8.2%, 0.8% and 0.3% respectively) (Table 2.01.23).

Table 2.01.23: SAAP support periods: Indigenous status, by region and state/territory, Australia, 2010–11 (per cent)

									Total	
Region	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas[(a)]**	**ACT**	**NT[(b)]**	**Per cent**	**Number**
Indigenous										
Major city	50.3	55.7	31.8	41.7	50.4	—	100.0	—	40.3	13,142
Inner regional	29.4	29.2	13.6	6.2	3.4	85.7	—	—	17.7	5,781
Outer regional	16.4	15.1	41.6	13.9	28.7	13.6	—	36.1	24.6	8,022
Remote	3.2	n.p.	9.8	14.1	5.1	n.p.	—	17.1	7.3	2,382
Very remote	0.6	n.p.	3.1	24.1	12.5	n.p.	—	46.8	10.1	3,303
Total (row %)	**27.4**	**13.4**	**22.9**	**14.0**	**9.8**	**1.7**	**1.0**	**9.9**	**100.0**	**. .**
Total (number)	**8,950**	**4,357**	**7,455**	**4,574**	**3,205**	**544**	**318**	**3,226**	**. .**	**32,629**
Non-Indigenous										
Major city	75.2	80.9	57.3	75.7	74.5	—	100.0	—	72.1	108,219
Inner regional	19.3	14.7	22.4	15.1	8.2	90.5	n.p.	—	18.6	27,872
Outer regional	5.3	4.4	17.9	6.1	14.5	8.4	n.p.	78.2	8.2	12,336
Remote	0.2	0.0	1.6	2.5	2.5	1.1	—	9.1	0.8	1,146
Very remote	0.0	—	0.8	0.6	0.3	—	—	12.6	0.3	446
Total (row %)	**28.2**	**38.1**	**15.2**	**6.1**	**7.4**	**2.9**	**1.3**	**0.9**	**100.0**	**. .**
Total (number)	**42,329**	**57,110**	**22,835**	**9,147**	**11,087**	**4,322**	**1,916**	**1,273**	**. .**	**150,019**

(a) Hobart is classified as Inner Regional.

(b) Darwin is classified as Outer Regional.

Notes

1. Number excluded due to errors and omissions (unweighted): 10,603 support periods.
2. 'Region' in this report is based on the Australian Standard Geographical Classification Remoteness Structure (ABS 2007). SAAP agencies are categorised based on the postcode supplied by the relevant state or territory community services department. Please note that this postcode forms part of the mailing address of the agency and may not match the actual location of the agency. For more information please see 'Region' in Appendix 2.
3. To ensure confidentiality, some cells in this table have been suppressed. While these cases are not presented separately, they are included in the totals.
4. Unweighted data. Figures could not be weighted to adjust for agency non-participation and client non-consent at the remoteness level. Note that only those records for which consent was obtained were included in this table.

Source: SAAP Client Collection.

Main reason for seeking assistance

- In 2010–11, the most common main reason for seeking assistance among Indigenous and non-Indigenous clients was domestic/family violence (24% and 21% support periods respectively) (Table 2.01.24).
- The broad category 'Interpersonal relationships' was recorded as the main reason for seeking assistance for almost half (45%) of Indigenous SAAP clients and 41% of non-Indigenous SAAP clients (Table 2.01.24).
- Compared with the non-Indigenous SAAP clients, Indigenous SAAP clients were more likely to state that their main reason for seeking assistance was for 'Time out from family/other situation' (8.4% of support periods compared with 6.5%) and overcrowding issues (6.6% compared with 2.7%) (Table 2.01.24).
- In 2010–11, Indigenous SAAP clients were less likely to report having financial problems than non-Indigenous SAAP clients (14.3% and 18.8% support periods respectively) (Table 2.01.24).

Table 2.01.24: SAAP support periods: Indigenous status, by main reason for seeking assistance, Australia, 2010–11

Main reason for seeking assistance	Indigenous		Non-Indigenous		Total
	Number	Per cent	Number	Per cent	Per cent
Interpersonal relationships					
Time out from family/other situation	3,319	8.4	11,318	6.2	6.6
Relationship/family breakdown	3,509	8.9	18,592	10.2	9.9
Interpersonal conflict	767	1.9	4,450	2.4	2.3
Sexual abuse	140	0.4	655	0.4	0.4
Domestic/family violence	9,386	23.7	38,542	21.1	21.5
Physical/emotional abuse	480	1.2	1,743	1	1
Financial					
Gambling	29	0.1	372	0.2	0.2
Budgeting problems	1,722	4.4	12,695	6.9	6.5
Rent too high	431	1.1	2,615	1.4	1.4
Other financial difficulty	3,484	8.8	18,831	10.3	10.0
Accommodation					
Overcrowding issues	2,622	6.6	4,910	2.7	3.4
Eviction/asked to leave	2,075	5.2	13,095	7.2	6.8
Emergency accommodation ended	587	1.5	4,410	2.4	2.2
Previous accommodation ended	2,407	6.1	14,456	7.9	7.6
Health					
Mental health issues	364	0.9	3,916	2.1	1.9
Problematic drug/alcohol/substance use	1,296	3.3	6,431	3.5	3.5
Psychiatric illness	110	0.3	1,334	0.7	0.7
Other health issues	516	1.3	1,984	1.1	1.1
Other reasons					
Gay/lesbian/transgender issues	43	0.1	498	0.3	0.2
Recently left institution	631	1.6	2,168	1.2	1.3
Recent arrival to area with no means of support	1,110	2.8	3,160	1.7	1.9
Itinerant	1,521	3.8	4,643	2.5	2.8
Other	3,044	7.7	12,276	6.7	6.9
Total					
Total (row per cent)	17.8	. .	82.2		100.0
Total (number)	**39,593**	**100**	**183,094**	**100**	

Notes

1. Number excluded due to errors and omissions (weighted): 19,238 support periods.
2. Figures have been weighted to adjust for agency non-participation and client non-consent.

Source: SAAP Client Collection.

Accompanying children

- In 2001–11, Aboriginal and Torres Strait Islander children made up 26% of all children accompanying SAAP clients (Table 2.01.25).
- Close to half (48%) of the accompanying Indigenous children were aged 0–4 years, a quarter (28%) were aged 5–9 years. Non-Indigenous children had a very similar percentage breakdown by age (Table 2.01.25).

Table 2.01.25: Children accompanying SAAP clients, by Indigenous status and age, 2010–11

	Indigenous		Non-Indigenous		Total	
Age group	Number	Per cent	Number	Per cent	Number	Per cent
0–4	10,031	47.9	26,024	42.6	36,055	44.0
5–9	5,808	27.7	16,749	27.4	22,557	27.5
10–14	3,816	18.2	13,045	21.4	16,861	20.6
15–17	1,287	6.1	5,289	8.7	6,576	8.0
Total	**20,942**	**100.0**	**61,106**	**100.0**	**82,048**	**100.0**

Note: Number excluded due to errors and omissions(weighted):5,928.

Source: SAAP Client Collection.

Unmet requests for SAAP accommodation

The Demand for Accommodation Collection attempts to measure unmet need for SAAP accommodation in two separate weeks during the year. This collection counted those who were seeking accommodation but whose request for accommodation could not be met for one week in December 2010 and May 2011.

- There was an average of 67 Indigenous people per day with valid unmet requests for assistance in December 2010 and May 2011 (Table 2.01.26).
- There were more Indigenous females (40) with unmet requests for SAAP accommodation than Indigenous males (27) (Table 2.01.26).
- Queensland (24) had the most valid unmet requests for SAAP accommodation per day followed by New South Wales (15.9) (Table 2.01.26).

Table 2.01.26: Valid unmet requests for average number of SAAP accommodation per day of Indigenous clients with accompanying children, 3–9 December 2010 and 6–12 May 2011

	NSW	Qld	WA	SA	Tas	ACT	NT	Australia
Males	6.4	10.4	5	3.6	0.4	0.3	1.4	27.4
Females	9.5	13.1	6.4	4.6	0.6	0.1	5.4	39.8
Persons	15.9	23.5	11.4	8.2	1.1	0.4	6.8	67.2

Note: Data for Victorian is not included in this table as comparable data for Victoria to the other jurisdictions could not be collected in 2009–10 or 2010–11.

Source: SAAP Client Collection.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User’s guide (ABS 2010).

Census of Population and Housing

The Census uses the *National health data dictionary* standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplained growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself; for example, whether people are counted more than once, or are undercounted (ABS 1996).

Although the Census data are adjusted for undercounts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

Supported Accommodation Assistance Program (SAAP)

The SAAP collection is an administrative data collection and therefore cannot be used as an indicator for the Australian population. Due to the definition of homelessness for SAAP, there is no way to distinguish whether a person who receives SAAP support was at imminent risk of homelessness or was actually homeless. Therefore, SAAP cannot be used as an indicator for the Australian homeless population.

SAAP also requires valid consent to be given each time a client is supported (support period) in order to collect all the client level and support period level information. However, if consent is not given then only a limited about of information can be collected about the particular client and their support period and this client cannot be linked with any other support periods they may have had.

The Indigenous status question for SAAP requires consent to collect information and is answered by the client and must be recorded as stated by the client, irrespective of the workers perception based on appearance or other factors. This may lead to an undercount of Indigenous SAAP clients if the client does not give consent or does not identify as being of Aboriginal or Torres Strait Islander origin.

A weighting model has been developed to adjust for agency non-participation, client non-consent and client mixed consent in SAAP data. These weights are applied to the majority of SAAP tables and help reflect the true usage of SAAP services across Australia.

From July 2011, the SAAP NDC was replaced by the Specialist Homelessness Services Collection (SHSC). The SHSC was developed by the AIHW in collaboration with the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs and relevant departments of all state and territory governments.

First results of the new SHSC from the first quarter of data collection—July to September 2011 were released in April 2012. This reported that almost one-fifth (19%) of clients who provided information on their Indigenous status were Aboriginal and/or Torres Strait Islander, while 12% of clients did not have information on Indigenous status recorded (AIHW 2012). This is higher than the 5% of not stated responses reported for the last year of the SAAP NDC. However it should be noted that analysis of the September quarter 2011 SHSC data identified some implementation issues. In particular, the rate of invalid/'don't know'/missing responses was high for many data items. It is expected that rates of missing/not stated information will greatly reduce over the next few quarters of data collection as implementation issues are resolved.

With respect to agency participation rates in the new SHSC, 93% of relevant agencies returned support period data for at least one month in the September quarter 2011. This compares favourably with the SAAP agency participation rate, which was 90% in 2010–11 and 92% on average between 2001–02 and 2010–11.

National Aboriginal and Torres Strait Islander Health Survey

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through

careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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2.02 Access to functional housing with utilities

Connection to water, sewerage and electricity services in Indigenous communities and functionality of Indigenous housing facilities required to support Healthy Living Practices

Data sources

Data on water, sewerage and electricity services come from the 2006 Community Housing and Infrastructure Needs Survey (CHINS). Data on the functionality of housing facilities required to support Healthy Living Practices come from the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

Community Housing and Infrastructure Needs Survey

The Community Housing and Infrastructure Needs Survey (CHINS) collects data from all Aboriginal and Torres Strait Islander housing organisations and discrete Aboriginal and Torres Strait Islander communities in Australia. The latest CHINS was enumerated from 1 March to 30 June 2006. The data were collected through personal interviews with key community and Indigenous Housing Organisation (IHO) representatives knowledgeable about housing and infrastructure issues. The survey collected information on all Aboriginal and Torres Strait Islander communities throughout Australia. The Australian Bureau of Statistics (ABS) conducted the 2006 CHINS on behalf of, and with full funding from, the Department of Families, Community Services and Indigenous Affairs (FaCSIA). Information collected includes:

- details of current housing stock, dwelling management practices and selected income and expenditure arrangements of Indigenous organisations that provide housing to Aboriginal and Torres Strait Islander people
- details of housing and related infrastructure, such as water, electricity, sewerage, drainage, rubbish collection and disposal, as well as other facilities such as transport, communication, education, sport and health services, available in discrete Aboriginal and Torres Strait Islander communities.

The 2006 information was collected on 496 Indigenous housing organisations which managed a total of 21,854 permanent dwellings. Information was also collected on 1,187 discrete Indigenous communities with a combined population of 92,960. Most of these communities were in *Very remote* regions of Australia, with 73% (865) having a population fewer than 50 people.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Healthy Living Practices

The National Indigenous Housing Guide (FaHCSIA 2003) lists nine Healthy Living Practices to help prevent the spread of infectious diseases. These are:

1. Washing people
2. Washing clothes and bedding
3. Removing waste safely
4. Improving nutrition: the ability to store, prepare and cook food
5. Reducing crowding and the potential for the spread of infectious disease
6. Reducing negative contact between people and animals, vermin or insects
7. Reducing the negative impact of dust
8. Controlling the temperature of the living environment
9. Reducing trauma (or minor injury) around the house and living environment.

Census of Population and Housing

The Census of Population and Housing is conducted by the ABS at 5-yearly intervals, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

Although the Census data are adjusted for undercount at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

The 2011 Census is the most recent, however data for the Indigenous population was not yet released at the time of writing this report. Therefore data included in this report come from the 2006 Census. In 2006, the ABS enhanced the sample for the Post-Enumeration Survey to include remote areas. The measured undercount for Indigenous Australians was 11.5%.

Data analyses

Connection to services

The CHINS collects data on water, sewerage and electricity in discrete Indigenous communities. Data from the 2006 survey are presented below.

Water supply

- Of the 1,187 discrete Indigenous communities surveyed in the 2006 CHINS, 9 reported they had no organised water supply, compared with 21 communities in 2001. In 2006, communities with no organised water supply had a total population of 20 people (0.02%) compared with 90 people (0.1%) in 2001 (Table 2.02.1).
- 1.2% of discrete Indigenous communities in the Northern Territory were not connected to an organised water supply (Table 2.02.1).
- Approximately 59% of discrete Indigenous communities (694 communities), with a reported population of 48,511 people, reported bore water as their main source of water supply (Table 2.02.3).
- Out of 375 discrete Indigenous communities for which data on water interruptions were collected, there were 69 that experienced five or more interruptions to water supply in the 12 months before the survey (Table 2.02.1).

Drinking water failed testing

- Drinking water failed water-quality tests for 24% of the reported usual population and 29% of all discrete Indigenous communities not connected to a town water supply for which water-testing data were collected. Nationally, 4,796 people in discrete Indigenous communities, not connected to a nearby town supply, lived in communities where drinking water was not sent away for testing in the 12 months before the survey (Table 2.02.4).
- Of communities not connected to a town supply where water was sent away for testing, the proportion of communities for which drinking water failed testing in the 12 months before the survey ranged from 16% in Queensland to 80% in New South Wales (Table 2.02.4).
- Non-remote areas had the highest proportion of discrete communities not connected to nearby town supplies whose drinking water failed testing (55%) in the 2006 CHINS (Table 2.02.2).
- In 2006, in Australia overall, a slightly lower proportion of discrete Indigenous communities with a population of 50 or more reported their drinking water failed testing in the previous 12 months (29%) than in 1999 (34%) and 2001 (33%) (Table 2.02.5).
- In 2006, Queensland and Western Australia had a lower proportion of communities that reported failed drinking water testing in the previous 12 months than in 1999 and 2001. In New South Wales in 2006 a much higher proportion of communities reported their drinking water failed testing in the previous 12 months than in 1999 and 2001 (Table 2.02.5).

Table 2.02.1: Water supply in discrete Indigenous communities, by state/territory, 2006

	NSW		Qld		WA		SA		NT		Australia(a)			
	No.	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**Number**	**Per cent**	**Reported usual pop’n**	**Per cent**
Communities with no organised water supply(b)	0	0.0	0	0.0	1	0.4	1	1.1	7	1.1	9	0.8	20	0.02
Permanent dwellings not connected to organised water supply(c)(d)	17	1.5	31	0.7	67	2.1	21	2.1	83	1.2	219	1.3	n.a.	n.a.
Communities experiencing 5 or more interruptions(e)(f)(g)	2	3.8	8	19.5	18	18.6	6	14.6	34	24.3	69	18.4	21,291	25.6
Communities experiencing interruptions to supply greater than 24 hours(e)(f)(g)	10	18.9	9	22.0	14	14.4	14	34.1	33	23.6	80	21.3	15,665	18.8
Communities with drinking water not tested(g)(h)(i)	1	16.7	8	27.6	3	5.7	11	45.8	22	22.7	45	21.3	4,796	8.6
Communities with drinking water failed testing(g)(h)(j)	4	80.0	3	15.8	19	38.0	4	30.8	16	21.3	48	29.3	12,059	21.6
Total no. of communities which completed the full community questionnaire(e)	**53**	**. .**	**41**	**. .**	**97**	**. .**	**41**	**. .**	**140**	**. .**	**375**	**. .**	**83,318**	**n.a.**
Total no. of communities(b)	**57**	**. .**	**124**	**. .**	**271**	**. .**	**91**	**. .**	**641**	**. .**	**1,187**	**. .**	**92,960**	**. .**

(continued)

Table 2.02.1 (continued): Water supply in discrete Indigenous communities, by state/territory, 2006

(a) Victoria and Tasmania are only included in Australia for confidentiality reasons.

(b) Calculation based on all discrete Indigenous communities.

(c) All permanent dwellings not connected to an organised water supply, including those in communities with and without community-organised water supply.

(d) Percentage calculated as a proportion of all permanent dwellings.

(e) All discrete Indigenous communities for which data on water interruptions were collected. All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(f) Percentage calculated as a proportion of all discrete communities for which data on water interruptions were collected.

(g) In the 12 months before the survey.

(h) Excludes communities connected to town supply.

(i) Testing means water was sent away for testing. Proportion calculated in relation to total communities not connected to a town supply.

(j) Testing means water was sent away for testing. Proportion calculated in relation to total communities not connected to a town supply where water was sent away for testing.

Sources: SCRGSP 2007; ABS 2007; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.02.2: Water supply in discrete Indigenous communities, by remoteness, 2006

	Non remote		Remote		Very remote		*Subtotal Remote/Very-remote*		Australia			
	No.	Per cent	No.	Per cent	No.	Per cent	*No.*	*Per cent*	No.	Per cent	Reported usual pop'n	Per cent
Communities with no organised water supply[(a)]	0	0.0	1	1.0	8	0.8	*9*	*0.8*	9	0.8	20	0.02
Permanent dwellings not connected to organised water supply[(b)]	20	n.a.	36	n.a.	163	n.a.	*199*	*n.a.*	219	1.3	n.a.	n.a.
Communities experiencing 5 or more interruptions[(c)(d)(e)]	4	6.3	18	42.9	47	17.4	*65*	*20.8*	69	18.4	21,291	25.6
Communities experiencing interruptions to supply greater than 24 hours[(c)(d)(e)]	12	19.0	13	31.0	55	20.4	*68*	*21.8*	80	21.3	15,665	18.8
Communities with drinking water not tested [(e)(f)(g)]	2	16.7	4	33.3	39	21.0	*43*	*21.7*	45	21.3	4,796	8.6
Communities with drinking water failed testing [(e)(f)(h)]	6	54.5	1	12.5	41	28.3	*42*	*27.5*	48	29.3	12,059	21.6
Total no. of communities which completed the full community questionnaire [(c)]	**63**	. .	**42**	. .	**270**	. .	***312***	*. .*	**375**	. .	**83,318**	. .
Total[(a)]	**75**	. .	**104**	. .	**1,008**	. .	***1,112***	*. .*	**1,187**	. .	**92,960**	. .

(a) Calculation based on all discrete Indigenous communities.

(b) All permanent dwellings not connected to an organised water supply, including those in communities with and without community-organised water supply.

(c) All discrete Indigenous communities for which data on water interruptions were collected. All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(d) Proportion calculated as a proportion of all discrete communities for which data on water interruptions were collected.

(e) In the 12 months before the survey.

(f) Excludes communities connected to a town supply.

(g) Testing means water was sent away for testing. Proportion calculated in relation to total communities not connected to a town supply.

(h) Testing means water was sent away for testing. Proportion calculated in relation to total communities not connected to a town supply where water was sent away for testing.

Sources: SCRGSP 2007; ABS 2007; FaHCSIA and ABS analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.02.3: Main source of drinking water, discrete Indigenous communities, by state/territory, 2006

	NSW		Qld		WA		SA		NT		Australia[(a)]			
	Number of communities	Per cent	Number of communities	Per cent	Number of communities	Per cent	Number of communities	Per cent	Number of communities	Per cent	Number of communities	Per cent	Reported usual pop'n.	Per cent
Connected to town supply	51	89.5	11	8.9	43	15.9	19	20.9	84	13.1	209	17.6	28,084	30.2
Bore water	2	3.5	32	25.8	197	72.7	48	52.7	414	64.6	694	58.5	48,511	52.2
Rain water tank(s)	2	3.5	24	19.4	0	0.0	6	6.6	8	1.2	41	3.5	2,378	2.6
River/reservoir	2	3.5	24	19.4	5	1.8	3	3.3	22	3.4	57	4.8	11,667	12.6
Well or spring	0	0.0	21	16.9	2	0.7	1	1.1	15	2.3	39	3.3	887	1.0
Carted water	0	0.0	4	3.2	2	0.7	0	0.0	21	3.3	27	2.3	637	0.7
Other organised water supply	0	0.0	1	0.8	1	0.4	1	1.1	0	0.0	3	0.3	104	0.1
No organised water supply	0	0.0	0	0.0	1	0.4	1	1.1	7	1.1	9	0.8	20	0.02
Total	**57**	**100.0**	**124**	**100.0**	**271**	**100.0**	**91**	**100.0**	**641**	**100.0**	**1,187**	**100.0**	**92,960**	**100.0**

(a) Victoria and Tasmania are only included in Australia for confidentiality reasons.

Source: ABS 2007.

Table 2.02.4: Testing of drinking water in discrete Indigenous communities, by state/territory, 2006(a)(b)

	NSW		Qld		WA		SA		NT		Australia(c)			
	Number of communities	**Per cent**	**Number of communities**	**Per cent**	**Number of communities**	**Per cent**	**Number of communities**	**Per cent**	**Number of communities**	**Per cent**	**Number of communities**	**Per cent**	**Reported usual pop'n.**	**Per cent**
Did not fail testing(d)(e)	1	20.0	9	47.4	30	60.0	9	69.2	51	68.0	100	61.0	29,104	58.2
Failed testing(d)(e)	4	80.0	3	15.8	19	38.0	4	30.8	16	21.3	48	29.3	12,059	24.1
Total communities water sent away for testing(f)(g)	5	83.3	19	65.5	50	94.3	13	54.2	75	77.3	164	78.1	50,043	n.a.
Not tested (g)	1	16.7	8	27.6	3	5.7	11	45.8	22	22.7	45	21.4	4,796	n.a.
Not stated whether water sent away for testing(g)	0	0.0	2	6.9	0	0.0	0	0.0	0	0.0	2	0.9	1,100	2.0
Total not connected to town supply(h)	6	11.3	29	70.7	53	54.6	24	58.5	97	69.3	211	56.3	55,939	67.1
Connected to town supply(h)	47	88.7	10	24.4	37	38.1	17	41.5	43	30.7	155	41.3	26,791	32.2
Connected to town supply not stated(h)	0	0.0	2	4.9	7	7.2	0	0.0	0	0.0	9	2.4	588	0.7
Total(b)	**53**	**100.0**	**41**	**100.0**	**97**	**100.0**	**41**	**100.0**	**140**	**100.0**	**375**	**100.0**	**83,318**	**100.0**

(a) In the 12 months before the survey.

(b) All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(c) Victoria and Tasmania are only included in Australia for confidentiality reasons.

(d) Excludes communities connected to town supply.

(e) Testing means water was sent away for testing. Proportion calculated in relation to total communities not connected to a town supply where water was sent away for testing.

(f) Total includes don't know if failed testing.

(g) Testing means water was sent away for testing. Proportion calculated in relation to total communities not connected to a town supply.

(h) A town supply is a water supply which is shared with a nearby town. The community is not responsible for the water supply, it is normally maintained by a Water Authority or Shire Council. Town supply not necessarily community's main source of drinking water.

Sources: ABS 2007; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.02.5: Percentage of discrete Indigenous communities[a] where drinking water failed testing[b] in previous 12 months, by state/territory, 1999, 2001 and 2006

		NSW	Qld	WA	SA	NT	Australia[c]
1999	Number of communities	3	11	16	3	24	58
	Per cent	30.0	42.3	37.2	27.3	30.8	34.3
	Total number of communities[a]	**10**	**26**	**43**	**11**	**78**	**169**
2001	Number of communities	5	7	26	4	13	56
	Per cent	62.5	30.4	48.1	25.0	19.4	33.1
	Total number of communities[a]	**8**	**23**	**54**	**16**	**67**	**169**
2006	Number communities	4	3	16	3	15	43
	Per cent	100.0	16.7	35.6	30.0	21.4	28.9
	Total number of communities[a]	**4**	**18**	**45**	**10**	**70**	**149**

(a) Communities with a population of 50 or more with an organised water supply (where the main source is not town water supply) that had their water tested.

(b) Testing means water was sent away for testing. Proportion calculated in relation to total communities not connected to a town supply where water was sent away for testing.

(c) Victoria and Tasmania are only included in Australia for confidentiality reasons.

Sources: AIHW analysis of ABS 2002; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Water restrictions and interruptions

- Of the discrete Indigenous communities not connected to a town water supply that completed the long community questionnaire in 2006, 76 (21%) experienced water restrictions in the 12 months before the CHINS (Table 2.02.6).
- Of the 182 communities that reported water interruptions in 2006, 29 reported only one interruption, whereas 69 reported interruptions on five or more occasions in the 12 months before the survey (Table 2.02.6).
- Approximately 28% of discrete Indigenous communities not connected to a town water supply that completed the long community questionnaire in 2006 reported the duration of the longest water interruption in the last 12 months as 1 day, and 0.5% reported the longest water interruption as more than 112 days (Table 2.02.7).

Table 2.02.6: Water restrictions and interruptions in discrete Indigenous communities[(a)(b)(c)], by reported usual population, 2006

	Communities with a population of							
	Less than 50	50–99	100–199	200 or more	All communities		Reported usual population	
	Number	Number	Number	Number	Number	%	Number	%
Water restrictions								
Experienced water restrictions due to								
Drought	7	8	12	7	34	9.3	8,267	10.0
Normal dry season	0	4	4	12	20	5.5	8,129	9.8
Lack of storage containment	0	3	2	6	11	3.0	6,853	8.3
Poor water quality	0	4	3	1	8	2.2	3,634	4.4
Other reason	3	4	5	7	19	5.2	7,222	8.7
Total communities experienced water restrictions(d)	*8*	*19*	*21*	*28*	*76*	*20.8*	*25,557*	*30.9*
Did not experience water restrictions	46	97	68	79	290	79.2	57,173	69.1
Water interruptions								
Experienced water interruptions due to								
Equipment breakdown	14	38	38	55	145	39.6	36,139	43.7
Ran out of water	2	6	5	6	19	5.2	3,879	4.7
Poor water quality	0	3	3	4	10	2.7	2,706	3.3
Lack of power	0	3	6	9	18	4.9	6,825	8.2
Planned interruption	4	18	18	26	66	18.0	18,943	22.9
Other water interruption	3	2	1	6	12	3.3	3,235	3.9
Total communities experienced water interruptions(d)	*17*	*52*	*47*	*66*	*182*	*49.7*	*44,563*	*53.9*
Did not experience water interruption	37	64	42	41	184	50.3	38,167	46.1
Frequency of water interruption								
Once	4	8	9	8	29	7.9	5,366	6.5
Twice	2	13	8	15	38	10.4	7,403	8.9
Three times	4	8	8	6	26	7.1	4,178	5.1
Four times	2	4	7	7	20	5.5	6,325	7.6
Five times or more	5	19	15	30	69	18.9	21,291	25.7
All communities	**54**	**116**	**89**	**107**	**366**	**100.0**	**82,730**	**100.0**

(a) In the 12 months before the survey.

(b) All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(c) Excludes communities connected to town supply.

(d) Component may not add to totals because more than one response may be specified.

Source: ABS 2007.

Table 2.02.7: Duration of longest water interruption in discrete Indigenous communities, by state/territory, 2006[(a)(b)(c)]

		1 day	2 days	3–7 days	8–14 days	15–28 days	29–56 days	57–112 days	>112 days	No restrictions	Total
Number of communities											
NSW	Number	6	3	4	1	0	0	1	1	37	53
Qld	Number	11	5	3	1	0	0	0	0	19	39
WA	Number	22	7	5	1	0	1	0	0	54	90
SA	Number	6	6	4	0	1	1	1	1	21	41
NT	Number	56	14	16	2	1	0	0	0	51	140
Australia(d)	Number	**102**	**35**	**32**	**5**	**2**	**2**	**2**	**2**	**184**	**366**
Proportion of communities											
NSW	Per cent	11.3	5.7	7.5	1.9	0.0	0.0	1.9	1.9	69.8	100.0
Qld	Per cent	28.2	12.8	7.7	2.6	0.0	0.0	0.0	0.0	48.7	100.0
WA	Per cent	24.4	7.8	5.6	1.1	0.0	1.1	0.0	0.0	60.0	100.0
SA	Per cent	14.6	14.6	9.8	0.0	2.4	2.4	2.4	2.4	51.2	100.0
NT	Per cent	40.0	10.0	11.4	1.4	0.7	0.0	0.0	0.0	36.4	100.0
Australia(d)	**Per cent**	**27.9**	**9.6**	**8.7**	**1.4**	**0.5**	**0.5**	**0.5**	**0.5**	**50.3**	**100.0**

(a) In the 12 months before the survey.

(b) All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(c) Excludes communities connected to town supply.

(d) Victoria and Tasmania are only included in Australia for confidentiality reasons.

Sources: ABS 2007; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Electricity source and supply

- In 2006, community generators were the main source of electricity reported for 377 Indigenous communities (32%) followed by state grid or transmitted supply reported for 274 communities (23%) (Table 2.02.8). Communities with a reported population of 50 or more were more likely to be connected to a state grid or a transmitted supply than smaller communities.
- No organised electricity supply was reported for 32 discrete Indigenous communities in 2006 (2.7% of all communities surveyed) (Table 2.02.8).
- The proportion of communities with no organised electricity supply ranged from 0.0% in New South Wales to 4.0% in Queensland (Table 2.02.9).
- All dwellings not connected to an organised electricity supply were located in *Remote* and *Very remote* areas, with the highest numbers in *Very remote* areas (Table 2.02.10).

Table 2.02.8: Main source of electricity, all discrete Indigenous communities, by state/territory, 2006

	State grid/transmitted supply	Community generators	Domestic generators	Solar	Solar hybrid	Other organised electricity supply	No organised electricity supply	Total[(a)]
				Communities with a population of less than 50				
State/territory								
NSW	18	0	0	0	0	0	0	18
Qld	7	10	43	10	0	1	5	85
WA	29	56	71	3	11	1	5	189
SA	17	13	9	3	8	0	1	63
NT	61	138	49	86	83	3	20	510
Australia[(b)]	**132**	**217**	**172**	**102**	**102**	**5**	**31**	**865**
				Communities with a population of 50 or more				
State/territory								
NSW	39	0	0	0	0	0	0	39
Qld	15	23	0	0	0	1	0	39
WA	26	49	4	0	0	0	0	82
SA	14	10	1	0	1	1	1	28
NT	46	77	1	3	4	0	0	131
Australia[(b)]	**142**	**160**	**6**	**3**	**5**	**3**	**1**	**322**
				All communities				
State/territory								
NSW	57	0	0	0	0	0	0	57
Qld	22	33	43	10	0	2	5	124
WA	55	105	75	3	11	1	5	271
SA	31	23	10	3	9	1	2	91
NT	107	215	50	89	87	3	20	641
Australia[(b)]	**274**	**377**	**178**	**105**	**107**	**8**	**32**	**1,187**

(a) Includes main source of electricity not stated.

(b) Victoria and Tasmania are only included in Australia for confidentiality reasons.

Source: ABS 2007.

Table 2.02.9: Electricity supply in discrete Indigenous communities, by state/territory, 2006

	NSW		Qld		WA		SA		NT		Australia[(a)]			
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Reported usual population	Per cent
Communities with no organised electricity supply[(b)]	0	0.0	5	4.0	5	1.8	2	2.2	20	3.1	32	2.7	284	0.3
Permanent dwellings not connected to organised electricity supply[(c)(d)]	1	0.1	16	0.3	18	0.6	19	1.9	28	0.4	82	0.5	n.a.	n.a.
Communities experiencing 20 or more interruptions[(e)(f)(g)]	1	1.9	4	9.8	19	19.6	2	4.9	15	10.7	41	10.9	13,342	16.0
Communities experiencing interruptions to supply longer than 24 hours[(e)(f)(g)]	7	13.2	14	34.1	27	27.8	15	36.6	32	22.9	96	25.6	23,952	28.7
Total no. of communities which completed the full community questionnaire [(e)]	**53**	. .	**41**	. .	**97**	. .	**41**	. .	**140**	. .	**375**	. .	**83,318**	. .
Total no. of communities[(b)]	**57**	. .	**124**	. .	**271**	. .	**91**	. .	**641**	. .	**1,187**	. .	**92,960**	. .

(continued)

Table 2.02.9 (continued): Electricity supply in discrete Indigenous communities, by state/territory, 2006

(a) Victoria and Tasmania are only included in Australia for confidentiality reasons.

(b) Calculation based on all discrete Indigenous communities.

(c) All permanent dwellings not connected to an organised electricity supply, including those in communities with and without community-organised electricity supply.

(d) Percentage calculated as a proportion of all permanent dwellings.

(e) All discrete Indigenous communities for which data on electricity interruptions were collected. All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(f) Percentage calculated as a proportion of all discrete Indigenous communities for which data on electricity interruptions were collected.

(g) In the 12 months before the survey.

Sources: ABS 2007; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.02.10: Electricity supply in discrete Indigenous communities, by remoteness area, 2006

	Major cities		Inner regional		Outer regional		Remote		Very remote		Australia	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
							Communities					
Communities with no organised electricity supply(a)	—	—	—	—	—	—	1	1.0	31	3.1	32	2.7
Permanent dwellings not connected to organised electricity supply(b)	—	—	1	—	4	n.a.	14	n.a.	63	n.a.	82	0.5
Communities experiencing 20 or more interruptions(c)(d)(e)	—	—	—	—	1	2.4	6	14.3	34	12.6	41	10.9
Communities experiencing interruptions to supply longer than 24 hours(c)(d)(e)	1	25.0	2	11.8	8	19.0	16	38.1	69	25.6	96	25.6
Total no. of communities which completed the full community questionnaire (c)	**4**	**. .**	**17**	**. .**	**42**	**. .**	**42**	**. .**	**270**	**. .**	**375**	**. .**
Total no. of communities(a)	**4**	**. .**	**19**	**. .**	**52**	**. .**	**104**	**. .**	**1,008**	**. .**	**1,187**	**. .**
							Reported usual population					
Communities with no organised electricity supply(a)	—	—	—	—	—	—	4	0.04	280	0.5	284	0.3
Permanent dwellings not connected to organised electricity supply(b)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Communities experiencing 20 or more interruptions(c)(d)(e)	—	—	—	—	180	1.8	1,491	15.6	11,671	19.0	13,342	16.0
Communities experiencing interruptions to supply longer than 24 hours(c)(d)(e)	70	17.1	344	18.9	4,641	46.2	1,812	18.9	17,085	27.8	23,952	28.7
Total no. of communities which completed the full community questionnaire(c)	**410**	**. .**	**1,824**	**. .**	**10,041**	**. .**	**9,587**	**. .**	**61,456**	**. .**	**83,318**	**. .**
Total no. of communities(a)	**410**	**. .**	**1,835**	**. .**	**10,315**	**. .**	**10,775**	**. .**	**69,625**	**. .**	**92,960**	**. .**

(continued)

Table 2.02.10 (continued): Electricity supply in discrete Indigenous communities, by remoteness area, 2006

(a) Calculation based on all discrete Indigenous communities.

(b) All permanent dwellings not connected to an organised electricity supply, including those in communities with and without community-organised electricity supply.

(c) All discrete Indigenous communities for which data on electricity interruptions were collected. All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(d) Percentage calculated as a proportion of all discrete Indigenous communities for which data on electricity interruptions were collected.

(e) In the 12 months before the survey.

Sources: ABS 2007; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Electricity interruptions

- In 2006, interruptions to the electricity supply in the 12 months before the CHINS occurred in 76% (246) of the 322 discrete Indigenous communities with a reported population of 50 or more (Table 2.02.11). This was slightly lower than in 2001 and 1999 when interruptions were reported for 82% and 81% respectively.
- In 2006, approximately one-third (32%) of communities experienced less than 5 electricity interruptions, and 12% experienced 20 or more interruptions in the 12 months before the survey (Table 2.02.11).
- In 2006, approximately 26% of communities experienced interruptions to electricity supply lasting longer than 24 hours. This was higher than that reported in 2001 (13%) and 1999 (14%) (Table 2.02.12).
- In 2008, 4.7% of Indigenous households experienced major electrical problems. The proportion was higher in remote areas (7.0%) than non-remote areas (4.3%) (Table 2.01.13).

Table 2.02.11: Electricity interruptions[(a)], communities with a population of 50 or more, 1999, 2001 and 2006

	2006					2001							1999			
	Communities with a population of					Communities with a population of										
Electricity interruptions	**50–99**	**100–199**	**200 or more**	**Total**	**Per cent**	**50–99**	**100–199**	**200 or more**	**Total**	**Per cent**	**Reported usual pop'n**	**Per cent**	**Total**	**Per cent**	**Reported usual pop'n**	**Per cent**
1–4 times	37	31	35	103	32.0	35	32	33	100	30.6	25,403	26.7	120	34.5	25,159	26.4
5–9 times	21	19	21	61	18.9	19	11	39	69	21.1	23,508	24.7	55	15.8	25,812	27.1
10–14 times	10	7	13	30	9.3	6	7	21	34	10.4	13,246	13.9	33	9.5	10,345	10.8
15–19 times	4	2	7	13	4.0	2	1	5	8	2.4	2,750	2.9	16	4.6	5,221	5.5
20 times or more	10	9	20	39	12.1	13	13	28	54	16.5	17,113	18.0	57	16.4	18,490	19.4
Total with electricity interruption[(b)]	*82*	*68*	*96*	*246*	*76.4*	*75*	*64*	*128*	*267*	*81.7*	*82,670*	*87.0*	*281*	*80.7*	*84,027*	*88.1*
Did not experience electricity interruption	34	20	11	65	20.2	26	16	17	59	18.0	12,276	12.9	62	17.8	10,897	11.4
All communities[(c)(d)]	**123**	**92**	**107**	**322**	**100.0**	**102**	**80**	**145**	**327**	**100.0**	**94,996**	**100.0**	**348**	**100.0**	**95,423**	**100.0**

(a) In the 12 months before the survey.

(b) Includes 'Number of electricity interruptions' not stated.

(c) Includes communities with no organised electricity supply.

(d) Includes 'Whether experienced electricity interruption' not stated.

Source: ABS 2002, 2007.

Table 2.02.12: Discrete Indigenous communities, with reported usual population 50 or more, experiencing interruptions to electricity supply longer than 24 hours in the previous 12 months, by remoteness, 1999, 2001 and 2006

		Non-remote	Remote	Very remote	Australia
1999	Number of communities	7	6	34	47
	Per cent	10.4	13.3	14.4	13.5
	Total number of communities[(a)]	**67**	**45**	**236**	**348**
2001	Number of communities	9	5	28	42
	Per cent	14.5	12.5	12.4	12.8
	Total number of communities[(a)]	**62**	**40**	**225**	**327**
2006	Number of communities	10	13	59	82
	Per cent	20.0	35.1	25.1	25.5
	Total number of communities[(a)]	**50**	**37**	**235**	**322**

(a) Discrete Indigenous communities, with reported usual population 50 or more.

Sources: AIHW analysis of the 1999 and 2001 Community Housing and Infrastructure Needs Surveys; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.02.13: Number and proportion of Indigenous households with major electrical problems, by remoteness area, state/territory and SEIFA quintiles, 2008

	Households with major electrical problems		Total households[(a)]	
	Number	Proportion	Number	Proportion
Remoteness				
Major cities	2,764	3.8	72,579	100.0
Inner regional	1,551	3.5	45,027	100.0
Outer regional	2,565	6.0	43,059	100.0
Total non-remote	*6,879*	*4.3*	*160,664*	*100.0*
Remote	855	5.5	15,614	100.0
Very remote	1,449	8.5	17,142	100.0
Total remote	*2,304*	*7.0*	*32,756*	*100.0*
Total	**9,183**	**4.7**	**193,421**	**100.0**
State/territory				
NSW	2,120*	3.3*	64,341	100.0
Vic	585	3.7	15,819	100.0
Qld	3,039	5.7	53,179	100.0
WA	669	5.7	11,710	100.0
SA	1,292*	5.9*	21,956	100.0
Tas	339*	3.6*	9,323	100.0
ACT	1,077*	7.1*	15,108	100.0
NT	63	3.1	1,985	100.0
Australia	**9,183**	**4.7**	**193,421**	**100.0**
SEIFA				
1st quintile (most disadvantaged)	5,262	6.1	86,205	100.0
2nd quintile	1,423	3.5	41,073	100.0
3rd quintile	1,311*	3.7*	35,159	100.0
4th/5th quintile (least disadvantaged)	949*	3.4*	27,727	100.0
Total households[(b)]	**9,183**	**4.7**	**193,421**	**100.0**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Total includes not stated and households with no electrical problems.

(b) Includes not stated.

Source: AIHW analysis of 2008 NATSISS.

Sewerage systems

- In 2006, the majority of discrete Indigenous communities had septic tanks for their sewerage (695 communities or 59%) (Table 2.02.14).
- Approximately 1,969 people living in discrete Indigenous communities in 2006 did not have an organised sewerage system. A further 3,703 people relied on pit toilets for their sewerage (Table 2.02.18).

- The proportion of discrete Indigenous communities in *Very remote* areas without an organised sewerage system dropped from 86 communities (8.3%) in 2001 to 20 communities (2.0%) in 2006 (Table 2.02.15).
- The number of discrete Indigenous communities connected to a town sewerage system increased from 89 (7.3%) in 2001 to 121 (10.2%) in 2006 (Table 2.02.15).
- Approximately 2.1% of all discrete Indigenous communities (25 communities) in 2006 had no organised sewerage system. This ranged from 1.1% (7 communities) in the Northern Territory to 4.0% (5 communities) in Queensland. A further 17% (202 communities) relied on pit toilets (Table 2.02.17).
- In 2006, 4.0% of communities in *Non-remote* areas, 1.9% in *Remote* areas and 2.0% in *Very remote* areas had no organised sewerage system (Table 2.02.18).

Sewerage system overflows and leakages

- In 2006, 38% of all discrete Indigenous communities (142 out of 375) which provided data on sewerage system leakages and overflows reported overflows or leakages in the 12 months before the survey. Of these 142 communities, 82 (22%) reported 1–4 overflows/leakages and 14 (3.7%) reported 20 or more overflows/leakages (Table 2.02.16).
- The proportion of communities with a population of 50 or more which experienced 10 or more sewerage overflows or leakages in the 12 months before the survey was lower in 2006 than in 2001 and 1999 across all remoteness areas (Table 2.02.19).

Table 2.02.14: Number of discrete Indigenous communities with different types of sewerage systems, by state/territory, 2006

	Town system	Community waterborne	Septic tanks: common effluent disposal	Septic tanks: leach drains	Pit toilets	Pan toilets	Other organised system	No organised system	Total no. communities[(a)]
Communities with a population of less than 50									
NSW	13	—	3	1	—	—	—	2	18
Queensland	1	—	3	35	27	—	8	4	82
WA	3	8	14	147	9	1	—	7	194
SA	—	3	14	32	9	—	—	2	62
NT	8	1	20	286	148	—	1	6	509
Australia[(b)]	25	12	54	501	193	1	9	21	865
Communities with a population of 50 or more									
NSW	29	2	6	3	—	—	—	—	39
Queensland	12	13	7	9	—	—	—	—	38
WA	14	33	14	28	1	—	—	1	83
SA	4	6	13	8	2	—	—	—	29
NT	39	39	8	44	6	—	—	—	130
Australia[(b)]	98	96	48	92	9	—	—	1	322
All communities									
NSW	42	2	9	4	—	—	—	2	57
Queensland	13	13	10	44	27	—	8	4	120
WA	17	41	28	175	10	1	—	8	277
SA	4	9	27	40	11	—	—	2	91
NT	47	40	28	330	154	—	1	6	639
Australia[(b)]	121	108	102	593	202	1	9	22	1,187

(a) Components may not add to totals as more than one response may be specified.

(b) Victoria and Tasmania are only included in Australia for confidentiality reasons.

Source: ABS 2007.

Table 2.02.15: Number of discrete Indigenous communities with different types of sewerage systems, by remoteness area, 2001 and 2006

	Town system	Community waterborne	Septic tanks: common effluent disposal.	Septic tanks: leach drains	Pit toilets	Pan toilets	Other organised system	No organised system	Total no. communities [(a)]
Non-remote									
2001	38	7	16	14	—	—	—	2	77
2006	43	10	12	13	—	—	—	3	75
Remote									
2001	26	10	15	46	7	2	—	3	109
2006	30	9	7	57	7	—	—	2	104
Very remote									
2001	25	79	73	537	217	1	12	86	1,030
2006	48	89	82	523	195	1	9	20	1,008
Remote/Very remote									
2001	*51*	*89*	*88*	*583*	*224*	*3*	*12*	*89*	*1,139*
2006	*78*	*98*	*89*	*580*	*202*	*1*	*9*	*22*	*1,112*
All communities									
2001	**89**	**96**	**104**	**597**	**224**	**3**	**12**	**91**	**1,216**
2006	**121**	**108**	**101**	**593**	**202**	**1**	**9**	**25**	**1,187**

(a) Components may not add to totals as more than one response may be specified.

Source: ABS 2007.

Table 2.02.16: Discrete Indigenous communities reporting sewerage system leakages and overflows[(a)(b)], by type of sewerage system, 2006

	Frequency of sewerage system leakages or overflows						
	1–4 times	**5–9 times**	**10–19 times**	**20 times or more**	**Total with overflows**	**No overflows**	**Total communities[(b)(c)]**
Number of communities							
Town system	26	6	3	2	37	73	110
Community waterborne	26	7	3	5	41	60	101
Septic tanks: common effluent disposal	12	3	6	1	22	37	62
Septic tanks: leach drains	24	13	7	7	51	60	113
Pit toilets	2	0	0	1	3	5	10
Pan toilets	0	0	0	0	0	0	0
Other organised system	0	0	0	0	0	0	0
No organised system	0	0	0	0	0	0	5
Total[(d)(e)]	**82**	**29**	**17**	**14**	**142**	**219**	**375**
Proportion of communities							
Town system	23.6	5.5	2.7	1.8	33.6	66.4	100.0
Community waterborne	25.7	6.9	3.0	5.0	40.6	59.4	100.0
Septic tanks: common effluent disposal	19.4	4.8	9.7	1.6	35.5	59.7	100.0
Septic tanks: leach drains	21.2	11.5	6.2	6.2	45.1	53.1	100.0
Pit toilets	20.0	0.0	0.0	10.0	30.0	50.0	100.0
Pan toilets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other organised system	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
No organised system	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Total	**21.9**	**7.7**	**4.5**	**3.7**	**37.9**	**58.4**	**100.0**

(continued)

Table 2.02.16 (continued): Discrete Indigenous communities reporting sewerage system leakages and overflows[(a)(b)], by type of sewerage system, 2006

(a) In the 12 months before the survey.

(b) All discrete Indigenous communities for which data on sewerage system leakages and overflows were collected. All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(c) Includes whether experienced sewerage system leakage not stated.

(d) Includes type of sewerage system not stated.

(e) Components may not add to total as more than one response may be specified.

Source: FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.02.17: Sewerage in discrete Indigenous communities, by state/territory, 2006

	NSW		Qld		WA		SA		NT		Australia[(a)]	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
No organised sewerage system[(b)]	2	3.5	5	4.0	8	3.0	3	3.3	7	1.1	25	2.1
Pit toilets[(b)(c)]	—	—	27	21.8	10	3.7	11	12.2	154	24.0	202	17.0
Permanent dwellings not connected to organised sewerage system[(d)(e)]	17	1.5	26	0.6	175	5.5	12	1.2	151	2.1	381	2.2
Communities experiencing 10 or more overflows or leakages[(f)(g)(h)]	3	5.7	3	7.3	7	7.2	4	9.8	13	9.3	31	8.3
Communities experiencing overflows or leakages for longer than 48 hours[(f)(g)(h)]	10	18.9	11	26.8	23	23.7	11	26.8	24	17.1	81	21.6
Total no. of communities which completed the full community questionnaire[(f)]	**53**	. .	**41**	. .	**97**	. .	**41**	. .	**140**	. .	**375**	. .
Total no. of communities[(b)]	**57**	. .	**124**	. .	**271**	. .	**90**	. .	**641**	. .	**1,187**	. .

(a) Victoria and Tasmania are only included in Australia for confidentiality reasons.

(b) Calculation based on all discrete Indigenous communities.

(c) May not be main type of sewerage system; more than one type could be specified.

(d) All permanent dwellings not connected to an organised sewerage system, including those in communities with and without community-organised sewerage system.

(e) Percentage calculated as a proportion of all permanent dwellings.

(f) All discrete Indigenous communities for which data on sewerage system leakages and overflows were collected. All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(g) Percentage calculated as a proportion of all discrete Indigenous communities for which data on sewerage system leakages and overflows were collected.

(h) In the 12 months before the survey.

Source: FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.02.18: Sewerage in discrete Indigenous communities, by remoteness, 2006

	Non-remote		Remote		Very remote		Remote/Very remote		Australia			
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Reported usual population**	**Per cent**
No organised sewerage system[(a)]	3	4.0	2	1.9	20	2.0	*22*	*2.0*	25	2.1	1,969	2.1
Pit toilets[(a)(b)]	—	—	7	6.7	195	19.3	*202*	*18.2*	202	17.0	3,703	4.0
Permanent dwellings not connected to organised sewerage system[(c)(d)]	34	n.a	45	n.a	302	n.a	*347*	*n.a.*	381	2.2	n.a.	n.a.
Communities experiencing 10 or more overflows or leakages[(e)(f)(g)]	4	6.3	1	2.4	26	9.6	*27*	*8.7*	31	8.3	5,341	6.4
Communities experiencing overflows or leakages for longer than 48 hours[(e)(f)(g)]	14	22.2	9	21.4	58	21.5	*67*	*21.5*	81	21.6	14,376	17.3
Total no. of communities which completed the full community questionnaire[(e)]	**63**	. .	**42**	. .	**270**	. .	***312***	. .	**375**	. .	**83,318**	. .
Total no. of communities[(a)]	**75**	. .	**104**	. .	**1,008**	. .	***1,112***	. .	**1,187**	. .	**92,960**	. .

(a) Calculation based on all discrete Indigenous communities.

(b) May not be main type of sewerage system; more than one type could be specified.

(c) All permanent dwellings not connected to an organised sewerage system, including those in communities with and without community-organised sewerage system.

(d) Percentage calculated as a proportion of all permanent dwellings.

(e) All discrete Indigenous communities for which data on sewerage system leakages and overflows were collected. All discrete Indigenous communities with a reported usual population of 50 persons or more, and communities which have a reported usual population of less than 50 persons but which are not administered by a larger discrete Indigenous community or Resource Agency.

(f) Percentage calculated as a proportion of all discrete Indigenous communities for which data on sewerage system leakages and overflows were collected.

(g) In the 12 months before the survey.

Source: FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.02.19: Discrete Indigenous communities, with reported usual population 50 or more, experiencing 10 or more sewerage system overflows or leakages in previous 12 months, by remoteness, 1999, 2001 and 2006

		Non-remote	Remote	Very remote	Australia
1999	Number of communities	8	5	39	52
	Per cent	11.9	11.1	16.5	14.9
	Total number of communities(a)	**67**	**45**	**236**	**348**
2001	Number of communities	5	4	31	40
	Per cent	8.1	10.0	13.8	12.2
	Total number of communities(a)	**62**	**40**	**225**	**327**
2006	Number of communities	3	1	25	30
	Per cent	6.0	2.7	10.6	9.3
	Total number of communities(a)	**50**	**37**	**235**	**322**

(a) Discrete Indigenous communities, with reported usual population 50 or more.

Sources: AIHW analysis of the 1999 and 2001 Community Housing and Infrastructure Needs Surveys; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Healthy Living Practices

Connection to services does not necessarily mean that the housing facilities (for example, toilets, baths, showers, washing machines, cooking facilities and refrigerators) are functional. The 2008 NATSISS collected information on the functionality of key household facilities required to support Healthy Living Practices. This included the functionality of facilities required to support the following four Healthy Living Practices—washing people; washing clothes and bedding; removing waste safely; and improving nutrition: the ability to store, prepare and cook food. These data were self-reported by people in the households.

- In 2008, approximately 99% of Indigenous households reported that they had working facilities for washing people, 94% reported working facilities for washing clothes/bedding, 94% reported working facilities for storing/preparing food and 98% reported working sewerage systems (Table 2.02.20).
- The Northern Territory had the highest proportion of Indigenous households that reported that they did not have working facilities for washing people (4.1%), washing clothes/bedding (12%), storing/preparing food (17%) or working sewerage facilities (3.9%) (Table 2.02.20).
- The proportion of Indigenous households that reported that they did not have working facilities for washing people, washing clothes/bedding, storing/preparing food and working sewerage facilities was higher in remote areas (3.0%, 11%, 15% and 2.5% respectively) than in non-remote areas (1.2%, 5.0%, 4.4% and 1.4% respectively) (Table 2.02.21).
- Indigenous households in the most disadvantaged areas based on SEIFA index were more likely to not have working facilities for washing people, washing clothes/bedding, storing/preparing food and working sewerage facilities than those in the least disadvantaged areas (Table 2.02.22).
- A higher proportion of Indigenous households with three or more dependent children aged 0–4 years reported that they did not have working facilities for washing clothes/bedding or for storing/preparing food (12% and 14% respectively) than Indigenous households with no dependent children (5.7% and 5.5% respectively). The proportion of Indigenous households without working facilities for washing people and working sewerage facilities was similar for households with none, 1, 2 and 3 or more dependent children aged 0–4 years (Table 2.02.23).
- Access to functional facilities to support the first four Healthy Living Practices was greater in households that were not overcrowded and did not have structural problems (Table 2.02.24).
- Access to functional facilities to support the first four Healthy Living Practices was lower for those households that usually did not consume vegetables or fruit each day compared with households that consumed at least one serve of fruit or vegetables each day (Table 2.02.25).
- In 2008, 50,439 Indigenous households had major structural problems. The proportion of households that had major structural problems was greater in remote (34%), than non-remote areas (25%) (Table 2.02.26).

Table 2.02.20: Indigenous households: access to functional facilities required to support the first four Healthy Living Practices, by state/territory, 2008

	Unit	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Has working facilities for washing people(a)	Per cent	98.5	98.3	99.6	98.6	96.3	98.3	99.7	95.9	98.5
Does not have working facilities for washing people	Per cent	1.5	1.7	0.4	1.4	3.7	1.7	0.3	4.1	1.5
Has working facilities for washing clothes/bedding(b)	Per cent	94.2	93.9	95.5	94.2	91.3	96.4	98.3	87.9	94.0
Does not have working facilities for washing clothes/bedding	Per cent	5.8	6.1	4.5	5.8	8.7	3.6	1.7	12.1	6.0
Has working facilities for storing/preparing food(c)	Per cent	94.4	95.7	95.8	93.1	91.6	96.6	96.8	82.6	93.8
Does not have working facilities for storing/preparing food	Per cent	5.6	4.3	4.2	6.9	8.4	3.4	3.2	17.4	6.2
Has working sewerage facilities(d)	Per cent	98.5	97.9	99.3	99.3	96.2	98.3	99.7	96.1	98.4
Does not have working sewerage facilities	Per cent	1.5	2.1	0.7	0.7	3.8	1.7	0.3	3.9	1.6
Total	**Per cent**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total reported(e)	**Number**	**64,028**	**15,700**	**52,758**	**21,713**	**11,611**	**9,323**	**1,961**	**14,956**	**192,049**
Not stated	Number	314	119	421	242	99	0	25	152	1,371
Total households	**Number**	**64,341**	**15,819**	**53,179**	**21,956**	**11,710**	**9,323**	**1,985**	**15,108**	**193,421**

(a) Comprises households with a working bath or shower.

(b) Comprises households with working washing machine and/or laundry tub.

(c) Comprises households with working stove/oven/cooking facilities and a kitchen sink and a working refrigerator.

(d) Comprises households with a working toilet.

(e) Excludes households for which information about working facilities was not reported.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.02.21: Indigenous households: access to functional facilities required to support the first four Healthy Living Practices, by remoteness, 2008

		Non-remote				Remote			
	Unit	Major cities	Inner regional	Outer regional	Total	Remote	Very remote	Total	Total
Has working facilities for washing people[(a)]	Per cent	98.9	98.2	99.0	98.8	99.0	95.2	97.0	98.5
Does not have working facilities for washing people	Per cent	1.1	1.8	1.0	1.2	1.0	4.8	3.0	1.5
Has working facilities for washing clothes/bedding[(b)]	Per cent	95.3	94.7	95.0	95.0	92.3	86.0	89.0	94.0
Does not have working facilities for washing clothes/bedding	Per cent	4.7	5.3	5.0	5.0	7.7	14.0	11.0	6.0
Has working facilities for storing/preparing food[(c)]	Per cent	96.4	94.4	95.5	95.6	91.3	79.2	85.0	93.8
Does not have working facilities for storing/preparing food	Per cent	3.6	5.6	4.5	4.4	8.7	20.8	15.0	6.2
Has working sewerage facilities[(d)]	Per cent	99.3	97.3	98.9	98.6	98.8	96.2	97.5	98.4
Does not have working sewerage facilities	Per cent	0.7	2.7	1.1	1.4	1.2	3.8	2.5	1.6
Total	**Per cent**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total reported[(e)]	**Number**	**71,926**	**44,934**	**42,759**	**159,619**	**15,467**	**16,963**	**32,430**	**192,049**
Not stated	Number	652	93	300	1,045	147	180	326	1,371
Total households	**Number**	**72,579**	**45,027**	**43,059**	**160,664**	**15,614**	**17,142**	**32,756**	**193,421**

(a) Comprises households with a working bath or shower.

(b) Comprises households with working washing machine and/or laundry tub.

(c) Comprises households with working stove/oven/cooking facilities and a kitchen sink and a working refrigerator.

(d) Comprises households with a working toilet.

(e) Excludes households for which information about working facilities was not reported.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.02.22: Indigenous households: access to functional facilities required to support the first four Healthy Living Practices, by SEIFA index of advantage - disadvantage 2008

	Unit	1st quintile (most disadvantaged)	2nd quintile	3rd quintile	4th/5th quintile (least disadvantaged)	Total(a)
Has working facilities for washing people(b)	%	44.3	21.4	18.3	14.4	100.0
Does not have working facilities for washing people	%	66.1	10.6*	n.p.	n.p.	100.0
Has working facilities for washing clothes/bedding(c)	%	44.2	21.5	18.2	14.6	100.0
Does not have working facilities for washing clothes/bedding	%	51.1	16.2*	16.8*	10.4*	100.0
Has working facilities for storing/preparing food(d)	%	43.3	21.8	18.7	14.7	100.0
Does not have working facilities for storing/preparing food	%	64.3	11.6	9.5*	9.3*	100.0
Has working sewerage facilities(e)	%	44.5	21.3	18.1	14.4	100.0
Does not have working sewerage facilities	%	51.9	14.3*	20.8*	n.p.	100.0
Total	**%**	**44.6**	**21.2**	**18.1**	**14.3**	**100.0**
Total reported(f)	**No.**	**85,712**	**40,727**	**34,839**	**27,541**	**192,049**
Not stated	No.	493*	346*	320*	n.p.	1,371
Total households	**No.**	**86,205**	**41,073**	**35,159**	**27,727**	**193,421**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Total includes not stated.

(b) Comprises households with a working bath or shower.

(c) Comprises households with working washing machine and/or laundry tub.

(d) Comprises households with working stove/oven/cooking facilities and a kitchen sink and a working refrigerator.

(e) Comprises households with a working toilet.

(f) Excludes households for which information about working facilities was not reported.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.02.23: Indigenous households: access to functional facilities required to support the first four Healthy Living Practices, by number of dependent children aged 0–4 years in household, 2008

	Number of dependent children aged 0–4 years in household									
	None		1		2		3+		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Has working facilities for washing people[(a)]	140,363	98.6	32,749	97.9	12,562	97.9	3,413	99.1	189,087	98.5
Does not have working facilities for washing people	1,954	1.4	711	2.1	265	2.1	32	0.9	2,963	1.5
Has working facilities for washing clothes/bedding[(b)]	134,187	94.3	31,376	93.8	11,976	93.4	3,028	87.9	180,566	94.0
Does not have working facilities for washing clothes/bedding	8,131	5.7	2,085	6.2	852	6.6	417	12.1	11,484	6.0
Has working facilities for storing/preparing food	134,419	94.5	30,916	92.4	11,848	92.4	2,967	86.1	180,150	93.8
Does not have working facilities for storing/preparing food[(c)]	7,898	5.5	2,544	7.6	980	7.6	477	13.9	11,899	6.2
Has working sewerage facilities[(d)]	140,353	98.6	32,740	97.8	12,574	98.0	3,365	97.7	189,032	98.4
Does not have working sewerage facilities	1,964	1.4	720	2.2	253	2.0	79	2.3	3,017	1.6
Total reported[(e)]	**142,317**	**100.0**	**33,460**	**100.0**	**12,827**	**100.0**	**3,445**	**100.0**	**192,049**	**100.0**
Not stated	937	. .	282	. .	145	. .	7	. .	1,371	. .
Total households	**143,254**	**. .**	**33,742**	**. .**	**12,973**	**. .**	**3,452**	**. .**	**193,421**	**. .**

(a) Comprises households with a working bath or shower.

(b) Comprises households with working washing machine and/or laundry tub.

(c) Comprises households with working stove/oven/cooking facilities and a kitchen sink and a working refrigerator.

(d) Comprises households with a working toilet.

(e) Excludes households for which information about working facilities was not reported.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.02.24: Proportion of Indigenous households: access to functional facilities required to support the first four Healthy Living Practices, by selected population and socioeconomic characteristics, 2008

	Washing people	Washing clothes/bedding	Storing/preparing food	Sewerage facilities
Overcrowding[a]				
Overcrowded household	13.4	13.1	12.3	13.4
Not an overcrowded household	86.6	86.9	87.7	86.6
Housing				
Housing does have structural problems	25.9	24.7	24.7	25.9
Housing does not have structural problems	74.2	75.3	75.3	74.1
Total households	**100.0**	**100.0**	**100.0**	**100.0**

(a) Based on Canadian National Occupancy Standard.

Source: AIHW analysis of 2008 NATISS.

Table 2.02.25: Proportion of Indigenous households: access to functional facilities required to support the first four Healthy Living Practices, by selected population and socioeconomic characteristics, 2008

	Washing people	Washing clothes/bedding	Storing/preparing food	Sewerage facilities
Nutrition (children aged 14 years and younger)[a]				
Number of serves of vegetables consumed daily				
Does not usually eat vegetables	3.6	3.7	3.7	3.6
1 serve or less	30.3	29.9	30.4	30.4
2 serves	28.8	28.7	28.5	28.7
3 serves	23.4	23.8	23.3	23.3
4 serves	8.8	8.8	8.9	8.8
5 serves or more	5.1	5.2	5.2	5.1
Number of serves of fruit consumed daily				
Does not usually eat fruit	4.8	4.8	4.9	4.9
1 serve or less	34.8	35.3	35.1	34.9
2 serves	38.3	37.9	37.8	38.2
3 serves	15.7	15.6	15.8	15.6
4 serves	4.1	4.2	4.2	4.1
5 serves or more	2.3	2.3	2.2	2.3
Total persons	**100.0**	**100.0**	**100.0**	**100.0**

(a) Nutrition data represents non-remote participants only.

Source: AIHW analysis of 2008 NATSISS.

Table 2.02.26: Indigenous households: major structural problems by remoteness, Australia 2008

	Non-remote		Remote		Total	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Has major structural problems:						
Rising damp (non-remote only)	8,136	5.1	n.a.	n.a.	n.a.	n.a.
Major cracks in wall/floors	18,680	11.7	4,534	14.0	23,213	12.1
Sinking/moving foundations	10,131	6.3	1,500	4.6	11,631	6.1
Sagging floors	7,115	4.5	1,901	5.9	9,016	4.7
Walls or windows that aren't straight	10,351	6.5	3,498	10.8	13,849	7.2
Wood rot/termite damage	8,627	5.4	2,703	8.3	11,330	5.9
Major electrical problems	6,879	4.3	2,304	7.1	9,183	4.8
Major plumbing problems	8,133	5.1	3,223	9.9	11,356	5.9
Major roof defect	6,644	4.2	1,842	5.7	8,486	4.4
Other major structural problems	3,086	1.9	1,388	4.3	4,474	2.3
***Total has major structural problems*[(a)]**	***39,302***	***24.6***	***11,138***	***34.3***	***50,439***	***26.3***
No major structural problems	120,318	75.4	21,292	65.7	141,610	73.7
Total[(b)]	**159,619**	**100.0**	**32,430**	**100.0**	**192,049**	**100.0**

(a) Sum of components will equal more than 100% as more than one type of problem can be reported.

(b) Excludes not stated responses.

Source: AIHW analysis of 2008 NATSISS.

Data quality issues

Community Housing and Infrastructure Needs Survey (CHINS)

The 2006 CHINS collected information on a variety of topics from discrete Aboriginal and Torres Strait Islander communities throughout Australia and on Indigenous organisations that provide rental housing to Indigenous people. In 2006, CHINS information was collected on 496 Indigenous organisations, which managed a total of 21,854 permanent dwellings. The majority of those dwellings were located in the Northern Territory (6,448), Queensland (6,230), New South Wales (4,176) and Western Australia (3,462) (ABS 2007).

The CHINS survey covers only discrete Indigenous communities. In 2006, the CHINS collected information from 1,187 discrete Indigenous communities. This included approximately 92,960 Aboriginal and Torres Strait Islanders or 18% of the total Indigenous population. CHINS data is collected every 5 years. The data are collected from key personnel in Indigenous communities and housing organisations that are knowledgeable about housing and infrastructure issues.

The estimates are not subject to sampling error because the CHINS was designed as a complete enumeration of discrete Indigenous communities. However, data could not be obtained from a small number of communities. In addition, the community population was often estimated by community representatives without reference to records. Therefore, the data is subject non-sampling error.

Further information on the CHINS can be found in the publication *Housing and infrastructure in Aboriginal and Torres Strait Islander communities, Australia 2006* (ABS 2007).

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings, such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities, were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared with other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: User's guide, 2008* (ABS 2010).

Census of Population and Housing

The Census uses the National health data dictionary standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplained growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself, for example, whether people are counted more than once, or are under-counted (ABS 1996).

For the 2002 NATSISS, it was estimated that there were 165,700 Indigenous households compared with 144,700 enumerated in the 2001 Census. Although the Census data are adjusted for under-counts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

2.03 Environmental tobacco smoke

The number and proportion of Aboriginal and Torres Strait Islander children aged 0–14 years who live in households with regular smokers and number and proportion of households with Indigenous children aged 0–17 years in which there were regular smokers

Data sources

Data for this indicator come from the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) and the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Data analyses

Children living in households with smokers

- In 2007–08, there were around 122,000 Indigenous children aged 0–14 years living in households with a daily smoker. This represented 65% of all Indigenous children aged 0–14 years. In comparison, 32% of non-Indigenous children aged 0–14 years lived in households with a daily smoker (Table 2.03.1).
- In 2007–08, there were around 57,000 households with Indigenous children aged 0–14 years in which there were daily smokers. This represented 64% of all households with Indigenous children (Table 2.03.1).
- Approximately 22% of Indigenous children aged 0–14 years were living in households with a daily smoker who smoked at home indoors compared with 6.6% of non-Indigenous children of the same age (Table 2.03.1).

Table 2.03.1: Whether children aged 0–14 years are living in households with current daily smoker(s), by Indigenous status of children, 2007–08

	Indigenous children aged 0–14 years		Non-Indigenous children aged 0–14 years		Households with Indigenous children aged 0–14 years	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Current daily smoker in household						
No	65,410	34.9*	2,649,170	67.8*	32,837	36.2*
Yes	122,182	65.1*	1,258,451	32.2*	56,996	63.8*
Total	**187,591**	**100.0**	**3,907,621**	**100.0**	**89,383**	**100.0**
Not stated	*5,658*	. .	. .	. .	*2,255*	. .
Household member smokes inside the house						
No[(a)]	145,804	78.4*	3,649,133	93.4*	70,377	79.6*
Yes	40,157	21.6*	258,488	6.6*	18,078	20.4*
Total	**185,961**	**100.0**	**3,907,621**	**100.0**	**88,455**	**100.0**
Not stated	*7,288*	. .	. .	. .	*3,183*	. .

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p<0.05$ level.

(a) Includes households in which there were no current daily smokers.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Children living in households with smokers by state/territory

- In 2008, the proportion of Indigenous children aged 0–14 years who lived in households with daily smokers ranged from 53% in the Australian Capital Territory to 77% in the Northern Territory (Table 2.03.2).
- The proportion of Indigenous children aged 0–14 years who lived in households with a daily smoker who smoked at home indoors ranged from 13% in the Australian Capital Territory to 29% in Tasmania (Table 2.03.2).
- The proportion of households with Indigenous children aged 0–17 years in which there were daily smokers who smoked at home indoors ranged from 15% in the Australian Capital Territory to 29% in Tasmania (Table 2.03.3).

- In Queensland, Indigenous children were 2.5 times as likely as non-Indigenous children to live in households with a daily smoker who smoked at home indoors. In New South Wales and the Australian Capital Territory, Indigenous children were three times as likely, in Victoria, South Australia and Tasmania, four times as likely and in Western Australia five times as likely as non-Indigenous children to live in households with a daily smoker who smoked at home indoors (Table 2.03.2).

Table 2.03.2: Children aged 0–14 years living in households with smokers, by Indigenous status and state/territory, 2008

			NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Proportion of children living with current daily smoker(s)[(a)]	Indigenous	%	61.5	65.0	63.9	66.7	65.9	67.4	52.9	76.6	65.1
	Non-Indigenous	%	31.9	29.6	35.3	34.2	29.9	37.7	28.4	35.5	32.2
	Rate ratio		1.9*	2.2*	1.8*	1.9*	2.2*	1.8*	1.9*	2.2*	2.0*
Proportion of children living with regular smokers who smokes at home indoors[(a)]	Indigenous	%	22.5	21.4	21.6	17.6	15.3	28.5	13.4	25.4	21.6
	Non-Indigenous	%	8.3	5.1	8.6	3.4	3.7	8.0	3.9	0.0	6.6
	Rate ratio		2.7*	4.2*	2.5*	5.1*	4.1*	3.6*	3.4*	. .	3.3*
Total number of children aged 0–14 years[(b)]	**Indigenous**	**No.**	**57,941**	**12,430**	**56,785**	**25,405**	**10,281**	**6,736**	**1,567**	**22,104**	**193,249**
	Non-Indigenous	**No.**	**1,292,502**	**970,599**	**792,573**	**394,744**	**277,107**	**88,120**	**62,751**	**29,226**	**3,907,621**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<0.05 level.

(a) Proportions exclude not stated responses.

(b) Includes households in which the smoking status of members was not stated.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Table 2.03.3: Households with Indigenous children aged 0–17 years: current daily smoker status, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Proportion living with current daily smoker(s)[(a)]	61.3	62.2	64.0	64.4	65.2	65.2	58.7	70.8	63.7
Proportion living with a current daily smoker who smokes at home indoors[(a)]	23.9	20.9	22.4	18.1	16.0	28.9	15.1	22.7	22.1
Total number of households with Indigenous children aged 0–17 years[(b)]	**32,049**	**7,521**	**28,515**	**12,212**	**5,525**	**4,303**	**862**	**8,703**	**99,689**

(a) Excludes households in which the smoking status of members was not stated.

(b) Includes households in which the smoking status of members was not stated.

Source: ABS and AIHW analysis of 2008 NATSISS.

Children living in households with smokers by remoteness

- In 2008, a higher proportion of Indigenous children aged 0–14 years in *Very remote* areas lived in households with a daily smoker (77%) and in households with a daily smoker who smoked at home indoors (24%) than Indigenous children in *Major cities* and *Inner regional* areas (Table 2.03.4). The same pattern was evident for Indigenous households with Indigenous children aged 0–17 years (Table 2.03.5).
- In *Major cities,* Indigenous children were four times as likely to live in households with a daily smoker who smoked at home indoors as non-Indigenous children. In *Outer regional* areas, Indigenous children were three times as likely, in *Inner regional* areas, two times as likely, and in *Remote* areas, eight times as likely as non-Indigenous children, to live in households with a daily smoker who smoked at home indoors (Table 2.03.4).

Children living in households with smokers by selected population characteristics

- The proportion of Indigenous children aged 0–17 years who lived in households with a daily smoker was highest among households in the most disadvantaged SEIFA quintile and lowest among households in the least disadvantaged households (53% compared to 10%) (Table 2.03.6).
- The proportion of Indigenous children aged 0–17 years who lived in households with a daily smoker who smoked at home indoors was higher among households that were renters (79%) than households that were owners (19%) (Table 2.03.6).

Table 2.03.4: Children aged 0–14 years living in households with smokers, by Indigenous status and remoteness, 2008 and 2007–08

	Major cities			Inner regional			Outer regional			Remote			Very remote			Australia		
	Indig.	**Non-Indig.**	**Rate ratio[(a)]**	**Indig.**	**Non-Indig.**	**Rate ratio[(a)]**	**Indig.**	**Non-Indig.**	**Rate ratio[(a)]**	**Indig.**	**Non-Indig.**	**Rate ratio[(a)]**	**Indig.**	**Non-Indig.**	**Rate ratio[(a)]**	**Indig.**	**Non-Indig.**	**Rate ratio[(a)]**
	%	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**	
Proportion of children living with current daily smoker(s)[(b)]	58.6	28.9	2.0*	60.5	35.5	1.7*	69.1	45.0	1.5*	72.9	34.7	2.1*	77.3	. .	. .	65.1	32.2	2.0*
Proportion of children living with a current daily smoker who smokes at home indoors[(b)]	19.3	5.0	3.9*	20.3	10.5	1.9*	23.7	9.2	2.6*	24.3	3.0	8.2*	24.2	. .	. .	21.6	6.6	3.3*
Total number of children aged 0–14 years[(c)]	**61,654**	**2,569,254**	**. .**	**44,765**	**847,123**	**. .**	**41,527**	**428,001**	**. .**	**18,073**	**63,242**	**. .**	**27,230**	**. .**	**. .**	**193,249**	**3,907,621**	**. .**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p<0.05$ level.

(a) Rate ratio Indigenous: non-Indigenous.

(b) Excludes households in which the smoking status of members was not stated.

(c) Includes households in which the smoking status of members was not stated.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Table 2.03.5: Households with Indigenous children aged 0–17 years: smoking status by remoteness, 2008

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
			Per cent			
Proportion with current daily smoker(s)[(a)]	60.8	58.7	65.4	71.4	76.5	63.7
Proportion with a current daily smoker who smokes at home indoors[(a)]	19.9	22.4	24.3	23.6	23.5	22.1
Total number of households with Indigenous children aged 0–17 years[(b)]	**34,704**	**24,958**	**21,321**	**8,190**	**10,515**	**99,689**

(a) Excludes households in which the smoking status of members was not stated.

(b) Includes households in which the smoking status of members was not stated.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.03.6: Number and proportion of households with Indigenous persons aged 0–17 years: current daily smoker status, by selected population characteristics, 2008

	Proportion with current daily smoker(s)	Proportion with a current daily smoker who smokes at home indoors	Total households with Indigenous persons aged 0–17 years[(a)]
SEIFA (whole household)			
1st quintile (most disadvantaged)	52.7	61.4	46.5
2nd quintle	20.4	18.3	21.6
3rd quintle	13.8	11.5	17.7
4th/5th quintile	10.6	5.6*	12.3
Housing (whole household)			
Owner	23.3	19.4	29.1
Renter	75.0	79.0	67.6
Other[(b)]	1.2	1.2*	2.4*
Total households with Indigenous persons aged 0–17 years[(c)]	**100.0**	**100.0**	**100.0**
Total number of households with Indigenous persons aged 0–17 years[(c)]	**65,126**	**22,430**	**104,098**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Includes households with no daily smokers and those in which the smoking status of members was not stated.

(b) Other includes life tenure, rent/buy, rent-free and other n.f.d.

(c) Total includes not stated.

Source: ABS 2008 NATSISS.

Time series

- A slightly higher proportion of Indigenous children aged 0–14 years lived in households with daily smokers in 2004–05 than in 2007–08 in non-remote areas (68% compared with 65%) and for the total of Australia (68% compared to 65%).
- Indigenous children aged 0–14 years were twice as likely as non-Indigenous children of the same age to live in households with daily smokers in both 2004–05 and 2007–08 (Table 2.03.7).

Table 2.03.7: Proportion of children aged 0–14 years who live in households with regular smokers, by remoteness and Indigenous status, 2004–05 and 2008

	Non-remote			Australia		
	Indig.	**Non-Indig.**	**Ratio.**	**Indig.**	**Non-Indig.**	**Ratio**
2004–05	65.3	36.6	1.8*	67.8	36.6	1.9*
2008	62.1	32.2	1.9*	65.1	32.2	2.0*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<0.05 level.

Source: ABS and AIHW analysis of 2004–05 NATSIHS, 2008 NATSISS, 2004–05 NHS, and 2007–08 NHS.

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Data quality concerns

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors

Care has been taken to ensure that the results of this survey are as accurate as possible. All interviews were conducted by trained ABS officers. However, some factor may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Imperfect recall or individual interpretation of survey questions may nevertheless affect some responses.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in Major cities, Inner and Outer regional areas and Remote and Very remote areas, but Very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In Remote and very remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. Canberra: ABS.

ABS 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' Guide. ABS Cat. no. 4720.0. Canberra: ABS.

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2.04 Literacy and numeracy

The proportion of Year 3, 5, 7 and 9 students achieving national benchmarks for literacy and numeracy achievement

Data sources

Data for this measure come from the National Assessment Program—Literacy and Numeracy (NAPLAN) tests and the National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

National Assessment Program – Literacy and Numeracy (NAPLAN)

The first National Assessment Program—Literacy and Numeracy (NAPLAN) tests were conducted in May 2008 for all Years 3, 5, 7 and 9 students in government and non-government schools. For the first time, all students in the same year level were assessed on the same test items in the domains of Reading, Writing, Language Conventions (Spelling, Grammar and Punctuation) and Numeracy. Prior to 2008, students had undertaken different tests in each state and territory. NAPLAN results have been reported annually since 2008 using five national achievement scales, one for each of the assessed aspects of literacy—Reading, Writing, Spelling, Grammar and Punctuation— and one for Numeracy. These reporting scales are constructed so that any given scaled score represents the same level of achievement over time (MCEECDYA 2008). In 2011, for the first time, the Writing assessment was based on a persuasive task. In previous years students were assessed using a narrative task. The change in the Writing genre was implemented to ensure a broader range of what is required in the curriculum is assessed (ACARA 2011).

Student achievements for literacy and numeracy are reported on five national achievement scales. The scales consist of 10 bands to cover the full range of student achievement across Year 3 to Year 9.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Data analyses

Reading, writing and numeracy benchmarks

The proportion of Indigenous and non-Indigenous students who achieved the reading, writing and numeracy benchmarks in 2011 are presented in Tables 2.04.1, 2.04.3 and 2.04.9. Achievements in spelling and grammar and punctuation are also presented in Tables 2.04.5 and 2.04.7.

Reading

- Nationally in 2011, approximately 76% of Indigenous students achieved the Year 3 reading benchmark compared with 95% of non-Indigenous students; 66% of Indigenous students achieved the Year 5 reading benchmark compared with 93% of non-Indigenous students; 77% of Indigenous students achieved the Year 7 reading benchmark compared with 96% of non-Indigenous students; and 72% of Indigenous students achieved the Year 9 reading benchmark compared with 94% of non-Indigenous students (Table 2.04.1).

Writing

- Nationally in 2011, approximately 80% of Indigenous students achieved the Year 3 writing benchmark compared with 96% of non-Indigenous students; 69% of Indigenous students achieved the Year 5 writing benchmark compared with 94% of non-Indigenous students; and 67% of Indigenous students achieved the Year 7 writing benchmark compared with 93% of non-Indigenous students; and 55% of Indigenous students achieved the Year 9 writing benchmark compared with 86% of non-Indigenous students (Table 2.04.3).

Numeracy

- Nationally in 2011, approximately 84% of Indigenous students achieved the Year 3 numeracy benchmark compared with 96% of non-Indigenous students; 75% of Indigenous students achieved the Year 5 numeracy benchmark compared with 96% of non-Indigenous students; 77% of Indigenous students achieved the Year 7 numeracy benchmark compared with 96% of non-Indigenous students; and 72% of Indigenous students achieved the Year 9 numeracy benchmark compared with 94% of non-Indigenous students (Table 2.04.9).

Reading, writing and numeracy benchmarks by state/territory

The proportion of Indigenous students and total students who achieved the reading, writing and numeracy benchmarks in 2011 are presented in Tables 2.04.1, 2.04.3 and 2.04.9 by state and territory. Achievements in spelling and grammar and punctuation are also presented in Tables 2.04.5 and 2.04.7.

Reading

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 40% in the Northern Territory to 88% in Victoria (Table 2.04.1).
- The proportion of Indigenous students who achieved the Year 5 benchmark ranged from 29% in the Northern Territory to 86% in the Australian Capital Territory.
- The proportion of Indigenous students who achieved the Year 7 benchmark was lowest in the Northern Territory (43%) and highest in Victoria (88%).

- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (37%) and highest in the Australian Capital Territory (89%).

Table 2.04.1: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standard for reading, by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	85.0	88.2	80.0	70.4	72.2	85.5	86.8	39.9	76.3
Year 5	77.8	83.1	68.0	55.0	67.4	81.1	86.0	28.5	66.4
Year 7	82.6	87.8	79.9	72.6	76.1	85.7	86.1	42.9	77.1
Year 9	77.9	83.2	72.1	63.9	69.1	82.2	89.0	37.2	71.9
					Non-Indigenous				
Year 3	95.8	95.7	93.9	93.8	92.8	93.0	95.8	89.3	94.9
Year 5	93.8	94.7	90.4	92.2	91.1	90.8	94.7	89.1	92.9
Year 7	95.6	96.1	95.5	96.3	95.0	94.1	97.1	92.4	95.7
Year 9	93.7	94.2	93.1	92.6	92.5	91.9	94.6	89.3	93.5

Source: ACARA 2011.

Table 2.04.2: Mean scale scores[(a)] of Year 3, 5, 7 and 9 students for reading by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	355.1	374.0	338.1	313.2	326.7	365.3	371.9	236.0	331.6
Year 5	434.4	455.1	413.7	387.7	412.9	449.0	461.0	317.7	409.8
Year 7	485.7	495.4	480.0	466.0	476.2	498.4	514.6	408.7	475.3
Year 9	529.0	539.1	518.5	504.0	512.3	540.7	554.2	452.5	518.1
					Non-Indigenous				
Year 3	426.2	434.3	405.4	407.4	405.4	413.7	444.4	391.0	420.4
Year 5	498.0	504.3	474.2	487.2	480.6	488.9	517.5	473.7	492.3
Year 7	546.0	545.7	537.8	547.0	536.1	539.1	563.0	534.8	543.7
Year 9	585.4	585.6	576.5	581.8	574.8	578.5	599.1	572.7	582.5

(a) Mean scale scores based on all participating students.

Source: ACARA 2011.

Writing

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 42% in the Northern Territory to 91% in Victoria (Table 2.04.3).
- The proportion of Indigenous students who achieved the Year 5 benchmark was lowest in the Northern Territory (29%) and highest in the Australian Capital Territory (87%).
- The proportion of Indigenous students who achieved the Year 7 benchmark ranged from 26% in the Northern Territory to 74% in Victoria and Queensland.
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (23%) and highest in Victoria (67%).

Table 2.04.3: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standard for writing, by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	88.1	91.3	84.0	74.6	77.5	90.4	90.5	42.0	79.9
Year 5	81.8	83.3	72.1	56.4	65.5	79.6	87.0	29.1	68.9
Year 7	72.5	74.0	74.0	60.7	64.3	69.5	69.3	26.0	66.9
Year 9	55.9	66.7	60.8	47.4	48.7	60.0	62.7	22.5	55.0
					Non-Indigenous				
Year 3	96.9	96.6	95.3	96.3	94.9	95.6	96.3	92.6	96.2
Year 5	95.7	94.7	91.7	93.0	91.4	91.1	93.9	88.7	93.9
Year 7	93.0	92.1	93.0	93.5	92.4	86.1	92.4	84.8	92.6
Year 9	86.3	88.0	86.9	85.4	83.3	79.5	86.1	79.6	86.4

Source: ACARA 2011.

Table 2.04.4: Mean scale scores[(a)] of Year 3, 5, 7 and 9 students for writing by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	370.6	380.0	349.9	321.9	335.3	366.7	366.1	250.9	343.5
Year 5	436.2	448.4	416.5	379.8	399.2	433.6	448.9	314.3	408.1
Year 7	464.0	474.1	474.1	442.6	450.7	464.6	478.9	350.6	454.5
Year 9	487.6	512.2	498.2	465.2	472.6	499.7	500.4	384.5	483.0
					Non-Indigenous				
Year 3	432.1	424.5	408.9	410.3	402.6	403.6	420.9	393.4	420.1
Year 5	495.1	493.6	475.6	479.3	472.2	468.1	496.0	464.8	486.7
Year 7	530.4	534.3	537.6	535.9	531.6	512.7	537.0	520.9	533.2
Year 9	566.3	579.7	569.5	568.0	562.7	552.0	576.9	561.5	570.2

(a) Mean scale scores based on all participating students.

Source: ACARA 2011.

Spelling

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 28% in the Northern Territory to 88% in the Australian Capital Territory (Table 2.04.5).
- The proportion of Indigenous students who achieved the Year 5 benchmark was lowest in the Northern Territory (28%) and highest in the Australian Capital Territory (84%).
- The proportion of Indigenous students who achieved the Year 7 benchmark ranged from 34% in the Northern Territory to 84% in Victoria.
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (36%) and highest in the Australian Capital Territory (82%).

Table 2.04.5: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standard for spelling, by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	83.6	86.5	75.5	63.3	65.2	80.0	87.6	28.3	71.7
Year 5	80.2	80.3	72.6	59.0	65.9	79.6	83.6	28.4	68.8
Year 7	81.3	83.8	77.5	67.6	72.4	79.3	80.7	34.1	73.8
Year 9	76.7	77.9	76.1	64.6	69.3	75.6	82.3	36.3	72.2
					Non-Indigenous				
Year 3	95.4	95.3	91.8	93.8	91.6	91.4	94.9	87.0	94.1
Year 5	94.5	93.6	90.1	91.9	90.3	89.3	92.9	85.4	92.6
Year 7	94.5	93.9	92.0	93.6	92.8	91.0	94.8	87.0	93.5
Year 9	92.8	91.8	91.3	89.7	90.0	88.1	92.1	84.1	91.6

Source: ACARA 2011.

Table 2.04.6: Mean scale scores[(a)] of Year 3, 5, 7 and 9 students for spelling by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	358.9	367.4	335.7	310.1	317.2	358.4	366.6	209.3	327.7
Year 5	443.4	447.8	424.2	397.4	413.6	441.7	446.7	309.7	415.6
Year 7	495.9	495.2	486.9	467.8	478.0	494.8	500.5	385.1	478.7
Year 9	533.4	537.4	533.9	511.8	518.3	535.4	542.5	440.3	524.3
					Non-Indigenous				
Year 3	423.4	417.4	392.4	401.8	394.8	397.2	415.7	378.7	410.4
Year 5	501.6	492.7	469.1	481.5	476.3	472.9	491.8	463.1	487.8
Year 7	550.0	540.3	531.9	540.7	535.3	529.4	543.4	520.9	541.0
Year 9	591.6	585.3	578.3	578.7	576.7	569.5	585.5	563.7	584.3

(a) Mean scale scores based on all participating students.

Source: ACARA 2011.

Grammar and punctuation

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 32% in the Northern Territory to 87% in the Australian Capital Territory (Table 2.04.7).
- The proportion of Indigenous students who achieved the Year 5 benchmark was lowest in the Northern Territory (26%) and highest in the Australian Capital Territory (84%).
- The proportion of Indigenous students who achieved the Year 7 benchmark ranged from 27% in the Northern Territory to 81% in Victoria.
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (26%) and highest in the Australian Capital Territory (76%).

Table 2.04.7: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standard for grammar & punctuation, by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	81.8	86.5	74.9	59.3	64.5	82.9	86.6	31.6	70.9
Year 5	76.2	82.3	68.6	50.8	59.6	80.5	84.0	26.1	64.8
Year 7	74.6	81.1	70.2	57.5	66.9	77.0	78.1	27.2	67.0
Year 9	66.6	72.1	62.8	49.6	59.9	73.5	76.4	25.7	61.2
					Non-Indigenous				
Year 3	95.4	95.6	93.2	93.3	92.1	92.4	95.3	86.5	94.4
Year 5	94.4	95.1	91.9	92.6	91.4	91.1	94.9	89.0	93.6
Year 7	94.3	94.9	94.0	94.6	93.9	91.5	96.3	88.1	94.3
Year 9	91.3	92.4	91.7	90.3	90.0	88.6	93.1	85.6	91.5

Source: ACARA 2011.

Table 2.04.8: Mean scale scores[(a)] of Year 3, 5, 7 and 9 students for grammar & punctuation by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	354.4	370.9	335.5	298.9	311.1	366.1	372.1	211.4	325.2
Year 5	435.8	454.0	419.2	380.3	399.7	448.0	455.6	302.1	408.5
Year 7	472.8	481.1	464.1	443.2	461.0	481.9	496.6	373.4	457.9
Year 9	509.6	517.2	503.8	481.1	495.7	522.6	527.3	423.3	499.2
					Non-Indigenous				
Year 3	435.5	436.5	413.2	416.4	407.3	413.5	439.4	394.3	426.6
Year 5	512.5	510.0	490.7	499.5	488.8	492.3	523.0	481.9	503.9
Year 7	540.6	539.5	529.2	534.6	531.0	528.3	552.6	522.1	536.4
Year 9	578.4	579.5	571.7	571.5	569.2	566.3	589.0	559.9	575.9

(a) Mean scale scores based on all participating students.

Source: ACARA 2011.

Numeracy

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 59% in the Northern Territory to 90% in Tasmania (Table 2.04.9).
- The proportion of Indigenous students who achieved the Year 5 benchmark was lowest in the Northern Territory (45%) and highest in Tasmania (87%).
- The proportion of Indigenous students who achieved the Year 7 benchmark ranged from 44% in the Northern Territory to 86% in Victoria.
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (42%) and highest in the Australian Capital Territory (83%).

Table 2.04.9: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standard for numeracy, by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	89.2	89.6	86.9	79.8	79.0	90.2	88.9	59.3	83.6
Year 5	83.4	86.1	77.8	67.0	74.2	86.9	86.0	45.2	75.2
Year 7	80.5	86.3	80.7	72.2	76.4	83.2	79.6	43.8	76.5
Year 9	74.9	80.3	74.5	67.3	68.2	80.3	83.0	42.4	72.0
					Non-Indigenous				
Year 3	96.8	96.6	96.0	96.5	94.7	95.9	96.6	94.5	96.4
Year 5	96.0	95.9	94.8	95.4	94.0	94.5	95.6	94.6	95.5
Year 7	95.1	96.1	95.7	96.3	94.7	93.8	96.1	93.3	95.5
Year 9	93.9	94.8	94.2	93.6	92.6	92.1	94.9	91.7	94.1

Source: ACARA 2011.

Table 2.04.10: Mean scale scores[(a)] of Year 3, 5, 7 and 9 students for numeracy by Indigenous status and state/territory, 2011

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3	350.5	365.3	336.7	318.9	322.5	356.2	361.0	282.5	334.4
Year 5	439.8	455.1	421.8	402.7	415.5	447.9	448.1	366.5	421.1
Year 7	481.8	494.4	481.8	465.1	475.2	493.6	494.6	416.0	474.8
Year 9	521.6	532.4	518.4	508.2	507.6	533.0	538.7	465.9	515.8
					Non-Indigenous				
Year 3	408.0	413.5	388.9	392.0	381.9	394.8	415.5	381.3	401.7
Year 5	501.8	499.8	474.4	485.1	473.0	480.2	502.9	470.1	491.3
Year 7	551.7	551.8	543.2	550.6	537.3	537.4	557.2	532.3	548.5
Year 9	592.7	590.6	578.8	586.9	574.1	571.1	594.4	569.4	586.7

(a) Mean scale scores based on all participating students.

Source: ACARA 2011.

Reading, writing and numeracy benchmarks by remoteness

Reading, writing and numeracy benchmarks by remoteness area and Indigenous status are presented in Table 2.04.11.

- In 2011, the proportion of Indigenous students who achieved the Year 3, Year 5, Year 7 and Year 9 reading, writing, spelling, grammar and punctuation and numeracy benchmarks were highest in *Metropolitan* areas and lowest in *Very remote* areas of Australia.
- The proportion of Indigenous Year 3 students who achieved the reading, writing, spelling, grammar and punctuation and numeracy benchmarks was 84%, 88%, 81%, 81% and 89% respectively in *Metropolitan areas*, and 45%, 46%, 34%, 34% and 63% respectively in *Very remote* areas.
- The proportion of Indigenous Year 5 students who achieved the reading, writing, spelling, grammar and punctuation and numeracy benchmarks was 77%, 80%, 79%, 76% and 84% respectively in *Metropolitan* areas and 26%, 28%, 31%, 24% and 42% in *Very remote* areas.
- The proportion of Indigenous Year 7 students who achieved the reading, writing, spelling, grammar and punctuation and numeracy benchmarks was 85%, 77%, 82%, 77% and 85% respectively in *Metropolitan areas* and 43%, 28%, 38%, 24% and 42% in *Very remote* areas.
- The proportion of Indigenous Year 9 students who achieved the reading, writing, spelling, grammar and punctuation and numeracy benchmarks was 78%, 63%, 79%, 70% and 78% respectively in *Metropolitan areas* and 29%, 21%, 34%, 18% and 34% in *Very remote* areas.

Table 2.04.11: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standards for reading, writing, spelling, grammar & punctuation and numeracy, by Indigenous status and remoteness area, 2011

	Metropolitan		Provincial		Remote		Very Remote	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Reading								
Year 3	84.2	95.2	81.3	93.9	67.3	92.1	45.3	90.2
Year 5	76.7	93.4	73.4	91.6	49.4	89.7	26.4	86.6
Year 7	85.0	95.9	81.8	95.3	63.4	95.3	42.5	93.2
Year 9	78.4	93.7	75.0	93.0	54.6	91.5	29.3	89.5
Writing								
Year 3	88.1	96.4	85.9	95.8	70.0	94.6	46.0	93.3
Year 5	79.8	94.6	75.9	92.1	50.7	90.5	28.4	88.1
Year 7	77.2	93.5	71.1	90.1	47.4	90.2	28.4	87.6
Year 9	63.4	88.0	55.0	82.0	33.8	78.6	20.6	78.2
Spelling								
Year 3	81.4	94.7	77.9	92.4	60.1	90.2	33.6	86.8
Year 5	79.0	93.6	75.0	90.1	52.7	87.3	30.8	85.0
Year 7	81.9	94.3	78.8	91.4	59.1	90.2	37.5	86.3
Year 9	79.3	92.6	73.5	89.0	57.3	86.0	33.7	82.0
Grammar & punctuation								
Year 3	80.5	94.9	76.8	93.3	58.3	90.8	34.0	88.0
Year 5	75.9	94.2	72.1	92.1	44.8	89.5	23.5	87.2
Year 7	77.2	94.7	73.0	93.3	46.0	92.1	23.7	89.2
Year 9	69.5	92.1	63.1	89.9	39.9	87.4	17.8	84.9
Numeracy								
Year 3	88.6	96.5	87.2	96.0	77.0	95.7	63.3	94.9
Year 5	83.8	95.7	80.6	94.8	62.8	94.5	42.4	92.4
Year 7	84.5	95.7	81.3	95.1	61.7	94.9	41.6	93.4
Year 9	78.4	94.4	73.9	93.4	58.9	91.9	33.5	90.3

Source: ACARA 2011.

Table 2.04.12: Mean scale scores[(a)] of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar & punctuation and numeracy, by Indigenous status and remoteness area, 2011

	Metropolitan		Provincial		Remote		Very Remote	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
Reading								
Year 3	354.8	425.7	343.7	406.7	304.1	391.9	248.9	383.3
Year 5	432.2	496.6	425.0	481.4	380.6	468.3	321.6	462.5
Year 7	491.5	547.0	483.2	534.9	448.0	530.7	410.2	527.2
Year 9	530.3	585.4	522.8	574.9	489.2	569.0	441.8	559.9
Writing								
Year 3	367.4	425.3	357.1	406.5	309.4	392.8	258.1	382.0
Year 5	434.2	492.7	422.7	470.7	369.4	460.8	316.1	455.1
Year 7	479.7	539.4	464.2	516.4	410.6	517.9	361.4	507.2
Year 9	505.0	577.4	484.8	550.4	433.7	545.2	381.5	540.2
Spelling								
Year 3	353.7	417.0	343.3	392.4	300.3	379.8	227.4	367.3
Year 5	439.1	494.3	430.8	470.5	385.5	459.4	324.6	452.0
Year 7	497.8	546.5	488.3	526.3	449.8	522.3	397.8	512.0
Year 9	540.4	590.3	527.0	567.7	495.3	562.2	437.0	552.1
Grammar & punctuation								
Year 3	352.2	432.7	340.9	410.5	292.6	395.6	224.4	384.7
Year 5	434.9	509.6	426.0	489.2	370.9	474.3	307.2	469.2
Year 7	476.9	540.6	468.0	525.4	424.0	517.9	378.9	512.6
Year 9	514.3	580.4	503.6	563.6	467.1	557.4	410.3	544.9
Numeracy								
Year 3	348.5	406.0	341.8	390.3	313.0	378.1	286.6	376.0
Year 5	437.7	496.3	429.9	478.0	397.3	467.1	363.5	461.6
Year 7	490.3	553.1	482.4	535.9	446.6	531.1	413.4	523.6
Year 9	526.8	591.7	518.5	573.4	490.7	564.7	455.3	556.0

(a) Mean scale scores based on all participating students.

Source: ACARA 2011.

NAPLAN 2008 to 2011

Data on students at or above the national minimum standards for reading, writing, spelling, grammar and punctuation, and numeracy in Years 3, 5, 7 and 9 are available from 2008 to 2011. These data are presented in Table 2.04.13. Data on the mean scale scores of these students are presented in Table 2.04.14.

Reading

- Between 2008 and 2011 there was an increase in the proportion of Indigenous students achieving the Years 3, 5, 7 and 9 national minimum standards for reading.
- Over the same period, there was a decrease in the difference between Indigenous and non-Indigenous students who met the Years 3, 5, 7 and 9 national minimum standards for reading.

Writing

- Between 2008 and 2011 there was a decrease in the proportion of Indigenous students achieving the Years 5, 7 and 9 national minimum standards for writing. However, there was an increase in Indigenous students achieving the Year 3 national minimum standard for writing.
- Over the same period, there was an increase in the difference between Indigenous and non-Indigenous students who met the years 5, 7 and 9 national minimum standards for writing.

Spelling

- Between 2008 and 2011 there was an increase in the proportion of Indigenous students achieving the Years 3, 7 and 9 national minimum standards for spelling. However, there was a decrease in Indigenous students achieving the year 5 national minimum standard for spelling.
- Over the same period, there was a decrease in the difference between Indigenous and non-Indigenous students who met the years 3, 7 and 9 national minimum standards for spelling.

Grammar and punctuation

- Between 2008 and 2011 there was an increase in the proportion of Indigenous students achieving the Years 3, 5, 7, and 9 national minimum standards for grammar and punctuation.
- Over the same period, there was a decrease in the difference between Indigenous and non-Indigenous students who met the Years 3, 5, 7 and 9 national minimum standards for grammar and punctuation.

Numeracy

- Between 2008 and 2009 there was an increase in the proportion of Indigenous students achieving the Years 3, and 5 national minimum standards for numeracy. However, there was a decrease in Indigenous students achieving the year 7 and 9 national minimum standards for numeracy.
- Over the same period, there was a decrease in the difference between Indigenous and non-Indigenous students who met the years 3, 5 and 9 national minimum standards for numeracy.

Table 2.04.13: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standards for reading, writing, spelling, grammar & punctuation and numeracy, by Indigenous status, 2008–2011[(a)]

	2008	2009	2010	2011	Difference[(b)]
			Reading		
Indigenous					
Year 3	68.3	75.1	75.1	76.3	8.0
Year 5	63.4	66.7	66.2	66.4	3.0
Year 7	71.9	73.2	76.6	77.1	5.2
Year 9	70.7	67.0	64.2	71.9	1.2
Non-Indigenous					
Year 3	93.5	94.8	95.0	94.9	1.4
Year 5	92.6	93.1	92.7	92.9	0.3
Year 7	95.4	95.0	95.9	95.7	0.3
Year 9	94.2	93.5	92.2	93.5	–0.7
Indigenous and non-Indigenous difference[(c)]					
Year 3	25.2	19.7	19.9	18.6	. .
Year 5	29.2	26.4	26.5	26.5	. .
Year 7	23.5	21.8	19.3	18.6	. .
Year 9	23.5	26.5	28.0	21.6	. .
			Writing[(d)]		
Indigenous					
Year 3	78.8	79.9	79.0	79.9	. .
Year 5	69.7	70.1	70.5	68.9	. .
Year 7	67.9	69.9	69.8	66.9	. .
Year 9	59.7	59.0	59.0	55.0	. .
Non-Indigenous					
Year 3	96.4	96.6	96.6	96.2	. .
Year 5	93.9	94.2	94.4	93.9	. .
Year 7	93.2	93.7	93.9	92.6	. .
Year 9	88.8	89.2	88.7	86.4	. .
Indigenous and non-Indigenous difference[(c)]					
Year 3	17.6	16.7	17.6	16.3	. .
Year 5	24.2	24.1	23.9	25.0	. .
Year 7	25.3	23.8	24.1	25.7	. .
Year 9	29.1	30.2	29.7	31.4	. .
			Spelling		
Indigenous					
Year 3	69.2	69.6	66.2	71.7	2.5

(continued)

Table 2.04.13 (continued): Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standards for reading, writing, spelling, grammar & punctuation and numeracy, by Indigenous status, 2008–2011[(a)]

	2008	2009	2010	2011	Difference[(b)]
Year 5	69.7	71.5	71.3	68.8	–0.9
Year 7	71.8	74.3	74.5	73.8	2.0
Year 9	67.8	66.1	67.5	72.2	4.4
Non-Indigenous					
Year 3	93.9	93.5	92.5	94.1	0.2
Year 5	93.0	93.6	93.1	92.6	–0.4
Year 7	93.6	93.8	93.9	93.5	–0.1
Year 9	91.0	90.9	90.8	91.6	0.6
Indigenous and non-Indigenous difference[(c)]					
Year 3	24.7	23.9	26.3	22.4	. .
Year 5	23.3	22.1	21.8	23.8	. .
Year 7	21.8	19.5	19.4	19.7	. .
Year 9	23.2	24.8	23.3	19.4	. .
			Grammar & punctuation		
Indigenous					
Year 3	65.3	68.7	66.2	70.9	5.6
Year 5	64.1	64.3	65.3	64.8	0.7
Year 7	62.7	64.9	64.5	67.0	4.3
Year 9	60.7	60.8	62.7	61.2	0.5
Non-Indigenous					
Year 3	93.3	93.8	93.6	94.4	1.1
Year 5	93.5	93.6	93.8	93.6	0.1
Year 7	93.2	93.5	93.1	94.3	1.1
Year 9	91.5	91.8	92.3	91.5	0.0
Indigenous and non-Indigenous difference[(c)]					
Year 3	28.0	25.1	27.4	23.5	. .
Year 5	29.4	29.3	28.5	28.8	. .
Year 7	30.5	28.6	28.6	27.3	. .
Year 9	30.8	31.0	29.6	30.3	. .
			Numeracy		
Indigenous					
Year 3	78.6	74.0	76.6	83.6	5.0
Year 5	69.2	74.2	71.4	75.2	6.0
Year 7	78.6	75.8	77.0	76.5	–2.1
Year 9	72.5	75.0	70.4	72.0	–0.5

(continued)

Table 2.04.13 (continued): Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standards for reading, writing, spelling, grammar & punctuation and numeracy, by Indigenous status, 2008–2011[a]

	2008	2009	2010	2011	Difference[b]
Non-Indigenous					
Year 3	96.0	95.2	95.3	96.4	0.4
Year 5	94.0	95.3	95.0	95.5	1.5
Year 7	96.4	95.8	96.1	95.5	–0.9
Year 9	94.8	96.0	94.3	94.1	–0.7
Indigenous and non-Indigenous difference[c]					
Year 3	17.4	21.2	18.7	12.8	. .
Year 5	24.8	21.1	23.6	20.3	. .
Year 7	17.8	20.0	19.1	19.0	. .
Year 9	22.3	21.0	23.9	22.1	. .

(a) Equating one test with another is a complex procedure and involves some degree of statistical error. For this reason, there may be minor fluctuations in the average NAPLAN test results from year to year when, in reality, the level of student achievement has remained essentially the same. It is only when there is a meaningful change in the results from one year to the next, or when there is a consistent trend over several years, that statements about improvement or decline in levels of achievement can be made confidently. Some caution is required when interpreting changes in the performance across years (ACARA 2011).

(b) Difference is 2011 proportion minus 2008 proportion.

(c) Difference is non-Indigenous proportion minus Indigenous proportion

(d) A new Persuasive Writing scale was introduced in 2011. The Persuasive Writing results for 2011 should not be directly compared to the Narrative Writing results from earlier years.

Source: ACARA 2011.

Table 2.04.14: Mean scale scores[(a)] of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar & punctuation and numeracy, by Indigenous status, 2008–2011[(b)]

	2008	2009	2010	2011	Difference[(c)]
			Reading		
Indigenous					
Year 3	313.7	327.4	330.8	331.6	17.9*
Year 5	403.4	414.4	409.6	409.8	6.4
Year 7	466.5	473.2	477.0	475.3	8.8*
Year 9	513.8	510.2	505.6	518.1	4.3
Non-Indigenous					
Year 3	405.0	415.0	418.6	420.4	15.4*
Year 5	488.7	498.1	491.4	492.3	3.6
Year 7	540.2	544.4	549.6	543.7	3.5
Year 9	581.3	583.8	577.1	582.5	1.2
			Writing[(d)]		
Indigenous					
Year 3	339.3	340.2	342.2	343.5	. .
Year 5	411.2	412.1	411.5	408.1	. .
Year 7	455.9	460.2	459.7	454.5	. .
Year 9	491.3	488.4	488.1	483.0	. .
Non-Indigenous					
Year 3	418.2	418.3	422.6	420.1	. .
Year 5	490.6	488.5	489.1	486.7	. .
Year 7	537.9	536.0	537.3	533.2	. .
Year 9	573.6	572.8	571.6	570.2	. .
			Spelling		
Indigenous					
Year 3	319.6	322.8	317.7	327.7	8.1
Year 5	417.1	421.6	423.4	415.6	–1.5
Year 7	474.0	479.1	483.5	478.7	4.7
Year 9	514.6	509.8	515.4	524.3	9.7*
Non-Indigenous					
Year 3	403.8	409.0	403.5	410.4	6.6*
Year 5	487.4	490.6	490.5	487.8	0.4
Year 7	542.2	543.0	547.9	541.0	–1.2
Year 9	580.2	579.5	581.7	584.3	4.1
			Grammar & punctuation		
Indigenous					
Year 3	305.5	321.4	317.6	325.2	19.7*
Year 5	402.4	407.9	409.4	408.5	6.1
Year 7	446.3	457.3	455.2	457.9	11.6

(continued)

Table 2.04.14 (continued): Mean scale scores[(a)] of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar & punctuation and numeracy, by Indigenous status, 2008–2011[(b)]

	2008	2009	2010	2011	Difference[(c)]
Year 9	494.7	497.0	501.5	499.2	4.5
Non-Indigenous					
Year 3	408.4	424.8	422.0	426.6	18.2*
Year 5	501.2	504.6	504.5	503.9	2.7
Year 7	533.4	543.4	539.3	536.4	3.0
Year 9	573.0	577.2	582.7	575.9	2.9
			Numeracy		
Indigenous					
Year 3	327.6	320.5	325.3	334.4	6.8
Year 5	408.0	420.5	416.9	421.1	13.1*
Year 7	476.2	474.4	477.5	474.8	–1.4
Year 9	515.1	520.2	515.2	515.8	0.7
Non-Indigenous					
Year 3	400.5	397.7	399.0	401.7	1.2
Year 5	479.5	490.3	492.6	491.3	11.8*
Year 7	548.6	547.0	551.4	548.5	–0.1
Year 9	585.7	592.4	588.5	586.7	1.0

* Represents results with statistically significant increases or declines at p<0.05 level over the period 2008 to 2011.

(a) Mean scale scores based on all participating students.

(b) Equating one test with another is a complex procedure and involves some degree of statistical error. For this reason, there may be minor fluctuations in the average NAPLAN test results from year to year when, in reality, the level of student achievement has remained essentially the same. It is only when there is a meaningful change in the results from one year to the next, or when there is a consistent trend over several years, that statements about improvement or decline in levels of achievement can be made confidently. Some caution is required when interpreting changes in the performance across years (ACARA 2011).

(c) Difference is 2011 mean scale score minus 2008 scale score.

(d) A new Persuasive Writing scale was introduced in 2011. The Persuasive Writing results for 2011 should not be directly compared to the Narrative Writing results from earlier years.

Source: ACARA 2011.

NATSISS

School attendance

- In 2008, 83% of Aboriginal and Torres Strait Islander children aged 2–14 years usually attended school (Table 2.04.15).
- Over the same time period, around 26% to 33% of Aboriginal and Torres Strait Islander children in years 3, 5, and 7 missed school in the previous week. The main reason for this (9% to 11%) was that the school was not open or not available (Table 2.04.16).

Table 2.04.15: School attendance by Aboriginal and Torres Strait Islander children aged 2–14 years, 2008

	Age in years					
	2–4		5–14		Total	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
School attendance						
Child usually attends school	13,964	35.6	124,462	97.9	138,426	83.2
Child does not usually attend school	25,217	64.4	2,697	2.1	27,914	16.8
Total children aged 2–14 years	**39,180**	**100.0**	**127,159**	**100.0**	**166,339**	**100.0**
Main reason child does not usually attend school						
Problems with getting a place	545*	2.2*	n.p.	n.p.	629*	2.3*
Cost too high / Can't afford it	642*	2.5*	n.p.	n.p.	803*	2.9*
Child is not ready for school	2102*	8.3*	n.p.	n.p.	2406*	8.6*
Other reason[(a)]	21,927	87.0	2,148	79.7	24,075	86.2
Total children who do not usually attend school	**25,217**	**100.0**	**2,697**	**100.0**	**27,914**	**100.0**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Other reason includes transport problems, hours don't suit, child too old/young or not eligible, does not suit culture or beliefs, illness or disability and other reason n.f.d.

Source: ABS 2008 NATSISS.

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Table 2.04.16: School attendance by Aboriginal and Torres Strait Islander students, years 3, 5 and 7[(a)], 2008 (per cent)

	Grade child currently attending		
	Year 3	**Year 5**	**Year 7**
How well school advised of child's progress[(b)]			
Very well/ well	87.5	80.9	85.5
Not well	11.0	11.5	10.4
Not at all	1.6	3.7	4.2
Whether child missed days at school in last week			
Child missed days at school in last week[(a)]	33.4	28.0	25.8
Child did not miss days at school in last week	66.6	72.0	74.2
Main reason missed school in last week[(a)]			
Child had illness or injury	11.2	8.0	7.3
School not available or not open	11.0	11.0	9.3
Cultural commitments or sorry business	1.8	0.6	1.1
Other reason	9.5	7.5	9.1
Did not miss school in last week	66.6	69.9	76.8
Number of days child usually attends school[(b)]			
< 5 days	1.8	4.0	5.7
5 days or more	98.2	96.0	94.3
Whether child missed school without permission in last 12 months			
Problems with child not attending school	5.6	4.6	7.9
No problems with child not attending school	94.4	95.4	92.1
Total	**100.0**	**100.0**	**100.0**
Total number	**12,832**	**12,350**	**13,189**

(a) Children who do not usually attend school.

(b) Children who do usually attend school.

Note: Proportions exclude not known responses.

Source: AIHW analyses of 2008 NATSISS.

Informal learning activities

- In 2008, 94% (180,736) of main carers of Indigenous children spent time doing informal learning activities with the child during the previous week. The most common activities were reading from a book (49%) and watching TV, video, or DVD (31%) (Table 2.04.17).

Table 2.04.17: Number and proportion of Indigenous children[(a)] participating in selected informal learning activities and time spent with main carer (hours per week), 2008

Whether main carer spent time doing informal learning activities with child last week		
	Number	**Proportion (%)**
Activities were undertaken with child	180,736	93.6
No activities were undertaken with child	12,394	6.4
Total	**193,130**	**100.0**
Not stated	119	0.1
Average number of hours main carer spent doing informal learning activities with child last week		
	Number	**Proportion (%)**
Less than 1 hour per day	17,480	9.1
1 to less than 2 hours per day	77,582	40.4
2 to less than 5 hours per day	72,200	37.6
5 hours or more per day	12,580	6.5
No time spent doing activities with child in last week	12,394	6.4
Total	**192,236**	**100.0**
Not stated	1,013	0.5
Informal learning activities main carer did with child last week[(b)]		
	Number	**Proportion (%)**
Read from a book	95,081	49.2
Told child a story	85,102	16.4
Listened to child read	72,346	13.9
Assisted with homework or other educational activities	73,314	14.1
Spent time with child using computer	52,769	10.1
Watched TV, video or DVD	161,381	31.0
Assisted with drawing, writing or other creative activities	91,775	17.6
Played music, songs, dance or other musical activities	119,515	23.0
Played a game or did sport together indoors or outdoors	105,033	20.2
Took part in or attended playgroup	17,470	3.4
None of the above	12,394	2.4

(a) Children aged 0–14 years.

(b) Respondents can report more than one activity so the sum of components will be more than 100%.

Source: AIHW analyses of 2008 NATSISS.

Bullying and treated unfairly at school

- In 2008, between 13% and 21% of Indigenous children were reported to have been bullied or treated unfairly at school because they were Indigenous (Table 2.04.18). In 2008, between 79% and 87% of Indigenous children were reported to not be bullied or treated unfairly at school.
- Of those Indigenous children at school in 2008 who were both bullied and treated unfairly, 75% to 94% were bullied or treated unfairly at their current school. Between 78% and 96% of students in years 3, 5 and 7 did not change school because of bullying or unfair treatment, while no effect on school attendance was reported for 66% to 71% of Indigenous children in these years because of bullying or unfair treatment (Table 2.04.19).
- The 2008 NATSISS found that between 62% and 86% of Indigenous children were treated unfairly at the current school. A large proportion of children in these years 3, 5 and 7 (90%, 92% and 95% respectively) did not change school because of this treatment (Table 2.04.20).

Table 2.04.18: Bullying and unfair treatment at school and impact on school attendance, years 3, 5 and 7, 2008

	Grade child currently attending					
	Year 3		Year 5		Year 7	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Whether child bullied or treated unfairly at school because Indigenous						
Bullied only	955	8.3	1,014	8.4	1,024	8.3
Treated unfairly only	288	2.5	343	2.8	617	5.0
Both bullied and treated unfairly	273	2.4	1,004	8.3	927	7.6
Neither bullied or treated unfairly	10,024	86.9	9,736	80.5	9,695	79.1
Total	**11,540**	**100.0**	**12,096**	**100.0**	**12,264**	**100.0**

Source: AIHW analyses of 2008 NATSISS.

Table 2.04.19: Bullying at school and impact on school attendance, years 3, 5 and 7, 2008

	Grade child currently attending					
	Year 3		Year 5		Year 7	
	Number	Per cent	Number	Per cent	Number	Per cent
Whether child bullied at current school						
Child bullied at current school	916	74.6	1,891	93.7	1,770	90.7
Child not bullied at current school	312	25.4	127	6.3	181	9.3
Total	**1,228**	**100.0**	**2,018**	**100.0**	**1,951**	**100.0**
Not known	. .	. .	. .	. .	. .	. .
Whether changed school because of bullying						
Child changed school because of bullying	266	21.7	74	3.7	179	9.2
Child did not change school because of bullying	962	78.3	1,943	96.3	1,772	90.8
Total	**1,228**	**100.0**	**2,018**	**100.0**	**1,951**	**100.0**
Not known	. .	. .	. .	. .	. .	. .
Whether child's attendance at school affected by bullying						
Attendance at school affected by bullying	355	28.9	676	33.5	671	34.4
Attendance at school not affected by bulling	873	71.1	1,342	66.5	1,281	65.6
Total	**1,228**	**100.0**	**2,018**	**100.0**	**1,951**	**100.0**
Not known	. .	. .	. .	. .	. .	. .

Source: AIHW analyses of 2008 NATSISS.

Table 2.04.20: Unfair treatment at school and impact on school attendance, years 3, 5 and 7, 2008

	Grade child currently attending					
	Year 3		Year 5		Year 7	
	Number	Per cent	Number	Per cent	Number	Per cent
Whether child treated unfairly at current school						
Child treated unfairly at current school	349	62.1	1,084	80.5	1,313	85.5
Child not treated unfairly at current school	213	37.9	263	19.5	223	14.5
Total	**561**	**100.0**	**1,347**	**100.0**	**1,536**	**100.0**
Not known	. .	. .	. .	. .	9	0.6
Whether changed school because of unfair treatment						
Child changed school because of unfair treatment	54	9.6	108	8.2	72	4.7
Child did not change school because of unfair treatment	508	90.4	1,203	91.8	1,473	95.3
Total	**561**	**100.0**	**1,311**	**100.0**	**1,545**	**100.0**
Not known	. .	. .	36	2.7	. .	. .

Source: AIHW analyses of 2008 NATSISS.

Data quality issues

NAPLAN

Literacy and Numeracy data are available from the ACARA National Assessment Program — Literacy and Numeracy (NAPLAN). Individual schools send this data under a set of protocols to the Test Administration Authorities for the states and territories. Data are then compiled by ACER and provided to ACARA for reporting in The National Report Achievement in Reading, Writing, Language Conventions and Numeracy which is published in December of each year.

Students are classified in three ways: assessed, exempt, absent/withdrawn. Participation rates are calculated on the basis of all assessed and exempt students as a percentage of the total number of students reported by schools, which includes those absent and withdrawn. Exempt students are defined as follows: Students with a language background other than English, who arrived from overseas less than a year before the tests, and students with significant intellectual disabilities may be exempted from testing.

NAPLAN reports the percentage of students who achieved at or above the national minimum standard. The complex process by which student scores are arrived at and distributed across the national achievement bands (using the Rasch model, a recognised analysis model for educational measurement) are agreed by states, territories and the Commonwealth and endorsed by the then NAPLAN Expert Advisory Group. Due to the complexities of the methodology, it is not possible (with the data currently provided) to give a simple computation of the precise number of students at or above the national minimum standard, which is best reported in the bands designed for that purpose.

Student achievements for literacy and numeracy are reported on five national achievement scales. The scales consist of 10 bands to cover the full range of student achievement across Year 3 to Year 9.

Participation rates for Indigenous students are reported for each of the domains of Reading, Writing, Language Conventions (Spelling, Grammar and Punctuation) and Numeracy by year level and state and territory. Participation rates differ across each of these domains.

Achievement rates as reported by band levels are provided for both Indigenous and non-Indigenous students by domain, year level and state and territory.

In the majority of tables, percentages are expressed to one decimal place. In a small number of cases, percentages are rounded to the nearest whole number.

The percentages of students represented in all tables are rounded and may not sum to 100.

The same tests are used for all schools and all students.

Average age and years of schooling for all students are reported as at the time of testing and there are minor differences between states and territories due to different schooling systems. Information on parent occupation/parent education is collected by schools on student enrolment and information on Indigenous status is taken from student test book covers. Data are reported for Indigenous students for each domain, year level, and state and territory. Further data are provided by geolocation.

The non-response for Aboriginal and Torres Strait Islander status is approximately 3 per cent nationally. This information is captured from student test book covers where 3 per cent of students did not state their Indigenous status on the test bookcover.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82%

of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: User's guide 2008* (ABS 2010).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable

n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2010. National Aboriginal and Torres Strait Islander Social Survey: User's guide, 2008. ABS cat. no. 4720.0. Canberra: ABS.

ACARA (Australian Curriculum, Assessment and Reporting Authority) 2011, NAPLAN Achievement in Reading, Persuasive Writing, Language Conventions and Numeracy: National Report for 2011, ACARA, Sydney.

MCEECDYA (Ministerial Council for Education, Early Childhood Development and Youth Affairs) 2008. National Assessment Program Literacy and Numeracy, Achievement in Reading, Writing, Language Conventions and Numeracy. Melbourne: MCEECDYA.

List of tables

2.05 Education outcomes for young people

Years 10 and 12 retention rates and Year 12 attainment rates for Aboriginal and Torres Strait Islander people

Data sources

Data for this measure come from the Australian Bureau of Statistics (ABS) National Schools Statistics Collection (NSSC) and the National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

National Schools Statistics Collections (NSSC)

The National Schools Statistics Collection (NSSC) is a collaborative arrangement between state, territory and Australian Government education departments. It is managed by the Ministerial Council on Education, Early Childhood Development and Youth Affairs (MCEECDYA) Performance Measurement and Reporting Taskforce (PMRT). Information is provided on the number and characteristics of schools, students and staff. These data are derived from the annual Schools Census enumerated each August by the responsible authorities.

Apparent retention rates

Apparent retention rates are the percentage of full-time students of a given cohort group who continue from the start of secondary schooling to a specified year level. The term 'apparent' is used because the retention rate does not account for students repeating a year of school or migrating in or out of the Australian school student population or between states/territories. All full-time students enrolled at a school, including 'VET (vocational education and training) in Schools' students, but excluding people completing Year 12 through a vocational education facility, are included in retention calculations.

Year 10 apparent retention rates: Year 10 students as a proportion of the corresponding cohort from the first year of secondary schooling (Year 7/8).

Year 12 apparent retention rates: Year 12 students as a proportion of the corresponding cohort from the first year of secondary schooling (Year 7/8) or as a proportion of the corresponding cohort from Year 10.

Year 12 attainment rate: The proportion of Year 11 students who went on to achieve a Year 12 certificate.

Care should be exercised in the interpretation of apparent retention rates, because the method of calculation does not take into account a range of factors. At the Australia level, these include students repeating a year of education, migration and other net changes to the school population. At lower levels of disaggregation, additional factors affecting the data, such as enrolment policies (which contribute to different age/grade structures between states and territories), inter-sector transfers and interstate movements of students, have not been taken into account. These and other factors affecting the interpretation of apparent retention rates are being looked at, where possible, in the ABS's review of apparent retention rates.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Data analyses

Apparent retention rates

Table 2.05.1 presents the apparent retention rates of Indigenous and non-Indigenous students from Year 7/8 to Year 10, Year 11 and Year 12; the apparent retention rate from Year 10 to Year 12; and the apparent retention rate from Year 11 to 12.

- In 2011, there were approximately 12,426 Indigenous students in Year 10 (approximately 4.5% of all Year 10 students), 9,129 Indigenous students in Year 11 (approximately 3.5% of all students in Year 11) and 5,781 Indigenous students in Year 12 (approximately 2.6% of all students in Year 12).
- In 2011, the apparent retention rate of full-time Indigenous students from Year 7/8 to Year 10 was 98.7% compared with 100.3% for non-Indigenous students.
- In the same year the apparent retention rate of full-time Indigenous students from Year 7/8 to Year 11 was 73.3% compared with 93.7% for non-Indigenous students.
- The apparent retention rate of full-time Indigenous students from Year 7/8 to Year 12 was much lower—48.7% compared with 80.7% for non-Indigenous students.
- Similarly, the apparent retention rate of full-time Indigenous students from Year 10 to Year 12 was much lower—53.5% compared with 80.6% for non-Indigenous students.
- This trend was also seen in the apparent retention rate of full-time Indigenous students from Year 11 to Year 12— 67.5% compared with 86.7% for non-Indigenous students.

Apparent retention rates by sex

- The apparent retention rates for Indigenous females were slightly higher than those for Indigenous males from Year 7/8 to Year 10 (99.0% compared with 98.4%); Year 7/8 to Year 11 (75.2% compared with 71.4%), Year 7/8 to Year 12 (51.3% compared with 46.1%)

Year 10 to Year 12 (55.6% compared with 51.5%), and Year 11 to Year 12 (68.5% compared with 66.4%) (Table 2.05.1).

Apparent retention rates by state/territory

- In 2011, Tasmania, the Australian Capital Territory and New South Wales had the highest retention rates of Indigenous students from Year 7/8 to Year 10 (115%,107% and 106% respectively), whereas the Northern Territory had the lowest (83%).
- Retention rates of Indigenous students from Year 7/8 to Year 11 were highest in the Australian Capital Territory (96%) and lowest in the Northern Territory (55%).
- The Australian Capital Territory (76%) and South Australia (68%) had the highest retention rates of Indigenous students from Year 7/8 to Year 12 and the Northern territory (33%) and Western Australia (40%) had the lowest.
- Tasmania had the highest retention rate of Indigenous students from Year 11 to Year 12 (86%), whereas the Northern Territory had the lowest (51%).
- Rates for Tasmania and the Australian Capital Territory should be interpreted with caution, because the small size of these jurisdictions means that relatively small changes in student numbers can create large movements in retention rates. Some rates exceeded 100%, largely reflecting the movement of students from non-government to government schools in Years 11 and 12; and in the Australian Capital Territory, some New South Wales residents from surrounding areas enrolled in Australian Capital Territory schools during secondary school.

Table 2.05.1: Apparent retention rates, by Indigenous status, sex and state/territory, 2011 (a)(b)(c)(d)

	NSW		Vic		Qld		WA(e)		SA		Tas		ACT(f)		NT(g)		Australia	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
									Males									
Year 7/8 to Year 10(h)																		
Number	1,991	42,397	325	33,385	1,885	28,306	876	13,594	365	10,084	277	3,230	55	2,402	544	909	6,309	135,028
Per cent	105.8	100.4	91.3	100.0	98.7	101.0	93.9	101.8	100.3	103.0	114.5	100.8	107.8	101.0	72.9	93.5	98.4	100.7
Year 7/8 to Year 11(h)																		
Number	1,153	36,493	258	30,710	1,502	26,332	721	13,875	315	10,307	137	2,620	47	2,551	343	775	4,476	123,763
Per cent	64.7	84.7	69.9	91.1	78.6	93.6	77.6	98.6	88.0	103.5	62.6	78.4	73.4	100.7	58.1	80.9	71.4	91.1
Year 7/8 to Year 12(h)																		
Number	611	30,543	171	25,836	1,100	22,978	384	10,587	209	7,758	85	2,150	28	2,031	213	612	2,801	102,445
Per cent	36.7	71.0	44.8	76.5	59.5	81.5	38.8	75.8	69.0	80.2	37.9	64.9	70.0	87.2	34.5	69.1	46.1	75.9
Year 10 to Year 12(i)																		
Number	611	30,543	171	25,836	1,100	22,978	384	10,587	209	7,758	85	2,150	28	2,031	213	612	2,801	102,445
Per cent	85.6	85.7	86.8	100.8	69.4	81.0	84.9	73.7	101.9	103.8	105.8	100.8	70.0	87.8	77.4	93.0	51.5	76.4
Year 11 to Year 12(j)																		
Number	611	30,543	171	25,836	1,100	22,978	384	10,587	209	7,758	85	2,150	28	2,031	213	612	2,801	102,445
Per cent	65.7	85.7	68.7	85.0	75.6	86.9	51.5	78.0	70.4	77.2	82.5	89.2	80.0	87.7	53.0	77.0	66.4	84.2

(continued)

Table 2.05.1 (continued): Apparent retention rates, by Indigenous status, sex and state/territory, 2011[a][b][c][d]

	NSW		Vic		Qld		WA[e]		SA		Tas		ACT[f]		NT[g]		Australia	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
										Females								
Year 7/8 to Year 10[h]																		
Number	1,991	41,215	360	32,491	1,802	27,364	817	13,594	359	9,668	222	3,068	40	2,327	526	790	6,117	130,517
Per cent	106.3	101.4	98.6	101.6	96.3	102.3	90.9	102.6	103.8	103.5	116.2	99.8	105.3	101.4	88.0	91.2	99.0	101.8
Year 7/8 to Year 11[h]																		
Number	1,316	37,547	309	31,552	1,486	26,375	666	13,375	326	10,095	145	2,732	60	2,489	345	790	4,653	124,935
Per cent	74.4	90.7	82.8	98.4	80.2	97.4	76.5	101.2	88.8	107.1	59.2	87.7	127.7	106.8	88.0	91.3	75.2	96.5
Year 7/8 to Year 12[h]																		
Number	835	33,478	165	28,322	1,097	23,225	358	11,430	200	8,643	117	2,361	30	2,204	178	602	2,980	110,265
Per cent	49.0	80.9	49.9	88.6	61.5	87.7	42.0	86.4	67.8	93.9	51.3	79.0	83.3	92.0	31.1	73.0	51.3	85.8
Year 10 to Year 12[i]																		
Number	835	33,478	165	28,322	1,097	23,225	358	11,430	200	8,643	117	2,361	30	2,204	178	602	2,980	110,265
Per cent	102.8	82.2	95.7	101.0	72.8	111.0	69.6	92.1	103.9	99.4	132.7	98.7	88.2	92.5	73.3	80.3	55.6	84.9
Year 11 to Year 12[j]																		
Number	835	33,478	165	28,322	1,097	23,225	358	11,430	200	8,643	117	2,361	30	2,204	178	602	2,980	110,265
Per cent	71.8	90.2	70.5	90.0	73.7	89.1	53.9	85.1	71.7	87.1	88.6	94.7	75.0	87.4	50.6	84.7	68.5	89.1

(continued)

Table 2.05.1 (continued): Apparent retention rates, by Indigenous status, sex and state/territory, 2011(a)(b)(c)(d)

	NSW		Vic		Qld		WA(e)		SA		Tas		ACT(f)		NT(g)		Australia	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
									Persons									
Year 7/8 to Year 10(h)																		
Number	3,982	83,612	685	65,876	3,687	55,670	1,684	27,909	724	19,752	499	6,298	95	4,729	1,070	1,699	12,426	265,545
Per cent	106.1	100.9	95.0	100.8	97.5	101.6	92.4	102.2	102.0	103.2	115.2	100.3	106.7	101.2	83.3	92.5	98.7	101.3
Year 7/8 to Year 11(h)																		
Number	2,469	74,040	567	62,262	2,988	52,707	1,387	27,350	641	20,402	282	5,352	107	5,040	688	1,545	9,129	248,698
Per cent	69.5	87.6	76.4	94.7	78.4	95.4	77.1	99.9	88.4	105.2	60.8	82.9	96.4	103.6	55.1	86.1	73.3	93.7
Year 7/8 to Year 12(h)																		
Number	1,446	64,021	336	54,158	2,197	46,203	724	22,017	409	16,401	202	4,511	58	4,235	391	1,214	5,781	212,760
Per cent	42.9	75.9	46.9	82.4	60.5	84.5	40.3	81.0	68.4	86.9	44.7	71.6	76.3	89.6	32.9	71.0	48.7	80.7
Year 10 to Year 12(i)																		
Number	1,446	64,021	336	54,158	2,197	46,203	724	22,017	409	16,401	202	4,511	58	4,235	391	1,214	5,781	212,760
Per cent	132.1	81.9	102.8	90.6	100.1	89.2	103.4	78.4	106.6	93.9	75.0	72.2	78.4	90.2	142.9	69.5	53.5	80.6
Year 11 to Year 12(j)																		
Number	1,446	64,021	336	54,158	2,197	46,203	724	22,017	409	16,401	202	4,511	58	4,235	391	1,214	5,781	212,760
Per cent	69.1	88.0	69.6	87.6	74.6	88.0	51.4	81.5	71.0	82.1	86.0	92.0	77.3	87.5	51.9	80.6	67.5	86.7

(continued)

Table 2.05.1 (continued): Apparent retention rates, by Indigenous status, sex and state/territory, 2011(a)(b)(c)(d)

(a) Although most students are recorded, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the number of Aboriginal and Torres Strait Islander students. In addition, the standard Indigenous status question has not yet been implemented in some jurisdictions.

(b) The following factors have not been taken into account in these statistics: students repeating a year of education, migration and other net changes to the school population, enrolment policies (including year starting high school which contributes to different age/grade structures between states and territories), inter-sector transfer and interstate movements of students.

(c) In small jurisdictions, relatively small changes in student numbers can create apparently large movements in retention rates.

(d) The inclusion or exclusion of part-time students can also have a significant effect on apparent retention rates, especially in South Australia, Tasmania and the Northern Territory, which have relatively large proportions of part-time students

(e) Data for Western Australia have been affected by changes in scope and coverage over time.

(f) Some ACT rates exceed 100%, largely reflecting the movement of students from non-government to government schools in Years 11 and 12, and of NSW residents from surrounding areas enrolling in ACT schools.

(g) In 2009, changes to the processing of Northern Territory enrolment data will affect comparisons with previous years of all numbers drawing on student data for the Northern Territory.

(h) Retention rate = Year 10, 11 or 12 students as a proportion of the corresponding cohort from the first year of secondary schooling (Year 7/8).

(i) Retention rate = Year 12 students as a proportion of the corresponding cohort from Year 10.

(j) Retention rate = Year 12 students as a proportion of the corresponding cohort from Year 11.

Source: ABS 2012, AIHW time series analysis of published data.

Apparent retention rates over time

Table 2.05.2 presents apparent retention rates over the period 1998–2011.

- Between 1998 and 2011 there was a significant increase in apparent retention rates for Indigenous students from Year 7/8 to Year 10, Year 11 and Year 12. The fitted trend implies an average yearly increase in the rate of around 1.1% for Year 10 (equivalent to a 17% increase over the period), 1.6% for Year 11 (equivalent to a 41% increase over the period) and 1.2% for Year 12 (equivalent to a 48% increase over the period).
- Over the same period there was a significant increase in apparent retention rates for Indigenous students from Year 10 to Year 12. The fitted trend implies an average yearly increase in the rate of around 0.8%, which is equivalent to a 25% increase over the period. The change in apparent retention rates for Indigenous students from Year 11 to Year 12 was, however, not significant. The fitted trend implied an average yearly change of 0.1%, which is equivalent to 0% increase over the period.
- Between 1998 and 2011 there was also a significant increase in apparent retention rates for non-Indigenous students from Year 7/8 to Year 10, Year 11 and Year 12 of 3%, 0.5% and 8% respectively. These increases were not as great as for Indigenous students.
- Over the same period there was a significant increase in apparent retention rates for non-Indigenous students from Year 10 to Year 12 of 5% and no significant change in apparent retention rates for non-Indigenous students from Year 11 to Year 12.

Both the National Indigenous Reform Agreement and the National Education Agreement aim to halve the gap in Indigenous Year 12 or equivalent attainment by 2020. Since 2010, as part of the Compact with Young Australians, COAG has been implementing a National Youth Participation requirement that required all young people to be in full-time education, training or employment or a combination of education and employment until age 17. This might have affected apparent retention rates to Year 10 and Year 12 since 2010.

Table 2.05.2: Apparent retention rates by Indigenous status, 1998–2011

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	Annual change[(a)]	% change[(b)]
Year 7/8 to Year 10[(c)]																
Indigenous	83.1	82.0	83.0	85.7	86.4	87.2	85.8	88.3	91.3	90.5	89.8	90.9	95.8	98.7	1.1*	16.8*
Non-Indigenous	97.5	97.9	98.0	98.4	98.5	98.9	98.5	98.6	98.9	99.4	99.9	100.1	101.0	101.3	0.3*	3.4*
Year 7/8 to Year 11[(c)]																
Indigenous	52.3	56.0	53.6	56.1	58.9	61.4	61.1	62.3	67.7	69.7	67.8	69.5	72.1	73.3	1.6*	40.9*
Non-Indigenous	85.4	86.4	86.2	87.6	88.7	89.5	89.0	88.3	88.9	89.4	89.8	91.8	93.1	93.7	0.5*	8.3*
Year 7/8 to Year 12[(c)]																
Indigenous	32.1	34.7	36.4	35.7	38.0	39.1	39.8	39.5	40.1	42.9	47.2	45.4	47.2	48.7	1.2*	48.2*
Non-Indigenous	72.7	73.2	73.3	74.5	76.3	76.5	76.9	76.6	76.0	75.6	75.6	77.3	79.4	80.7	0.5*	8.3*
Year 10 to Year 12[(d)]																
Indigenous	42.4	43.1	43.8	43.6	45.8	45.7	46.0	45.3	46.8	48.5	51.7	50.1	52.5	53.5	0.8*	25.4*
Non-Indigenous	74.8	75.0	75.2	76.2	77.8	77.7	78.1	77.5	77.1	76.6	76.5	77.7	79.5	80.6	0.3*	5.4*
Year 11 to Year 12[(e)]																
Indigenous	64.8	66.4	65.0	66.6	67.8	66.4	64.7	64.7	64.4	63.3	67.7	67.0	67.9	67.5	0.1	0.0
Non-Indigenous	85.2	85.7	84.8	86.5	87.1	86.3	86.0	86.1	86.0	85.0	84.7	86.1	86.5	86.7	2.2	0.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–2011.

(a) Average annual change in rates determined using linear regression analysis.

(b) Per cent change between 1998 and 2011 based on the average annual change over the period.

(c) Retention rate = Year 10, 11 or 12 students as a proportion of the corresponding cohort from the first year of secondary schooling (Year 7/8).

(d) Retention rate = Year 12 students as a proportion of the corresponding cohort from Year 10.

(e) Retention rate = Year 12 students as a proportion of the corresponding cohort from Year 11.

Source: ABS 2012, AIHW time series analysis of published data.

NATSISS data

Table 2.05.3 presents survey data on school attendance by Aboriginal and Torres Strait Islander children in Year 9 (note that data on school attendance for younger children in presented in indicator 2.04). Table 2.05.4 presents data on types of assistance that would help Aboriginal and Torres Strait Islander secondary school students. These data are from the 2008 NATSISS.

- Just over one-third (34%) of children in Year 9 or higher missed school in the week before the survey. The main reasons for missing school were 'school not available/open (12%)' followed by 'child illness or injury' (8%) (Table 2.05.3).
- The type of assistance most recommended to help Aboriginal and Torres Strait Islander secondary school students complete Year 12 was support from friends, family and school (11%) (Table 2.05.4). Encouragement from elders and council was reported as the second most recommended type of assistance to help Indigenous secondary school students complete year 12 in remote areas.

Table 2.05.3: Child school attendance, Year 9 or higher, Indigenous students, 2008

	Number	Per cent
How well school advised of child's progress[(a)]		
Very well	3,547	36.6
Well	3,583	37.0
Not well	1,911	19.7
Not at all	640	6.6
Total	**9,681**	**100.0**
Not known	314	3.1
Whether child missed days at school in last week[(b)]		
Missed days at school/preschool/kindergarten	3,408	34.3
Did not miss days at school/preschool/kindergarten	6,519	65.7
Total	**9,928**	**100.0**
Not stated	67	0.7
Main reason missed school in last week[(b)]		
Child had illness or injury	823	8.3
School not available or not open	1,155	11.6
Cultural commitments or sorry business	17	0.2
Other reason	1,414	14.2
Total missed school last week	*3,409*	*34.3*
Did not miss school in last week	6,519	65.7
Total	**9,928**	**100.0**
Not stated	67	0.7
Number of days child usually attends school[(a)]		
Less than five days	748	7.5
5 days or more	9,180	92.5
Total	**9,928**	**100.0**
Not stated	67	0.7
Whether child missed school without permission in last 12 months		
Yes	1,803	18.0
No	8,192	82.0
Total	**9,995**	**100.0**
How well school advised of child's progress[(a)]		
Very well	3,547	36.6
Well	3,583	37.0
Not well	1,911	19.7
Not at all	640	6.6
Total	**9,681**	**100.0**
Not known	314	3.1

(a) Children who do usually attend school.

(b) Children who do not usually attend school.

Source: 2008 NATSISS.

Table 2.05.4: Types of assistance that respondents suggests would help child in secondary school complete year 12, by remoteness, Indigenous children aged 2–14 years, 2008

	Non-remote	Remote	Total
		Per cent	
Support from family, friends and school	11.3	10.6	11.2
Encouragement from elders and council	2.6	4.1	3.0
A relative to support if goes away to boarding school	0.9	3.9	1.6
Greater access to apprenticeships	3.5	2.6	3.3
Provision of coaches or mentors	3.5	2.2	3.2
Career guidance	5.3	3.5	4.9
More individual tutoring	4.9	2.8	4.4
Schools suitable for culture and/or beliefs	2.3	2.6	2.3
Suitable or reliable transport	1.9	2.2	2.0
Accessible secondary schools	1.1	2.3	1.4
Subsidies or grants to help with affordability	3.5	3.2	3.4
Assistance for students with a disability	1.1	0.8	1.1
Support networks	3.6	2.6	3.4
More discipline	2.1	2.1	2.1
Other reason	0.7	0.4	0.6
Not currently attending secondary school	51.6	54.1	52.2
Total	**100.0**	**100.0**	**100.0**
Total number	**194,254**	**58,954**	**253,208**

Source: 2008 NATSISS.

Data quality issues

National Schools Statistics Collection

Indigenous identification

Information on Indigenous status is obtained from school enrolment forms which are generally completed by the primary carer of the child. The NSSC includes people who did not state their Indigenous status in the category 'non-Indigenous'.

There is some variability in the reporting of Indigenous status, particularly in relation to not stated responses. This may result in some under reporting of Indigenous status, see Appendix 2: Collection of Indigenous Status of Students (ABS 2012). Increases in the number of Indigenous students due to improvements in the reporting of Indigenous status may lead to increases in apparent retention rates for Indigenous students independently of changes in actual retention.

Retention data

Care should be taken in the interpretation of apparent retention rates (ARRs) as the method of calculation does not take into account a range of factors such as repeating students, migration, inter-sector transfers and enrolment policies. For further details on the accuracy of the NSSC methodology and apparent retention rates, see the Explanatory Notes of Schools, Australia (ABS 2012).

The ARR is based on those who are undertaking study at the year 10 or year 12 level as at August in the reference year and they may not go on to complete year 10 or year 12.

The ARR measures change over a period of time. The numerator and denominator are sourced from different annual cycles of the NSSC, to follow the same age-cohort. Given the long analysis period, student transitions, such as migration or re-entry to the school system, have an effect on the accuracy of this calculation. In addition, the denominator is sourced from two different NSSC years due to different starting years for secondary school. For example, for the ARR from year 7/8 to year 10 in 2009, the denominator for New South Wales, Victoria, Tasmania and Australian Capital Territory is sourced from NSSC 2006 (year 7) and for Queensland, Western Australia, South Australia and Northern Territory is sourced from 2007 (year 8).

Relatively small changes in student numbers can create apparently large movements in retention rates, particularly in small jurisdictions. In addition, the rates in the smaller jurisdictions may be noticeably affected by changes in such factors as the proportion of ungraded and/or mature aged students from year to year.

Before sending data to the ABS, each State education department cleans the data and removes duplicate records so that students are only counted once. Due to the different enrolment systems, the ability to remove duplicates varies among jurisdictions and this may result in over-reporting of school students in some states. Decreases in the number of students due to improvements in the identification and removal of duplicate enrolments may lead to decreases in ARRs independently of changes in actual retention.

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years.

Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' Guide 2008. ABS Cat. no. 4720.0. Canberra: ABS.

ABS 2012. Schools Australia 2010. ABS Cat. no. 4221.0. Canberra: ABS.

List of tables

2.06 Educational participation and attainment of adults

Educational participation (persons undertaking formal education or training) and educational attainment (persons who have completed a particular level of school education or non-school qualification).

Data sources

Data for this measure come from the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS), the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the National Centre for Vocational Education Research and the Department of Education, Employment and Workplace Relations Higher Education Statistics Collection.

Data presented have not been age-standardised, because education has not been found to be strongly associated with age in analysis of surveys such as the NATSIHS.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Vocational Education and Training (VET) Provider Collection

The National Centre for Vocational Education Research is Australia’s main provider of vocational education and training (VET) sector research and statistics. VET is a national system designed to give workers the skills for particular occupations and industries. The VET sector includes providers that receive public VET funding, such as technical and further education organisations, higher education institutions, other government providers (for example, agricultural colleges), community education providers, government-funded private registered training organisations, schools funded through government allocations for VET, and all other Commonwealth and state recurrent and specific-purpose funded VET, regardless of the location of the training organisation.

Non-identification rates for Indigenous students in these data are high. Care also needs to be taken when comparing data across jurisdictions for load pass rates, as average module durations vary across jurisdictions.

DEEWR Higher Education Statistics Collection

The Australian Government Department of Education, Employment and Workplace Relations (DEEWR) is the responsible agency for the Higher Education Statistics Collection, which includes information from higher education institutions such as universities and colleges of advanced education. This data collection contains statistics relating to students enrolled in higher education courses between 1 January and 31 December of each year in each Australian higher education provider.

Although universities design and produce their own enrolment forms, DEEWR has provided institutions with suggested wording for questions relating to Indigenous status (ABS 2003). Approximately 3% of students in this data collection have a 'not stated' Indigenous status. At the moment these are recorded as non-Indigenous, although plans are under way to record the 'not stated' responses separately.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Data analyses

Self-reported survey data

The 2008 NATSISS collected information on the educational institution currently attended, the highest level of schooling that Indigenous people aged 15 years and over completed, and the highest level of non-school qualification. These data are presented in Tables 2.06.1 to 2.06.25.

Educational institution currently attended

- In 2008, approximately 19% of Indigenous people and 16% of non-Indigenous people aged 15 years and over were currently studying. Indigenous Australians were twice as likely to be studying at secondary school (8%) as non-Indigenous Australians (4%).

However, non-Indigenous Australians were twice as likely to be studying at university or in higher education as Indigenous Australians (6% compared with 3%) (Table 2.06.1).

Educational institution currently attended by age and sex

- In 2008, a higher proportion of Indigenous females aged 15 years and over were currently studying (20%) than Indigenous males (18%). Approximately 16% of both non-Indigenous males and non-Indigenous females of the same age were currently studying (Table 2.06.2).
- Approximately 2% of Indigenous males and 3% of Indigenous females were currently studying at university or another higher education institution compared with 6% of non-Indigenous males and females.

Table 2.06.1: Educational institution currently attended, by Indigenous status and age group, persons aged 15 years and over, 2008

	15–24 years			25–34 years			35–44 years			45 years and over			Total (15 years and over)		
Educational participation	**Indig.**	**Non-Indig.**	**Rate ratio**[(a)]	**Indig.**	**Non-Indig.**	**Rate ratio**[(a)]	**Indig.**	**Non-Indig.**	**Rate ratio**[(a)]	**Indig.**	**Non-Indig.**	**Rate ratio**[(a)]	**Indig.**	**Non-Indig.**	**Rate ratio**[(a)]
	%	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**	
Secondary school	26.3	24.9	1.1	n.p.	n.p.	. .	n.p.	n.p.	. .	n.p.	n.p.	. .	8.4*	4.2*	2.0
TAFE/technical college/business college/industry skills centre	9.3	11.2	0.8	5.6	7.0	0.8	4.5	4.6	1.0	3.6*	1.5*	2.5	6.0*	4.6*	1.3
University/other higher education	2.9*	20.3*	0.1	3.1*	5.9*	0.5	3.7	4.1	0.9	1.7*	0.9*	1.9	2.7*	5.6*	0.5
Total currently studying[(b)]	*40.9**	*58.1**	*0.7*	*11.2**	*14.7**	*0.8*	*9.3*	*10.4*	*0.9*	*6.6**	*2.8**	*2.3*	*19.0**	*15.6**	*1.2*
Not studying	59.1*	41.9*	1.4	88.8*	85.3*	1.0	90.7	89.6	1.0	93.4*	97.2*	1.0	81.0*	84.4*	1.0
Total	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**
Total number	**103,780**	**2,783,949**	**. .**	**69,931**	**2,819,126**	**. .**	**63,851**	**2,987,518**	**. .**	**89,539**	**7,783,608**	**. .**	**327,101**	**16,374,202**	**. .**

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Rate ratio = Indigenous: non-Indigenous.

(b) Includes other institutions not further defined.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Table 2.06.2: Educational institution currently attended, by Indigenous status and sex, persons aged 15 years and over, 2008

	Males			Females			Persons		
Educational participation	Indig.	Non-Indig.	Rate ratio[(a)]	Indig.	Non-Indig.	Rate ratio[(a)]	Indig.	Non- Indig.	Rate ratio[(a)]
				Per cent					
Secondary school	8.7*	4.0*	2.2	8.1*	4.4*	1.8	8.4*	4.2*	2.0
TAFE/technical college/business college/industry skills centre	5.4	5.1	1.1	6.6*	4.1*	1.6	6.0*	4.6*	1.3
University/other higher education	2.1*	5.6*	0.4	3.3*	5.7*	0.6	2.7*	5.6*	0.5
Total currently studying[(b)]	*17.7*	*15.8*	*1.1*	*20.2**	*15.5**	*1.3*	*19.0**	*15.6**	*1.2*
Not studying	**82.3**	**84.2**	**1.0**	**79.8***	**84.5***	**0.9**	**81.0***	**84.4***	**1.0**
Total	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**
Total number	**156,052**	**8,079,875**	. .	**171,049**	**8,294,327**	. .	**327,101**	**16,374,202**	. .

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Indigenous rate divided by non-Indigenous rate.

(b) Includes other educational institutions not further defined.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Educational institution currently attended by state/territory and remoteness

- In all states and territories except the Northern Territory, there was a higher proportion of Indigenous persons currently studying than non-Indigenous persons (Table 2.06.3).
- The Australian Capital Territory had the highest proportion of Indigenous persons aged 15 years and over currently studying (27%) and the Northern Territory had the lowest proportion (14%) (Table 2.06.3).
- The proportion of Indigenous people who were currently studying at secondary school ranged from 6% in the Northern Territory to 11% in Tasmania. The proportion of Indigenous people currently studying at TAFE colleges ranged from 3% in the Northern Territory to 10% in the Australian Capital Territory (although this estimate has a high relative standard error and should be used with caution).
- A higher proportion of Indigenous Australians in non-remote areas were currently studying at secondary school (9%) and TAFE colleges or equivalent (7%) than those in remote areas (6% and 5% respectively). The proportion studying at university or other higher education institutions was 3%in non-remote areas and 1% in remote areas (Table 2.06.4).

Table 2.06.3: Educational institution currently attended, by Indigenous status and state/territory, persons aged 15 years and over, 2008

	Educational participation		Secondary school	TAFE/technical college/business college/industry skills centre	University /other higher education	Total currently studying[(a)]	Not studying	Total[(a)]	Total number
NSW	Indigenous	%	9.2*	6.6	2.2*[(b)]	20.0*	80.0*	100.0	96,367
	Non-Indigenous	%	4.4*	4.7	4.8*	15.2*	84.8*	100.0	5,400,320
	Rate ratio[(c)]		2.1	1.4	0.5	1.3	0.9	. .	. .
Vic	Indigenous	%	9.3*	8.1*	5.2	25.0*	75.0*	100.0	21,938
	Non-Indigenous	%	4.4*	4.6*	6.1	16.1*	83.9*	100.0	4,157,596
	Rate ratio[(c)]		2.1	1.8	0.9	1.6	0.9	. .	. .
Qld	Indigenous	%	8.4*	5.8	2.5*[(b)]	18.9	81.1	100.0	90,587
	Non-Indigenous	%	3.8*	4.5	6.6*	15.8	84.2	100.0	3,192,880
	Rate ratio[(c)]		2.2	1.3	0.4	1.2	1.0	. .	. .
WA	Indigenous	%	7.7*	6.5*	2.5*	18.2	81.8	100.0	43,826
	Non-Indigenous	%	4.3*	4.9*	5.5*	15.8	84.2	100.0	1,614,710
	Rate ratio[(c)]		1.8	1.3	0.5	1.2	1.0	. .	. .
SA	Indigenous	%	8.6*	6.9*	2.5*	19.5*	80.5*	100.0	17,948
	Non-Indigenous	%	4.1*	4.4*	4.7*	14.1*	85.9*	100.0	1,254,826
	Rate ratio[(c)]		2.1	1.6	0.5	1.4	0.9	. .	. .
Tas	Indigenous	%	11.0*	6.2	2.6[(b)]	20.9*	79.1*	100.0	12,351
	Non-Indigenous	%	5.3*	5.0	4.1	15.7*	84.3*	100.0	373,776
	Rate ratio[(c)]		2.1	1.2	0.6	1.3	0.9	. .	. .
ACT	Indigenous	%	7.6[(b)]	10.0[(b)]	7.7[(b)]	26.6	73.4	100.0	2,810
	Non-Indigenous	%	5.2	4.6	10.8	21.9	78.1	100.0	268,844
	Rate ratio[(c)]		1.5	2.2	0.7	1.2	0.9	. .	. .
NT	Indigenous	%	5.9	2.9	3.1	13.5	86.5	100.0	41,274
	Non-Indigenous	%	2.7[(d)]	4.9[(d)]	6.7[(b)]	16.6[(b)]	83.4	100.0	111,250
	Rate ratio[(c)]		2.2	0.6	0.5	0.8	1.0	. .	. .
Aust.	Indigenous	%	8.4*	6.0*	2.7*	19.0*	81.0*	100.0	327,101
	Non-Indigenous	%	4.2*	4.6*	5.6*	15.6*	84.4*	100.0	16,374,202
	Rate ratio[(c)]		2.0	1.3	0.5	1.2	1.0	. .	. .

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Includes other educational institution, not further defined.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Indigenous rate divided by non-Indigenous rate.

(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Table 2.06.4: Educational institution currently attended, by Indigenous status and remoteness, persons aged 15 years and over, 2008

	Major cities	Inner regional	Outer regional	*Subtotal non-remote*	Remote	Very remote	*Subtotal remote*	Total
				Per cent				
				Indigenous				
Secondary school	10.1*	10.5*	7.1*	9.3*	7.4	4.5	5.5	8.4*
TAFE/technical college/business college/industry skills centre	6.8*	7.0	5.6	6.5*	5.0	4.2	4.5	6.0*
University/other higher education	4.6*	2.3(a)	1.9*	3.2*	1.9(a)	1.0(a)	1.3(a)	2.7*
Total currently studying(b)	*23.2**	*22.2**	*17.3**	*21.2**	*15.5*	*10.8*	*12.5*	*19.0**
Not studying	76.8*	77.8*	82.7*	78.8*	84.5*	89.2	87.5	81.0*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**105,217**	**67,416**	**72,967**	**245,600**	**29,839**	**51,662**	**81,501**	**327,101**
				Non-Indigenous				
Secondary school	4.3*	4.3*	3.8*	4.3*	n.p.	. .	. .	4.2*
TAFE/technical college/business college/industry skills centre	4.1*	6.0	5.0	4.6*	n.p.	. .	. .	4.6*
University/other higher education	6.6*	3.5	3.3*	5.7*	n.p.	. .	. .	5.6*
Total currently studying(b)	*16.4**	*14.5**	*12.8**	*15.7**	*10.0*	. .	. .	*15.6**
Not studying	83.6*	85.5*	87.2*	84.3*	90.0*	. .	. .	84.4*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**. .**	**. .**	**100.0**
Total number	**11,283,887**	**3,466,410**	**1,465,288**	**16,215,586**	**157,268**	**. .**	**. .**	**16,374,202**
				Rate ratio(c)				
Secondary school	2.3	2.4	1.9	2.2	. .	. .	. .	2.0
TAFE/technical college/business college/industry skills centre	1.7	1.2	1.1	1.4	. .	. .	. .	1.3
University/other higher education	0.7	0.7	0.6	0.6	. .	. .	. .	0.5
Total currently studying(b)	*1.4*	*1.5*	*1.4*	*1.4*	*1.6*	. .	. .	*1.2*
Not studying	0.9	0.9	0.9	0.9	0.9	. .	. .	1.0

* Represents results with statistically significant differences at the $p<0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Includes other educational institutions not further defined.

(c) Indigenous rate divided by non-Indigenous rate.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Highest level of school completed

- In 2008, Indigenous adults aged 18 years and over were twice as likely as non-Indigenous adults to report that their highest level of schooling completed was Year 9 or below (34% compared with 16%). Year 10 or 11 was the highest level of schooling that 43% of Indigenous adults and 33% of non-Indigenous adults completed, and Year 12 was the highest level that 23% of Indigenous adults completed compared with 51% of non-Indigenous adults (Table 2.06.5).

Highest level of school completed by age and sex

- Indigenous Australians aged 65 years and over were much more likely to report that their highest level of schooling completed was Year 9 or below (82%) than Indigenous Australians of younger ages (Table 2.06.5).
- Indigenous Australians aged 18–24, 25–34 and 35–44 years were around five times as likely to report Year 9 or below as their highest level of schooling as non-Indigenous adults of the same age groups.
- In 2008, males and females in the Indigenous population reported similar levels of school completed, as did males and females in the non-Indigenous population (Table 2.06.6).

Table 2.06.5: Highest level of school completed[(a)], by Indigenous status and age group, persons aged 18 years and over, 2008

			Highest level of school completed				
			Completed Year 12	Completed Year 10 or 11	Completed Year 9 or below[(b)]	Total	Total number of persons
18–24	Indigenous	%	32.0*	47.9*	20.1*	100.0	65,494
	Non-Indigenous	%	75.9*	20.6*	3.5*	100.0	1,923,185
	Rate ratio[(c)]		0.4	2.3	5.7	. .	. .
25–34	Indigenous	%	30.1*	47.8*	22.0*	100.0	69,786
	Non-Indigenous	%	72.6*	23.4*	4.0*	100.0	2,818,872
	Rate ratio[(c)]		0.4	2	5.5	. .	. .
35–44	Indigenous	%	24.3*	48.5*	27.2*	100.0	63,851
	Non-Indigenous	%	55.6*	38.5*	5.9*	100.0	2,987,350
	Rate ratio[(c)]		0.4	1.3	4.6	. .	. .
45–64 years	Indigenous	%	9.6*	37.5	52.9*	100.0	73,551
	Non-Indigenous	%	41.8*	40.8	17.5*	100.0	5,190,548
	Rate ratio[(c)]		0.2	0.9	3	. .	. .
65+ years	Indigenous	%	5.2*[(d)]	13.2*	81.5*	100.0	15,979
	Non-Indigenous	%	22.5*	30.7*	46.8*	100.0	2,592,921
	Rate ratio[(c)]		0.2	0.4	1.7	. .	. .
Total	Indigenous	%	22.7*	43.4*	33.9*	100.0	288,660
	Non-Indigenous	%	51.1*	33.0*	16.0*	100.0	15,512,876
	Rate ratio[(c)]		0.4	1.3	2.1	. .	. .

* Represents results with statistically significant differences i at the $p<0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Excludes those still attending secondary school.

(b) Includes persons who never attended school.

(c) Indigenous rate divided by non-Indigenous rate.

(d) Estimate has a standard error of between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Table 2.06.6: Highest year of school completed, by Indigenous status and sex, persons aged 18 years and over, 2008

Highest level of school completed	Male			Female			Total		
	Indig.	Non-Indig.	Rate ratio[(a)]	Indig.	Non-Indig.	Rate ratio[(a)]	Indig.	Non-Indig.	Rate ratio[(a)]
	%	%		%	%		%	%	
Completed Year 12	22.3*	51.1*	0.4	23.0*	51.0*	0.5	22.7*	51.1*	0.4
Completed Year 10 or 11	42.9*	33.1*	1.3	43.9*	32.9*	1.3	43.9*	33.0*	1.3
Completed Year 9 or below[(b)]	34.9*	15.8*	2.2	33.1*	16.1*	2.1	33.9*	16.0*	2.1
Total	**100.0**	**100.0**	. .	**100.0**	**100.0**	. .	**100.0**	**100.0**	. .
Total number of persons	**136,184**	**7,652,593**	. .	**152,476**	**7,860,283**	. .	**288,660**	**15,512,876**	. .

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Indigenous rate divided by non-Indigenous rate.

(b) Includes persons who never attended school.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Highest level of school completed by state/territory and remoteness

- The proportion of Indigenous adults aged 18 years and over reporting Year 12 as their highest level of school completed ranged from 16% in the Northern Territory to 44% in the Australian Capital Territory. The proportion of Indigenous students reporting Year 9 or below as their highest level of schooling ranged from 18% in the Australian Capital Territory to 44% in the Northern Territory (Table 2.06.7).
- A higher proportion of Indigenous Australians aged 18 years and over in non-remote areas reported Year 12 as their highest level of school completed than their counterparts in remote areas of Australia (25% compared with 16%) (Table 2.06.8).
- In *Major Cities*, *Inner Regional*, *Outer Regional* and *Remote* areas of Australia, Indigenous Australians were more likely than non-Indigenous Australians to report that their highest level of schooling completed was Year 9 or below. (Data are not available for non-Indigenous in *Very Remote* areas).

Table 2.06.7: Highest level of school completed, by state/territory and Indigenous status, persons aged 18 years and over, 2008

State/territory			Completed Year 12	Completed Year 10 or below	Completed Year 9 or below[(a)]	Total	Total no. of persons
NSW	Indigenous	%	18.0*	40.2*	41.8*	100.0	84,219
	Non-Indigenous	%	52.8*	29.6*	17.6*	100.0	5,099,418
	Rate ratio[(b)]		0.3	1.4	2.4	. .	. .
Vic	Indigenous	%	28.9*	42.6*	28.6*	100.0	19,071
	Non-Indigenous	%	54.8*	30.2*	17.0*	100.0	3,948,721
	Rate ratio[(b)]		0.5	1.4	1.7	. .	. .
Qld	Indigenous	%	30.3*	42.1	27.6*	100.0	80,037
	Non-Indigenous	%	48.8*	37.0	14.2*	100.0	3,037,211
	Rate ratio[(b)]		0.6	1.1	1.9	. .	. .
WA	Indigenous	%	19.8*	53.4*	26.7*	100.0	38,823
	Non-Indigenous	%	50.9*	37.4*	11.8*	100.0	1,521,995
	Rate ratio[(b)]		0.4	1.4	2.3	. .	. .
SA	Indigenous	%	20.9*	50.0*	29.1*	100.0	15,905
	Non-Indigenous	%	43.4*	40.0*	16.6*	100.0	1,193,145
	Rate ratio[(b)]		0.5	1.3	1.8	. .	. .
Tas	Indigenous	%	20.6*	48.5	30.9*	100.0	10,602
	Non-Indigenous	%	34.1*	45.5	20.4*	100.0	350,581
	Rate ratio[(b)]		0.6	1.1	1.5	. .	. .
ACT	Indigenous	%	43.5*	38.8*	17.7*	100.0	2,512
	Non-Indigenous	%	71.0*	21.3*	7.7*	100.0	253,556
	Rate ratio[(b)]		0.6	1.8	2.3	. .	. .
NT	Indigenous	%	16.3*	39.8*	43.9*	100.0	37,492
	Non-Indigenous	%	63.0*	26.0*	11.0*[(c)]	100.0	108,248
	Rate ratio[(b)]		0.3	1.5	4.0	. .	. .
Australia	Indigenous	%	22.7*	43.4*	33.9*	100.0	288,660
	Non-Indigenous	%	51.1*	33.0*	16.0*	100.0	15,512,876
	Rate ratio[(b)]		0.4	1.3	2.1	. .	. .

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Includes persons who never attended school.

(b) Indigenous rate divided by non-Indigenous rate.

(c) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

Note: Excludes those still attending secondary school.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Table 2.06.8: Highest level of school completed[(a)], by Indigenous status and remoteness area, persons aged 18 years and over, 2008

			Highest level of school completed				
			Completed Year 12	Completed Year 10 or 11	Completed Year 9 or below[(b)]	Total	Total number of persons
Major cities	Indigenous	%	30.1*	43.5*	26.4*	100.0	91,775
	Non-Indigenous	%	57.4*	28.6*	14.1*	100.0	10,700,140
	Rate ratio[(c)]		0.5	1.5	1.9	. .	. .
Inner regional	Indigenous	%	20.8*	45.1	34.1*	100.0	57,723
	Non-Indigenous	%	37/1*	41.7	21.2*	100.0	3,259,384
	Rate ratio[(c)]		0.6	1.1	1.6	. .	. .
Outer regional	Indigenous	%	21.0*	42.7	36.3*	100.0	64,455
	Non-Indigenous	%	36.3*	45.3	18.4*	100.0	1,397,750
	Rate ratio[(c)]		0.6	0.9	2.0	. .	. .
Subtotal non-remote	Indigenous	%	24.8*	43.7*	31.5*	100.0	213,953
	Non-Indigenous	%	51.2*	32.9*	16.0*	100.0	15,357,274
	Rate ratio[(c)]		0.5	1.3	2.0	. .	. .
Remote	Indigenous	%	16.8*	43.9	39.3*	100.0	26,917
	Non-Indigenous	%	39.1*	44.1*	16.8*[(d)]	100.0	154,254
	Rate ratio[(c)]		0.4	1.0	2.3	. .	. .
Very remote	Indigenous	%	16.1	41.9	41.9	100.0	49,348
	Non-Indigenous	%	n.a.	n.a.	n.a.	n.a.	n.a.
	Rate ratio[(c)]		. .	. .	. .	. .	. .
Subtotal remote	Indigenous	%	16.4	42.7	41.0	100.0	76,993
	Non-Indigenous	%	n.a.	n.a.	n.a.	n.a.	n.a.
	Rate ratio[(c)]		. .	. .	. .	. .	. .

(continued)

Table 2.06.8 (continued): Highest level of school completed[(a)], by Indigenous status and remoteness area, persons aged 18 years and over, 2008

			Highest level of school completed				
			Completed Year 12	Completed Year 10 or 11	Completed Year 9 or below[(b)]	Total	Total number of persons
Total	Indigenous	%	22.7*	43.4*	33.9*	100.0	288,660
	Non-Indigenous	%	51.1*	33.0*	16.0*	100.0	15,512,876
	Rate ratio[(c)]		0.4	1.3	2.1	. .	. .

* Represents results with statistically significant differences at the $p<0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Excludes those still attending secondary school.

(b) Includes persons who never attended school.

(c) Indigenous rate divided by non-Indigenous rate.

(d) Estimate has a standard error of between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Time series analyses

- A higher proportion of Indigenous Australians aged 18 years and over reported that the highest year of school completed was Year 12 in 2008 (23%) than in 2002 (19%) and in 1994 (9%). A higher proportion of non-Indigenous Australians aged 18 years and over in 2008 also reported that Year 12 was their highest year of school completed (51%) than in 2002 (40%) (Table 2.06.9).

Table 2.06.9: Highest level of school completed (per cent), by Indigenous status, 1994, 2002 and 2008

	1994		2002		2008	
Highest level of school completed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Completed Year 12	9.3	n.a.	18.5	39.8	22.7	51.1
Completed Year 10 or 11	37.7	n.a.	40.7	37.3	43.4	33.0
Completed Year 9 or below(a)	52.1	n.a.	40.8	22.9	33.9	16.0
Total(b)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes persons who never attended school.

(b) Includes not stated.

Note: Excludes those still attending secondary school.

Source: 2002 NATSISS; 2008 NATSISS; NHS 01 and NHS 07–08.

Highest year of school completed by selected population characteristics

- In 2008, among Indigenous Australians who completed year 12, 91% spoke English at home, 81% lived in non-remote areas and 75% were employed. Among those Indigenous Australians who completed to year 9 or below, 81% spoke English at home, 69% lived in non-remote areas and 35% were employed (Table 2.06.10).

Table 2.06.10: Highest level of school completed, by selected population characteristics and Indigenous status, persons aged 18 years and over, per cent, 2008

	Completed Year 12		Completed Year 10 or 11		Completed Year 9 or below[a]		Total[b]	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
Main language spoken at home								
English	90.6	86.5	88.1	96.0	81.4	83.5	86.4	89.1
Language other than English	9.4	13.5	11.9	4.0	18.6	16.5	13.6	10.9
Total number	*65,383*	*7,920,077*	*125,356*	*5,114,976*	*97,921*	*2,477,823*	*288,660*	*15,512,876*
Location								
Remote	18.7	. .	25.4	. .	31.3	. .	25.9	. .
Non-remote	81.3	. .	74.6	. .	68.7	. .	74.1	. .
Total number	*65,383*	. .	*125,356*	. .	*97,921*	. .	*288,660*	. .
Household income								
1st quintile (lowest income)	28.6	8.5	47.0	16.8	65.6	40.1	49.1	16.3
5th quintile (highest income)	9.8	30.7	4.1	15.3	2.7	5.2	4.9	21.4
Total excluding income not stated	*51,488*	*6,677,999*	*101,187*	*4,427,215*	*77,302*	*2,111,267*	*229,976*	*13,216,481*
Index of disparity[c]								
1st quintile (most disadvantaged)	37.8	10.1	49.5	20.1	60.9	31.8	50.6	16.9
5th quintile (least disadvantaged)	8.3[d]	31.6	3.2[d]	14.4	1.5[d]	9.2	3.8	22.3
Total excluding not stated	*64,356*	*7,883,314*	*122,710*	*5,095,961*	*93,297*	*2,462,672*	*280,363*	*15,441,947*
Employment								
Employed	74.7	78.0	58.2	66.9	35.2	30.7	54.1	66.8
Unemployed	7.7	2.1	11.1	2.6	9.0	1.7	9.6	2.2
Not in the labour force	17.6	19.9	30.7	30.5	55.8	67.7	36.3	31.0
Total number	*65,383*	*7,920,077*	*125,356*	*5,114,976*	*97,921*	*2,477,823*	*288,660*	*15,512,876*
Housing tenure type								
Owner[e]	41.0	61.7	28.8	68.2	21.7	70.1	29.2	65.2
Renter[f]	57.4	30.2	69.5	27.4	76.9	25.3	69.2	28.5
Other[g]	1.6	8.1	1.8	4.4	1.4	4.6	1.6	6.3
Total excluding not stated	*65,134*	*7,920,077*	*124,664*	*5,114,976*	*97,309*	*2,477,823*	*287,107*	*15,512,876*

(a) Includes persons who never attended school.

(b) Excludes those who are still attending secondary school.

(c) Index of Relative Socio-economic Advantage and Disadvantage.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Includes without a mortgage, with a mortgage and participants in rent-buy schemes.

(f) Includes boarders.

(g) Includes life tenure schemes, rent-free, and other tenure types not further defined.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Highest year of school completed by summary health and population characteristics

- In 2008, nearly half of all Indigenous Australians aged 18 years and over, who spoke a language other than English as their main language at home reported their highest level of school completed was Year 9 or below, compared with a third of Indigenous Australians who spoke English as their main language (Table 2.06.11).

- For Indigenous Australians aged 18 years and over in 2008, those in the 1st quintile (lowest income) of household income were more likely than those in the 5th quintile (highest income) to report their highest level of school completed as Year 9 or below (45% compared with 19%) (Table 2.06.11).

Table 2.06.11: Highest year of school completed, by selected population characteristics, Indigenous persons aged 18 years and over, 2008

	Completed Year 12	Completed Year 10 or 11	Completed Year 9 or below[(a)]	Total[(b)]
		Per cent		
Main language spoken at home				
English	23.8	44.3	32.0	100.0
Language other than English	15.6	38.0	46.4	100.0
Total	**65,383**	**125,356**	**97,921**	**288,660**
Location				
Remote	16.4	42.7	41.0	100.0
Non-remote	24.8	43.7	31.5	100.0
Total	**65,383**	**125,356**	**97,921**	**288,660**
Household income				
1st quintile (lowest income)	13.0	42.1	44.9	100
5th quintile (highest income)	45.0	36.5	18.6	100
Total excluding income not stated	**51,488**	**101,187**	**77,302**	**229,976**
Index of disparity(c)				
1st quintile (most disadvantaged)	17.2	42.8	40.0	100.0
5th quintile (least disadvantaged)	49.7	37.3	*12.9	100.0
Total excluding not stated	**64,356**	**122,710**	**93,297**	**280,363**
Employment				
Employed	31.3	46.7	22.1	100.0
Unemployed	18.1	50.1	31.8	100.0
Not in the labour force	11.0	36.8	52.2	100.0
Total	**65,383**	**125,356**	**97,921**	**288,660**
Housing tenure type				
Owner	32.2	42.2	25.6	100.0
Renter	18.8	43.6	37.6	100.0
Other(d)	21.7	54.3	24.0	100.0
Total excluding not stated	**65,134**	**124,664**	**97,309**	**287,107**

(a) Includes persons who never attended school.

(b) Excludes those who are still attending secondary school.

(c) Index of Relative Socio-economic Advantage and Disadvantage.

(d) Includes life tenure scheme, participant in rent/buy scheme, rent-free and other tenure not further defined.

Source: ABS and AIHW analysis of NATSISS 2008.

Non-school qualifications

- In 2008, approximately 40% of Indigenous Australians aged 25–64 years reported they had a non-school qualification compared with 61% of non-Indigenous Australians of the same age (Table 2.06.14).
- The same proportion of Indigenous and non-Indigenous people aged 25–64 years had completed a certificate course in 2008 (both 25%). A much higher proportion of non-Indigenous Australians had a bachelor degree or diploma as their highest level of non-school qualification (25% and 10% respectively) compared with Indigenous Australians (7% and 6% respectively).

Non-school qualifications by age and sex

- For Indigenous Australians the age group with the highest rate of non-school qualifications was 35–44 years (43%). For non-Indigenous Australians the highest rate was in the 25–34 year group (70%) (Table 2.06.12).
- In 2008, a similar proportion of Indigenous males and females aged 25–64 years had a non-school qualification (41% and 39% respectively). Indigenous males were more likely to have completed a certificate course (27%) and less likely to have completed a diploma (4%) or bachelor degree or above (6%) than Indigenous females (22%, 7% and 7% respectively) (Table 2.06.13).

Table 2.06.12: Whether has a non-school qualification, by Indigenous status and age group, persons aged 25–64 years, 2007–08

	25–34 years			35–44 years			45–64 years			Total		
Highest level of non-school qualification[(a)]	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**
Non-school qualification	**Per cent**			**Per cent**			**Per cent**			**Per cent**		
Bachelor degree or above[(b)]	6.3*	32.5*	0.2	6.6*	26.2*	0.3	6.6*	20.0*	0.3	6.5*	24.9*	0.3
Advanced diploma/diploma	4.0*	9.9*	0.4	6.5*	9.9*	0.7	6.5*	9.7*	0.7	5.6*	9.8*	0.6
Certificate	26.3	25.5	1.0	27.1	26.1	1.0	21.0	23.9	0.9	24.7	24.9	1.0
Total with non-school qualification[(c)]	*39.5**	*69.7**	*0.6*	*42.9**	*64.0**	*0.7*	*38.4**	*55.4**	*0.7*	*40.2**	*61.4**	*0.7*
Does not have a non-school qualification	60.5*	30.3*	2.0	57.1*	36.0*	1.6	61.6*	44.6*	1.4	59.9*	38.6*	1.6
Total	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**
Total number of persons	**69,931**	**2,819,126**	**. .**	**63,851**	**2,987,518**	**. .**	**73,560**	**5,190,687**	**. .**	**207,342**	**10,997,331**	**. .**

* Represents results with statistically significant differences at the $p<0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) As classified to the ABS Classification of Qualifications.

(b) Includes bachelor degree, doctorate, masters, graduate diploma, graduate certificate.

(c) Includes persons with a non-school qualification, the level of which could not be determined.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Table 2.06.13: Whether has a non-school qualification, by sex and Indigenous status, persons aged 25–64 years, 2008

	Male			Female			Total		
Non-school qualification[(a)]	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio
	%	%		%	%		%	%	
Bachelor degree or above[(b)]	5.6	24.5	0.2*	7.3	25.2	0.3*	6.5	24.9	0.3*
Advanced diploma/diploma	4.3	8.2	0.5*	6.8	11.4	0.6*	5.6	9.8	0.6*
Certificate	27.4	30.2	0.9	22.2	19.7	1.1	24.7	24.9	1.0
Total with non-school qualification[(c)]	*41.0*	*64.6*	*0.6**	*39.4*	*58.2*	*0.7**	*40.2*	*61.4*	*0.7**
Does not have a non-school qualification	59.0	35.4	1.7*	60.6	41.8	1.4*	59.9	38.6	1.6*
Total	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**
Total number of persons	**97,129**	**5,469,151**	**. .**	**110,214**	**5,528,180**	**. .**	**207,342**	**10,997,331**	**. .**

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) As classified to the ABS Classification of Qualifications.

(b) Includes bachelor degree, doctorate, masters, graduate diploma and graduate certificate.

(c) Includes persons with a non-school qualification, the level of which could not be determined.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Non-school qualifications by state/territory and remoteness

- The proportion of Indigenous Australians aged 25–64 years with a non-school qualification ranged from 27% in the Northern Territory to 63% in the Australian Capital Territory (Table 2.06.14). Approximately 21% of Indigenous Australians in the Australian Capital Territory had completed a bachelor degree or above, whereas in the other states and territories this proportion ranged between 5% and 11%.
- The proportion of Indigenous adults aged 20–24 years who reported attaining at least a year 12 or equivalent, or AQF Certificate II or above ranged from 24% in the Northern Territory to 58% in Victoria. Overall, the proportion of Indigenous adults aged 20–24 years who reported attaining at least a year 12 or equivalent, or AQF Certificate II or above was much lower than for non-Indigenous adults (45% and 85%, respectively) (Table 2.06.15).
- In 2008, a higher proportion of Indigenous Australians aged 25–64 years in non-remote areas reported having a non-school qualification (45%) than Indigenous Australians in remote areas (26%) (Table 2.06.16).

Table 2.06.14: Whether has a non-school qualification, by state/territory and Indigenous status, persons aged 25–64 years, 2008

Highest non-school qualification[(a)]			Bachelor degree or above[(b)]	Advanced diploma/ diploma	Certificate	*Total with non-school qualification[(c)]*	Does not have a non-school qualification	Total	Total number of persons
NSW	Indigenous	%	5.9*	5.8*	26.3	40.9*	59.1*	100.0	60,442
	Non-Indigenous	%	27.0*	8.7*	25.2	63.4*	36.6*	100.0	3,627,960
	Rate ratio		0.2	0.7	1.0	0.6	1.6	1.0	. .
Vic	Indigenous	%	10.8*	9.3	32.3*	57.4*	42.6	100.0	13,668
	Non-Indigenous	%	26.4*	11.4	22.3*	61.6*	38.4	100.0	2,769,652
	Rate ratio		0.4	0.8	1.4	0.9	1.1	1.0	. .
Qld	Indigenous	%	6.8*	5.5*	23.9	39.7*	60.4*	100.0	57,638
	Non-Indigenous	%	20.8*	9.4*	27.7	60.0*	40.0*	100.0	2,160,365
	Rate ratio		0.3	0.6	0.9	0.7	1.5	1.0	. .
WA	Indigenous	%	6.0*	5.1*	24.5	39.7*	60.3*	100.0	28,073
	Non-Indigenous	%	24.6*	10.1*	26.3	62.3*	37.7*	100.0	1,091,885
	Rate ratio		0.2	0.5	0.9	0.6	1.6	1.0	. .
SA	Indigenous	%	5.0*	7.0*	28.5	43.8*	56.2*	100.0	11,104
	Non-Indigenous	%	19.2*	10.5*	24.1	54.8*	45.2*	100.0	825,159
	Rate ratio		0.3	0.7	1.2	0.8	1.2	1.0	. .
Tas	Indigenous	%	7.3*[(d)]	2.1*[(d)]	32.7	44.2*	55.8*	100.0	7,632
	Non-Indigenous	%	19.6*	7.7*	26.8	55.9*	44.1*	100.0	246,491
	Rate ratio		0.4	0.3	1.2	0.8	1.3	1.0	. .
ACT	Indigenous	%	20.8*	9.9[(d)]	30.4*	63.3	36.7	100.0	1,798
	Non-Indigenous	%	41.6*	11.2	17.6*	71.4	28.6	100.0	187,298
	Rate ratio		0.5	0.9	1.7	0.9	1.3	1.0	. .
NT	Indigenous	%	5.0*	4.3	14.7	27.2*	72.8*	100.0	26,987
	Non-Indigenous	%	22.9*	6.8[(d)]	23.9	54.6*	45.4*	100.0	88,522
	Rate ratio		0.2	0.6	0.6	0.5	1.6	1.0	. .
Aust.	**Indigenous**	**%**	**6.5***	**5.6***	**24.7**	**40.2***	**59.9***	**100.0**	**207,342**
	Non-Indigenous	**%**	**24.9***	**9.8***	**24.9**	**61.4***	**38.6***	**100.0**	**10,997,331**
	Rate ratio		**0.3**	**0.6**	**1.0**	**0.7**	**1.6**	**1.0**	**. .**

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) As classified to the ABS Classification of Qualifications.

(b) Includes bachelor degree, doctorate, masters, graduate diploma, graduate certificate.

(c) Includes persons with a non-school qualification undetermined.

(d) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Table 2.06.15: Proportion of 20–24 year olds having attained at least a year 12 or equivalent or AQF Certificate II or above, by Indigenous status, 2008

	Unit	NSW	Vic	Qld	WA	SA	Tas	Act	NT	Aust
						Indigenous[(a)]				
20–24 year old population with relevant qualification[(b)]	No.	5,229	1,600	6,593	2,673	1,426	985	301	1,407	20,213
Proportion of the 20–24 year old population having attained at least a year 12 or equivalent or AQF Cert II of above	%	43.1	57.6	52.9	43.0	53.6	55.6	56.6	23.6	45.4
						Non-Indigenous[(c)]				
20–24 year old population with relevant qualification[(b)]	No.	386,110	327,326	245,109	120,365	87,841	22,286	24,584	6,060	1,219,681
Proportion of the 20–24 year old population having attained at least a year 12 or equivalent or AQF Cert II of above	%	84.1	88.7	85.9	81.4	82.0	72.0	90.8	69.6	85.0

(a) Data for Indigenous people are from the NATSISS.

(b) Persons aged 20–24 years who have completed year 12 or Certificate II or above (includes 'Certificate I or II not further defined (n.f.d.)' but excludes persons with a 'Certificate nfd' and persons whose level of non-school qualification could not be determined).

(c) Data for non-Indigenous people are from ABS 2008 SEW.

Source: ABS analysis of NATISS 2008 and SEW 2008.

Table 2.06.16: Whether has a non-school qualification, by Indigenous status, and remoteness area, persons aged 25–64 years, 2008

			Highest level of non-school qualification(a)						
			Bachelor degree or above(b)	**Advanced diploma/diploma**	**Certificate**	**Total with non-school qualification(c)**	**Does not have a non-school qualification**	**Total**	**Total number**
Major cities	Indigenous	%	10.6	6.6	29.5	50.4	49.6	100.0	*67,235*
	Non-Indigenous	%	29.8	10.3	22.8	64.5	35.5	100.0	*7,632,967*
	Rate ratio		0.4*	0.6*	1.3*	*0.8**	1.4*	1.0	. .
Inner regional	Indigenous	%	5.9	6.4	28.6	44.2	55.9	100.0	*39,294*
	Non-Indigenous	%	15.0	8.8	29.9	55.4	44.6	100.0	*2,220,288*
	Rate ratio		0.4*	0.7	1.0	*0.8**	1.3*	1.0	. .
Outer regional	Indigenous	%	4.5	6.1	24.0	38.2	61.8	100.0	*47,222*
	Non-Indigenous	%	10.6	8.8	29.1	52.5	47.6	100.0	*1,022,112*
	Rate ratio		0.4*	0.7	0.8	*0.7**	1.3*	1.0	. .
Subtotal non-remote	*Indigenous*	*%*	*7.5*	*6.4*	*27.6*	*45.1*	*55.0*	*100.0*	*153,752*
	Non-Indigenous	*%*	*25.0*	*9.8*	*24.9*	*61.5*	*38.5*	*100.0*	*10,875,368*
	Rate ratio		*0.3**	*0.7**	*1.1*	*0.7**	*1.4**	*1.0*	. .
Remote	Indigenous	%	4.6(d)	3.4(d)	19.6	29.9	70.1	100.0	*20,064*
	Non-Indigenous	%	14.7	8.2(d)	28.2	52.1	47.9	100.0	*120,616*
	Rate ratio		0.3*	0.4*	0.7*	*0.6**	1.5*	1.0	. .
Very remote	Indigenous	%	3.0(d)	3.3	14.5	*23.8*	76.2	100.0	*33,527*
	Non-Indigenous	%	. .	. .	. .	. .	. .	. .	. .
	Rate ratio	%	. .	. .	. .	. .	. .	. .	. .

(continued)

Table 2.06.16 (continued): Whether has a non-school qualification, by Indigenous status, and remoteness area, persons aged 25–64 years, 2008

			Highest level of non-school qualification[(a)]						
			Bachelor degree or above[(b)]	**Advanced diploma/diploma**	**Certificate**	**Total with non-school qualification[(c)]**	**Does not have a non-school qualification**	**Total**	**Total number**
Subtotal remote	*Indigenous*	*%*	*3.6*	*3.3*	*16.4*	*26.1*	*73.9*	*100.0*	*53,591*
	Non-Indigenous	*%*	. .	. .	. .		. .	. .	. .
	Rate ratio	*%*	. .	. .	. .		. .	. .	. .
Australia	Indigenous	%	6.5	5.6	24.7	40.2	59.9	100.0	*207,342*
	Non-Indigenous	%	24.9	9.8	24.9	61.4	38.6	100.0	*10,997,331*
	Rate ratio	%	0.3*	0.6*	1.0	0.7*	1.6*	1.0	. .

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) As classified to the ABS Classification of Qualifications.

(b) Includes bachelor degree, doctorate, masters, graduate diploma and graduate certificate.

(c) Includes persons with a non-school qualification, the level of which could not be determined.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 07–08.

Non-school qualifications over time

Table 2.06.17 presents the proportion of Indigenous and non-Indigenous Australians with non-school qualifications in non-remote areas in 1994, 2002 and 2008.

- The proportion of Indigenous people aged 25–64 with non-school qualification increased from 24% in 1994 to 45% in 2008.
- The proportion of non-Indigenous people aged 25–64 with a non-school qualification also increased; from 58% in 2001 to 65% in 2008.

Non-school qualifications by summary health and population characteristics

Table 2.06.18 presents the proportion of Indigenous and non-Indigenous Australians with non-school qualifications by selected health and population characteristics.

- In 2004–05, Indigenous Australians aged 25–64 years without a non-school qualification were more likely to report fair/poor health status than Indigenous Australians with a non-school qualification (32% compared with 26%) (Table 2.06.18).

Table 2.06.17: Proportion of non-school qualifications, by Indigenous status, non-remote areas, persons aged 25–64 years, 1994, 2002, 2008

	1994	2002	2008
		Indigenous	
Bachelor degree or above	1.5	5.5	7.5
Advanced diploma/diploma	3.2	3.9	6.4
Certificate	12.6	25.0	27.6
Level not determined	6.3	1.2	3.6
Has a non-school qualification	*23.6*	*35.6*	*45.1*
Does not have a non-school qualification	76.4	64.4	54.9
	1994	**2001**	**2007–08**
		Non-Indigenous	
Bachelor degree or above	. .	19.0	24.9
Advanced diploma/diploma	. .	10.6	9.8
Certificate	. .	25.3	24.9
Level not determined	. .	3.5	1.9
Has a non-school qualification	. .	*58.4*	*61.5*
Does not have a non-school qualification	. .	41.6	38.5

Source: Data for Indigenous persons are from the 1994 NATSIS, 2002 and 2008 NATSISS. Data for non-Indigenous persons are from the 2001 and 2007–08 NHS.

Table 2.06.18: Highest non-school qualification held, by summary health characteristics and Indigenous status, persons aged 25–64 years, 2004–05

	Self-assessed health status						Number of long-term conditions														
	Excellent/very good			Fair/poor			0			1			2			3			Total		
Non-school qualification	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**
	%	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**	
Bachelor degree or above(a)	73	92	0.8*	27(b)	8	3.3*	7(b)	12	0.6*	18(b)	21	0.8	20	23	0.9	56	44	1.3	100	100	1.0
Advanced diploma/ diploma	82	91	0.9	18	9	1.9*	11(b)	12	0.9	13	23	0.5*	19	21	0.9	58	44	1.3	100	100	1.0
Certificate	74	86	0.9*	26	14	1.9*	10	13	0.8	16	22	0.7*	21	19	1.1	53	47	1.1	100	100	1.0
Total with non-school qualification(c)	*74*	*89*	*0.8**	*26*	*11*	*2.3**	*10*	*12*	*0.8*	*15*	*22*	*0.7**	*19*	*21*	*0.9*	*55*	*45*	*1.2*	*100*	*100*	*1.0*
Total with no non-school qualification	*68*	*82*	*0.8**	*32*	*18*	*1.8**	*15*	*15*	*1*	*16*	*20*	*0.8**	*17*	*18*	*0.9*	*52*	*47*	*1.1*	*100*	*100*	*1.0*
Total(d)	**70**	**86**	**0.8***	**30**	**14**	**2.1***	**13**	**13**	**1**	**16**	**21**	**0.8***	**18**	**20**	**0.9**	**53**	**46**	**1.2**	**100**	**100**	**1.0**

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Includes bachelor degree, doctorate, masters, graduate diploma and graduate certificate.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Includes other educational institution and persons for whom specific information could not be determined.

(d) Includes not stated.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Highest year of school completed by whether woman has had children

- In 2008, Indigenous females aged 18 years and over who had not had children were twice as likely to report Year 12 as their highest level of school completed (40%) as Indigenous females who had children (20%). A much higher proportion of Indigenous females who had children reported Year 9 or below as their highest level of school completed (34%) than Indigenous females who had not had children (17%) (Table 2.06.19).
- During 2008, less than a quarter (23%) of primary carers of Indigenous children aged 0–14 years reported Year 12 as their highest level of school completed and almost one-third (29%) reported Year 9 or below as their highest level of school completed (Table 2.06.20).

Table 2.06.19: Indigenous females aged 18 years and over, by highest year of school completed and whether the woman has ever had children, 2008

Highest level of school completed	Had children	Has not had children	Not stated/form not answered	Total
		Per cent		
Completed Year 12	20	40	24	24
Completed Year 10 or 11	47	43	42	45
Completed Year 9 or below[(a)]	34	17	35	30
Total[(b)(c)]	**100**	**100**	**100**	**100**
Total number	**88,745**	**26,007**	**15,761**	**130,513**

(a) Includes persons who never attended school.

(b) Total may include persons for whom specific information could not be determined.

(c) Excludes those who are still attending secondary school and includes not stated.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.06.20: Highest year of school completed by child's main carer, Indigenous children, 2008

Highest level of school completed	Proportion
Completed Year 12	22.7
Completed Year 10 or 11	48.3
Completed Year 9 or below[(a)]	29.0
Total	**100.0**
Total number	**187,575**

(a) Includes persons who never attended school.

Note: Children aged 0–14 years.

Source: AIHW analysis of 2008 NATSISS.

Non-school qualifications by whether woman has had children, and child's main carer

- In 2004–05, Indigenous females aged 25–64 years who had not had children were more likely to have a non-school qualification than Indigenous females who had children (51% compared with 35%). Indigenous females who had not had children were around twice as likely to have completed a diploma or bachelor degree or above as Indigenous females who had children (Table 2.06.21).
- During 2008, 36% of primary carers of an Indigenous child aged 0–14 years did not have a non-school qualification (Table 2.06.22).

Table 2.06.21: Indigenous females aged 25–64 years, by non-school qualification and whether the woman has ever had children, 2004–05

Highest level of non-school qualification	Had children	Has not had children	Not stated/form not answered	Total
		Per cent		
Bachelor degree or above[(a)]	6	11	3[(b)]	6
Advanced diploma/ diploma	7	15[(c)]	5[(c)]	8
Certificate	21	25	29	22
Total with non-school qualification[(d)]	*35*	*51*	*37*	*37*
Does not have a non-school qualification	65	49	63	63
Total[(e)]	**100**	**100**	**100**	**100**
Total number	**76,667**	**12,807**	**11,519**	**100,992**

(a) Includes bachelor degree, doctorate, masters, graduate diploma, and graduate certificate.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(d) Total may include persons for whom specific information could not be determined.

(e) Includes women who did not answer the form.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 2.06.22: Whether child's main carer has non-school qualification, Indigenous children, 2008

Whether has non-school qualification	Proportion
Has a non-school qualification	64.2
Does not have a non-school qualification	35.8
Total	**100.0**
Total number	**120,336**

Note: Children aged 0–14 years.

Source: ABS and AIHW analysis of NATSISS 2008.

Post-secondary attainment

The 1994 National Aboriginal and Torres Strait Islander Survey (NATSIS) and 2002 and 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) collected information on the post-secondary attainment of Indigenous people. Table 2.06.23 presents the proportion of Indigenous people aged 18 years and over who completed a post-secondary qualification of certificate III or above by state and territory for 1994, 2002 and 2008.

- The proportion of Indigenous people aged 18 years and over with a qualification of certificate III or higher decreased from 26% in 1994 to 16% in 2002, before increasing to 23% in 2008.

Table 2.06.23: Post-secondary attainment of certificate III or above, by Indigenous people aged 18 years and over, 1994, 2002 and 2008

	1994	2002	2008
NSW	28.0	18.2	24.3
Vic	50.0	24.2	35.9
Qld	24.0	16.4	24.5
WA	21.0	12.1	21.0
SA	22.0	21.0	23.6
Tas	15.0	20.8	28.7[(a)]
ACT	17.0	40.9	. .
NT	44.0	7.8	12.7
Australia	26.0	16.0	23.2

(a) Includes ACT.

Notes

1. Excludes persons still at school.
2. The 1994 estimates for the Australian Capital Territory and Northern Territory have relative standard errors greater than 25% and should be used with caution.

Source: SCRGSP 2005a; ABS & AIHW analysis of ABS 1994 NATSISS, ABS 2002 NATSISS and ABS 2008 NATSISS.

Other study and study intentions

The 2008 NATSISS collected information on other study and study intentions of Indigenous people. Tables 2.06.24 and 2.06.25 present information on future study intentions. Table 2.06.26 presents the reasons for not pursuing another education qualification in the last 12 months. Finally, Table 2.06.27 presents information on adult education about Indigenous culture.

- In 2008, 43% of Indigenous males and 53% of Indigenous females intended to study in the next 12 months. This proportion was highest for the 15–24 year old age group (61% for males and 79% for females) (Table 2.06.24).
- The main reason for future educational intentions was to increase knowledge and skills, followed by improving qualifications and getting a better job (Table 2.06.25).
- In 2008, 27% of Indigenous Australians 15 years and over wanted to study for an educational qualification in the last 12 months but did not. The main reasons for this were: too expensive/ financial reasons, caring for family members, and personal or other family reasons (Table 2.06.26).
- Fifty-four per cent of Indigenous people stated that they were not taught about Indigenous culture at school or as part of further studies. Those who did receive education about Indigenous culture mainly received this at primary or secondary school. The Indigenous cultural education received was accurate. 55% of the time, and 58% of respondents said that they learnt about the clan, tribe or language group that they identify with (Table 2.06.27).

Table 2.06.24: Future study intentions of Indigenous adults aged 15 years and over, by age and sex, 2008 (proportion)

	Whether has future education intentions	Intends to study in the future	Does not intend to study in the future	Total	Intentions to study are unknown	Total number
Male	15–24	61.1	38.9	**100.0**	17.0	30,838.6
	25–34	54.1	45.9	**100.0**	18.9	30,216.1
	35–44	46.7	53.3	**100.0**	17.0	28,011.9
	45–54	27.9	72.1	**100.0**	10.1	20,732.0
	55+	10.2	89.8	**100.0**	6.2	18,674.9
	Total	**42.7**	**57.3**	**100.0**	**14.8**	**128,473.6**
Female	15–24	79.0	21.0	**100.0**	14.8	30,464.4
	25–34	68.4	31.6	**100.0**	16.2	31,851.4
	35–44	57.5	42.5	**100.0**	15.6	29,898.9
	45–54	37.2	62.8	**100.0**	14.4	21,678.5
	55+	11.3	88.7	**100.0**	7.8	22,521.1
	Total	**53.3**	**46.7**	**100.0**	**14.1**	**136,414.2**

Source: AIHW analysis of 2008 NATSISS.

Table 2.06.25: Reasons for future study intentions of Indigenous adults aged 15 years and over, by sex, 2008 (per cent)

Reasons for future educational intentions	Male	Female	Total
To gain a promotion	6.9	4.3	5.4
To get a better job	6.3	6.2	6.3
To get a job	2.9	6.2	4.6
Requirement of current job	0.7	0.7	0.7
Update training	2.1	2.7	2.4
Improve knowledge or skills	8.2	10.2	9.2
Improve qualifications	6.0	7.3	6.6
Interest	2.4	3.5	3.0
Other reason	0.8	0.8	0.8

Source: AIHW analysis of 2008 NATSISS.

Table 2.06.26: Whether wanted to study for an/another educational qualification in last 12 months and main reason didn't, Indigenous persons aged 15 years and over, 2008 (per cent)

	15–24 years			25 years and over			Total 15+					
	Subtotal non-remote	***Remote & Very Remote***	**Australia**	***Subtotal non-remote***	***Remote & Very Remote***	**Australia**	**Major Cities**	**Inner Regional**	**Outer Regional**	***Subtotal non-remote***	***Remote & Very Remote***	**Australia**
Wanted to study but did not, by main reason:												
Too much work	2.2(a)	2.0(a)	2.1	4.9	3.3	4.5	4.4	2.5	4.8	4.0	3.0	3.7
Any other work-related reason	1.3(a)	0.9(b)	1.2(a)	1.5	0.5(a)	1.3	1.6(a)	1.1(a)	1.5(a)	1.4	0.6(a)	1.2
Caring for family members	3.4	4.6	3.6	5.2	3.3	4.7	5.0	4.5	4.2	4.6	3.6	4.4
Personal or other family reasons	4.6	2.3(a)	4.1	4.4	3.3	4.1	5.8	3.9	3.1	4.4	3.1	4.1
Course-related reasons	2.6	1.4(a)	2.4	1.1	1.1(a)	1.1	1.7(a)	1.5(a)	1.5(a)	1.6	1.2(a)	1.5
No time	2.4	1.9(a)	2.3	3.1	1.1	2.6	2.9	3.1	2.6	2.9	1.3	2.5
Too expensive/financial reasons	5.6	0.8(a)	4.5	5.9	0.9(a)	4.6	7.3	4.8	4.5	5.8	0.9(a)	4.5
Waiting to hear from educational facility	0.6(a)	0.1(b)	0.5(a)	0.4(a)	0.6(a)	0.4(a)	0.6(b)	0.6(b)	0.2(b)	0.5(a)	0.4(a)	0.5
Nothing available in area	2.5(a)	3.2(a)	2.6	1.1	2.9	1.6	1.3(a)	1.3(a)	2.2(a)	1.6	3.0	1.9
Other reasons	2.8	0.8(b)	2.3	2.6	*0.9	2.1	2.7	2.2(a)	2.9(a)	2.6	0.9	2.2
Total wanted to study for an educational qualification, but didn't	*27.8*	*18.0*	*25.6*	*30.1*	*17.9*	*26.9*	*33.2*	*25.5*	*27.4*	*29.4*	*17.9*	*26.5*
Total did not want to study for an education qualification	*72.2*	*82.0*	*74.4*	*69.9*	*82.1*	*73.1*	*66.8*	*74.5*	*72.6*	*70.6*	*82.1*	*73.5*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: AIHW analysis of 2008 NATSISS.

Table 2.06.27: Adult education about Indigenous culture and level of accuracy, Indigenous persons aged 15 years and over, 2008

	Number	Per cent
Whether taught Indigenous culture at school or as part of further studies		
Was taught Indigenous culture	148,592.3	45.4
Was not taught Indigenous culture	174,986.1	53.5
Never attended school or undertook further studies	3,522.6	1.1
Total	**327,101.0**	**100.0**
Where Indigenous cultural education was received(a)		
Primary school	81,629.9	54.9
Secondary school	88,285.0	59.4
University / other higher education	15,585.6	10.5
TAFE / technical college	14,681.8	9.9
Adult or community education sector	2,575.5	1.7
Other organisation	5,545.0	3.7
Total	**208,302.9**	**100.0**
Level of accuracy of Indigenous cultural education(a)		
Usually accurate	75,406.9	55.2
Sometimes accurate	48,576.8	35.6
Rarely accurate	10,220.7	7.5
Never accurate	2,355.7	1.7
Total	**136,560.1**	**100.0**
Whether learnt anything about clan, tribal or language group identifies with		
Learnt about own clan / tribe / language	55,946.5	57.8
Did not learn about own clan/ tribe / language	40,904.7	42.2
Total	**96,851.2**	**100.0**

(a) Persons who have been taught about Indigenous culture at school/further education.

Note: Data exclude unknown responses.

Source: AIHW analysis of 2008 NATSISS.

Vocational education and training (VET) data

Educational attainment

Data on educational attainment in the vocational education and training sector are available from the National Centre for Vocational Education Research's National VET Provider Collection. Data collected in 2010 are presented below.

- During the year 2010, there were 13,904 course completions in the VET sector by Indigenous Australians aged 15 years and over. This constitutes 3.8% of the Indigenous population aged 15 years and over. In comparison, approximately 2.1% of the population of other Australians aged 15 years and over completed a course in the VET sector in 2008 (Table 2.06.28).
- Over the same period, a similar proportion of Indigenous and other Australians aged 15 years and over had completed a certificate IV course, diploma or higher (0.7% each). A higher proportion of Indigenous Australians aged 15 years and over had completed a certificate III (1.1%) than other Australians (0.8%), or certificate I/II, (1.9% and 0.5% respectively).

Educational attainment by age and sex

- A higher proportion of Indigenous males and females aged 15 years and over had completed a course in the VET sector than other Australian males and females (3.9% and 3.7% compared with 1.9% and 2.2% respectively) (Table 2.06.28).

Table 2.06.28: Educational attainment in the VET sector, by Indigenous status, sex and age group, 2010(a)

		14 years or under		15–24 years		25–34 years		35–44 years		45–54 years		55 years and over		Total aged 15 and over	
Qualification		**Indig.**	**Other(b)**	**Indig.**	**Other(b)**	**Indig.**	**Other(b)**	**Indig.**	**Other(b)**	**Indig.**	**Other(b)**	**Indig.**	**Other(b)**	**Indig.**	**Other(b)**
								Males							
Certificate IV, diploma or higher	No.	0	8	171	16,419	229	13,885	259	11,922	190	8,917	75	4,132	924	55,275
	%	0.0	0.0	0.3	1.1	0.6	0.9	0.8	0.8	0.8	0.6	0.3	0.2	0.5	0.6
Certificate III	No.	3	34	1,000	37,822	429	14,944	270	8,483	153	5,370	57	2,582	1,909	69,201
	%	0.0	0.0	1.7	2.4	1.1	1.0	0.8	0.6	0.6	0.4	0.3	0.1	1.1	0.8
Certificate I/Certificate II	No.	130	840	2,445	28,332	803	7,263	529	5,032	284	3,432	90	1,953	4,151	46,012
	%	0.1	0.0	4.1	1.8	2.0	0.5	1.6	0.3	1.1	0.2	0.4	0.1	2.3	0.5
Other certificates(c)	No.	0	0	1	14	0	2	0	2	0	0	0	3	1	21
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Completions(d)	**No.**	**133**	**882**	**3,617**	**82,587**	**1,461**	**36,094**	**1,058**	**25,439**	**627**	**17,719**	**222**	**8,670**	**6,985**	**170,509**
	%	**0.1**	**0.0**	**6.1**	**5.3**	**3.7**	**2.3**	**3.2**	**1.7**	**2.5**	**1.2**	**1.0**	**0.3**	**3.9**	**1.9**
								Females							
Certificate IV, diploma or higher	No.	0	6	325	21,030	373	17,342	498	16,218	355	13,838	123	4,749	1,674	73,177
	%	0.0	0.0	0.6	1.4	0.9	1.1	1.4	1.0	1.3	0.9	0.5	0.2	0.9	0.8
Certificate III	No.	2	53	1,057	34,660	453	14,143	445	13,786	259	10,475	67	3,392	2,281	76,456
	%	0.0	0.0	1.9	2.4	1.2	0.9	1.2	0.9	1.0	0.7	0.3	0.1	1.2	0.9
Certificate I/Certificate II	No.	89	761	1,661	24,304	467	6,146	409	6,498	294	5,142	116	2,323	2,947	44,413
	%	0.1	0.0	2.9	1.7	1.2	0.4	1.1	0.4	1.1	0.3	0.4	0.1	1.6	0.5

(continued)

Table 2.06.28 (continued): Educational attainment in the VET sector, by Indigenous status, sex and age group, 2010[(a)]

		14 years or under		15–24 years		25–34 years		35–44 years		45–54 years		55 years and over		Total aged 15 and over	
Qualification		**Indig.**	**Other[(b)]**	**Indig.**	**Other[(b)]**	**Indig.**	**Other[(b)]**	**Indig.**	**Other[(b)]**	**Indig.**	**Other[(b)]**	**Indig.**	**Other[(b)]**	**Indig.**	**Other[(b)]**
Other certificates[(c)]	No.	0	0	3	47	0	11	1	10	1	2	1	3	6	73
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Completions[(d)]	**No.**	**91**	**820**	**3,046**	**80,041**	**1,293**	**37,642**	**1,353**	**36,512**	**909**	**29,457**	**307**	**10,467**	**6,908**	**194,119**
	%	**0.1**	**0.0**	**5.4**	**5.4**	**3.3**	**2.4**	**3.8**	**2.3**	**3.3**	**2.0**	**1.1**	**0.4**	**3.7**	**2.2**
								Persons							
Certificate IV, diploma or higher	No.	0	14	496	37,486	602	31,294	758	28,236	545	22,837	198	8,910	2,599	128,763
	%	0.0	0.0	0.4	1.2	0.8	1.0	1.1	0.9	1.0	0.8	0.4	0.2	0.7	0.7
Certificate III	No.	5	87	2,061	72,633	882	29,152	715	22,310	412	15,900	124	5,992	4,194	145,987
	%	0.0	0.0	1.8	2.4	1.1	0.9	1.0	0.7	0.8	0.5	0.3	0.1	1.1	0.8
Certificate I/Certificate II	No.	219	1,604	4,110	52,708	1,271	13,432	938	11,549	578	8,595	207	4,281	7,104	90,565
	%	0.1	0.0	3.5	1.7	1.6	0.4	1.4	0.4	1.1	0.3	0.4	0.1	1.9	0.5
Other certificates[(c)]	No.	0	0	4	61	0	13	1	12	1	2	1	6	7	94
	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Completions[(d)]	**No.**	**224**	**1,705**	**6,671**	**162,888**	**2,755**	**73,891**	**2,412**	**62,107**	**1,536**	**47,334**	**530**	**19,189**	**13,904**	**365,409**
	%	**0.1**	**0.0**	**5.8**	**5.4**	**3.5**	**2.4**	**3.5**	**2.0**	**3.0**	**1.6**	**1.1**	**0.3**	**3.8**	**2.1**

(a) Represents number of completions, students may complete more than one course.

(b) Other includes those whose Indigenous status is unknown.

(c) Includes statements of attainment.

(d) The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

Notes

1. Percentages are calculated using the Indigenous and non-Indigenous estimated resident population for 2010.
2. Does not include students with age of not stated.
3. Persons includes those students who did not state their sex.

Source: AIHW analysis of NCVER, National VET Provider Collection, 2010.

Educational attainment by state/territory and remoteness

- In 2010, the proportion of Indigenous Australians aged 15 years and over who completed a VET course ranged from 1.8% in Tasmania to 2.6% in New South Wales and Queensland (Table 2.06.29). The Australian Capital Territory had the highest proportion of Indigenous Australians who completed a certificate IV, diploma or higher (1.1%).
- The proportion of Indigenous and other students who completed a VET course in 2010 was similar in Tasmania and the Northern Territory, whereas in New South Wales, Victoria, Queensland, South Australia, Western Australia and the Australian Capital Territory, the proportion of Indigenous students who completed a course in the VET sector was higher than other Australians.
- The proportion of Indigenous Australians aged 15 years and over who completed a course in the VET sector in 2010 was highest in Outer Regional areas (1.8%) and lowest in Remote areas of Australia (0.9%). Higher proportions of Indigenous Australians living in Major Cities and Inner and Outer Regional areas had completed a certificate IV, diploma or higher than Indigenous Australians in Remote and Very Remote areas (Table 2.06.30).

Table 2.06.29: Educational Attainment[(a)] in the VET sector, by Indigenous status, sex and state/territory, 2010

	Indigenous										Other[(b)]									
	Certificate IV, diploma or higher		Certificate III		Certificate I/ Certificate II		Other certificates [(c)]		Total completions[(d)]		Certificate IV, diploma or higher		Certificate III		Certificate I/ Certificate II		Other certificates[(c)]		Total completions[(d)]	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
											Males									
NSW	398	0.5	556	0.7	879	1.1	1	0.0	1,834	2.2	19,286	0.6	20,491	0.6	9,493	0.3	21	0.0	49,291	1.4
Vic	52	0.3	159	0.9	160	0.9	0	0.0	371	2.0	14,943	0.5	16,775	0.6	12,138	0.4	0	0.0	43,856	1.6
Qld	319	0.4	654	0.8	1,262	1.6	0	0.0	2,235	2.8	9,477	0.4	16,213	0.7	12,879	0.6	0	0.0	38,569	1.8
WA	63	0.2	217	0.6	836	2.2	0	0.0	1,116	2.9	7,218	0.6	7,827	0.7	6,797	0.6	0	0.0	21,842	1.9
SA	25	0.2	87	0.6	297	2.0	0	0.0	409	2.7	1,936	0.2	4,022	0.5	2,535	0.3	0	0.0	8,493	1.1
Tas	14	0.1	74	0.7	54	0.5	0	0.0	142	1.4	997	0.4	2,116	0.9	1,221	0.5	0	0.0	4,334	1.8
ACT	15	0.6	19	0.8	35	1.5	0	0.0	69	2.9	1,026	0.6	1,007	0.6	487	0.3	0	0.0	2,520	1.4
NT	38	0.1	143	0.4	628	1.9	0	0.0	809	2.4	392	0.5	750	0.9	462	0.5	0	0.0	1,604	1.9
Australia	**924**	**0.3**	**1,909**	**0.7**	**4,151**	**1.5**	**1**	**0.0**	**6,985**	**2.5**	**55,275**	**0.5**	**69,201**	**0.6**	**46,012**	**0.4**	**21**	**0.0**	**170,509**	**1.6**
											Females									
NSW	712	0.9	896	1.1	908	1.1	6	0.0	2,522	3.0	26,534	0.7	26,376	0.7	15,199	0.4	73	0.0	68,182	1.9
Vic	111	0.6	136	0.7	166	0.9	0	0.0	413	2.2	19,404	0.7	19,204	0.7	10,427	0.4	0	0.0	49,035	1.8
Qld	551	0.7	672	0.8	688	0.9	0	0.0	1,911	2.4	12,369	0.6	14,614	0.7	8,338	0.4	0	0.0	35,321	1.6
WA	118	0.3	195	0.5	499	1.3	0	0.0	812	2.1	9,061	0.8	8,703	0.8	5,462	0.5	0	0.0	23,226	2.1
SA	49	0.3	115	0.7	145	0.9	0	0.0	309	2.0	2,441	0.3	3,604	0.4	2,409	0.3	0	0.0	8,454	1.0
Tas	30	0.3	82	0.8	99	1.0	0	0.0	211	2.1	1,265	0.5	2,246	0.9	1,464	0.6	0	0.0	4,975	2.0
ACT	35	1.5	58	2.5	39	1.7	0	0.0	132	5.6	1,535	0.4	1,107	0.3	621	0.2	0	0.0	3,263	0.9
NT	68	0.2	127	0.4	403	1.2	0	0.0	598	1.7	568	0.3	602	0.3	493	0.3	0	0.0	1,663	0.9
Australia	**1,674**	**0.6**	**2,281**	**0.8**	**2,947**	**1.0**	**6**	**0.0**	**6,908**	**2.4**	**73,177**	**0.3**	**76,456**	**0.3**	**44,413**	**0.2**	**73**	**0.0**	**194,119**	**0.9**

(continued)

Table 2.06.29 (continued): Educational Attainment[(a)] in the VET sector, by Indigenous status, sex and state/territory, 2010

	Indigenous										Other[(b)]									
	Certificate IV, diploma or higher		Certificate III		Certificate I/ Certificate II		Other certificates[(c)]		Total completions[(d)]		Certificate IV, diploma or higher		Certificate III		Certificate I/ Certificate II		Other certificates [(c)]		Total completions[(d)]	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
											Persons									
NSW	1,111	0.7	1,452	0.9	1,789	1.1	7	0.0	4,359	2.6	45,885	0.6	46,888	0.7	24,701	0.3	94	0.0	117,568	1.7
Vic	163	0.4	295	0.8	327	0.9	0	0.0	785	2.1	34,424	0.6	36,108	0.7	22,608	0.4	0	0.0	93,140	1.7
Qld	870	0.5	1,328	0.8	1,951	1.2	0	0.0	4,149	2.6	21,954	0.5	30,889	0.7	21,265	0.5	0	0.0	74,108	1.7
WA	181	0.2	413	0.5	1,335	1.8	0	0.0	1,929	2.5	16,281	0.7	16,531	0.7	12,261	0.6	0	0.0	45,073	2.0
SA	74	0.2	202	0.7	444	1.5	0	0.0	720	2.4	4,380	0.3	7,638	0.5	4,957	0.3	0	0.0	16,975	1.1
Tas	44	0.2	156	0.8	153	0.8	0	0.0	353	1.8	2,264	0.5	4,444	0.9	2,688	0.6	0	0.0	9,396	1.9
ACT	50	1.1	77	1.6	74	1.6	0	0.0	201	4.3	2,613	0.7	2,136	0.6	1,130	0.3	0	0.0	5,879	1.7
NT	106	0.2	271	0.4	1,031	1.5	0	0.0	1,408	2.1	962	0.6	1,353	0.8	955	0.6	0	0.0	3,270	2.0
Australia	**2,599**	**0.5**	**4,194**	**0.7**	**7,104**	**1.3**	**7**	**0.0**	**13,904**	**2.5**	**128,763**	**0.6**	**145,987**	**0.7**	**90,565**	**0.4**	**94**	**0.0**	**365,409**	**1.7**

(a) Represents number of completions, students may complete more than one course.

(b) Other includes those whose Indigenous status is unknown.

(c) Includes statements of attainment.

(d) The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

Notes

1. Percentages are calculated using the 2010 Indigenous and non-Indigenous estimated resident populations.
2. Does not include students with age of not stated.
3. Persons includes those students who did not state their sex.

Source: AIHW analysis of NCVER, National VET Provider Collection, 2010.

Table 2.06.30: Educational attainment in the VET sector, by Indigenous status, sex and remoteness area, 2010

Educational Attainment in the VET Sector[(a)]		Major cities		Inner regional		Outer regional		Remote		Very remote	
Qualification		Indigenous	Other Australians[(b)]	Indigenous	Other Australians[(b)]	Indigenous	Other Australians[(b)]	Indigenous	Other Australians[(b)]	Indigenous	Other Australians[(b)]
						Males					
Certificate IV, diploma or higher	No.	368	33,400	219	10,291	223	4,511	38	672	68	631
	%[(c)]	0.2	0.2	0.2	0.3	0.2	0.2	0.1	0.2	0.1	0.7
Certificate III	No.	538	37,192	358	16,047	572	9,735	115	1,543	312	813
	%[(c)]	0.3	0.3	0.3	0.4	0.5	0.5	0.2	0.5	0.4	0.8
Certificate I/Certificate II	No.	863	25,111	630	11,047	1,152	6,850	249	1,032	1,230	647
	%[(c)]	0.5	0.2	0.6	0.3	1.1	0.4	0.5	0.4	1.6	0.7
Other certificates[(d)]	No.	1	16	0	0	0	5	0	0	0	0
	%[(c)]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Completions[(e)]	**No.**	**1,770**	**95,719**	**1,207**	**37,385**	**1,947**	**21,101**	**402**	**3,247**	**1,610**	**2,091**
	%[(c)]	**1.1**	**0.7**	**1.1**	**0.9**	**1.8**	**1.1**	**0.9**	**1.1**	**2.0**	**2.2**
						Females					
Certificate IV, diploma or higher	No.	578	43,178	423	14,999	416	7,098	85	834	156	658
	%[(c)]	0.3	0.3	0.0	0.4	0.4	0.4	0.2	0.3	0.2	0.9
Certificate III	No.	691	43,028	505	17,898	675	9,861	135	1,141	255	559
	%[(c)]	0.4	0.3	0.0	0.4	0.6	0.5	0.3	0.5	0.3	0.7
Certificate I/Certificate II	No.	761	25,222	503	10,424	805	6,491	224	836	639	457
	%[(c)]	0.5	0.2	0.0	0.3	0.7	0.4	0.5	0.3	0.8	0.6

(continued)

Table 2.06.30 (continued): Educational attainment in the VET sector, by Indigenous status, sex and remoteness area, 2010

Educational Attainment in the VET Sector[a]		**Major Cities**		**Inner Regional**		**Outer Regional**		**Remote**		**Very Remote**	
Qualification		**Indigenous**	**Other Australians**[b]	**Indigenous**	**Other Australians**[b]	**Indigenous**	**Other Australians**[b]	**Indigenous**	**Other Australians**[b]	**Indigenous**	**Other Australians**[b]
Other certificates[d]	No.	2	43	1	17	3	6	0	1	0	1
	%[c]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Completions[e]	**No.**	**2,032**	**111,471**	**1,432**	**43,338**	**1,899**	**23,456**	**444**	**2,812**	**1,050**	**1,675**
	%[c]	**1.2**	**0.8**	**0.0**	**1.1**	**1.8**	**1.3**	**0.9**	**1.1**	**1.3**	**2.2**
Persons											
Certificate IV, diploma or higher	No.	947	76,771	642	25,342	639	11,646	123	1,508	224	1,291
	%[c]	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.3	0.1	0.7
Certificate III	No.	1229	80,383	865	34,070	1,247	19,618	250	2,688	569	1,372
	%[c]	0.4	0.3	0.4	0.4	0.6	0.5	0.3	0.5	0.4	0.8
Certificate I/Certificate II	No.	1625	50,414	1,136	21,501	1,958	13,357	473	1,869	1,870	1,104
	%[c]	0.5	0.2	0.5	0.3	0.9	0.4	0.5	0.3	1.2	0.6
Other certificates[d]	No.	3	59	1	17	3	11	0	1	0	1
	%[c]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Completions[e]	**No.**	**3,804**	**207,627**	**2,644**	**80,930**	**3,847**	**44,632**	**846**	**6,066**	**2,663**	**3,768**
	%[c]	**1.2**	**0.7**	**1.2**	**1.0**	**1.8**	**1.2**	**0.9**	**1.1**	**1.7**	**2.2**

(continued)

Table 2.06.30 (continued): Educational attainment in the VET sector, by Indigenous status, sex and remoteness area, 2010

(a) Represents number of completions, students may complete more than one course.
(b) Other includes those whose Indigenous status is unknown.
(c) Due to the availability of Indigenous remoteness population estimates, percentages are calculated based on the 2006 census populations for both Indigenous and Other Australians.
(d) Includes statements of attainment.
(e) The numbers of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

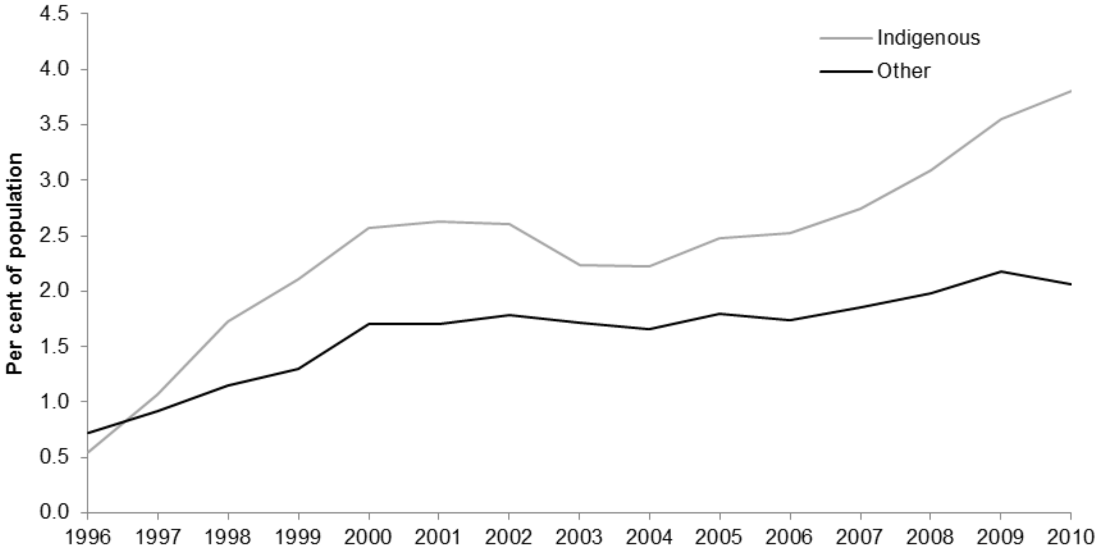
Notes

1. Percentages are calculated using the 2006 Indigenous and non-Indigenous estimated resident populations by ASGC remoteness category.
2. Does not include students with age of not stated.
3. Persons includes those students who did not state their sex.

Source: AIHW analysis of NCVER, National VET Provider Collection, 2010.

Time series analyses

- Between 1996 and 2010, the proportion of Indigenous students who had completed a course in the VET sector increased from 0.6% to 3.8% (this was a statistically significant increase of 0.2% each year). Over the same period the proportion of other students who had completed a course in the VET sector increased from 0.7% to 2.1% (this was a statistically significant increase of 0.1% each year) (Figure 2.06.1, Table 2.06.31).



Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2010, Figure 2.06.6, Table 2.06.43.

Figure 2.06.1: Total completions in the VET sector, by Indigenous status, persons aged 15 years and over, 1996–2010

Table 2.06.31: Total completions[(a)] in the VET sector, by Indigenous status, persons aged 15 years and over, 1996–2010

	Indigenous		Other[(b)]	
	No.	**%**	**No.**	**%**
1996	1,336	0.6	102,539	0.7
1997	2,651	1.1	132,493	0.9
1998	4,428	1.7	166,404	1.1
1999	5,527	2.1	190,779	1.3
2000	6,951	2.6	253,603	1.7
2001	7,317	2.6	257,657	1.7
2002	7,438	2.6	273,601	1.8
2003	6,585	2.2	267,651	1.7
2004	6,720	2.2	262,193	1.7
2005	7,748	2.5	288,279	1.8
2006	8,130	2.5	283,265	1.7
2007	9,129	2.7	309,518	1.9
2008	10,638	3.1	338,022	2.0
2009	12,584	3.6	378,849	2.2
2010	13,904	3.8	365,409	2.1
Annual change %[(c)]	. .	0.2*	. .	0.1*
Change over period[(d)]	. .	419.5*	. .	162.1*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the 14 reporting periods.

(a) Represents number of completions, students may complete more than one course.

(b) Other includes those whose Indigenous status is unknown.

(c) Average period change determined using regression analysis.

(d) Per cent change between 1996 and 2010 based on the average annual change over the period.

Notes

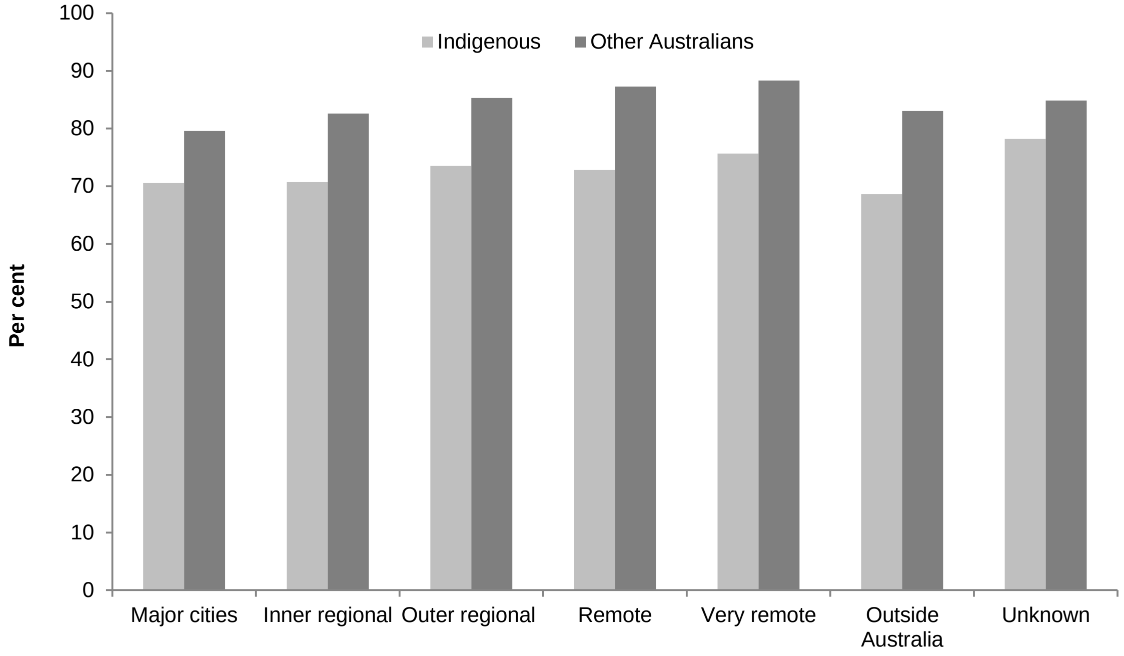
1. Other equal to domestic + International + not stated.
2. Does not include students with age of not stated.
3. The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.
4. Data differs from numbers published in the 2010 Health Performance Framework due to revision and improvement in data qualifications and the inclusion of New South Wales data in 2008.

Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2010, Figure 2.06.6, Table 2.06.43.

Load pass rate

The VET load pass rate indicates the extent to which students pass assessment in an assessable module or unit of competency. Load pass rates are calculated as the number of nominal hours supervised in assessable modules or units of competency completed with a pass assessment divided by the total nominal hours supervised in assessable modules or units of competency.

- In 2010, the VET load pass rate for Indigenous students was 72% compared with 81% for non-Indigenous students (Table 2.06.32). The rate was lower for Indigenous students than for non-Indigenous students across all geographical regions (Figure 2.06.2).



Source: NCVER, National VET Provider Collection, 2010.

Figure 2.06.2: VET load pass rate, by remoteness, 2010

Table 2.06.32: VET load pass rate[(a)], by remoteness, 2010

	Indigenous	Other Australians[(b)]	Ratio	Rate Difference[(c)]
Major cities	70.5	79.6	0.9	–9.0
Inner regional	70.7	82.6	0.9	–11.9
Outer regional	73.5	85.3	0.9	–11.8
Remote	72.8	87.3	0.8	–14.4
Very remote	75.7	88.3	0.9	–12.6
Outside Australia	68.6	83.1	0.8	–14.4
Unknown	78.2	84.8	0.9	–6.6
Total	**72.4**	**81.3**	**0.9**	**–8.9**

* Represents results with statistically significant differences in the Indigenous/Other Australian comparisons at the $p < 0.05$ level.

(a) Load pass rate= number of nominal hours supervised in assessable modules or units of competency with a pass assessment divided by total nominal hours supervised in assessable modules or units of competency.

(b) Other includes those whose Indigenous status is unknown.

(c) Rate difference is the Other Australian rate minus the Indigenous rate.

Source: AIHW analysis of NCVER, National VET Provider Collection, 2010.

Higher education data

Educational attainment

Data on the educational attainment of Indigenous Australians in the higher education sector are available from the Australian Government Department of Education, Employment and Workplace Relations. Data collected for the year 2010 are presented below.

- During the year 2010, approximately 0.4% of Indigenous Australians completed a course in the higher education sector compared with 1.3% of other Australians. Approximately 0.3% of Indigenous Australians completed an undergraduate degree and 0.1% completed a postgraduate degree. This compares with 0.6% for undergraduate and 0.7% postgraduate degrees for other Australians.

Educational attainment by age and sex

- Indigenous Australians aged 22–24 years were more likely to have completed a higher education course in 2010 (0.9%) than those in other age groups. Other Australians aged 22–24 years were also more likely to complete a higher education course in 2010 than those in other age groups (8.7%) (Table 2.06.33).
- In 2010, a higher proportion of Indigenous females than Indigenous males completed an undergraduate degree (0.4% compared with 0.2%) and a postgraduate degree (0.2% compared with 0.1%) (Table 2.06.33).

Table 2.06.33: Completions in the higher education sector, by Indigenous status, sex and age group, 2010(a)

	22-24				25-34			
	Indigenous		Other(b)		Indigenous		Other(b)	
	No	%	No	%	No	%	No	%
				Males				
Doctorate or Higher degree	0	0.0	46	0.0	6	0	1,736	0.1
Master degree	n.p.	n.p.	9,204	1.9	16	0	15,984	1.0
Postgrad. diploma or certificate(c)	< 5	n.p.	2,339	0.5	29	0.1	5,721	0.4
Subtotal postgraduate	*< 5*	*n.p.*	*11,589*	*2.3*	*51*	*0.1*	*23,441*	*1.5*
Bachelor's degree	71	0.5	25,002	5.0	73	0.2	13,157	0.8
Other undergraduate(d)	7	0	1,432	0.3	13	0.0	983	0.1
Subtotal undergraduate	*78*	*0.5*	*26,434*	*5.3*	*86*	*0.2*	*14,140*	*0.9*
Total Domestic Graduates(e)	**88**	**0.6**	**19,109**	**3.8**	**136**	**0.3**	**18,921**	**1.2**
All Graduates(e)(f)	**89**	**0.6**	**38,023**	**7.7**	**137**	**0.3**	**37,581**	**2.4**
				Females				
Doctorate or Higher degree	0	0.0	n.p.	n.p.	< 5	n.p.	1,644	0.1
Master degree	10	0.1	10,579	2.3	27	0.1	15,113	1.0
Postgrad. diploma or certificate(c)	12	0.1	4,415	0.9	44	0.1	8,672	0.6
Subtotal postgraduate	*22*	*0.2*	*14,994*	*3.2*	*73*	*0.2*	*25,429*	*1.6*
Bachelor's degree	141	1.0	29,366	6.3	135	0.3	14,546	0.9
Other undergraduate(d)	11	0.1	1,006	0.2	13	0.0	625	0.0
Subtotal undergraduate	*152*	*1.1*	*30,372*	*6.5*	*148*	*0.4*	*15,171*	*1.0*
Total Domestic Graduates(e)	**171**	**1.2**	**25,397**	**5.5**	**219**	**0.6**	**24,636**	**1.6**
All Graduates(e)(f)	**174**	**1.2**	**45,413**	**9.8**	**222**	**0.6**	**40,600**	**2.6**
				Persons				
Doctorate or Higher degree	0	0.0	n.p.	n.p.	9	0	3,380	0.1
Master degree	20	0.1	19,783	2.1	43	0.1	31,097	1.0
Postgrad. diploma or certificate(c)	13	0.0	6,754	0.7	73	0.1	14,393	0.5
Subtotal postgraduate	*33*	*0.1*	*26,537*	*2.8*	*125*	*0.2*	*48,870*	*1.6*
Bachelor's degree	212	0.7	54,368	5.6	208	0.3	27,703	0.9
Other undergraduate(d)	18	0.1	2,438	0.3	26	0.0	1,608	0.1
Subtotal undergraduate	*230*	*0.8*	*56,806*	*5.9*	*234*	*0.3*	*29,311*	*0.9*
Total Domestic Graduates(e)	**259**	**0.9**	**44,506**	**4.6**	**355**	**0.5**	**43,557**	**1.4**
All Graduates(e)(f)	**263**	**0.9**	**83,436**	**8.7**	**359**	**0.5**	**78,181**	**2.5**

(continued)

Table 2.06.33 (continued): Completions in the higher education sector, by Indigenous status, sex and age group, 2010[(a)]

	35–44				45–54			
	Indigenous		Other[(b)]		Indigenous		Other[(b)]	
	No	%	No	%	No	%	No	%
				Males				
Doctorate or Higher degree	6	0.0	779	0.1	< 5	n.p.	419	0.0
Master degree	17	0.1	5,063	0.3	20	0.1	1,975	0.1
Postgrad. diploma or certificate[(c)]	20	0.1	3,318	0.2	18	0.1	1,694	0.1
Subtotal postgraduate	43	0.1	9,160	0.6	22	0.1	4,088	0.3
Bachelor's degree	31	0.1	2,545	0.2	25	0.1	909	0.1
Other undergraduate[(d)]	< 5	n.p.	258	0.0	< 5	n.p.	95	0.0
Subtotal undergraduate	33	0.1	2,803	0.2	27	0.1	1,004	0.1
Total Domestic Graduates[(e)]	**78**	**0.2**	**8,806**	**0.6**	**65**	**0.3**	**4,287**	**0.3**
All Graduates[(e)(f)]	**78**	**0.2**	**11,963**	**0.8**	**65**	**0.3**	**5,092**	**0.3**
				Females				
Doctorate or Higher degree	< 5	n.p.	696	0.0	6	0.0	510	0.0
Master degree	36	0.1	4,502	0.3	17	0.1	2,496	0.2
Postgrad. diploma or certificate[(c)]	39	0.1	4,513	0.3	33	0.1	2,835	0.2
Subtotal postgraduate	77	0	9,711	0.6	56	0.2	5,841	0.4
Bachelor's degree	103	0.3	5,158	0.3	73	0.3	2,506	0.2
Other undergraduate[(d)]	17	0	191	0.0	16	0.1	117	0.0
Subtotal undergraduate	120	0	5,349	0.3	89	0.3	2,623	0.2
Total Domestic Graduates[(e)]	**196**	**0.5**	**12,323**	**0.8**	**145**	**0.5**	**7,708**	**0.5**
All Graduates[(e)(f)]	**198**	**0.6**	**15,060**	**1.0**	**145**	**0.5**	**8,464**	**0.6**
				Persons				
Doctorate or Higher degree	9	0	1,475	0.0	7	0	929	0.0
Master degree	53	0.1	9,565	0.3	37	0.1	4,471	0.1
Postgrad. diploma or certificate[(c)]	59	0.1	7,831	0.3	51	0.1	4,529	0.2
Subtotal postgraduate	121	0.2	18,871	0.6	95	0.2	9,929	0.3
Bachelor's degree	134	0.2	7,703	0.2	98	0.2	3,415	0.1
Other undergraduate[(d)]	21	0	449	0.0	17	0	212	0.0
Subtotal undergraduate	155	0.2	8,152	0.3	115	0.2	3,627	0.1
Total Domestic Graduates[(e)]	**274**	**0.4**	**21,129**	**0.7**	**210**	**0.4**	**11,995**	**0.4**
All Graduates[(e)(f)]	**276**	**0.4**	**27,023**	**0.9**	**210**	**0.4**	**13,556**	**0.5**

(continued)

Table 2.06.33 (continued): Completions in the higher education sector, by Indigenous status, sex and age group, 2010[(a)]

	55+				Total			
	Indigenous		Other[(b)]		Indigenous		Other[(b)]	
	No	%	No	%	No	%	No	%
				Males				
Doctorate or Higher degree	< 5	n.p.	219	0.0	14	0.0	3,199	0.0
Master degree	< 5	n.p.	549	0.0	66	0.0	32,775	0.4
Postgrad. diploma or certificate[(c)]	< 5	n.p.	478	0.0	69	0.1	13,550	0.2
Subtotal postgraduate	6	0	1,246	0.0	149	0.1	49,524	0.6
Bachelor's degree	6	0	271	0.0	206	0.2	41,884	0.5
Other undergraduate[(d)]	< 5	n.p.	42	0.0	26	0.0	2,810	0.0
Subtotal undergraduate	8	0	313	0.0	232	0.2	44,694	0.6
Total Domestic Graduates[(e)]	**13**	**0.1**	**1,430**	**0.1**	**380**	**0.3**	**52,553**	**0.7**
All Graduates[(e)(f)]	**13**	**0.1**	**1,559**	**0.1**	**382**	**0.3**	**94,218**	**1.2**
				Females				
Doctorate or Higher degree	< 5	n.p.	271	0.0	16	0.0	3,121	0.0
Master degree	n.p.	n.p.	640	0.0	97	0.1	33,330	0.4
Postgrad. diploma or certificate[(c)]	13	0	703	0.0	141	0.1	21,138	0.3
Subtotal postgraduate	16	0.1	1,614	0.1	254	0.2	57,589	0.7
Bachelor's degree	17	0.1	548	0.0	469	0.3	52,124	0.7
Other undergraduate[(d)]	< 5	n.p.	70	0.0	64	0.0	2,009	0.0
Subtotal undergraduate	19	0.1	618	0.0	535	0.4	54,133	0.7
Total Domestic Graduates[(e)]	**45**	**0.2**	**2,136**	**0.1**	**776**	**0.5**	**72,200**	**0.9**
All Graduates[(e)(f)]	**45**	**0.2**	**2,232**	**0.1**	**784**	**0.5**	**111,769**	**1.4**
				Persons				
Doctorate or Higher degree	5	0	490	0.0	30	0.0	6,274	0.0
Master degree	n.p.	n.p.	1,189	0.0	163	0.1	66,105	0.4
Postgrad. diploma or certificate[(c)]	15	0	1,181	0.0	211	0.1	34,688	0.2
Subtotal postgraduate	20	0	2,860	0.1	404	0.1	107,067	0.7
Bachelor's degree	23	0	819	0.0	675	0.2	94,008	0.6
Other undergraduate[(d)]	5	0	112	0.0	87	0.0	4,819	0.0
Subtotal undergraduate	28	0.1	931	0.0	762	0.3	98,827	0.6
Total Domestic Graduates[(e)]	**58**	**0.1**	**3,566**	**0.1**	**1,156**	**0.4**	**124,753**	**0.8**
All Graduates[(e)(f)]	**58**	**0.1**	**3,791**	**0.1**	**1,166**	**0.4**	**205,987**	**1.3**

(continued)

Table 2.06.33 (continued): Completions in the higher education sector, by Indigenous status, sex and age group, 2010[(a)]

(a) Numbers are for all persons completing courses in higher education. Proportions have been calculated from persons aged 22 years and over, as this is the age group most applicable to higher education course completion.

(b) Other includes those whose Indigenous status is unknown.

(c) Includes postgrad. qual/prelim., grad.(post) dip.—new area, grad.(post) dip.—ext. area, and graduate certificate.

(d) Includes associate degree, advanced diploma (AQF), diploma (AQF) and other undergraduate award courses.

(e) Includes enabling courses and non-award courses.

(f) Includes undergraduate, postgraduate, domestic and international students.

Notes

1. Percentages are calculated using the Indigenous and non-Indigenous estimated resident populations for 2006.
2. Note that the numbers reported in the 2006 edition of this report under the higher education data section were for course enrolments rather than for completions as presented here.

Source: AIHW analysis of DEEWR Higher Education Statistics Collection.

- The proportion of Indigenous persons who completed a course in the higher education sector in 2010 ranged from 0.2% in the Northern Territory to 1.4% in the Australian Capital Territory (Table 2.06.34).
- A lower proportion of Indigenous persons completed a higher education course than other Australians in all states and territories.

Table 2.06.34: Completions in the higher education sector[(a)] by Indigenous status, sex and state/territory, 2010[(a)]

	NSW				Qld			
	Indigenous		Other[(b)]		Indigenous		Other[(b)]	
	No.	%	No.	%	No.	%	No.	%
				Males				
Doctorate or higher	< 10	n.p.	683	0.0	< 10	n.p.	383	0.0
Master's degree	32	0.1	5,692	0.2	13	0.0	1,648	0.1
Postgrad. diploma or certificate[(c)]	22	0.0	2,950	0.1	14	0.0	1,759	0.1
Subtotal postgraduate	*n.p.*	*n.p.*	*9,325*	*0.3*	*n.p.*	*n.p.*	*3,790*	*0.2*
Bachelor's degree	102	0.2	14,537	0.5	63	0.1	7,461	0.4
Other undergraduate[(d)]	n.p.	n.p.	1,481	0.1	< 10	n.p.	334	0.0
Subtotal undergraduate	*n.p.*	*n.p.*	*16,018*	*0.6*	*n.p.*	*n.p.*	*7,795*	*0.5*
Total Domestic Graduates[(e)]	**175**	**0.3**	**25,343**	**0.9**	**96**	**0.2**	**11,585**	**0.7**
Total Graduates[(e)(f)]	**177**	**0.3**	**39,832**	**1.4**	**97**	**0.2**	**20,649**	**1.2**
				Females				
Doctorate or higher	< 10	n.p.	701	0.0	< 10	n.p.	426	0.0
Master's degree	38	0.1	6,334	0.2	19	0.0	2,122	0.1
Postgrad. diploma or certificate[(c)]	43	0.1	4,087	0.1	30	0.1	3,149	0.2
Subtotal postgraduate	*n.p.*	*n.p.*	*11,122*	*0.4*	*n.p.*	*n.p.*	*5,697*	*0.3*
Bachelor's degree	218	0.4	20,633	0.7	148	0.3	12,205	0.7
Other undergraduate[(d)]	n.p.	n.p.	1,154	0.0	< 10	n.p.	256	0.0
Subtotal undergraduate	*218*	*0.4*	*21,787*	*0.8*	*n.p.*	*n.p.*	*12,461*	*0.7*
Total Domestic Graduates[(e)]	**324**	**0.6**	**32,909**	**1.1**	**207**	**0.4**	**18,158**	**1.0**
Total Graduates[(e)(f)]	**326**	**0.6**	**48,424**	**1.7**	**209**	**0.4**	**27,252**	**1.6**
				Persons				
Doctorate or higher	< 10	n.p.	1,384	0.0	< 10	n.p.	809	0.0
Master's degree	70	0.1	12,026	0.2	32	0.0	3,770	0.1
Postgrad. diploma or certificate[(c)]	65	0.1	7,037	0.1	44	0.0	4,908	0.1
Subtotal postgraduate	*n.p.*	*n.p.*	*20,447*	*0.4*	*n.p.*	*n.p.*	*9,487*	*0.3*
Bachelor's degree	320	0.3	35,170	0.6	211	0.2	19,666	0.6
Other undergraduate[(d)]	35	0.0	2,635	0.0	11	0.0	590	0.0
Subtotal undergraduate	*355*	*0.3*	*37,805*	*0.7*	*222*	*0.2*	*20,256*	*0.6*
Total Domestic Graduates[(e)]	**499**	**0.5**	**58,252**	**1.0**	**303**	**0.3**	**29,743**	**0.9**
Total Graduates[(e)(f)]	**503**	**0.5**	**88,256**	**1.6**	**306**	**0.3**	**47,901**	**1.4**

(continued)

Table 2.06.34 (continued): Completions in the higher education sector[(a)] by Indigenous status, sex and state/territory, 2010[(a)]

	SA				WA			
	Indigenous		Other[(b)]		Indigenous		Other[(b)]	
	No.	%	No.	%	No.	%	No.	%
				Males				
Doctorate or higher	< 10	n.p.	173	0.0	0	0.0	188	0.0
Master's degree	< 10	n.p.	672	0.1	< 10	n.p.	801	0.1
Postgrad. diploma or certificate[(c)]	< 10	n.p.	925	0.1	< 10	n.p.	1,204	0.1
Subtotal postgraduate	n.p.	n.p.	1,770	0.3	n.p.	n.p.	2,193	0.3
Bachelor's degree	14	0.1	3,401	0.5	23	0.1	4,292	0.5
Other undergraduate[(d)]	< 10	n.p.	135	0.0	< 10	n.p.	116	0.0
Subtotal undergraduate	n.p.	n.p.	3,536	0.5	n.p.	n.p.	4,408	0.5
Total Domestic Graduates[(e)]	**33**	**0.3**	**5,306**	**0.8**	**34**	**0.1**	**6,601**	**0.8**
Total Graduates[(e)(f)]	**33**	**0.3**	**9,047**	**1.4**	**35**	**0.1**	**12,628**	**1.4**
				Females				
Doctorate or higher	< 10	n.p.	234	0.0	0	0.0	215	0.0
Master's degree	< 10	n.p.	884	0.1	< 10	n.p.	882	0.1
Postgrad. diploma or certificate[(c)]	< 10	n.p.	1,833	0.3	n.p.	n.p.	2,247	0.3
Subtotal postgraduate	n.p.	n.p.	2,951	0.4	n.p.	n.p.	3,344	0.4
Bachelor's degree	44	0.01	5,017	0.7	n.p.	n.p.	6,762	0.8
Other undergraduate[(d)]	< 10	n.p.	121	0.0	20	0.1	124	0.0
Subtotal undergraduate	n.p.	n.p.	5,138	0.8	20	0.1	6,886	0.8
Total Domestic Graduates[(e)]	**63**	**0.01**	**8,089**	**1.2**	**98**	**0.4**	**10,230**	**1.2**
Total Graduates[(e)(f)]	**63**	**0.01**	**12,071**	**1.8**	**99**	**0.4**	**16,762**	**1.9**
				Persons				
Doctorate or higher	< 10	n.p.	407	0.0	0	0.0	403	0.0
Master's degree	11	0.1	1,556	0.1	< 10	n.p.	1,683	0.1
Postgrad. diploma or certificate[(c)]	17	0.1	2,758	0.2	19	0.0	3,451	0.2
Subtotal postgraduate	n.p.	n.p.	4,721	0.4	n.p.	n.p.	5,537	0.3
Bachelor's degree	58	0.3	8,418	0.6	83	0.2	11,054	0.6
Other undergraduate[(d)]	< 10	n.p.	256	0.0	23	0.0	240	0.0
Subtotal undergraduate	n.p.	n.p.	8,674	0.7	106	0.2	11,294	0.6
Total Domestic Graduates[(e)]	**96**	**0.5**	**13,395**	**1.0**	**132**	**0.3**	**16,831**	**1.0**
Total Graduates[(e)(f)]	**96**	**0.5**	**21,118**	**1.6**	**134**	**0.3**	**29,390**	**1.7**

(continued)

Table 2.06.34 (continued): Completions in the higher education sector(a) by Indigenous status, sex and state/territory, 2010(a)

	NT				Tas			
	Indigenous		Other(b)		Indigenous		Other(b)	
	No.	%	No.	%	No.	%	No.	%
				Males				
Doctorate or higher	< 10	n.p.	< 10	n.p.	< 10	n.p.	67	0.0
Master's degree	0	0.0	19	0.0	< 10	n.p.	125	0.1
Postgrad. diploma or certificate(c)	< 10	n.p.	72	0.1	0	0.0	201	0.1
Subtotal postgraduate	n.p.	n.p.	n.p.	n.p.	*n.p.*	*n.p.*	*393*	*0.2*
Bachelor's degree	13	0.1	135	0.2	< 10	n.p.	748	0.4
Other undergraduate(d)	< 10	n.p.	< 10	n.p.	< 10	n.p.	106	0.1
Subtotal undergraduate	n.p.	n.p.	n.p.	n.p.	*n.p.*	*n.p.*	*854*	*0.4*
Total Domestic Graduates(e)	**17**	**0.1**	**241**	**0.4**	**13**	**0.2**	**1,247**	**0.6**
Total Graduates(e)(f)	**17**	**0.1**	**294**	**0.4**	**13**	**0.2**	**1,936**	**1.0**
				Females				
Doctorate or higher	0	0.0	n.p.	n.p.	< 10	n.p.	76	0.0
Master's degree	< 10	n.p.	34	0.1	< 10	n.p.	234	0.1
Postgrad. diploma or certificate(c)	< 10	n.p.	207	0.3	< 10	n.p.	579	0.3
Subtotal postgraduate	n.p.	n.p.	241	0.4	*n.p.*	*n.p.*	*889*	*0.4*
Bachelor's degree	47	0.2	440	0.7	n.p.	n.p.	1,368	0.7
Other undergraduate(d)	< 10	n.p.	< 10	n.p.	< 10	n.p.	22	0.0
Subtotal undergraduate	n.p.	n.p.	n.p.	n.p.	*n.p.*	*n.p.*	*1,390*	*0.7*
Total Domestic Graduates(e)	**59**	**0.2**	**695**	**1.2**	**34**	**0.5**	**2,279**	**1.1**
Total Graduates(e)(f)	**59**	**0.2**	**767**	**1.3**	**34**	**0.5**	**2,866**	**1.4**
				Persons				
Doctorate or higher	< 10	n.p.	20	0.0	< 10	n.p.	143	0.0
Master's degree	< 10	n.p.	53	0.0	< 10	n.p.	359	0.1
Postgrad. diploma or certificate(c)	< 10	n.p.	279	0.2	< 10	n.p.	780	0.2
Subtotal postgraduate	n.p.	n.p.	352	0.3	*n.p.*	*n.p.*	*1,282*	*0.3*
Bachelor's degree	n.p.	n.p.	575	0.4	28	0.2	2,116	0.5
Other undergraduate(d)	< 10	n.p.	< 10	n.p.	< 10	n.p.	128	0.0
Subtotal undergraduate	n.p.	n.p.	575	0.4	*n.p.*	*n.p.*	*2,244*	*0.6*
Total Domestic Graduates(e)	**76**	**0.2**	**936**	**0.7**	**47**	**0.4**	**3,526**	**0.9**
Total Graduates(e)(f)	**76**	**0.2**	**1,061**	**0.8**	**47**	**0.4**	**4,802**	**1.2**

(continued)

Table 2.06.34 (continued): Completions in the higher education sector[(a)] by Indigenous status, sex and state/territory, 2010[(a)]

	Vic				ACT			
	Indigenous		Other[(b)]		Indigenous		Other[(b)]	
	No.	%	No.	%	No.	%	No.	%
Males								
Doctorate or higher	< 10	n.p.	528	0.0	< 10	n.p.	121	0.1
Master's degree	< 10	n.p.	2,976	0.1	< 10	n.p.	415	0.3
Postgrad. diploma or certificate[(c)]	12	0.1	2,842	0.1	< 10	n.p.	489	0.3
Subtotal postgraduate	*n.p.*	*n.p.*	*6,346*	*0.3*	*n.p.*	*n.p.*	*1,025*	*0.7*
Bachelor's degree	28	0.2	12,142	0.6	10	0.6	1,368	1.0
Other undergraduate[(d)]	< 10	n.p.	497	0.0	0	0.0	14	0.0
Subtotal undergraduate	*n.p.*	*n.p.*	*12,639*	*0.6*	*10*	*0.6*	*1,382*	*1.0*
Total Domestic Graduates[(e)]	**53**	**0.4**	**18,985**	**0.9**	**19**	**1.2**	**2,407**	**1.7**
Total Graduates[(e)(f)]	**53**	**0.4**	**35,237**	**1.6**	**19**	**1.2**	**3,934**	**2.8**
Females								
Doctorate or higher	< 10	n.p.	693	0.0	< 10	n.p.	110	0.1
Master's degree	n.p.	n.p.	3,891	0.2	< 10	n.p.	492	0.3
Postgrad. diploma or certificate[(c)]	27	0.2	5,372	0.2	< 10	n.p.	772	0.5
Subtotal postgraduate	*n.p.*	*n.p.*	*9,956*	*0.4*	*n.p.*	*n.p.*	*1,374*	*1.0*
Bachelor's degree	69	0.6	16,899	0.8	< 10	n.p.	1,775	1.2
Other undergraduate[(d)]	0	0.0	686	0.0	0	0.0	13	0.0
Subtotal undergraduate	*69*	*0.6*	*17,585*	*0.8*	*n.p.*	*n.p.*	*1,788*	*1.2*
Total Domestic Graduates[(e)]	**113**	**0.9**	**27,541**	**1.2**	**20**	**0.0**	**3,162**	**2.2**
Total Graduates[(e)(f)]	**113**	**0.9**	**44,240**	**2.0**	**24**	**0.0**	**4,537**	**3.1**
Persons								
Doctorate or higher	< 10	n.p.	1,221	0.0	< 10	n.p.	231	0.1
Master's degree	21	0.1	6,867	0.2	< 10	n.p.	907	0.3
Postgrad. diploma or certificate[(c)]	39	0.2	8,214	0.2	10	0.3	1,261	0.4
Subtotal postgraduate	*n.p.*	*n.p.*	*16,302*	*0.4*	*n.p.*	*n.p.*	*2,399*	*0.8*
Bachelor's degree	97	0.4	29,041	0.7	n.p.	n.p.	3,143	1.1
Other undergraduate[(d)]	< 10	n.p.	1,183	0.0	0	0.0	27	0.0
Subtotal undergraduate	*n.p.*	*n.p.*	*30,224*	*0.7*	*n.p.*	*n.p.*	*3,170*	*1.1*
Total Domestic Graduates[(e)]	**166**	**0.7**	**46,526**	**1.1**	**39**	**1.3**	**5,569**	**2.0**
Total Graduates[(e)(f)]	**166**	**0.7**	**79,477**	**1.8**	**43**	**1.4**	**8,471**	**3.0**

(continued)

Table 2.06.34 (continued): Completions in the higher education sector[(a)] by Indigenous status, sex and state/territory, 2010[(a)]

	Australia[(a)]			
	Indigenous		Other[(b)]	
	No.	%	No.	%
	Males			
Doctorate or higher	14	0.0	2,169	0.0
Master's degree	66	0.0	12,563	0.1
Postgrad. diploma or certificate[(c)]	71	0.0	10,762	0.1
Subtotal postgraduate	*151*	*0.1*	*25494*	*0.3*
Bachelor's degree	271	0.2	44,645	0.5
Other undergraduate[(d)]	35	0.0	2,734	0.0
Subtotal undergraduate	*306*	*0.2*	*47,379*	*0.5*
Total Domestic Graduates[(e)]	**457**	**0.3**	**72,873**	**0.8**
Total Graduates[(e)(f)]	**461**	**0.3**	**125,052**	**1.5**
	Females			
Doctorate or higher	16	0.0	2,489	0.0
Master's degree	92	0.0	15,211	0.2
Postgrad. diploma or certificate[(c)]	147	0.1	19,076	0.2
Subtotal postgraduate	*255*	*0.1*	*36776*	*0.4*
Bachelor's degree	646	0.3	66,532	0.8
Other undergraduate[(d)]	66	0.0	2,433	0.0
Subtotal undergraduate	*712*	*0.4*	*68,965*	*0.8*
Total Domestic Graduates[(e)]	**967**	**0.5**	**105,741**	**1.2**
Total Graduates[(e)(f)]	**976**	**0.5**	**160,140**	**1.8**
	Persons			
Doctorate or higher	30	0.0	4,658	0.0
Master's degree	158	0.0	27,774	0.2
Postgrad. diploma or certificate[(c)]	218	0.1	29,838	0.2
Subtotal postgraduate	*406*	*0.1*	*62,270*	*0.4*
Bachelor's degree	917	0.3	111,177	0.6
Other undergraduate[(d)]	101	0.0	5,167	0.0
Subtotal undergraduate	*1,018*	*0.3*	*116344*	*0.7*
Total Domestic Graduates[(e)]	**1,424**	**0.4**	**178,614**	**1.0**
Total Graduates[(e)(f)]	**1,437**	**0.4**	**285,192**	**1.6**

(continued)

Table 2.06.34 (continued): Completions in the higher education sector[(a)] by Indigenous status, sex and state/territory, 2010[(a)]

(a) Numbers are for all persons completing courses in higher education.

(b) Other includes those whose Indigenous status is unknown.

(c) Includes postgrad. qual/prelim., grad.(post) dip.—new area, grad.(post) dip.—ext. area, and graduate certificate.

(d) Includes associate degree, advanced diploma (AQF), diploma (AQF) and other undergraduate award courses.

(e) Includes enabling courses and non-award courses.

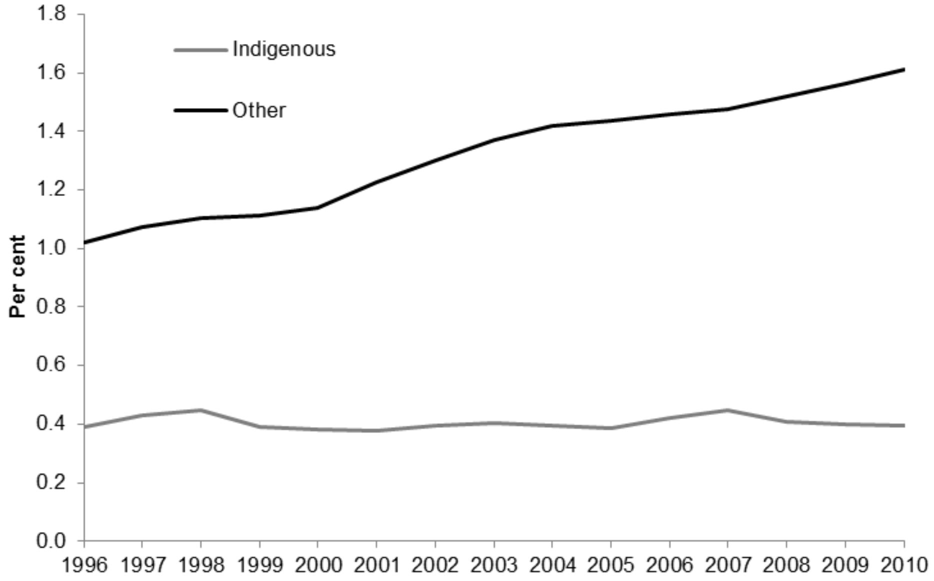
(f) Includes multi state completions.

Note: Percentages are calculated using the Indigenous and non-Indigenous estimated resident populations for ages 15 years and over in 2010.

Source: AIHW analysis of DEEWR Higher Education Statistics Collection.

Time series analyses

- Between 1996 and 2010, there was no significant change in the proportion of domestic Indigenous students who completed a higher education award course. During the same period of time, there has been a significant increase of 59% in the proportion of domestic other students who completed a higher education award course (Table 2.06.35, Figure 2.06.3).



Source: AIHW analysis of DEEWR Higher Education Statistics Collection.

Figure 2.06.3: Higher education award course completions, by Indigenous status, 1996–2010

Table 2.06.35: Higher education award course completions(a)(b), by Indigenous status, 1996–2010 (per cent)

	Indigenous	Other(c)
1996	0.39	1.02
1997	0.43	1.08
1998	0.45	1.10
1999	0.39	1.11
2000	0.38	1.14
2001	0.38	1.23
2002	0.39	1.30
2003	0.41	1.37
2004	0.40	1.42
2005	0.39	1.44
2006	0.42	1.46
2007	0.45	1.48
2008	0.41	1.52
2009	0.40	1.56
2010	0.39	1.61
Annual Change(d)	–0.0001	0.04*
Per cent change(d)	–0.2	59.3*

(a) Includes undergraduate, postgraduate, domestic and international students.

(b) Represents course completions, students may complete more than one course.

(c) Other includes those whose Indigenous status is unknown.

(d) Average period change determined using linear regression analysis.

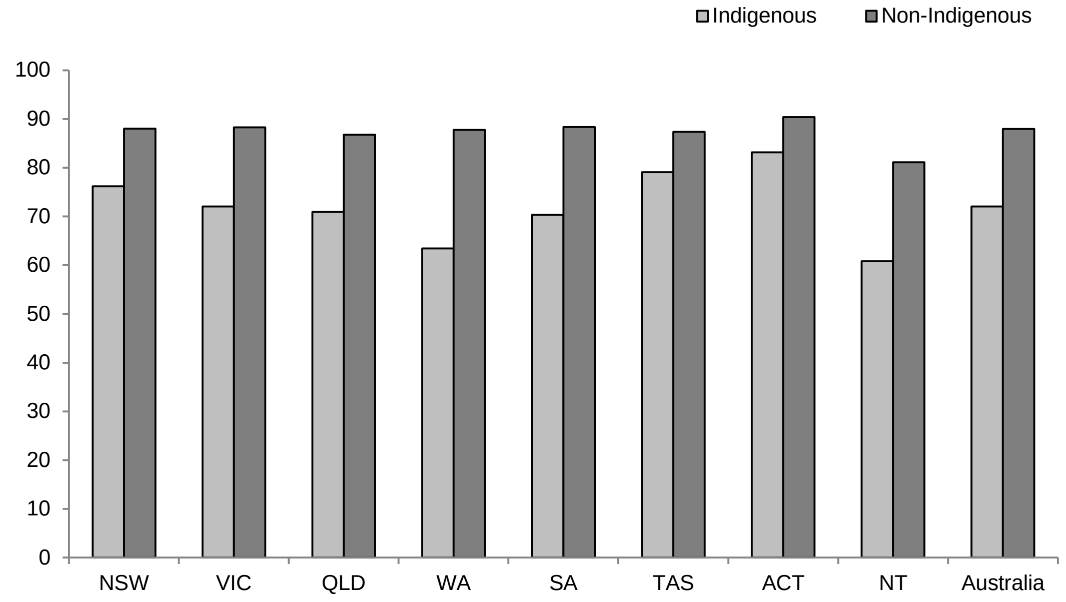
Note: Percentages are based on the 2006 residential estimates ages 15 and over.

Source: AIHW analysis of DEEWR Higher Education Statistics Collection.

Success rate

The success rate for higher education institutions is based on the proportion of units passed within a year compared with the total units enrolled.

- In 2010, the success rate for Indigenous students varied by state and territory, ranging from 61% in the Northern Territory to 83% in the Australian Capital Territory. The success rate for non-Indigenous students was similar in most states and territories (between 87% and 90%), except for the Northern Territory (81%) (Figure 2.06.4).
- The success rate was lower for Indigenous students than other students across all jurisdictions, with the largest difference in the Northern Territory (Table 2.06.36).



Source: AIHW analysis of DEEWR Higher Education Statistics Collection.

Figure 2.06.4: Higher education success rates, by Indigenous status and state/territory, 2010

Table 2.06.36: Higher education success rates[(a)], by Indigenous status and state/territory, 2010

	Indigenous		Other[(b)]		
	Number	**Rate per (10,000)**	**Number**	**Rate per (10,000)**	**Rate difference per (10,000)[(c)]**
NSW	1,735	105.0	213,289	301.8	–196.8
Vic	531	144.4	193,695	351.6	–207.1
Qld	1,199	74.6	126,738	291.1	–216.5
WA	482	63.2	77,252	348.4	–285.2
SA	292	96.0	48,090	302.5	–206.5
Tas	152	75.6	13,818	283.4	–207.8
ACT	255	541.3	3,212	90.8	450.5
NT	148	21.6	20,268	1,258.5	–1,236.9
Australia	**4,956**	**88.1**	**710,388**	**326.4**	**–238.3**

(a) Includes undergraduate, postgraduate, domestic and international students.

(b) Other includes those whose Indigenous status is unknown.

(c) Rate difference is Other students rate minus the Indigenous rate.

Source: AIHW analysis of DEEWR Higher Education Statistics Collection.

Additional information

Participation in Australian Apprenticeships

In 2006, the scheme formerly known as New Apprenticeships was re-named Australian Apprenticeships. The Australian Government provides incentives and personal benefits programs to encourage participation in this scheme. Involvement by Indigenous people in Australian Apprenticeships has been an ongoing success in the field of education and training.

According to DEEWR 2012, there has been continuous and strong growth in Indigenous participation in Australian Apprenticeships since 2001, and each year has been an improvement on the previous one.

- In 2008, there were 11,012 commencing Indigenous apprentices (3.8% of All Australian Apprenticeships commencements).
- In 2008, there were a total of 12,364 Indigenous apprentices-in-training (3.0% of All Australian Apprentices in-training).
- There has been an 86% increase in the overall number of Indigenous Commencing students since 2001 while as a proportion of all Commencing student apprentices, the Indigenous share has increased from 2.6% to 3.8%.
- The total number of Indigenous apprentices-in-training has almost doubled since 2001, increasing by 95%, while as a proportion of All apprentices-in-training, the Indigenous share has risen from 2.0% to 3.0%.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

National Aboriginal and Torres Strait Islander Health Survey

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through

careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Centre for Vocational Education Research data

This collection gathers information from providers (in receipt of public VET funding) about activity of the VET system in Australia. The collection encompasses all delivery funded wholly or in part from public funds.

NCVER maintains a database of information on persons undertaking vocational education and training. Each state and territory collates data from their training providers on a student, course and module/unit of competency basis. These data are compiled into Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS) format and validated by each training organisation before being submitted to NCVER. The data are then further validated and quality checked for inconsistencies before being used for the production of statistical reports.

Non-identification rates for Indigenous students in these data are high. Care also needs to be taken when comparing data across jurisdictions for load pass rates, as average module durations vary across jurisdictions (SCRGSP 2005b).

DEEWR Higher Education Schools Statistics Collection

The Higher Education Schools Statistics Collection comprises information on enrolments and award completions from public and private higher education institutions that are required to report to DEEWR.

Institutions receive detailed written documentation about what information is required to be furnished in the form of an electronic help file. Universities design and produce their own statistical information (enrolment) forms. These are designed to be used by institutions to collect the required information from students. DEEWR has provided institutions with suggested wording for questions relating to Indigenous status, language spoken at home and disability (ABS 2009).

Approximately 3% of students in this data collection have a ‘not stated’ Indigenous status. At the moment these are recorded as non-Indigenous, although plans are under way to record the ‘not stated’ responses separately.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2003. Directory of education and training statistics higher education student statistics collection. ABS cat. no. 1136.0. Canberra: ABS.

ABS 2006. National Aboriginal and Torres Strait Islander Health Survey: user's guide 2004–05. ABS cat. no. 4715.0.55.004. Canberra: ABS.

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2.07 Employment

The employment status of Aboriginal and Torres Strait Islander people aged 15–64 years

Data sources

Data for this measure come from the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS), the 2006 Census of Population and Housing and the Australian Bureau of Statistics Labour Force Survey.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

The labour force categories and terminologies for the 2008 NATSISS are similar to those for the 2006 Census that have been used in this measure, except that the reference periods are in relation to the 2008 NATSISS rather than the Census.

The 2008 NATSISS also collected data on Indigenous participation in the CDEP scheme:

- **Community Development Employment Projects (CDEP) scheme**—enables participants (usually members of Aboriginal or Torres Strait Islander communities) to exchange unemployment benefits for opportunities to undertake work and training in activities that are managed by a local Aboriginal or Torres Strait Islander community organisation. Participants in the program are therefore classified as employed.

Census of Population and Housing

The Census of Population and Housing is conducted by the ABS at 5-yearly intervals, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

Although the Census data are adjusted for undercount at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

The 2011 Census is the most recent, however data for the Indigenous population was not yet released at the time of writing this report. Therefore data included in this report come from the 2006 Census. In 2006, the ABS enhanced the sample for the Post-Enumeration Survey to include remote areas. The measured undercount for Indigenous Australians was 11.5%.

The following labour force categories and terminologies apply to 2006 Census data:

- **Employed**—Persons aged 15 years and over who worked for payment or profit, or as an unpaid helper in a family business for a minimum of 1 hour per week, during the week before Census night. Also includes those who were absent from a job or business and Community Development Employment Projects (CDEP) participants.
- **Full-time workers**—Employed persons who reported working 35 hours or more in the week before Census night.
- **Part-time workers**—Employed persons who reported working less than 35 hours in the week before Census night.
- **Unemployed**—Persons aged 15 years who were not employed, but were actively looking for work and were available to start work, in the 4 weeks before Census night.
- **Not in the labour force**—persons who are not employed or unemployed as defined above.
- **Participation rate**—for any group, the labour force expressed as a percentage of the civilian population in the same group.
- **Employment to population ratio**—for any group, the number of employed persons expressed as a percentage of the civilian population in the same group.

2006 Census data on participation in CDEP were not available, but data on Indigenous participation in CDEP were collected as part of the 2008 NATSISS and are discussed at the end of the indicator.

ABS Labour Force Survey

The Labour Force Survey (LFS) is run monthly by the ABS and this is the main source of information about the labour force status of Australia's civilian population. From April 2001, the monthly LFS has included a question on Indigenous status. Results from the survey on Indigenous Australians are published annually by the ABS in the *Labour force characteristics of Aboriginal and Torres Strait Islander Australians, experimental estimates from the Labour Force Survey* publications, the latest of which was published in 2011. The labour force estimates for Indigenous Australians in this publication were produced by combining the LFS samples for each of the 12 months of a calendar year to produce annual estimates.

Data analyses

Comparison of NATSISS and Census data

The NATSISS and the Census collect information on the labour force status of Indigenous Australians, but the Census does not collect information on participation in Community Development Employment Projects (CDEP) from all Indigenous persons as does the NATSISS. In the Census, participation in CDEP is asked as a separate question only on the interviewer household forms and is not applicable to people enumerated on mainstream forms. Therefore, information on CDEP participation in the Census cannot be used as a count of all persons who are participating in the programs and is not presented here.

When comparing the labour force status of Indigenous persons recorded in the Census with that in the NATSISS, the results on the NATSISS were slightly higher on employment and unemployment rates. For example the proportion of Indigenous persons aged 15–64 years who were employed from the 2008 NATSISS was 54%, compared with 48% from the Census; and the proportion of Indigenous persons aged 15–64 years who were unemployed from the 2008 NATSISS was 11% compared with 9% from the Census.

This measure presents data included in the 2010 edition of this report for persons aged 15–64 years (2006 Census) and new data from the 2008 NATSISS for persons aged 15–64 years. Data from the NATSISS are presented first followed by data from the 2006 Census.

NATSISS data

- In 2008, the labour force participation rate for the Indigenous population aged 15–64 years was estimated to be 54% employed and 11% unemployed. The remaining 36% were not in the labour force (Table 2.07.1).
- After adjusting for differences in age structure, Indigenous Australians aged 15–64 years were less likely than non-Indigenous Australians to be employed (54% compared with 76%) and almost four times as likely to be unemployed (11% compared with 3%), according to the 2008 NATSISS and 2007–08 NHS data (Table 2.07.1).

Employment status by age and sex

- Indigenous Australians aged 35–44 and 45–54 years were more likely than those in all other age groups to be employed (64% and 62% respectively) (Table 2.07.1). Indigenous Australians aged 55–64 had the lowest proportion employed (39%).
- A higher proportion of Indigenous males reported they were employed than Indigenous females (63% compared with 46%) (Table 2.07.2). Indigenous males were also more likely than Indigenous females to be unemployed (12% compared with 9%).
- Based on the 2008 NATSISS and 2007–08 NHS data, Indigenous males aged 15–64 years were less likely than non-Indigenous males to be employed (63% compared with 82%). Indigenous females aged 15–64 years were also less likely than non-Indigenous females to be employed (46% compared with 70%) (Table 2.07.3).

Table 2.07.1: Persons aged 15–64 years: labour force status, by Indigenous status and age, 2008

	15–24		25–34		35–44		45–54		55–64		Total	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Number												
In the labour force												
Employed CDEP	5,489	. .	4,792	. .	4,449	. .	2,255	. .	573(a)	. .	17,559	. .
Employed non-CDEP	41,670	. .	35,594	. .	36,244	. .	26,656	. .	9,693	. .	149,857	. .
Total employed	*47,160*	*1,893,404*	*40,386*	*2,330,254*	*40,693*	*2,477,969*	*28,911*	*2,416,251*	*10,266*	*1,357,345*	*167,416*	*10,475,222*
Unemployed	16,050	159,859	8,644	96,528	5,545	57,422	2,733	50,564	425(a)	31,127	33,396	395,500
Not in the labour force	40,570	730,687	20,900	392,345	17,614	452,127	15,268	397,201	15,958	938,199	110,310	2,910,558
Total	**103,780**	**2,783,949**	**69,931**	**2,819,126**	**63,851**	**2,987,518**	**46,912**	**2,864,016**	**26,648**	**2,326,671**	**311,122**	**13,781,281**
Per cent												
In the labour force												
Employed CDEP	11.6	. .	11.9	. .	10.9	. .	7.8	. .	5.6(a)	. .	10.5	. .
Employed non-CDEP	88.4	. .	88.1	. .	89.1	. .	92.2	. .	94.4	. .	89.5	. .
Total employed	45.4	68.0	57.8	82.7	63.7	82.9	61.6	84.4	38.5	58.3	53.8	76.0
Unemployed	15.5	5.7	12.4	3.4	8.7	1.9	5.8	1.8	1.6(a)	1.3	10.7	2.9
Not in the labour force	39.1	26.2	29.9	13.9	27.6	15.1	32.5	13.9	59.9	40.3	35.5	21.1
Total(a)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Note: All Indigenous/non-Indigenous comparisons for each age group are statistically significant at the $p < 0.05$ level except for 55–64 'unemployed' and 'not in the labour force'.

Source: NATSISS 2008 and NHS 07–08.

Table 2.07.2: Labour force status of Indigenous persons aged 15–64 years, by sex, 2008

	Males	**Females**	**Persons**
Labour force status		**Per cent**	
In the labour force			
Employed CDEP	7.4	4.0	5.6
Employed non-CDEP	55.3	41.6	48.2
Total employed	*62.7*	*45.6*	*53.8*
Unemployed	12.2	9.4	10.7
Not in the labour force	25.1	45.0	35.5
Total	**100.0**	**100.0**	**100.0**
Total number	**149,211**	**161,912**	**311,122**

Source: AIHW analyses of 2008 NATSISS.

Table 2.07.3: Labour force status of persons aged 15–64 years, by Indigenous status and sex, 2008

	Males			**Females**			**Persons**		
	Indigenous	**Non-Indigenous**	**Ratio**	**Indigenous**	**Non-Indigenous**	**Ratio**	**Indigenous**	**Non-Indigenous**	**Ratio**
	Per cent			**Per cent**			**Per cent**		
In the labour force									
Employed CDEP	11.8	. .	. .	8.8	. .	. .	10.5	. .	. .
Employed non-CDEP	88.2	. .	. .	91.2	. .	. .	89.5	. .	. .
Total employed	*62.7*	*81.9*	*0.8*	*45.6*	*70.2*	*0.6*	*53.8*	*76.0*	*0.7*
Unemployed	12.2	2.9	4.2	9.4	2.9	3.3	10.7	2.9	3.7
Not in the labour force	25.1	15.2	1.6	45.0	27.0	1.7	35.5	21.1	1.7
Total	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**
Total number	**149,211**	**6,874,439**	**. .**	**161,912**	**6,906,842**	**. .**	**311,122**	**13,781,281**	**. .**

Source: NATSISS 2008 and NHS 07–08.

Employment status by state/territory and remoteness

- The proportion of Indigenous Australians who were unemployed ranged from 7.2% in Tasmania to 13% in New South Wales (Table 2.07.4). The proportion of Indigenous Australians not in the labour force ranged from 20% in the Australian Capital Territory to 40% in New South Wales. The Northern Territory had the highest proportion of Indigenous Australians employed in CDEP (18%).
- In New South Wales, Victoria, Queensland, Western Australia, South Australia and Tasmania the proportion of Indigenous Australians unemployed was higher than non-Indigenous Australians. In every state and territory a higher proportion of Indigenous Australians than non-Indigenous Australians were not in the labour force (Table 2.07.5).
- Indigenous Australians in remote areas were more likely than Indigenous Australians in non-remote areas to be employed in CDEP (19% compared with 1.2%) and less likely to be employed in non-CDEP (33% compared with 53%) (Table 2.07.6).
- Indigenous Australians in non-remote areas were more likely to be unemployed than Indigenous Australians in Remote areas (11% and 9.2% respectively) (Table 2.07.7).

Table 2.07.4: Labour force status of Indigenous persons aged 15–64 years, by state/territory, 2008

Labour force status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
In the labour force									
Employed CDEP	1.9[(a)]	0.5[(a)]	4.1[(a)]	10.2	5.2	n.p.	n.p.	17.5	5.6
Employed non-CDEP	45.4	54.6	55.4	46.1	46.5	n.p.	n.p.	33.3	48.2
Total employed	*47.3*	*55.1*	*59.5*	*56.3*	*51.7*	*59.6*	*72.1*	*50.8*	*53.8*
Unemployed	12.5	11.1	9.0	11.4	12.0	7.2	7.8	10.3	10.7
Not in the labour force	40.1	33.8	31.5	32.3	36.3	33.2	20.1	38.9	35.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total Number	**91,046**	**20,692**	**86,523**	**41,841**	**17,038**	**11,748**	**2,705**	**39,529**	**311,122**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: NATSISS 2008.

Table 2.07.5: Labour force status of persons aged 15–64 years, by Indigenous status and state/territory, 2008

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Australia	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
									Number									
In the labour force																		
Employed CDEP	1,769(a)	. .	114(a)	. .	3,561(a)	. .	4,274	. .	886	. .	n.p.	. .	n.p.	. .	6,919	. .	17,559	. .
Employed non-CDEP	41,331	. .	11,289	. .	47,934	. .	19,284	. .	7,925	. .	n.p.	. .	n.p.	. .	13,179	. .	149,857	. .
Total employed	*43,100*	*3,359,973*	*11,402*	*2,690,530*	*51,495*	*2,056,501*	*23,558*	*1,106,261*	*8,811*	*758,701*	*7,002*	*212,349*	*1,950*	*198,162*	*20,098*	*92,745*	*167,416*	*10,475,222*
Unemployed	11,411	138,640	2,292	85,426	7,766	81,329	4,777	32,492	2,038	40,771	843	11,726	211	n.p.	4,058	n.p.	33,396	395,500
Not in the labour force	36,535	1,015,448	6,998	720,386	27,263	577,563	13,506	239,593	6,188	232,295	3,903	82,344	544	n.p.	15,374	n.p.	110,310	2,910,558
Total	**91,046**	**4,514,061**	**20,692**	**3,496,343**	**86,523**	**2,715,393**	**41,841**	**1,378,347**	**17,038**	**1,031,767**	**11,748**	**306,419**	**2,705**	**236,813**	**39,529**	**102,138**	**311,122**	**13,781,281**
									Per cent									
In the labour force																		
Employed CDEP	4.1(a)	. .	n.p.	. .	6.9	. .	18.1	. .	10.1	. .	n.p.	. .	0.0	. .	34.4	. .	10.5	. .
Employed non-CDEP	95.9	. .	n.p.	. .	93.1	. .	81.9	. .	89.9	. .	n.p.	. .	100.0	. .	65.6	. .	89.5	. .
Total employed	47.3	74.4	55.1	77.0	59.5	75.7	56.3	80.3	51.7	73.5	59.6	69.3	72.1	83.7	50.8	90.8	53.8	76.0
Unemployed	12.5	3.1	11.1	2.4	9.0	3.0	11.4	2.4	12.0	4.0	7.2	3.8	7.8	n.p.	10.3	n.p	10.7	2.9
Not in the labour force	40.1	22.5	33.8	20.6	31.5	21.3	32.3	17.4	36.3	22.5	33.2	26.9	20.1	n.p.	38.9	n.p.	35.5	21.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Note: All Indigenous/non-Indigenous comparisons for each age group are statistically significant at the $p < 0.05$ level except for the ACT 'not in the labour force'.

Source: NATSISS 2008 and NHS 07–08.

Table 2.07.6: Labour force status of Indigenous persons aged 15–64 years, by remoteness, 2008

Labour force status	**Remote**	**Non-remote**	**Australia**
		Per cent	
In the labour force			
Employed CDEP	19.4	1.2	5.6
Employed non-CDEP	33.0	53.1	48.2
Total employed	*52.4*	*54.3*	*53.8*
Unemployed	9.2	11.2	10.7
Not in the labour force	38.5	34.5	35.5
Total	**100.0**	**100.0**	**100.0**
Total number	**76,612**	**234,510**	**311,122**

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.07.7: Labour force status of persons aged 15–64 years, by Indigenous status and remoteness, 2008

			Labour force status						
			In the labour force						
			Employed CDEP	**Employed non-CDEP**	**Total employed**	**Unemployed**	**Not in the labour force**	**Total**	**Total number**
Major cities	Indigenous	%	n.p.	n.p.	58.7	12.0	29.4	**100.0**	**100,991**
	Non-Indigenous	%	. .	. .	76.7	2.7	20.7	**100.0**	**9,636,665**
	Rate Ratio(a)		. .	. .	*0.8**	4.5*	1.4*	**. .**	**. .**
Inner regional	Indigenous	%	n.p.	n.p.	50.7	11.6	37.7	**100.0**	**64,412**
	Non-Indigenous	%	. .	. .	74.2	3.4	22.4	**100.0**	**2,770,937**
	Rate Ratio(a)		. .	. .	*0.7**	3.4*	1.7*	**. .**	**. .**
Outer regional	Indigenous	%	2.8(a)	48.4	51.3	9.9	38.9	**100.0**	**69,108**
	Non-Indigenous	%	. .	. .	75.4	3.2	21.4	**100.0**	**1,230,512**
	Rate Ratio(a)		. .	. .	*0.7**	3.1*	1.8*	**. .**	**. .**
Total non-remote	*Indigenous*	*%*	*1.2(a)*	*53.1*	*54.3*	*11.3*	*34.5*	***100.0***	***234,510***
	Non-Indigenous	*%*	. .	. .	*76.0*	*2.9*	*21.1*	***100.0***	***13,638,114***
	Rate Ratio(a)		. .	. .	*0.7**	*3.9**	*1.6**	**. .**	**. .**
Remote	Indigenous	%	9.5(a)	39.6	49.1	11.2	39.7	**100.0**	**28,072**
	Non-Indigenous		. .	. .	73.0	3.2(a)	23.8	**100.0**	**141,819**
	Rate Ratio(a)		. .	. .	*0.7**	3.5*	1.7*	**. .**	**. .**
Very remote	Indigenous	%	25.1	29.2	*54.3*	8.0	37.8	**100.0**	**48,540**
	Non-Indigenous	%	. .	. .	. .	. .	. .	**. .**	**. .**
	Rate Ratio(a)		. .	. .	. .	. .	. .	**. .**	**. .**

(continued)

Table 2.07.7 (continued): Labour force status of persons aged 15–64 years, by Indigenous status and remoteness, 2008

			Labour force status						
			In the labour force						
			Employed CDEP	**Employed non-CDEP**	**Total employed**	**Unemployed**	**Not in the labour force**	**Total**	**Total number**
Total remote	*Indigenous*	*%*	*19.4*	*33.0*	*52.4*	*9.2*	*38.5*	***100.0***	***76,612***
	Non-Indigenous	*%*	..	..	..	..	..	**..**	**..**
	Rate Ratio(a)		..	..	..	..	..	**..**	**..**
Australia	Indigenous	%	5.6	48.2	53.8	10.7	35.5	**100.0**	**311,122**
	Non-Indigenous	%	..	..	76.0	2.9	21.1	**100.0**	**13,781,281**
	Rate Ratio(a)		..	..	0.7*	3.7*	1.7*	**..**	**..**

* Differences between Indigenous and non-Indigenous rates are NOT statistically significant at the $p < 0.05$ level for all categories.

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Employment status by summary health characteristics

The 2008 NATSISS collected information on the labour force status and selected health characteristics of Indigenous Australians. Results are shown in tables 2.07.8 and 2.07.9.

- In 2008, of the Indigenous Australians aged 15–64 years who reported they had excellent health, approximately 60% were employed, 12% unemployed and 29% were not in the labour force. Further, of the Indigenous Australians aged 15–64 who reported poor health, 24% were employed, 10% were unemployed and 66% were not in the labour force (Table 2.07.8).
- In 2008, for Indigenous Australians aged 15–64 years both employed and unemployed most commonly reported good health (35% and 34% respectively) while more unemployed Indigenous Australians reported poor health than employed Indigenous Australians (6.2% and 2.8% respectively) (Table 2.07.9).

Table 2.07.8: Labour force status of Indigenous persons aged 15–64 years, by summary health characteristics, 2008

	Self assessed health status					
	Excellent	**Very good**	**Good**	**Fair**	**Poor**	**Has a disability/long term health condition**
			Per cent			
In the labour force[(a)(b)]						
Employed CDEP	6.3	6.0	6.2	3.8	3.8	10.7
Employed non-CDEP[(a)(b)]	53.5	54.8	48.5	40.5	20.1	89.3
Total employed	*59.7*	*60.8*	*54.7*	*44.3*	*23.9*	*48.5*
Unemployed	11.5	10.6	10.5	10.8	10.4	10.4
Not in the labour force	28.8	28.6	34.8	44.8	65.7	41.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
All persons aged 15–64 years	**52,343**	**87,141**	**107,047**	**44,735**	**19,857**	**150,133**

(a) CDEP proportions are calculated on 'total employed'.

(b) 'Employed CDEP' and 'Employed non-CDEP' represent those respondents who are employed and who specified they were a CDEP participant.

Source: AIHW analyses of 2008 NATSISS.

Table 2.07.9: Labour force status of Indigenous persons aged 15–64 years, by summary health characteristics, 2008

	Self assessed health status						
	Excellent	Very good	Good	Fair	Poor	Has a disability/long term health condition	All persons aged 15–64 years[(a)]
			Per cent				
In the labour force							
Employed CDEP[(b)]	18.8	29.6	37.7	9.7	4.3	44.5	100.0
Employed non-CDEP[(c)]	18.7	31.9	34.7	12.1	2.7	43.4	100.0
Total employed	*18.7*	*31.6*	*35.0*	*11.8*	*2.8*	*43.5*	*100.0*
Unemployed	18.0	27.8	33.6	14.5	6.2	46.9	100.0
Not in the labour force	13.7	22.6	33.8	18.2	11.8	55.8	100.0
Total	**16.8**	**28.0**	**34.4**	**14.4**	**6.4**	**48.3**	**100.0**

(a) Proportions will not add to total.

(b) CDEP proportions are calculated on 'total employed'.

(c) 'Employed CDEP' and 'Employed non-CDEP' represent those respondents who are employed and who specified they were a CDEP participant.

Source: AIHW analyses of 2008 NATSISS.

Preferred working hours

- During 2008, 35% of Indigenous Australians aged 15–24 years would have liked more hours at their current workplace and only 6% would have liked fewer hours than they were currently working. This is compared with older age groups that showed a steady decrease in those who would like more hours and an increase in those who would like less hours. For those aged 55–64 years, 23% of Indigenous persons would have liked fewer hours and 14% would have liked more hours (Table 2.07.10).

Commencement and duration of paid employment

- In 2008, 84% of 55–64 year old Indigenous Australians had been in their current employment for two years or more, compared with only 26% of 15–24 year old Indigenous Australians. Among those aged 15–24 years, Indigenous males (33%) were more likely to have been employed for over two years than Indigenous females (26%) (Table 2.07.11).
- In 2008, the percentage of Indigenous Australians who started their first paid employment between the ages 15 and 19 years ranged from 95% in the Australian Capital Territory to 75% in the Northern Territory. In Australia overall, 89% of Indigenous Australians had begun their first paid employment by the age of 19 years (Table 2.07.12).
- For Indigenous Australians, the amount of time employed throughout their lifetime varied by jurisdiction. The percentage of Indigenous Australians employed for 25 years or more ranged from 15% in the Northern Territory to 26% in the Australian Capital Territory (Table 2.07.13).

Table 2.07.10: Whether would like more, same or fewer hours, employed Indigenous persons aged 15–64 years, by age and sex, 2008

	15–24	25–34	35–44	45–54	55–64	Total
			Per cent			
			Males			
Fewer hours	5.6	13.6	19.6	20.8	22.4	14.3
About the same hours	60.0	57.2	65.2	65.8	65.7	61.7
More hours	34.4	29.3	15.3	13.5	11.9	24.0
Total Employed	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not known	1.1	0.0	0.1	0.6	1.5	0.5
			Females			
Fewer hours	6.8	18.5	26.3	20.8	22.7	18.1
About the same hours	57.2	59.7	56.9	62.9	59.3	58.9
More hours	35.9	21.8	16.8	16.4	18.0	23.0
Total Employed	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not known	0.1	0.1	0.0	0.0	0.1	0.1
			Persons			
Fewer hours	6.1	15.6	22.7	20.8	22.5	16.0
About the same hours	58.8	58.2	61.3	64.3	63.1	60.5
More hours	35.0	26.2	16.0	14.9	14.3	23.5
Total Employed	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not known	0.7	0.0	0.0	0.3	0.9	0.3
Total number	**47,160**	**40,386**	**40,693**	**28,911**	**10,266**	**167,416**

Source: AIHW analyses of 2008 NATSISS.

Table 2.07.11: Length of time in current job, by sex and age, employed Indigenous persons aged 15–64 years, 2008

Length of time in current job	15–24	25–34	35–44	45–54	55–64	Total
			Per cent			
			Males			
< 1 month	14.8	7.3	3.8	2.1	3.7	7.7
1–< 6 months	20.0	10.0	8.8	8.4	6.7	12.2
6–< 12 months	11.3	10.9	9.2	3.7	4.3	9.1
12–< 24 months	20.5	19.2	17.0	10.5	9.0	17.1
2 years or more	33.3	52.7	61.2	75.3	76.3	54.0
Total employed	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Females			
< 1 month	11.6	9.0	6.2	7.1	2.7	8.2
1–< 6 months	18.0	14.3	12.1	6.0	4.7	12.6
6–< 12 months	22.7	11.3	9.7	7.1	4.4	12.7
12–< 24 months	22.0	13.1	13.5	9.0	4.3	14.3
2 years or more	25.7	52.4	58.5	70.8	83.8	52.2
Total employed	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Persons			
< 1 month	11.6	9.0	6.2	7.1	2.7	8.2
1–< 6 months	18.0	14.3	12.1	6.0	4.7	12.6
6–< 12 months	22.7	11.3	9.7	7.1	4.4	12.7
12–< 24 months	22.0	13.1	13.5	9.0	4.3	14.3
2 years or more	25.7	52.4	58.5	70.8	83.8	52.2
Total employed	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not known	0.1	0.0	0.0	0.0	0.1	0.0

Source: AIHW analyses of 2008 NATSISS.

Table 2.07.12: Age first started paid employment, by sex and state/territory, Indigenous persons aged 15 years and over, 2008

Age first started employment	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
					Males				
15–19	93.7	95.8	95.0	92.8	90.3	93.8	98.3[(a)]	79.3	92.0
20–24	5.8[(b)]	3.5[(b)]	2.9[(b)]	5.0[(b)]	7.5[(b)]	5.4[(a)]	1.7	16.6	6.2
25+	0.5[(a)]	0.7[(a)]	2.1[(b)]	2.2[(a)]	2.2[(b)]	0.8[(a)]	—	4.1	1.8
Total ever in paid employment[(c)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
					Females				
15–19	88.5	87.2	87.4	84.5	82.8	91.6	90.9	71.0	85.2
20–24	6.3	7.4	7.6	5.8	8.8	4.7[(b)]	8.1[(b)]	16.9	8.1
25+	5.2	5.4	5.1[(b)]	9.8	8.4	3.7[(b)]	1.1[(a)]	12.1	6.7
Total ever in paid employment[(c)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
					Persons				
15–19	91.2	91.2	90.9	88.5	86.4	92.6	94.7	75.1	88.5
20–24	6.1	5.6	5.4	5.4	8.2	5.0[(b)]	4.8[(b)]	16.8	7.2
25+	2.8	3.2	3.7[(b)]	6.1	5.4	2.4[(b)]	0.5[(a)]	8.1	4.3
Total ever in paid employment[(c)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(c) Excludes not stated responses

Source: AIHW analyses of 2008 NATSISS.

Table 2.07.13: Total length of employment over lifetime, by sex and state/territory, Indigenous persons aged 15 years and over, 2008

Length of time in employment	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
					Males				
Less than 1 year to 4 years	31.2	28.1	25.6	29.8	31.7	27.8	17.4	31.0	29.0
5 to 9 years	10.6	13.9	16.9	13.2	13.2	13.9	21.7	13.4	13.6
10 to 24 years	29.7	30.4	32.6	33.0	29.6	30.1	30.4	37.5	31.9
25 years or more	28.4	27.6	24.9	23.9	25.5	28.3	30.4	18.1	25.4
Total ever in paid employment(a)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
					Females				
Less than 1 year to 4 years	36.9	32.4	35.4	38.3	37.6	36.6	25.5	39.5	36.6
5 to 9 years	15.7	19.6	19.2	17.7	20.5	19.2	13.4(b)	16.9	17.8
10 to 24 years	32.0	30.1	29.1	28.5	26.8	28.0	39.4	31.0	30.1
25 years or more	15.4	18.0	16.3	15.5	15.0	16.3	21.7	12.7	15.6
Total ever in paid employment(a)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
					Persons				
Less than 1 year to 4 years	34.1	30.3	30.8	34.1	34.7	32.3	21.5	35.2	32.9
5 to 9 years	13.2	16.8	18.1	15.5	17.0	16.6	17.5	15.1	15.7
10 to 24 years	30.9	30.2	30.8	30.7	28.2	29.0	34.9	34.2	31.0
25 years or more	21.9	22.7	20.4	19.6	20.2	22.1	26.0	15.4	20.4
Total ever in paid employment(a)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Excludes unknown responses.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: AIHW analyses of 2008 NATSISS.

Census data

Employment status by age and sex

- In 2006, Indigenous Australians had a 54% labour force participation rate, compared with 75% for non-Indigenous Australians (Table 2.07.14).
- Indigenous Australians had an employment to population ratio of 0.5, compared with the non-Indigenous ratio of 0.7 (Table 2.07.15).

Table 2.07.14: Age-specific labour force participation rates, by Indigenous status, 2006

	15–24	25–34	35–44	45–54	55–64	Total age-standardised
Indigenous	48	58	60	59	38	54
Non-Indigenous	66	82	82	82	57	75

Note: Total directly age-standardised using the Australian 2001 standard population.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.07.15: Age-specific employment to population ratios, by Indigenous status, 2006

	15–24	25–34	35–44	45–54	55–64	Total age-standardised
Indigenous	0.4	0.5	0.5	0.5	0.4	0.5
Non-Indigenous	0.6	0.8	0.8	0.8	0.6	0.7

Note: Total directly age-standardised using the Australian 2001 standard population.

Source: ABS and AIHW analysis of 2006 Census data

Employment by sector, hours worked and occupation

- In 2006, approximately 59% of Indigenous persons aged 15–64 years employed in the labour force were working full-time compared with 69% of non-Indigenous persons of the same age (Table 2.07.16).
- Around three-quarters (74%) of Indigenous employed persons were working in the private sector, 12% were working for state/territory government, 10% were working for local government and 4% were working for the Commonwealth Government. In comparison, approximately 85% of non-Indigenous persons were working in the private sector, 9% in state/territory government, 1% in local government and 4% in the Commonwealth Government (Table 2.07.16).
- In 2006, the most common occupations for Indigenous employed persons were labourers (24%), community and personal service workers (16%), and clerical and administrative workers (13%). For non-Indigenous employed persons the most common occupations were professionals (20%), clerical and administrative workers (15%) and technicians and trades workers (15%) (Table 2.07.16).

Table 2.07.16: Employed persons aged 15–64 years, by hours worked, sector and occupation, 2006

	Number		Proportion	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Hours worked				
Employed, worked full-time	64,693	5,629,054	59.2	69.1
Employed, worked part-time	44,541	2,517,804	40.8	30.9
Total[(a)]	*109,233*	*8,146,857*	*100.0*	*100.0*
Sector				
Commonwealth Government	5,001	356,294	4.3	4.1
State/territory government	13,873	781,959	11.9	9.1
Local government	11,224	121,053	9.6	1.4
Private sector	86,566	7,331,451	74.2	85.3
Total[(b)]	*116,674*	*8,590,759*	*100.0*	*100.0*
Occupation				
Managers	6,726	1,130,708	5.6	13.1
Professionals	13,647	1,742,161	11.5	20.2
Technicians and trades workers	14,631	1,262,162	12.3	14.6
Community and personal service workers	18,565	766,997	15.6	8.9
Clerical and administrative workers	15,167	1,316,622	12.7	15.3
Sales workers	8,250	865,948	6.9	10.0
Machinery operators and drivers	9,906	575,147	8.3	6.7
Labourers	28,854	890,635	24.2	10.3
Inadequately described	3,409	81,442	2.9	0.9
Total[(c)]	**119,152**	**8,631,817**	**100.0**	**100.0**

(a) Total excludes hours worked not stated.

(b) Total excludes sector not stated.

(c) Total excludes occupation not stated.

Source: ABS and AIHW analysis of 2006 Census data.

ABS Labour Force Survey data

Time series analyses

- Data from the ABS Labour Force Survey over period 2005 to 2011 indicates that after a decrease in Indigenous unemployment from 9.2% in 2005 to 8.3% in 2008, unemployment increased to 11% in 2009 and 2010, and then decreased again to 9.4% in 2011. Minor changes in employment and those not in the labour force occurred over the same period (Table 2.07.17).

Table 2.07.17: Labour force status of Indigenous persons aged 15–64 years, 2005 to 2011 (per cent)

Year	Employed	Unemployed	Not in the labour force	Total
2005	49.7	9.2	41.1	100.0
2006	52.5	8.4	39.1	100.0
2007	50.4	8.1	41.5	100.0
2008	49.6	8.3	42.2	100.0
2009	47.6	10.5	41.9	100.0
2010	47.7	10.6	41.7	100.0
2011	48.2	9.4	42.3	100.0

Source: ABS 2012.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: User's guide 2008* (ABS 2010).

Census of Population and Housing

The Census uses the National health data dictionary standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplained growth in the Aboriginal and

Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself; for example, whether people are counted more than once, or are undercounted (ABS 1996).

Although the Census data are adjusted for undercounts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

ABS Labour Force Survey

The ABS monthly Labour Force Survey (LFS) included a question on Indigenous status from April 2001. The reliability of estimates from the survey is affected by the relatively small size of the Indigenous population, the small number of Indigenous persons in the LFS sample, and particular collection difficulties in remote areas (ABS 2011). Indigenous estimates from the LFS have methodological and definitional differences from other sources such as the Census of Population and Housing. The differences in the methodologies used affect the comparability of the data.

Results from the survey on Indigenous Australians are published annually by the ABS in the *Labour force characteristics of Aboriginal and Torres Strait Islander Australians, experimental estimates from the Labour Force Survey* publications. The methodology used to produce the labour force estimates for Indigenous Australians is based on combining the LFS samples for each of the twelve months of the year. This pooling has resulted in a sample of between 10,500 and 14,200 records each year. This sample size is adequate for providing broad aggregates of labour force characteristics at the state and territory level. However, the sample size per year is still quite small, resulting in constraints on the level of disaggregated data available from the survey.

The ABS considers the estimates of the Indigenous labour force experimental because of the experimental nature of the Indigenous population projections used in producing these estimates and the small sample of Indigenous people in the LFS.

All LFS estimates are subject to sampling errors. This is particularly relevant to these Indigenous estimates because of the small size of the Indigenous population and the small number of Indigenous persons in the LFS sample. These estimates are also subject to non-sampling errors due to particular collection difficulties in remote areas, in addition to imperfections in reporting, recording or processing of data that can occur in any survey or census.

It is also important to note that the population benchmarks used for compiling Indigenous labour force estimates are not predictions or forecasts, but are projections of 2006 Census data reflecting the growth in population which would occur if certain assumptions about future levels of fertility, mortality, migration and unexplained growth were to prevail over the projection period (ABS 2012).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified

n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 1996. Occasional paper. Population issues: Indigenous Australians. ABS cat. no. 4708.0. Canberra: ABS.

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ABS 2011. Labour Force Australia, June 2011. Cat. no. 6202.0 Canberra: ABS.

ABS 2012. Labour force characteristics of Aboriginal and Torres Strait Islander Australians, experimental estimates from the Labour Force Survey, 2011. ABS cat. no. 6287.0. Canberra: ABS.

List of tables

2.08 Income

Equivalised gross household and individual income of Aboriginal and Torres Strait Islander people

Data sources

Data for this measure come from the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS), and the 2007– 2008 Survey of Income and Housing (SIH).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Survey of Income and Housing (SIH)

The Survey of Income and Housing (SIH) is conducted by the ABS every two years, with the first survey beginning in 1994–95. The survey was developed in order to provide broad aggregates for households within Australia. The current survey was conducted during the period of August 2007 and June 2008 and 9,345 households participated through a personal interview at their usual place of residence. The dwellings were selected through a stratified, multistage cluster design and the survey was conducted over 12 months to be representative of a yearly pattern. Participants were asked information regarding their household, including characteristics, costs, assets and liabilities and individual personal characteristics for residents over 15 years.

Very remote areas were not covered by the survey.

Data analyses

NATSISS and SIH data

Household income

Mean equivalised household income

Data on the mean equivalised household income of Indigenous and non-Indigenous persons are available from the 2008 NATSISS and 2007–08 SIH respectively.

- The 2008 NATSISS estimated that the mean equivalised gross household income was $580 per week for Indigenous persons aged 18 years and over compared with $983 per week for non-Indigenous persons according to the 2007–08 SIH estimate (Table 2.08.1).
- The mean equivalised gross household income for Indigenous persons varied by state and territory, ranging from $489 per week in the Northern Territory to $990 per week in the Australian Capital Territory (Table 2.08.1).
- The largest difference in the mean equivalised gross weekly household income of Indigenous Australians by remoteness was between *Major cities* ($678) and *Very remote* areas ($469) (Table 2.08.2).

Table 2.08.1: Mean equivalised gross household income ($ per week), by Indigenous status and state/territory, persons aged 18 years and over, 2008

State/territory	Indigenous	Non-Indigenous
New South Wales	550	1,004
Victoria	635	957
Queensland	607	980
Western Australia	621	1,051
South Australia	552	891
Tasmania	591	767
Australian Capital Territory	990	1,268
Northern Territory	489	1,120
Australia	**580**	**983**

Source: NATSISS 2008 and SIH 2007–08.

Table 2.08.2: Mean gross weekly equivalised household income, Indigenous Australians aged 18 years and over, by remoteness, 2008

Remoteness	$ per week
Major cities	678
Inner regional	573
Outer regional	543
Total non-remote	*607*
Remote	542
Very remote	469
Total remote	*496*
Total	**580**

Source: NATSISS 2008.

Equivalised household income quintiles/percentiles

Data on equivalised household income quintiles and percentiles are presented below.

- In 2008, of those who stated their household income, approximately 49% of Indigenous Australians aged 18 years and over were in the lowest (1st) quintile of equivalised gross weekly household income compared with 20% of non-Indigenous Australians. Only 4.9% of Indigenous Australians were in the highest quintile of equivalised gross weekly household income compared with 22% of non-Indigenous Australians (Table 2.08.3).
- In 2008, 41% of Indigenous Australians aged 18 years and over living in *Major cities* were in the lowest quintile of equivalised gross weekly household income compared with 62% of Indigenous Australians in *Very remote* areas. Around 15% and 7% of Indigenous Australians in *Major cities* were in the fourth and highest quintiles of income respectively compared with 5% and 3% of Indigenous Australians in *Very remote* areas (Table 2.08.4).

Table 2.08.3: Proportion of persons aged 18 years and over in equivalised gross weekly household income quintiles, by Indigenous status, 2008

Quintiles	Indigenous	Non-Indigenous
Lowest	49.2*	19.8
Second	21.5*	18.4
Third	14.1*	19
Fourth	10.3*	20.6
Highest	4.9*	22.1
Total	**100.0**	**100.0**

* Difference between Indigenous and non-Indigenous rates is statistically significant at $p < 0.05$ level for these categories.

Note: Excludes not stated & not known response.

Source: NATSISS 2008 and SIH 2007–08.

Table 2.08.4: Proportion of persons aged 18 years and over in each equivalised gross weekly household income quintile[(a)(b)], by Indigenous status and remoteness, 2008

	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile	Total income stated(c)	Total number
				Indigenous			
Major cities	40.5*	19.3	17.6	15.3*	7.3	100.0	71,867
Inner regional	47.4*	25.3	13.7*	9.0*	4.6(d)	100.0	50,362
Outer regional	52.9*	20.7	13.8*	9.0*	3.6(d)	100.0	53,071
Total non-remote	*46.2**	*21.4**	*15.3**	*11.6**	*5.4*	*100.0*	*175,299*
Remote	51.9*	22.6	13.0	8.4*	4.1	100.0	21,093
Very remote	62.1	21.3	8.9	5.2	2.6(d)	100.0	35,055
Total remote	*58.3*	*21.7*	*10.4*	*6.4*	*3.2*	*100.0*	*56,148*
Total	**49.2**	**21.5**	**14.1**	**10.3**	**4.9**	**100.0**	**231,447**
				Non-Indigenous			
Major cities	18.0*	17.2	18.3	21.2*	25.2*	100.0	10,691,261
Inner regional	24.5*	22.0	20.5*	19.6*	13.3*	100.0	3,157,174
Outer regional	22.9*	19.9	21.3*	18.1*	17.9*	100.0	1,489,098
Total non-remote	*19.8**	*18.4**	*19.0**	*20.6**	*22.1**	*100.0*	*15,337,533*
Remote	22.9*(d)	14.3(d)	16.4(d)	20.9*	25.5*	100.0	158,048
Very remote	. .	. .	. .	. .	. .	. .	. .
Total remote	. .	. .	. .	. .	. .	. .	. .
Total	**19.9***	**18.4***	**19.0***	**20.6***	**22.1***	**100.0**	**15,495,581**

* Difference between Indigenous and non-Indigenous rates is statistically significant at the $p < 0.05$ level for these categories.

(a) Equivalised gross household income quintile boundaries for Indigenous persons (NTSISS 2008) are: first (0 to $435); second ($436 to $686); third ($687 to $952); fourth ($953 to $1380); and fifth ($1,381 or more).

(b) Equivalised gross household income quintile boundaries for non-Indigenous persons (SIH 2007–08) are: first (0 to $423); second ($424 to $666); third ($667 to $925); fourth ($926 to $1,341); and fifth ($1,342 or more).

(c) Comprises persons living in households where household income was stated. Note that equivalised gross weekly household income quintiles are calculated as a proportion of households with stated household income.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: NATSISS 2008 and SIH 2007–08.

Equivalised household income quintiles/percentiles by state/territory

Data presented below on equivalised household income quintiles and percentiles are from NATSISS 2008.

- There has been a change in the mean equivalised gross household income for Indigenous persons between 1994 and 2008. Nationally, the mean equivalised gross household income was $445 in 1994, increasing to $469 in 2002, and $580 in 2008 (Table 2.08.5).
- New South Wales had the highest proportion of Indigenous Australians in the lowest quintile of equivalised gross weekly household income (43%) and Western Australia had the highest proportion of Indigenous Australians in the highest income quintile (6%) (Table 2.08.6).
- In 2008, the Northern Territory had the highest proportion of Indigenous Australians aged 18 years and over below the 20th percentile (60%) and 50th percentile (84%) of equivalised gross weekly household income, compared with 48% and 87% respectively in 2002. In 2008, Tasmania and the Australian Capital Territory had the lowest proportions, 41% and 71%, respectively (Table 2.08.7).

Table 2.08.5: Mean gross weekly equivalised household income, Indigenous Australians aged 18 years and over, by state/territory, 1994, 2002 and 2008

State/territory	1994[(a)]	2002[(a)]	2008
New South Wales	440	494	550
Victoria	493	503	635
Queensland	452	468	607
Western Australia	434	449	621
South Australia	426	457	552
Tasmania	506	482	591
Australian Capital Territory	734	751	990
Northern Territory	395	391	489
Australia	**445**	**469**	**580**

(a) Data for 1994 and 2002 are CPI-adjusted.

Source: 1994 NATSIS, 2002 NATSISS and 2008 NATSISS.

Table 2.08.6: Number and proportion of persons aged 18 years and over in each equivalised gross weekly household income quintile(a)(b), by Indigenous status and state/territory, 2008

	Indigenous			Non-Indigenous	
Income quintile	**Number**	**Proportion (%)**	**Proportion (%) excluding not stated**	**Number**	**Proportion (%)**
NSW					
First	37,060	43.4	51.2	1,064,605	20.9
Second	16,044	18.8	22.2	979,710	19.2
Third	9,637	11.3	13.3	878,478	17.2
Fourth	7,057	8.3	9.7	962,643	18.9
Fifth	2,609	3.1	3.6	1,210,198	23.7
Total stated	*72,406*	*84.8*	*100.0*	*5,095,634*	*100.0*
Not known/not stated	12,999	15.2	. .	. .	. .
Total	**85,405**	**100.0**	**. .**	**. .**	**. .**
Vic					
First	6,603	34.2	43.5	768,293	19.5
Second	3,351	17.4	22.1	759,566	19.3
Third	2,318	12.0	15.3	738,634	18.8
Fourth	1,863	9.7	12.3	848,568	21.6
Fifth	1,037	5.4	6.8	816,718	20.8
Total stated	*15,172*	*78.7*	*100.0*	*3,931,779*	*100.0*
Not known/not stated	4,108	21.3	. .	. .	. .
Total	**19,280**	**100.0**	**. .**	**. .**	**. .**
Qld					
First	28,455	35.6	44.0	559,547	18.4
Second	15,005	18.8	23.2	562,488	18.5
Third	11,451	14.3	17.7	680,936	22.4
Fourth	6,308	7.9	9.8	636,344	20.9
Fifth	3,408	4.3	5.3	603,547	19.8
Total stated	*64,626*	*80.9*	*100.0*	*3,042,861*	*100.0*
Not known/not stated	15,257	19.1	. .	. .	. .
Total	**79,883**	**100.0**	**. .**	**. .**	**. .**
WA					
First	15,518	39.8	52.7	258,349	16.9
Second	4,766	12.2	16.2	229,523	15.0
Third	3,668	9.4	12.4	287,620	18.8
Fourth	3,136	8.0	10.6	360,547	23.6
Fifth	2,380	6.1	8.1	391,503	25.6
Total stated	*29,468*	*75.5*	*100.0*	*1,527,541*	*100.0*
Not known/not stated	9,540	24.5	. .	. .	. .
Total	**39,008**	**100.0**	**. .**	**. .**	**. .**

(continued)

Table 2.08.6 (cont.): Number and proportion of persons aged 18 years and over in each equivalised gross weekly household income quintile[(a)(b)], by Indigenous status and state/territory, 2008

	Indigenous			Non-Indigenous	
Income quintile	**Number**	**Proportion (%)**	**Proportion (%) excluding not stated**	**Number**	**Proportion (%)**
SA					
First	6,555	40.7	49.2	292,869	24.7
Second	3,096	19.2	23.2	209,542	17.7
Third	1,596	9.9	12.0	238,560	20.1
Fourth	1,736	10.8	13.0	232,380	19.6
Fifth	345	2.1	2.6	212,685	17.9
Total stated	*13,327*	*82.7*	*100.0*	*1,186,036*	*100.0*
Not known/not stated	2,784	17.3	. .	. .	. .
Total	**16,111**	**100.0**	**. .**	**. .**	**. .**
Tas/ACT					
First	5,006	37.3	40.9	127,197	20.8
Second	2,761	20.6	22.6	101,846	16.7
Third	1,952	14.5	15.9	99,193	16.2
Fourth	1,770	13.2	14.5	123,148	20.1
Fifth	749	5.6	6.1	159,844	26.2
Total stated	*12,238*	*91.2*	*100.0*	*611,228*	*100.0*
Not known/not stated	1,181	8.8	. .	. .	. .
Total	**13,419**	**100.0**	**. .**	**. .**	**. .**
NT					
First	14,524	38.4	60.0	9,019[(c)]	9.0[(c)]
Second	4,756	12.6	19.6	8,706	8.7
Third	2,079	5.5	8.6	22,361	22.2
Fourth	2,033	5.4	8.4	30,227	30.1
Fifth	819	2.2	3.4	30,190	30.0
Total stated	*24,210*	*64.0*	*100.0*	*100,503*	*100.0*
Not known/not stated	13,620	36.0	. .	. .	. .
Total	**37,830**	**100.0**	**. .**	**. .**	**. .**
Australia					
First	113,763	39.1	49.2	3,079,878	19.9
Second	49,795	17.1	21.5	2,851,380	18.4
Third	32,744	11.3	14.1	2,945,781	19.0
Fourth	23,880	8.2	10.3	3,193,857	20.6
Fifth	11,265	3.9	4.9	3,424,685	22.1
Total stated	*231,447*	*79.6*	*100.0*	*15,495,581*	*100.0*
Not known/not stated	59,490	20.4	. .	. .	. .
Total	**290,937**	**100.0**	**. .**	**. .**	**. .**

(continued)

Table 2.08.6 (cont.): Number and proportion of persons aged 18 years and over in each equivalised gross weekly household income quintile(a)(b), by Indigenous status and state/territory, 2008

(a) Equivalised gross household income quintile boundaries for Indigenous persons (NATSISS 2008) are: first (0 to $435); second ($436 to $686); third ($687 to $952); fourth ($953 to $1380); and fifth ($1,381 or more).

(b) Equivalised gross household income quintile boundaries for non-Indigenous persons (SIH 2007–08) are: first (0 to $423); second ($424 to $666); third ($667 to $925); fourth ($926 to $1,341); and fifth ($1,342 or more).

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: NATSISS 2008 and SIH 2007–08.

Table 2.08.7: Proportion of Indigenous persons aged 18 years and over who were below the 20th and 50th percentiles of equivalised gross weekly household income quintiles(a)(b), 2008

	2002		2008		Significant of change between 2002 and 2008	
	Below 20th percentile	**Below 50th percentile**	**Below 20th percentile**	**Below 50th percentile**	**Below 20th percentile**	**Below 50th percentile**
New South Wales	41.8	72.6	51.2	81.1	Significant	Significant
Victoria	38.7	73.0	43.5	74.0	Not significant	Not significant
Queensland	41.1	78.9	44.0	79.6	Not significant	Not significant
Western Australia	41.2	77.2	52.7	75.4	Significant	Not significant
South Australia	41.9	81.1	49.2	79.1	Significant	Not significant
Tasmania/ ACT	33.6	69.3	40.9	70.8	Not significant	Not significant
Northern Territory	48.3	87.4	60.0	84.0	Significant	Not significant
Australia	**41.7**	**77.4**	**49.1**	**79.2**	**Significant**	**Not significant**

(a) Equivalised gross household income quintile boundaries for Indigenous persons are: first (0 to $435); second ($436 to $686); third ($687 to $952); fourth ($953 to $1380); and fifth ($1,381 or more).

Notes

1. Excludes those for whom income was unknown or not stated.
2. Significant test are for the changes between 2002 and 2008 for indicator "below 20th percentile" and "below 50th percentile".

Source: AIHW analyses of 2008 NATSISS and 2002 NATSISS.

Individual income

As with the gross weekly equivalised household income, the individual income quintile boundaries are based on the total population as derived from the 2007–08 SIH and have been applied to both the Indigenous and non-Indigenous populations.

- In 2008, Indigenous people aged 18 years and over were more likely to be in the three lowest individual income quintiles, and the difference between Indigenous and non-Indigenous people was statistically significant for all quintiles. Only 8% of Indigenous Australians aged 18 years and over were in the highest individual income quintile compared with 21% of non-Indigenous Australians (Table 2.08.8).

Table 2.08.8: Gross weekly Individual income quintiles by Indigenous status, persons aged 18 years and over, 2008

Income quintile	Indigenous (per cent)	Non-Indigenous (per cent)
Lowest	25.3*	16.2
Second	26.5*	20.5
Third	24.6*	21.2
Fourth	15.8*	20.9
Highest	7.8*	21.2
Total[(a)]	**100.0**	**100.0**
Total number[(a)]	**275,781**	**15,495,581**

* Difference between Indigenous and non-Indigenous rates is statistically significant at the $p < 0.05$ level for these categories.

(a) Total excludes not stated or not known responses.

Source: NATSISS 2008 and SIH 2007–08.

Equivalised household income by summary health and population characteristics

- Indigenous Australians with fair/poor self-assessed health status were more likely to be in the lowest quintile of household income than those with excellent/very good health status (Table 2.08.9).
- Indigenous Australians whose highest year of schooling completed was Year 12 or who had a non-school qualification were more likely to be in the fourth or fifth quintiles of household income than those who reported Year 9 or below as their highest year of schooling or did not have a non-school qualification (Table 2.08.9).
- Indigenous Australians who were employed or homeowners were also more likely to be in the fourth or fifth quintiles of household income than those who were unemployed or renters (Table 2.08.9).
- Indigenous Australians in the lowest income quintile were much more likely to be renters (83%) than home owners (15%) (Table 2.08.10).

Table 2.08.9: Selected population characteristics by equivalised gross weekly household income quintiles(a) for Indigenous persons aged 18 years and older, 2008

	Income quintiles						
	Lowest	**Second**	**Third**	**Fourth**	**Fifth**	***Fourth and fifth***	**Total**
Self-assessed health status							
Excellent/very good	41.9	23.2	15.8	12.9	6.2	*19.1*	100.0
Good	48.7	21.4	14.3	10.4	5.2	*15.5*	100.0
Fair/poor	62.0	18.8	11.0	5.9	2.3	*8.2*	100.0
Financial stress							
Unable to raise $2,000 within a week for something important	68.6	18.4	9.2	3.2	0.7	*3.9*	100.0
Location							
Remote	58.2	21.7	10.5	6.5	3.0	*9.6*	100.0
Non-remote	46.2	21.4	15.3	11.5	5.5	*17.0*	100.0
Highest year of school completed							
Year 12	28.5	23.9	19.8	17.3	10.5	*27.7*	100.0
Year 11	47.0	23.5	13.3	12.9	3.4	*16.3*	100.0
Year 10	47.2	23.7	15.3	9.9	4.0	*13.8*	100.0
Year 9 or below	65.6	17.1	9.6	5.1	2.7	*7.7*	100.0
Whether has non-school qualification							
Has a non-school qualification	32.7	25.2	17.5	15.7	8.9	*24.6*	100.0
Does not have a non-school qualification	58.4	19.4	12.2	7.3	2.6	*10.0*	100.0
Employment							
Employed	23.5	27.2	22.7	17.9	8.7	*26.6*	100.0
Unemployed	76.0	17.5	4.5	1.6	0.4	*2.0*	100.0
Not in the labour force	79.4	14.3	4.1	1.5	0.6	*2.1*	100.0
Housing							
Owner	26.0	21.5	21.6	20.2	10.7	*30.9*	100.0
Renter	58.7	21.5	11.1	6.1	2.5	*8.7*	100.0
Stressors in last 12 months							
Serious illness or disability	51.7	22.2	14.1	9.4	2.7	*12.1*	100.0
Other stressors	51.2	20.1	14.3	9.7	4.7	*14.4*	100.0
Total experienced stressors	51.3	20.6	14.3	9.6	4.2	*13.8*	100.0
No stressors	45.9	22.9	13.9	11.4	5.9	*17.3*	100.0
All persons aged 18+ years	**49.1**	**21.5**	**14.1**	**10.3**	**4.9**	***15.2***	**100.0**
Total number aged 18+ years	**113,722**	**49,778**	**32,700**	**23,902**	**11,346**	***35248***	**231,447**

(a) Equivalised gross household income quintile boundaries for Indigenous persons (NATSISS 2008) are: first (0 to $435); second ($436 to $686); third ($687 to $952); fourth ($953 to $1380); and fifth ($1,381 or more).

Note: Excludes not known and not stated responses.

Source: 2008 NATSISS.

Table 2.08.10: Equivalised gross weekly household income quintiles[(a)], by selected population characteristics, Indigenous persons aged 18 years and older, 2008

	Income quintiles					
	Lowest	Second	Third	Fourth	Fifth	*Fourth and fifth*
Self-assessed health status						
Excellent/very good	35.4	44.7	46.3	51.9	52.5	52.1
Good	33.7	33.9	34.5	34.2	36.0	34.7
Fair/poor	30.9	21.4	19.2	13.9	11.5	13.1
Financial stress						
Unable to raise $2,000 within a week for something important	65.6	40.2	30.6	14.3	6.8	11.9
Location						
Remote	28.7	24.5	18.0	15.4	14.9	15.2
Non-remote	71.3	75.5	82.0	84.6	85.1	84.9
Highest year of school completed						
Year 12	12.9	24.8	31.3	37.3	47.7	40.6
Year 11	13.0	14.8	12.8	17.0	9.3	14.5
Year 10	29.4	33.7	33.2	29.3	24.7	27.8
Year 9 or below	44.6	26.6	22.7	16.4	18.2	17.0
Whether has non-school qualification						
Has a non-school qualification	24.0	42.1	44.5	54.7	65.4	58.2
Does not have a non-school qualification	76.0	57.9	55.5	45.3	34.6	41.8
Employment						
Employed	25.7	67.7	86.2	93.0	94.7	93.5
Unemployed	15.1	7.9	3.1	1.5	0.8	1.3
Not in the labour force	59.3	24.4	10.7	5.5	4.5	5.2
Housing						
Owner	15.3	29.0	17.5	56.6	63.2	58.7
Renter	82.7	69.0	21.6	41.1	35.8	39.4
Other	2.0	2.0	0.5	2.3	1.0	1.9
Stressors in last 12 months						
Serious illness or disability	14.4	14.1	13.6	12.4	7.6	10.8
Total experienced stressors	47.9	43.1	46.7	43.3	43.7	43.4
No stressors	37.6	42.8	39.7	44.4	48.7	45.7
All persons aged 18+ years	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number aged 18+ years	**113,722**	**49,778**	**32,700**	**23,902**	**11,346**	**35,248**

(a) Equivalised gross household income quintile boundaries for Indigenous persons (NATSISS 2008) are: first (0 to $435); second ($436 to $686); third ($687 to $952); fourth ($953 to $1380); and fifth ($1,381 or more).

Source: 2008 NATSISS.

Additional information

Financial stress

The 2008 NATSISS collected information on whether Indigenous households could raise $2,000 in an emergency, and whether the household had days without money for basic living expenses in the 2 weeks before the survey and in the 12 months before the survey.

- In 2008, approximately 47% of Indigenous Australians aged 15 years and over were living in households which reported they could not raise $2,000 within a week in a time of crisis. Indigenous people in remote areas were more likely to report that they could not raise $2,000 within a week than Indigenous people in *Major cities* and *Regional* areas (64% compared with 40% and 43% respectively).
- Around one-quarter (28%) of Indigenous persons aged 15 years and over reported they had days without money for basic living expenses in the 12 months before the survey.
- Indigenous Australians who reported they were unable to raise $2,000 within a week for something important or had days without money for basic living expenses in the 2 weeks or 12 months before the survey were more likely to be in the lowest quintile of household income than in the higher income quintiles.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

Survey of Income and Housing (SIH)

Survey data are subject to sampling and non-sampling errors. Non-sampling errors can occur in surveys owing to questionnaire design problems, respondent difficulty recalling information/lack of appropriate records, and errors made in the recording and processing of the data. Every effort was made to minimise non-sample errors in this survey. However, the survey's had a sample loss and non-response of 1,781 dwellings, 16% of the selected sample and 2,026 households having at least one imputed value in income or child care expenses.

List of symbols used in tables

n.a.	not available
–	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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List of Tables

2.09 Index of disadvantage

An analysis of the relative disadvantage within the Aboriginal and Torres Strait Islander population compared with the non-Indigenous population

Data sources

Data for this measure come from the 2006 Census of Population and Housing.

Census of Population and Housing

The Census of Population and Housing is conducted by the ABS at 5-yearly intervals, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

Although the Census data are adjusted for undercount at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

The 2011 Census is the most recent, however data for the Indigenous population was not yet released at the time of writing this report. Therefore data included in this report come from the 2006 Census. In 2006, the ABS enhanced the sample for the Post-Enumeration Survey to include remote areas. The measured undercount for Indigenous Australians was 11.5%.

Socioeconomic Indexes for Areas (SEIFA)

The ABS has developed four indexes to allow measurement of relative socioeconomic status at a small area level. These indexes summarise a range of socioeconomic variables associated with disadvantage. Each index summarises a different aspect of the socio-economic conditions of people living in an area. They each summarise a different set of social and economic information. The indexes take into account a range of factors in determining socio-economic conditions.

Index of Advantage/Disadvantage

This index is a continuum of advantage to disadvantage and is available for both urban and rural areas. Low values indicate areas of disadvantage, and high values indicate areas of advantage. It takes into account variables such as the proportion of families with high incomes, people with a tertiary education, and employment in skilled occupations (ABS 2003).

The Census does not collect all of the variables identified as being related to socioeconomic status. Some of the variables may be context-specific and some are associated with age (e.g. income), yet the methodology does not allow for age-standardisation. This is particularly relevant in the context of this performance measure where we are comparing two populations that have different age structures.

Data analyses

Following the concepts and methodology of the Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD), persons surveyed were ranked according to their IRSAD and then split into deciles or quintiles based on total population.

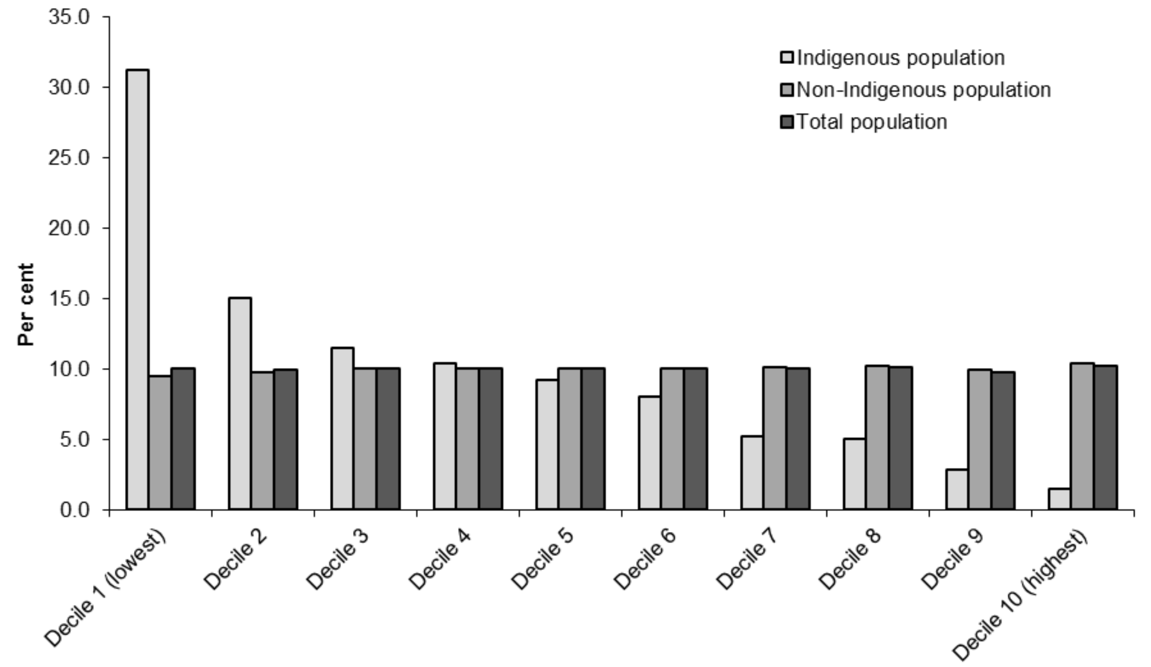
SEIFA

- In 2006, Indigenous Australians are over-represented in the three most disadvantaged deciles; for example, 31% of the Indigenous population were in the most disadvantaged decile compared with 10% of the non-Indigenous population (Table 2.09.1; Figure 2.09.1).
- Less than 2% of the Indigenous population were in the most advantaged decile compared with 10% of the non-Indigenous population (Table 2.09.1; Figure 2.09.1).

Table 2.09.1: Population distribution by SEIFA advantage/disadvantage decile, by Indigenous status, 2006

	Indigenous population	Non-Indigenous population	Total population
		Per cent	
Decile 1 (most disadvantaged)	31.2	9.5	10.0
Decile 2	15.1	9.8	9.9
Decile 3	11.5	10.0	10.1
Decile 4	10.4	10.0	10.0
Decile 5	9.2	10.0	10.0
Decile 6	8.0	10.0	10.0
Decile 7	5.3	10.1	10.0
Decile 8	5.1	10.2	10.1
Decile 9	2.8	10.0	9.8
Decile 10 (most advantaged)	1.5	10.4	10.2

Source: AIHW analysis of 2006 Census data.



Source: AIHW analysis of 2006 Census data.

Figure 2.09.1: Population distribution by SEIFA advantage/disadvantage decile, by Indigenous status, 2006

SEIFA by state/territory

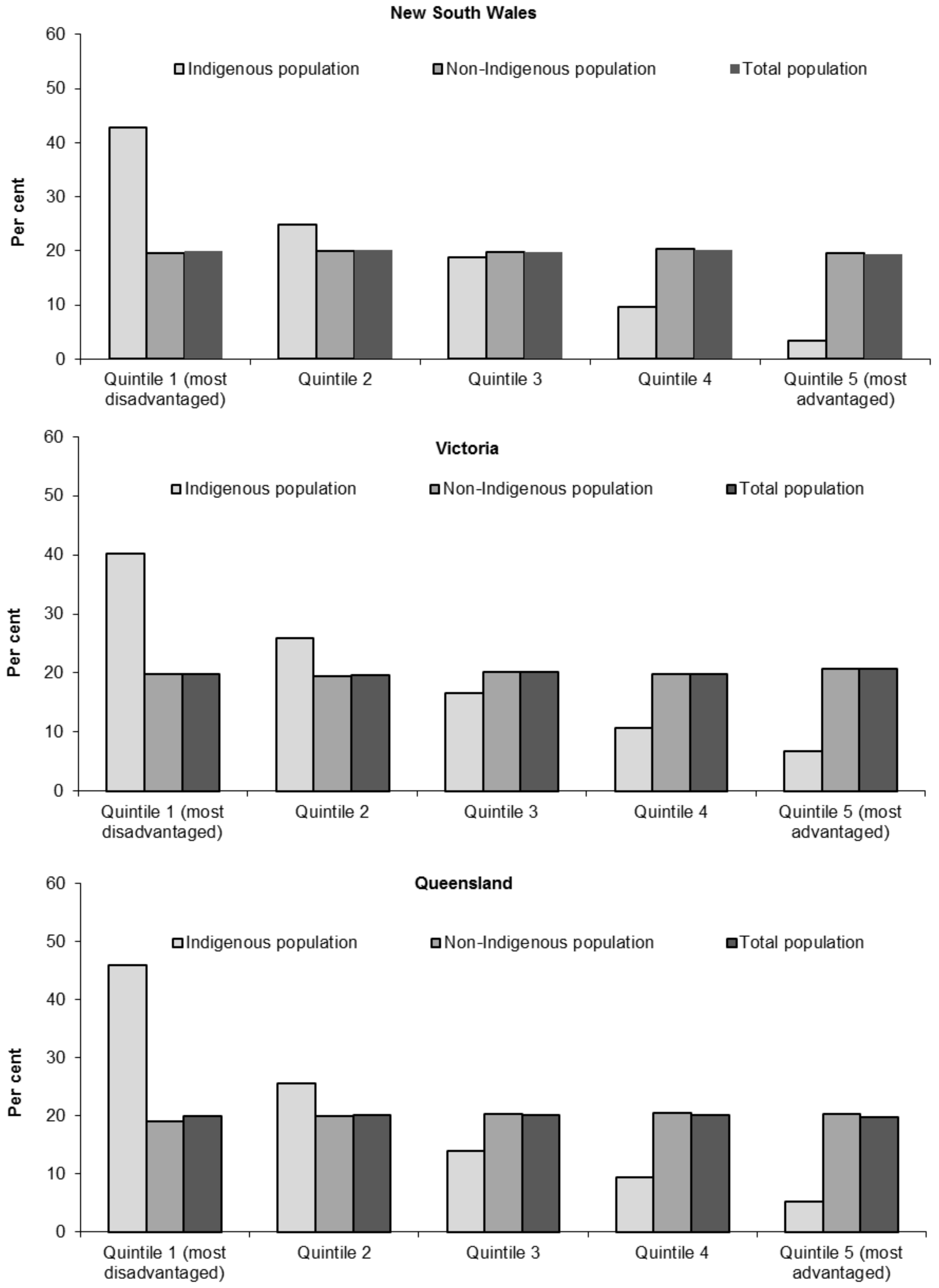
- In 2006, in all states and territories a greater proportion of the Indigenous population were in the most disadvantaged quintile compared with the non-Indigenous population. The Northern Territory had the highest proportion (58%) (Table 2.09.4; Figure 2.09.4) and the Australian Capital Territory had the lowest proportion (27%) of the Indigenous population in the most disadvantaged quintile (Table 2.09.3; Figure 2.09.3).
- New South Wales had the lowest proportion (3%) and the Australian Capital Territory had the highest proportion (10%) of the Indigenous population in the most advantaged quintile (Tables 2.09.2 and 2.09.4; Figures 2.09.2 and 2.09.3).

Table 2.09.2: Population distribution by SEIFA advantage/disadvantage quintiles, by Indigenous status, NSW, Vic & Qld, 2006

	Indigenous population	Non-Indigenous population	Total population
		New South Wales	
Quintile 1 (most disadvantaged)	42.9	19.5	20.1
Quintile 2	24.8	20.0	20.2
Quintile 3	18.9	19.7	19.7
Quintile 4	9.7	20.4	20.2
Quintile 5 (most advantaged)	3.4	19.7	19.3
		Victoria	
Quintile 1 (most disadvantaged)	40.1	19.7	19.9
Quintile 2	25.9	19.5	19.6
Quintile 3	16.7	20.2	20.2
Quintile 4	10.7	19.8	19.8
Quintile 5 (most advantaged)	6.7	20.7	20.6
		Queensland	
Quintile 1 (most disadvantaged)	45.9	19.0	19.9
Quintile 2	25.6	20.0	20.2
Quintile 3	14.0	20.4	20.2
Quintile 4	9.4	20.4	20.1
Quintile 5 (most advantaged)	5.3	20.3	19.8

Note: The population of some states/territories was unable to be split into exact quintiles based on the SEIFA index of advantage/disadvantage. In all except one of these cases, the best approximate quintiles were calculated. Approximate population quintiles based on the SEIFA index of advantage/disadvantage were unable to be calculated for Tasmania because of the population spread.

Source: AIHW analysis of 2006 Census data.



Source: AIHW analysis of 2006 Census data.

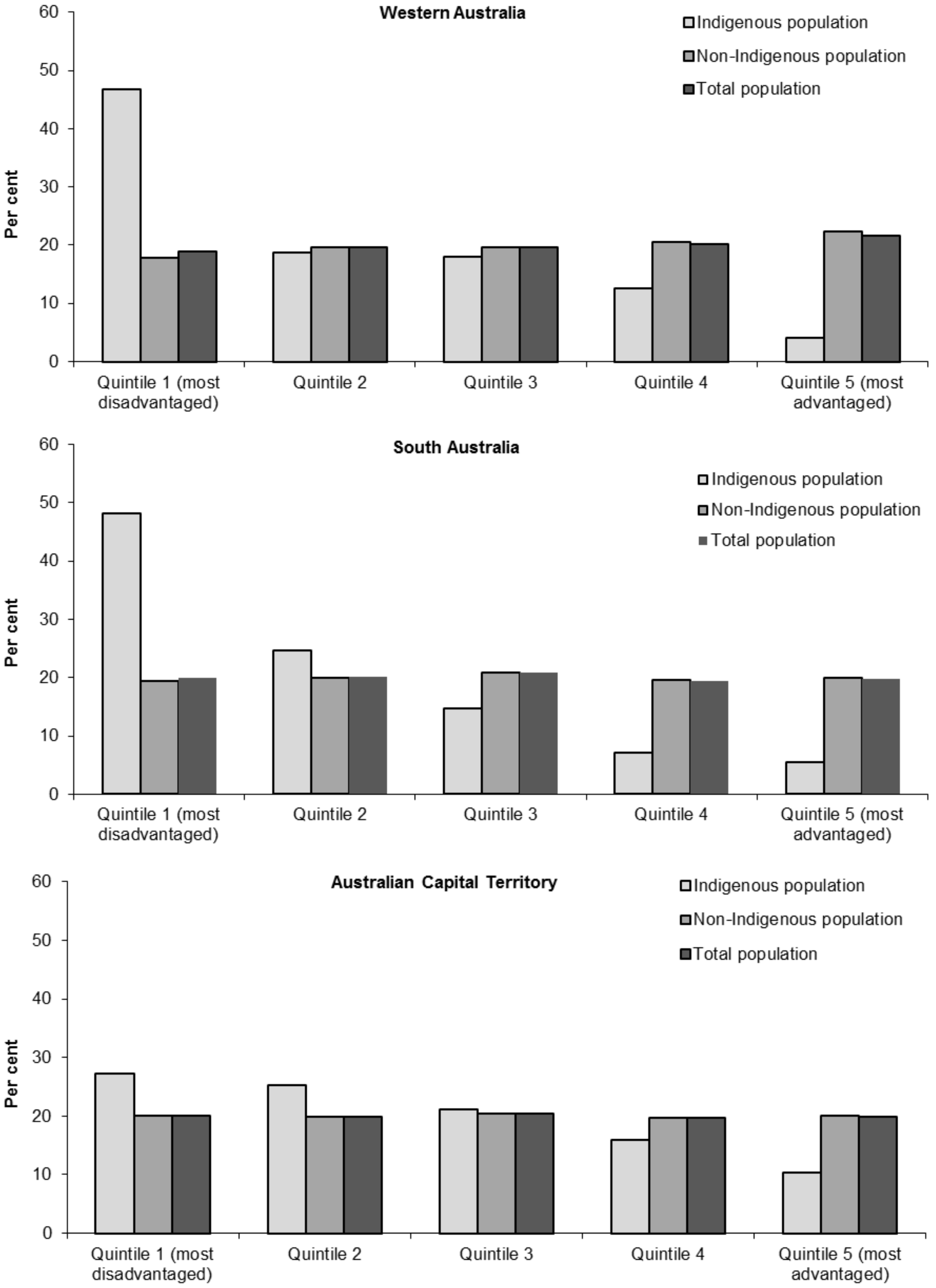
Figure 2.09.2: Population distribution by SEIFA advantage/disadvantage quintiles, by Indigenous status, NSW, Vic & Qld, 2006

Table 2.09.3: Population distribution by SEIFA advantage/disadvantage quintiles, by Indigenous status, WA, SA & ACT, 2006

	Indigenous population	Non-Indigenous population	Total population
		Western Australia	
Quintile 1 (most disadvantaged)	46.7	17.8	18.9
Quintile 2	18.7	19.7	19.7
Quintile 3	18.1	19.6	19.6
Quintile 4	12.5	20.5	20.2
Quintile 5 (most advantaged)	4.0	22.3	21.6
		South Australia	
Quintile 1 (most disadvantaged)	48.1	19.5	19.9
Quintile 2	24.6	20.0	20.1
Quintile 3	14.8	20.9	20.8
Quintile 4	7.1	19.7	19.4
Quintile 5 (most advantaged)	5.4	19.9	19.7
		ACT	
Quintile 1 (most disadvantaged)	27.2	20.0	20.1
Quintile 2	25.3	19.8	19.9
Quintile 3	21.1	20.4	20.4
Quintile 4	16.0	19.7	19.7
Quintile 5 (most advantaged)	10.4	20.0	19.9

Note: The population of some states/territories was unable to be split into exact quintiles based on the SEIFA index of advantage/disadvantage. In all except one of these cases, the best approximate quintiles were calculated. Approximate population quintiles based on the SEIFA Index of Advantage/Disadvantage were unable to be calculated for Tasmania because of the population spread.

Source: AIHW analysis of 2006 Census data.



Source: AIHW analysis of 2006 Census data.

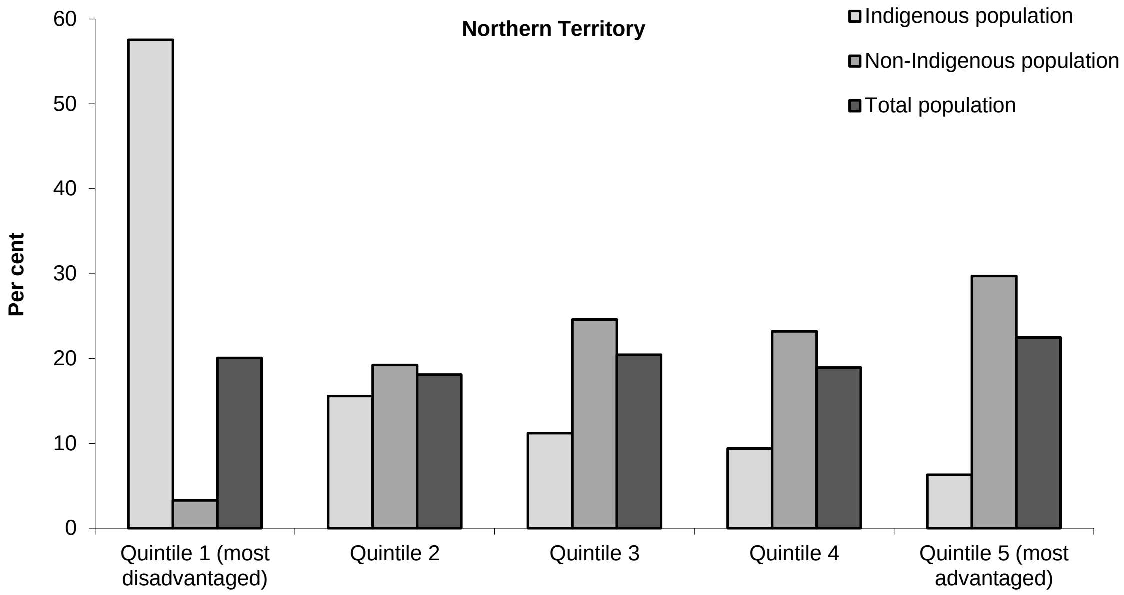
Figure 2.09.3: Population distribution by SEIFA advantage/disadvantage quintiles, by Indigenous status, WA, SA & ACT, 2006

Table 2.09.4: Population distribution by SEIFA advantage/disadvantage quintiles, by Indigenous status, NT, 2006

	Indigenous population	Non-Indigenous population	Total population
		Northern Territory	
Quintile 1 (most disadvantaged)	57.5	3.3	20.1
Quintile 2	15.6	19.2	18.1
Quintile 3	11.2	24.6	20.4
Quintile 4	9.4	23.2	18.9
Quintile 5 (most advantaged)	6.3	29.7	22.5

Note: The population of some states/territories was unable to be split into exact quintiles based on the SEIFA index of advantage/disadvantage. In all except one of these cases, the best approximate quintiles were calculated. Approximate population quintiles based on the SEIFA Index of Advantage/Disadvantage were unable to be calculated for Tasmania because of the population spread.

Source: AIHW analysis of 2006 Census data.



Source: AIHW analysis of 2006 Census data.

Figure 2.09.4: Population distribution by SEIFA advantage/disadvantage quintiles, by Indigenous status, NT, 2006

Data quality issues

Census of Population and Housing

The Census uses the National health data dictionary standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplained growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself; for example, whether people are counted more than once, or are under-counted (ABS 1996).

Although the Census data are adjusted for under-counts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

Socioeconomic Indexes for Areas (SEIFA)

There are a range of data items that can be included in an index on socioeconomic disadvantage and the Census does not collect all of the variables identified as being related to socioeconomic status. Some of the variables may be context-specific (e.g. a low mortgage in Sydney may be high in another city) and some are associated with age (e.g. income), yet the methodology does not allow for age-standardisation. This is particularly relevant in the context of this performance measure where we are comparing two populations that have different age structures.

Analysis of SEIFA results at small area levels has found that within any area there will be individuals and subpopulations with very different characteristics from the overall population of the area. When judgments are made about the individual or subpopulation based on the characteristics of the area, there is considerable potential for error (Baker & Adhikari 2007). This issue is particularly relevant for the Indigenous population, because they make up a small proportion of the population in most areas of Australia.

Kennedy and Firman (2004) found that the traditional approach to analysing SEIFA at an area level masks the socioeconomic status of Indigenous Australians who make up a small proportion of most areas. They found that stratifying SEIFA scores by Indigenous and non-Indigenous households in each area shows that Indigenous populations suffer a high level of social and economic disadvantage, regardless of whether they live in high or low socioeconomic areas.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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2.10 Community safety

Three parameters of community safety are considered for this measure:

1. **experience of personal injury or death as a result of violence**
2. **experience of threatened violence or a social setting in which violence is common**
3. **experience of a social setting where there is a lack of security and a perception of danger; for example, where crimes against property or disorderly behaviour are common**

Data sources

Data for this measure come from the National Aboriginal and Torres Strait Islander Social Survey, the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database, the AIHW National Mortality Database and the Australian Institute of Criminology (AIC) National Homicide Monitoring Program.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and ACT (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western

Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

National Homicide Monitoring Program

The Australian Institute of Criminology collects data on all homicides recorded in Australia under the National Homicide Monitoring Program (NHMP). The NHMP was established in 1990 and reports annually by financial year on all homicides recorded in Australia. The Indigenous status of the victim is based on police identification of 'racial appearance' and therefore will under-estimates the level of homicide involving Indigenous persons. Nevertheless, the NHMP includes useful information on the circumstances surrounding homicides involving Indigenous persons, such as motive for killing, and victim and perpetrator relationship.

Data analyses

Age-standardised rates and ratios have been used where appropriate as a measure of the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates among Indigenous people and those of other Australians, taking into account differences in age distributions.

Self-reported data

The 2008 NATSISS collected information on issues of community safety, being witness and victim to violence, physical and threatened violence, personal stressors experienced in the 12 months before the survey and neighbourhood community problems. This information is presented below, as well as (where appropriate) data from the NHS 2007–08 to provide a comparison with the non-Indigenous population.

Issues of community safety

- In the last 12 months prior to the surveys, 79% of Indigenous Australians and 49% of non-Indigenous Australians aged 18 years and over reported experiencing a stressor relating to community safety; 21% of Indigenous Australians and 11% of non-Indigenous Australians aged 18 years were victims of physical or threatened violence (Table 2.10.2).
- The stressor most likely to be experienced related to the death of a family member or close friend, which was reported by 40% of Indigenous people and 19% of non-Indigenous people. This made the greatest rate difference between Indigenous and non-Indigenous Australians.
- Twenty four per cent of Indigenous people and 6% of non-Indigenous people reported experiencing a stressor related to alcohol or drug-related problems, and 17% of Indigenous people and 9% of non-Indigenous people experienced a stressor related to mental illness.
- The greatest relative disparity of experienced stressors between Indigenous and non-Indigenous Australians was for stressors related to trouble with the police, for which Indigenous Australians reported at 5.6 times the rate for non-Indigenous, followed by alcohol or drug-related problems (4.2) and witness to violence (4.0) (Tables 2.10.2). The greatest absolute disparity was for death of a family member or friend (difference of 21%), followed by alcohol or drug-related problems (difference of 19%).

Issues of community safety and personal stressors by age

- In the last 12 months prior to the surveys, Indigenous Australians of all age groups over 18 years were more likely to have experienced a stressor related to community safety than non-Indigenous Australians. The rate ratios were similar across all age groups (1.5 to 1.7) (Table 2.10.1).
- For Indigenous Australians, the proportions experiencing stressors were similar for all age groups (ranged from 77% to 80%).

Issues of community safety and personal stressors by sex

- The proportions experiencing stressors for Indigenous males and females were similar (78% and 80%), while non-Indigenous females were more likely than non-Indigenous males to have experienced a stressor (53% compared to 46%) (Table 2.10.2).

Issues of community safety and personal stressors by state/territory

- In 2008, the proportions of Indigenous persons over 18 years of age reporting experiencing stressors in the 12 months prior to the surveys ranged from 72% in the Northern Territory to 83% in Victoria. For non-Indigenous Australians, the proportions ranged from 48% in New South Wales to 52% in the Australian Capital Territory (Table 2.10.3).

Issues of community safety and personal stressors by remoteness

- In 2008, the proportion of Indigenous Australians aged 18 years and over experiencing a stressor in the previous 12 months was highest in *Major cities* (82%) and lowest in *Very remote* areas (72%) (Table 2.10.4). For non-Indigenous Australians, the proportion was highest in *Inner regional* areas (51%) and lowest in *Outer regional* areas (47%).

Table 2.10.1: Issues of community safety, by Indigenous status and age group, persons aged 18 years and over, 2008

Type of stressors experienced in last 12 months	18–24			25–34			35–44			45–54			55+			Indig. total 18 years and over - Crude Rate	Total 18 years and over age-standardised$^{(a)}$			
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio		Indig.	Non-Indig.	Rate ratio	Rate difference
	%	%		%	%		%	%		%	%		%	%		%	%	%		
Victim of physical or threatened violence in last 12 months$^{(a)}$	32.9	24.0	1.4*	27.5	13.5	2.0*	25.0	10.7	2.0*	18.9	9.3	2.0*	8.3	4.4	1.9*	. .	20.5	10.8	1.9	9.7
Stressors experienced by individual, family members and/or close friends in last 12 months$^{(b)}$																				
Mental illness	14.2	9.1	1.6*	16.6	11.8	1.4*	20.8	10.5	2.0*	19.9	10.6	1.9*	14.0	4.8	2.9*	17.1	. .	. .	. .	. .
Death of family member or close friend	35.0	20.8	1.7*	42.5	18.7	2.3*	45.5	20.2	2.2*	38.3	19.7	1.9*	40.4	18.6	2.2*	40.4	. .	. .	. .	. .
Alcohol or drug-related problems	22.1	9.8	2.3*	27.1	8.6	3.2*	26.6	5.6	4.8*	26.2	5.9	4.4*	16.9	2.4	7.0*	24.2	. .	. .	. .	. .
Abuse or violent crime	6.2	3.7	1.7*	9.0	3.5	2.6*	9.4	2.6	3.6*	7.8	2.2	3.5*	4.4	1.1	4.2*	7.6	. .	. .	. .	. .
Witness to violence	8.5	3.7	2.3*	9.6	3.7	2.6*	10.9	2.8	3.9*	10.2	1.8	5.6*	4.5	0.8	6.0*	9.0	. .	. .	. .	. .
Trouble with the police	16.2	6.2	2.6*	16.6	3.4	4.8*	15.8	2.3	6.9*	14.4	2.5	5.8*	7.6	1.1	7.3*	14.7	. .	. .	. .	. .
One or more of the above stressors	*55.2*	*34.7*	*1.6**	*61.2*	*33.2*	*1.8**	*64.6*	*32.1*	*2.0**	*59.5*	*31.5*	*1.9**	*53.4*	*24.7*	*2.2**	*59.1*	. .	. .	. .	. .
You, a family member or friend spent time in gaol	13.2	. .	. .	14.5	. .	. .	13.8	. .	. .	12.3	. .	. .	8.3	. .	. .	12.8	. .	. .	. .	. .
Overcrowding at home	12.9	. .	. .	14.6	. .	. .	13.7	. .	. .	11.7	. .	. .	8.7	. .	. .	12.7	. .	. .	. .	. .
Treated badly / discrimination	7.9	. .	. .	10.3	. .	. .	13.5	. .	. .	12.7	. .	. .	6.0	. .	. .	10.2	. .	. .	. .	. .

(continued)

Table 2.10.1 (continued): Issues of community safety, by Indigenous status and age group, persons aged 18 years and over, 2008

Type of stressors experienced in last 12 months	18–24			25–34			35–44			45–54			55+			Indig. total 18 years and over - crude rate	Total 18 years and over age-standardised[(a)]			
	Indig.	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**		**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**
	%	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**	**%**		
Total experienced stressors[(c)(d)]	*79.2*	*51.8*	*1.5**	*80.4*	*53.0*	*1.5**	*79.1*	*51.5*	*1.5**	*79.1*	*48.8*	*1.6**	*76.5*	*44.6*	*1.7**	*79.0*	. .	. .	. .	. .
No stressors reported	20.8	48.2	0.4*	19.6	47.0	0.4*	20.9	48.5	0.4*	20.9	51.2	0.4*	23.5	55.4	0.4*	21.0	. .	. .	. .	. .
Total	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**. .**	**. .**	**. .**	**. .**

*Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories

(a) For this variable only, non-Indigenous comparison has been sourced from General Social Survey 06 (GSS06). Totals are age-standardised, as this measure was found to be associated with age.

(b) In the 2008 NATSISS, Indigenous persons were asked about 24 separate stressors, and in the 2007–08 NHS, non-Indigenous persons were asked about 14 separate stressors.

(c) Sum of components may exceed total, as persons may have reported more than one type of stressor.

(d) Includes all other types of stressors not listed here

Note: Excludes stressors not stated

Sources: ABS analysis of NATSISS 2008 and NHS 07–08.

Table 2.10.2: Issues of community safety, persons aged 18 years and over, by Indigenous status and sex, 2008

	Males				Females				Persons			
	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Non-Indig.	Rate ratio	Rate difference
	%	%		%	%	%		%	%	%		%
Victim of physical or threatened violence in last 12 months[(a)]	20.8	13.4	1.6*	7.4	20.4	8.2	2.5*	12.2	20.5	10.8	1.9*	9.7
Stressors experienced by individual, family members and/or close friends in last 12 months[(b)]												
Mental illness	15.3	7.0	2.2*	8.3	18.8	10.5	1.8*	8.3	17.1	8.8	1.9*	8.3
Death of family member or close friend	38.4	17.8	2.2*	20.6	42.2	20.9	2.0*	21.3	40.4	19.4	2.1*	21.0
Alcohol or drug-related problems	24.4	4.8	5.1*	19.6	24.0	6.6	3.6*	17.4	24.2	5.7	4.2*	18.5
Abuse or violent crime	6.7	1.9	3.5*	4.8	8.4	2.8	3.0*	5.6	7.6	2.3	3.2*	5.3
Witness to violence	8.4	2.1	4.0*	6.3	9.5	2.3	4.0*	7.2	9.0	2.2	4.0*	6.8
Trouble with the police	16.6	2.8	5.9*	13.8	12.9	2.5	5.2*	10.4	14.7	2.6	5.6*	12.1
One or more of the above stressors	*57.2*	*27.3*	*2.1**	*29.9*	*60.8*	*32.9*	*1.8**	*27.9*	*59.1*	*30.2*	*2**	*28.9*
You, a family member or friend spent time in gaol	12.7	. .	. .	. .	12.8	. .	. .	. .	12.8	. .	. .	. .
Overcrowding at home	10.3	. .	. .	. .	14.8	. .	. .	. .	12.7	. .	. .	. .
Treated badly / discrimination	10.2	. .	. .	. .	10.2	. .	. .	. .	10.2	. .	. .	. .
Total experienced stressors[(c)(d)]	*77.8*	*45.5*	*1.7**	*32.3*	*80.2*	*52.6*	*1.5**	*27.6*	*79.0*	*49.1*	*1.6**	*29.9*
No stressors reported	22.2	54.5	0.4*	32.3	19.8	47.4	0.5*	27.6	21.0	50.8	0.4*	29.8
Total	**100.0**	**100.0**	. .	. .	**100.0**	**100.0**	. .	. .	**100.0**	**100.0**	. .	. .

* Differences between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

(a) For this variable only, non-Indigenous comparison has been sourced from General Social Survey 06 (GSS06). These figures have been age-standardised, as this measure was found to be associated with age.

(b) In the 2008 NATSISS, Indigenous persons were asked about 24 separate stressors, and in the 2007–08 NHS, non-Indigenous persons were asked about 14 separate stressors.

(c) Sum of components may exceed total, as persons may have reported more than one type of stressor.

(d) Includes all other types of stressors not listed here.

Note: Excludes stressors not stated.

Sources: NATSISS 2008 and NHS 07–08.

Table 2.10.3: Issues of community safety, persons aged 18 years and over, by Indigenous status and state/territory, 2008

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Australia	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
									Per cent									
Victim of physical or threatened violence in last 12 months[a]	22.0*	9.3*	24.3*	9.7*	16.8	13.5	23.9*	12.9*	20.6*	11.7*	22.9*	10.1*	23.2*	9.4*	18.3	16.9	20.5*	10.8*
Stressors experienced by individual, family members and/or close friends in last 12 months[b]																		
Mental illness	18.0*	8.3*	26.3*	8.4*	16.5*	10.0*	15.6*	8.5*	23.2*	9.5*	15.8*	8.4*	31.4*	10.4*	10.1*	4.4[c]	17.1*	8.8*
Death of family member or close friend	37.1*	19.5*	38.1*	18.6*	42.1*	20.2*	47.8*	19.8*	41.9*	18.6*	29.2*	23.2*	46.2*	18.4*	40.2*	12.3[d]	40.4*	19.4*
Alcohol or drug-related problems	23.4*	5.1*	27.5*	5.1*	23.0*	6.6*	31.1*	7.6*	24.8*	5.2*	13.3*	5.9*	30.9*	7.3*	22.1*	9.3[d]	24.2*	5.7*
Abuse or violent crime	7.4*	2.0*	10.9*	2.1*	5.8*	2.6*	10.9*	3.3*	7.9*	2.5*	6.2*	3.2*	11.2*	2.9*	6.7	4.5[c]	7.6*	2.4*
Witness to violence	9.0*	1.6*	11.5*	2.0*	6.9*	2.6*	11.7*	3.4*	8.9*	2.8*	7.1*	2.0*	12.0*	2.2*	9.4	9.09[d]	9.0*	2.2*
Trouble with the police	14.5*	1.9*	18.7*	2.5*	12.9*	3.4*	17.7*	3.3*	16.0*	3.0*	9.8*	2.8*	18.0*	3.4*	14.0*	4.1[c]	14.7*	2.6*
One or more of the above stressors	*57.4**	*29.2**	*62.4**	*28.7**	*61.0**	*32.5**	*63.7**	*31.1**	*64.5*	*30.5**	*47.3**	*33.3**	*66.4**	*32.8**	*53.1**	*31.9**	*59.1**	*30.2**
You, a family member or friend spent time in gaol	13.1	. .	13.4	. .	10.9	. .	17.1	. .	12.9	. .	9.0	. .	16.8	. .	12.0	. .	12.8	. .
Overcrowding at home	9.8	. .	12.7	. .	14.0	. .	13.5	. .	11.8	. .	5.6[d]	. .	17.1[d]	. .	17.5	. .	12.7	. .
Treated badly / discrimination	9.3	. .	13.7	. .	9.6	. .	14.1	. .	13.0	. .	3.6[d]	. .	18.6	. .	7.6	. .	10.2	. .
Total experienced stressors[e][f]	*79.3**	*47.9**	*83.4**	*48.4**	*80.4**	*51.2**	*80.5**	*49.4**	*80.8**	*50.2**	*76.3**	*50.5**	*80.8**	*52.0**	*71.7**	*48.7**	*79.0**	*49.1**
No stressors reported	20.7*	52.1*	16.6*	51.6*	19.7*	48.8*	19.5*	50.6*	19.2*	49.8*	23.7*	49.6*	19.2*	48.0*	28.3*	51.3*	21.0*	50.9*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(continued)

Table 2.10.3 (continued): Issues of community safety, persons aged 18 years and over, by Indigenous status and state/territory, 2008

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

(a) For this variable only, non-Indigenous comparison has been sourced from General Social Survey 06 (GSS06). These figures have been age-standardised, as this measure was found to be associated with age.
(b) In the 2008 NATSISS, Indigenous persons were asked about 24 separate stressors, and in the 2007–08 NHS, non-Indigenous persons were asked about 14 separate stressors.
(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.
(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(e) Sum of components may exceed total, as persons may have reported more than one type of stressor.
(f) Includes all other types of stressors not listed here.

Note: Excludes stressors not stated.

Sources: NATSISS 2008 and NHS 07–08.

Table 2.10.4: Issues of community safety, persons aged 18 years and over, by Indigenous status and remoteness, 2008

	Major cities			Inner regional			Outer regional			*Total non-remote*			Remote			Very remote			*Total remote*			Total		
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio
	%	%		%	%		%	%		%	%		%	%		%	%		%	%		%	%	
Victim of physical or threatened violence in last 12 months(a)(b)	26.1	. .	. .	24.4	. .	. .	24.3	. .	. .	*25.1*	. .	. .	24.1	. .	. .	19.4	. .	. .	*21.1*	. .	. .	24.1	. .	. .
Stressors experienced by individual, family members and/or close friends in last 12 months																								
Mental illness	22.2	8.9	2.5	17.8	9.8	1.8	17.8	5.7	3.1	*19.7*	*8.8*	*2.2*	12.6	11.1	1.1	8.2	. .	. .	*9.8*	. .	. .	17.1	8.8	1.9
Death of family member or close friend	40.2	18.8	2.1	34.7	20.8	1.7	40.6	20.8	2.0	*38.9*	*19.4*	*2.0*	47.6	17.2	2.8	43.5	. .	. .	*45.0*	. .	. .	40.4	19.4	2.1
Alcohol or drug-related problems	26.1	6.3	4.1	21.7	4.3	5.0	22.6	4.7	4.8	*23.9*	*5.7*	*4.2*	33.6	6.1(c)	5.5	20.5	. .	. .	*25.2*	. .	. .	24.2	5.7	4.2
Abuse or violent crime	9.2	2.1	4.4	6.7	2.8	2.4	7.2	3.2	2.3	*7.9*	*2.4*	*3.3*	8.3	1.9(d)	4.4	5.7	. .	. .	*6.7*	. .	. .	7.6	2.4	3.2
Witness to violence	10.3	2.2	4.7	7.7	2.3	3.3	8.1	2.3	3.5	*9.0*	*2.2*	*4.1*	11.9	4.4(c)	2.7	7.4	. .	. .	*9.0*	. .	. .	9.0	2.2	4.1
Trouble with the police	15.1	2.6	5.8	15.0	2.8	5.4	14.2	2.4	5.9	*14.8*	*2.6*	*5.7*	17.3	2.7(c)	6.5	12.6	. .	. .	*14.3*	. .	. .	14.7	2.6	5.7
One or more of the above stressors	*61.9*	*29.6*	*2.1*	*54.8*	*31.7*	*1.7*	*60.0*	*30.5*	*2.0*	*59.4*	*30.2*	*2.0*	*65.8*	*30.6*	*2.2*	*54.0*	. .	. .	*58.2*	. .	. .	*59.1*	*30.2*	*2.0*

(continued)

Table 2.10.4 (continued): Issues of community safety, persons aged 18 years and over, by Indigenous status and remoteness, 2008

	Major cities			**Inner regional**			**Outer regional**			***Total non-remote***			**Remote**			**Very remote**			***Total remote***			**Total**		
	Indig.	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**	***Indig.***	***Non-Indig.***	***Rate ratio***	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**	***Indig.***	***Non-Indig.***	***Rate ratio***	**Indig.**	**Non-Indig.**	**Rate ratio**
	%	**%**		**%**	**%**		**%**	**%**		***%***	***%***		**%**	**%**		**%**	**%**		***%***	***%***		**%**	**%**	
Member of family sent to jail/currently in jail	12.9	. .	. .	12.9	. .	. .	12.3	. .	. .	*12.7*	. .	. .	14.5	. .	. .	12.0	. .	. .	*12.9*	. .	. .	12.8	. .	. .
Overcrowding at home	12.6	. .	. .	9.6	. .	. .	10.8	. .	. .	*11.3*	. .	. .	14.5	. .	. .	18.0	. .	. .	*16.7*	. .	. .	12.7	. .	. .
Discrimination/racism	12.6	. .	. .	10.1	. .	. .	10.5	. .	. .	*11.3*	. .	. .	9.0	. .	. .	6.0	. .	. .	*7.1*	. .	. .	10.2	. .	. .
Total experienced stressors[d][e]	*81.9*	*48.8*	*1.7*	*78.9*	*50.8*	*1.6*	*79.7*	*47.2*	*1.7*	*80.4*	*49.1*	*1.6*	*81.3*	*50.4*	*1.6*	*71.6*	. .	. .	*75.1*	. .	. .	*79.1*	*49.1*	*1.6*
No stressors reported	18.1	51.2	0.4	21.1	49.2	0.4	20.3	52.8	0.4	*19.6*	*50.9*	*0.4*	18.7	49.6	0.4	28.4	. .	. .	*24.9*	. .	. .	21.0	50.9	0.4
Total	**100.0**	**100.0**	. .	**100.0**	**100.0**	. .	**100.0**	**100.0**	. .	***100.0***	***100.0***	. .	**100.0**	**100.0**	. .	**100.0**	. .	. .	***100.0***	. .	. .	**100.0**	**100.0**	. .

(a) In the 2008 NATSISS, Indigenous persons were asked about 24 separate stressors, and in the 2007–08 NHS, non-Indigenous persons were asked about 14 separate stressors.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Sum of components may be more than total, as persons may have reported more than one type of stressor.

(e) Includes all other types of stressors not listed here.

Note: Excludes stressors not stated.

Sources: NATSISS 2008 and NHS 07–08.

Victim of physical or threatened violence

- In 2008, 25% of Indigenous Australians aged 15 years and over reported they were a victim of physical or threatened violence in the previous 12 months. This is similar to the proportion of Indigenous Australians aged 15 years and over who reported they were a victim of physical or threatened violence in the previous 12 months in 2002 (24%) (Table 2.10.5).

Victim of physical or threatened violence, by sex

- In 2008, the proportion of Indigenous males aged 15 years and over who reported they were a victim of physical or threatened violence was similar to the proportion of Indigenous females (24% and 25% respectively).

Table 2.10.5: Proportion of Indigenous persons aged 15 years and over reporting they were victims of physical or threatened violence in previous 12 months, by sex, 2002 and 2008

	Males	Females	Total
2002	25.7	23.1	24.3
2008	24.3	24.7	24.5

Note: A change in methodology between 2002 and 2008 may affect comparison of this data.

Source: ABS and AIHW analysis of 2002 NATSISS and 2008 NATSISS.

Victim of physical or threatened violence, by remoteness

- In 2008, the proportion of Indigenous Australians aged 15 years and over who reported they were a victim of physical or threatened violence in the previous 12 months varied by remoteness. The highest proportion was in *Major cities* (26%) and the lowest proportion was in *Very remote* areas (20%) (Table 2.10.6).

Table 2.10.6: Proportion of Indigenous persons aged 15 years and over reporting they were a victim of physical or threatened violence in previous 12 months[(a)], by remoteness, 2008

	Per cent
Major cities	26.3
Inner regional	24.2
Outer regional	25.3
Total non-remote	*25.4*
Remote	25.2
Very remote	20.1
Total remote	*21.9*
Australia	**24.6**

(a) Excludes not stated responses.

Source: 2008 NATSISS.

Victim of physical or threatened violence, by selected population characteristics

- In 2008, Indigenous Australians with a disability or long-term health condition were more likely to have been a victim of physical or threatened violence than those with no disability (29% compared with 21%) (Table 2.10.7).
- Indigenous persons aged 15 years and over in the first quintile of disparity index (most disadvantaged) were more like to have been a victim of physical or threated violence than those in the fifth quintile (least disadvantaged) (24% compared to 19%). House renters were more like to have been a victim of physical or threated violence than house owners (27% compared to 19%).
- Nearly 40% of Indigenous persons aged 15 years and over who were removed from natural family were a victim of physical or threated violence in the 12 months prior to the survey.

Table 2.10.7: Victim of physical or threatened violence, by selected health and population characteristics, Indigenous persons aged 15 years and over, 2008

	Victim of physical or threatened violence	Not victim of physical or threatened violence	Total[(a)]
	Per cent		
Self-assessed health status			
Excellent/very good	23.2	76.8	120,032
Good	26.1	73.9	99,889
Fair/poor	25.0	75.0	70,825
Disability or long-term health condition			
Has disability or long-term health condition	28.5	71.5	152,245
No disability or long-term condition	20.6	79.4	138,501
Household income			
1st quintile (lowest income)	25.0	75.0	113,690
5th quintile (highest income)	25.3	74.7	11,265
Total excluding income not stated	*24.0*	*76.0*	*231,373*
Index of disparity			
1st quintile (most disadvantaged)	24.3	75.7	143,296
5th quintile (least disadvantaged)	18.6	81.4	10,749
Total excluding not stated	*24.7*	*75.3*	*282,433*
Financial stress—unable to raise $2,000 within a week for something important	27.3	72.7	137,067
Location			
Remote	21.9	78.1	75,063
Non-remote	25.4	74.6	215,683
Law and justice			
Used legal services in last 12 months	44.3	55.7	54,903
Arrested by police in last 5 years	49.2	50.8	45,790
Incarcerated in last 5 years	41.8	58.2	10,306
Housing			
Owner/purchaser[(b)]	18.8	81.2	84,389
Renter	27.0	73.0	200,134
Dwelling has major structural problems	29.1	70.9	82,131
Dwelling requires additional bedrooms[(c)]	24.9	75.1	71,638
Family and culture			
Participated in sport/social/community activities in last 3 months	25.0	75.0	257,038
Able to get support in time of crisis from someone outside the household	24.6	75.4	259,503
Person removed from natural family	38.1	61.9	24,556
Relative(s) removed from natural family	31.0	69.0	116,711

(continued)

Table 2.10.7 (continued): Victim of physical or threatened violence, by selected health and population characteristics, Indigenous persons aged 15 years and over, 2008

	Victim of physical or threatened violence	Not victim of physical or threatened violence	Total[(a)]
	Per cent		
Currently lives in homelands	24.9	75.1	74,612
Participated in cultural activities in last 12mths	27.6	72.4	183,392
Involved in events, ceremonies or organisations in last 12 months	26.5	73.5	174,995

(a) Excludes persons who refused to answer the questions about victimisation.

(b) Includes participants in rent/buy schemes.

(c) Based on Canadian National Occupancy Standard for housing appropriateness.

Source: 2008 NATSISS.

Victim of and witness to violence by selected health and population characteristics

Tables 2.10.8, 2.10.9 and 2.10.10 present data on whether Indigenous persons were a victim of, or were a witness to violence by selected health and population characteristics. Table 2.10.8 and 2.10.9 both present data for Indigenous and non-Indigenous Australians however percentages are calculated using different totals as the denominator. Proportions in Table 2.10.8 are calculated within a column using the total of the rows as the denominator; while proportions in Table 2.10.9 are calculated within a row using the total of the columns as the denominator. Table 2.10.10 presents data for Indigenous persons only and compares those who witness violence to those that did not.

- In 2008, of the Indigenous Australians aged 18 years and over who reported that they or their family members or close friends witnessed violence, 71% had a disability or long-term health condition, 54% were in the first (lowest) quintile of the index of disparity, 56% were under financial stress and 74% lived in non-remote areas (Table 2.10.8).
- Indigenous Australians who had witnessed violence were twice as likely to report fair/poor health as non-Indigenous persons who had witnessed violence (Table 2.10.8).
- Indigenous persons with a disability or long-term health condition were more likely to have witnessed violence than those who did not have a disability or long-term health condition (12% compared to 6%). Indigenous renters were more likely to have witnessed violence that Indigenous home owners (10% compared to 7%) (Table 2.10.9).
- In 2008, Indigenous persons aged 18 years and over who witnessed violence were more likely than Indigenous persons of the same age who did not witness violence to report fair or poor health, be in the lowest income quintile, live in remote areas, be arrested by the police in the last 5 years and to have been removed or had a relative removed from their natural family (Table 2.10.10).

Table 2.10.8: Victim of and witness to violence, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

	Victim of physical or threatened violence	Witness to violence[(a)]						
	Indigenous	Indigenous	Non-Indigenous	Rate difference[(b)]	Indigenous age-standardised	Non-Indigenous age-standardised	Rate difference	Rate ratio
	Proportion who were victim of physical or threatened violence	Proportion who reported that they, their family members or close friends, were a witness to violence						
Self-assessed health status								
Excellent/good	38.9	32.0	50.0	18.0	27.6	49.6	22.0	0.6
Good	36.4	33.4	33.6	0.2	32.3	30.5	–1.8	1.1
Fair/poor	24.6	34.6	16.4	–18.2	40.1	19.9	–20.2	2.0
Disability or long-term health condition[(c)]								
Has disability or long-term health condition	60.1	71.2	51.7	–19.5	78.1	55.5	–22.6	1.4
No disability or long-term condition	39.9	28.8	48.3	19.5	21.9	45.5	23.6	0.5
Household income								
1st quintile	51.2	54.1	13.1	–41.0	. .	. .	. .	4.1
5th quintile	5.1	5.1	22.6	17.5	. .	. .	. .	0.2
Index of disparity								
1st quintile	50.6	51.9	22.0	–29.9	. .	. .	. .	2.4
5th quintile	2.6[(d)]	4.4	15.5	11.1	. .	. .	. .	0.3
Financial stress—unable to raise $2,000 within a week for something important[(e)]	57.2	55.7	. .	. .	. .	. .	. .	. .

(continued)

Table 2.10.8 (continued): Victim of and witness to violence, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

	Victim of physical or threatened violence	Witness to violence(a)						
	Indigenous	Indigenous	Non-Indigenous	Rate difference(b)	Indigenous age-standardised	Non-Indigenous age-standardised	Rate difference	Rate ratio
	Proportion who were victim of physical or threatened violence	Proportion who reported that they, their family members or close friends, were a witness to violence						
Location								
Remote	22.7	25.9	. .	. .	. .	. .	. .	. .
Non-remote	77.3	74.1	. .	. .	. .	. .	. .	. .
Law and justice								
Used legal services in last 12 months	34.9	31.9	. .	. .	. .	. .	. .	. .
Arrested by police in last 5 years	32.2	24.6	. .	. .	. .	. .	. .	. .
Incarcerated in last 5 years	6.2	5.3(c)	. .	. .	. .	. .	. .	. .
Housing(e)								
Owner	21.6	22.8	44.9	22.1	. .	. .	. .	0.5
Renter(f)	76.6	75.4	47.7	–27.7	. .	. .	. .	1.6
Dwelling has structural problems	33.1	36.2	. .	. .	. .	. .	. .	. .
Dwelling requires additional bedrooms(g)	24.3	24.2	. .	. .	. .	. .	. .	. .
Family and culture			**. .**	**. .**	**. .**	**. .**	**. .**	**. .**
Involved in sport/social/community activities in last 3 months	89.8	93.6	. .	. .	. .	. .	. .	. .
Able to get support in time of crisis from someone outside the household	89.2	86.0	. .	. .	. .	. .	. .	. .
Person removed from natural family	13.0	14.9	. .	. .	. .	. .	. .	. .

(continued)

Table 2.10.8 (continued): Victim of and witness to violence, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

	Victim of physical or threatened violence	Witness to violence[(a)]						
	Indigenous	Indigenous	Non-Indigenous	Rate difference[(b)]	Indigenous age-standardised	Non-Indigenous age-standardised	Rate difference	Rate ratio
	Proportion who were victim of physical or threatened violence	Proportion who reported that they, their family members or close friends, were a witness to violence						
Relative removed from natural family	58.1	71.3	. .	. .	. .	. .	. .	. .
Currently lives in homelands	25.6	25.4	. .	. .	. .	. .	. .	. .
Involved in events, ceremonies or organisations in last 12 months[(h)]	68.7	79.6	. .	. .	. .	. .	. .	. .
Participated in cultural activities in last 12 months[(i)]	67.4	75.4	. .	. .	. .	. .	. .	. .
Total	**100.0**	**100.0**	**100.0**	**. .**	**. .**	**. .**	**. .**	**. .**
Total number	**69,909**	**26,089**	**347,355**	**. .**	**. .**	**. .**	**. .**	**. .**

(a) Respondent, their family members or close friends may have been a witness to violence.

(b) Rate difference = Indigenous – non-Indigenous.

(c) Non-remote only.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Information provided by a household spokesperson on behalf of household members.

(f) Includes boarders.

(g) Based on Canadian National Occupancy Standard for housing appropriateness.

(h) Includes NAIDOC week activities, sports carnivals, arts/craft festivals and funerals/sorry business.

(i) Includes fishing, hunting, gathering bush foods, making art/craft, performing music/dance/theatre, and storytelling.

Source: 2008 NATSISS and 2007–08 NHS.

Table 2.10.9: Witness to violence, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

	Witness to violence[(a)]						
	Indigenous	Non-Indigenous	Rate difference[(b)]	Indigenous age-standardised	Non-Indigenous age-standardised	Rate difference	Rate ratio
	Proportion who reported that they, their family members or close friends, were a witness to violence						
Self-assessed health status							
Excellent/good	7.0	2.0	5.0	6.5	1.9	4.6	3.3
Good	8.7	2.6	6.1	7.8	2.7	5.1	2.8
Fair/poor	12.7	2.4	10.3	12.8	3.5	9.3	3.7
Disability or long-term health condition[(c)]							
Has disability or long-term health condition	12.0	2.7	9.3	11.1	3.6	7.5	3.1
No disability or long-term condition	5.5	1.9	3.6	4.5	1.7	2.8	2.7
Household income							
1st quintile	10.1	1.8	8.3	. .	. .	. .	5.5
5th quintile	9.7	2.4	7.3	. .	. .	. .	4.0
Index of disparity							
1st quintile	9.2	2.9	6.3	. .	. .	. .	3.1
5th quintile	10.3	1.6	8.7	. .	. .	. .	6.6
Financial stress—unable to raise $2,000 within a week for something important[(d)]	9.5	. .	. .	. .	. .	. .	. .
Location							
Remote	9.0	. .	. .	. .	. .	. .	. .
Non-remote	9.0	. .	. .	. .	. .	. .	. .

(continued)

Table 2.10.9 (continued): Witness to violence, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

	Witness to violence[(a)]						
	Indigenous	Non-Indigenous	Rate difference[(b)]	Indigenous age-standardised	Non-Indigenous age-standardised	Rate difference	Rate ratio
	Proportion who reported that they, their family members or close friends, were a witness to violence						
Law and justice							
Used legal services in last 12 months	15.2	. .	. .	. .	. .	. .	. .
Arrested by police in last 5 years	14.0	. .	. .	. .	. .	. .	. .
Incarcerated in last 5 years	13.4[(e)]	. .	. .	. .	. .	. .	. .
Housing[(d)]							
Owner	7.0	1.5	5.5	. .	. .	. .	4.6
Renter[(f)]	9.8	3.7	6.1	. .	. .	. .	2.6
Dwelling has structural problems	11.5	. .	. .	. .	. .	. .	. .
Dwelling requires additional bedrooms[(g)]	8.8	. .	. .	. .	. .	. .	. .
Family and culture							
Involved in sport/social/community activities in last 3 months	9.5	. .	. .	. .	. .	. .	. .
Able to get support in time of crisis from someone outside the household	8.6	. .	. .	. .	. .	. .	. .
Person removed from natural family	15.5	. .	. .	. .	. .	. .	. .
Relative removed from natural family	14.5	. .	. .	. .	. .	. .	. .
Currently lives in homelands	8.9	. .	. .	. .	. .	. .	. .
Involved in events, ceremonies or organisations in last 12 months[(h)]	11.3	. .	. .	. .	. .	. .	. .
Participated in cultural activities in last 12 months[(i)]	11.2	. .	. .	. .	. .	. .	. .

(continued)

Table 2.10.9 (continued): Witness to violence, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

(a) Respondent, their family members or close friends may have been a witness to violence.

(b) Rate difference = Indigenous - non-Indigenous.

(c) Non-remote only.

(d) Information provided by a household spokesperson on behalf of household members.

(e) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(f) Includes boarders.

(g) Based on Canadian National Occupancy Standard for housing appropriateness.

(h) Includes NAIDOC week activities, sports carnivals, arts/craft festivals and funerals/sorry business.

(i) Includes fishing, hunting, gathering bush foods, making art/craft, performing music/dance/theatre, and storytelling.

Source: 2008 NATSISS and 2007–08 NHS.

Table 2.10.10: Witness to violence[(a)], by selected health and population characteristics, Indigenous persons aged 18 years and over, 2008

	Was a witness to violence	Was not a witness to violence	Total
Self-assessed health status		Per cent	
Excellent/good	30.8*	41.7*	41.3
Good	32.4	34.4	34.4
Fair/poor	36.8*	23.9*	24.4
Disability or long-term health condition			
Has disability or long-term health condition	74.9*	51.5*	52.4
No disability or long-term condition	25.1*	48.5*	47.6
Household income			
1st quintile	63.7*	48.5*	49.1
5th quintile	6.4(b)	4.8	4.9
Index of disparity			
1st quintile	51.7	50.7	50.7
5th quintile	2.6(c)	3.9	3.8
Financial stress—unable to raise $2,000 within a week for something important(d)	57.9	50.1	50.4
Location			
Remote	20.9*	26.0*	25.8
Non-remote	79.1	74.0	74.2
Law and justice			
Used legal services in last 12 months	34.2*	18.3*	18.9
Arrested by police in last 5 years	30.5*	15.2*	15.8
Incarcerated in last 5 years	6.0(b)	3.5	3.5
Housing(d)			
Owner	23.8(b)	29.4	29.2
Renter	74.3	69.0	69.2
Dwelling has structural problems	36.1	28.1	28.4
Dwelling requires additional bedrooms(e)	30.0	24.6	24.8
Family and culture			
Participated in sport/social/community activities in last 3 months	91.4	88.3	88.4
Had undertaken voluntary work in last 12 months(f)	n.a.	n.a.	n.a.
Able to get support in time of crisis from someone outside the household	82.9	89.5	89.3
Person removed from natural family	19.9(b)*	8.2*	8.6
Relative removed from natural family	74.5*	45*	46.1
Currently lives in homelands	21.4	25.8	25.7
Involved in events, ceremonies or organisations in last 12 months(g)	75.0*	62.6*	63.1
Participated in cultural activities in last 12 months(h)	71.5*	59.7*	60.2
Total	**100.0**	**100.0**	**100.0**

(continued)

Table 2.10.10 (continued): Witness to violence[(a)], by selected health and population characteristics, Indigenous persons aged 18 years and over, 2008

* Differences between rates for Indigenous persons who had witnessed violence in the last 12 months, and those who hadn't, are statistically significant at the $p<0.05$ level for these categories.

(a) Respondent reported having personally witnessed violence in the last 12 months.
(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.
(d) Information obtained from a household spokesperson on behalf of household members.
(e) Based on Canadian National Occupancy Standard for housing appropriateness.
(f) This item not available from the 2008 NATSISS.
(g) Includes NAIDOC week activities, sports carnivals, arts/craft festivals and funerals/sorry business.
(h) Includes fishing, hunting, gathering bush foods, making art/craft, performing music/dance/theatre, and storytelling.

Source: 2008 NATSISS and 2007–08 NHS.

Neighbourhood/community problems

In the 2008 National Aboriginal and Torres Strait Islanders Social Survey, Indigenous Australians aged 15 years and over were asked if they thought that there were any problems as listed in Tables 2.10.11 to 2.10.14 in the community or neighbourhood. Tables 2.10.11 to 2.10.14 present for each listed problem the proportions of Indigenous population aged 15 years and over who reported that their community/neighbourhood had the problem by age group, sex, state/territory, and remoteness.

- In 2008, 74% of Indigenous Australians aged 15 years and over thought that neighbourhood or community problems were present in their neighbourhood/community (Table 2.10.11).
- Dangerous or noisy driving was the most common neighbourhood/community problem reported (46%), followed by theft (43%). Problems involving youth, vandalism/graffiti/damage to property, alcohol and illegal drugs were also common problems reported.

Neighbourhood/community problems by age

- The proportion of Indigenous Australians who thought that neighbourhood/community problems existed was lowest among those aged 55 years and over (68%) and highest among those aged 35–44 (78%) (Table 2.10.11).

Table 2.10.11: Neighbourhood/community problems, Indigenous persons aged 15 years and over, by age group, 2008

	15–24	18–24	25–34	35–44	45–54	55 years and over	Total (15+)	Total (18+)
				Per cent				
Neighbourhood/community problem present								
Theft[(a)]	40.7	42.6	42.8	44.6	46.8	38.3	42.5	43.1
Problems involving youth	32.9	35.1	35.1	38.1	38.6	26.5	34.4	35.0
Prowlers/loiterers	17.1	16.3	18.3	20.7	23.7	18.0	19.1	19.2
Vandalism/graffiti/damage to property	37.7	37.2	34.6	36.7	35.9	27.6	35.3	34.9
Dangerous or noisy driving	41.3	43.7	47.5	51.8	50.4	41.9	46.1	47.2
Alcohol	42.9	43.7	39.7	43.7	44.5	32.7	41.3	41.3
Illegal drugs	37.0	38.9	37.2	38.4	37.4	29.6	36.4	36.8
Family violence	22.5	24.9	25.9	25.9	29.9	21.6	24.8	25.7
Assault	21.3	23.2	23.9	25.4	24.9	17.4	22.7	23.3
Sexual assault	10.3	10.9	12.6	13.3	14.6	7.9	11.7	12.0
Problems with your neighbours	14.9	15.6	15.9	16.3	17.1	12.4	15.4	15.6
Levels of neighbourhood conflict	13.2	14.0	15.0	14.8	15.9	11.4	14.1	14.4
Level of personal safety day or night	12.9	14.4	14.8	14.4	15.6	11.2	13.8	14.2
Total with neighbourhood/community problems	*71.9*	*74.3*	*75.6*	*78.2*	*77.2*	*68.3*	*74.2*	*75.1*
No neighbourhood/community problems reported	28.1	25.7	24.4	21.8	22.8	31.7	25.8	24.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**103,780**	**67,616**	**69,931**	**63,851**	**46,912**	**42,620**	**327,101**	**290,937**

(a) Excludes unknown responses

Source: AIHW analysis of 2008 NATSISS.

Neighbourhood/community problems by sex

- In general, the proportion of Indigenous males thinking that neighbourhood/community problems existed was similar to the proportion of females (73% and 75% respectively) (Table 2.10.12).
- Indigenous females had a higher proportion that reported problems with neighbours as a neighbourhood/community problem than Indigenous males (17% compared to 14%).

Table 2.10.12: Neighbourhood/community problems, Indigenous persons aged 15 years and over, by sex, 2008

	Male	Female	Total
		Per cent	
Neighbourhood/community problem present			
Theft[(a)]	42.4	42.6	42.5
Problems involving youth	33.6	35.0	34.4
Prowlers/loiterers	19.1	19.2	19.1
Vandalism/graffiti/damage to property	35.6	35.0	35.3
Dangerous or noisy driving	44.7	47.4	46.1
Alcohol	42.0	40.6	41.3
Illegal drugs	36.8	36.1	36.4
Family violence	23.4	26.1	24.8
Assault	22.9	22.4	22.7
Sexual assault	11.2	12.1	11.7
Problems with your neighbours	13.5	17.1	15.4
Levels of neighbourhood conflict	13.5	14.6	14.1
Level of personal safety day or night	12.8	14.7	13.8
Total with neighbourhood/community problems	*72.9*	*75.4*	*74.2*
No neighbourhood/community problems reported	27.1	24.6	25.8
Total	**100.0**	**100.0**	**100.0**
Total number	**156,052**	**171,049**	**327,101**

(a) Excludes unknown responses.

Source: AIHW analysis of 2008 NATSISS.

Neighbourhood/community problems by state/territory

- In general, for all states and territories, the proportions of Indigenous persons aged 15 years and over thinking that neighbourhood/community problems existed were similar, ranging from 71% (Queensland) to 77% (New South Wales) (Table 2.10.13).
- For each of the listed neighbourhood/community problems, the proportions varied with state/territory. Nearly half (49%) of Indigenous persons aged 15 years and over in New South Wales thought that theft was a neighbourhood/community problem, while the proportion in the Northern Territory was 34%. Nearly 14% of Indigenous persons aged 15 years and over in New South Wales reported sexual assault as a neighbourhood/community problem, but the proportion in the Australian Capital Territory and Tasmania combined was 5%.

Table 2.10.13: Neighbourhood/community problems, Indigenous persons aged 15 years and over, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas/ ACT	NT	Australia
				Per cent				
Neighbourhood/community problem present								
Theft[(a)]	48.6	46.2	36.6	47.7	44.3	38.1	34.1	42.5
Problems involving youth	36.3	32.9	33.0	36.7	31.2	24.8	36.1	34.4
Prowlers/loiterers	21.3	17.6	17.9	23.3	16.5	11.4	16.9	19.1
Vandalism/graffiti/damage to property	40.9	35.3	27.8	42.0	37.3	28.4	33.2	35.3
Dangerous or noisy driving	46.3	51.5	44.4	49.3	49.9	49.9	39.7	46.1
Alcohol	42.3	37.7	38.0	49.9	38.7	28.1	44.6	41.3
Illegal drugs	40.9	33.8	33.1	43.3	33.8	28.1	31.7	36.4
Family violence	25.5	19.7	19.8	34.1	23.5	11.7	32.2	24.8
Assault	23.0	18.3	18.0	30.1	21.8	10.9	30.9	22.7
Sexual assault	13.7	9.4	10.9	12.5	9.0	4.8	12.6	11.7
Problems with your neighbours	16.9	14.9	13.8	17.2	17.7	11.9	13.6	15.4
Levels of neighbourhood conflict	13.6	9.8	15.4	14.7	13.2	8.1	16.4	14.1
Level of personal safety day or night	16.7	14.9	10.8	14.9	14.8	7.9	13.6	13.8
Total with neighbourhood/community problems	*76.8*	*75.1*	*70.9*	*76.6*	*75.8*	*72.7*	*72.7*	*74.2*
No neighbourhood/community problems reported	23.3	24.9	29.2	23.5	24.2	27.3	27.3	25.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**96,158**	**21,830**	**90,328**	**44,097**	**17,938**	**15,292**	**41,459**	**327,101**

(a) Excludes unknown responses.

Source: AIHW analysis of 2008 NATSISS.

Neighbourhood/community problems by remoteness

- In general, the proportions of Indigenous persons aged 15 years and over reporting neighbourhood/community problems for remote and non-remote areas were similar (76% and 73% respectively) (Table 2.10.14).
- However, for some of the neighbourhood/community problems, the proportions in remote areas were very different from that in non-remote areas. For example, in remote areas, 37% Indigenous persons aged 15 years and over reported assault as a neighbourhood/community problem, which was almost twice the proportion in non-remote areas (19%).

Table 2.10.14: Neighbourhood/community problems, Indigenous persons aged 15 years and older, by remoteness, 2008

	Remote	Non-remote	Total
		Per cent	
Neighbourhood/community problem present			
Theft	39.4	43.5	42.5
Problems involving youth	40.2	33.9	35.5
Prowlers/loiterers	19.7	19.7	19.7
Vandalism/graffiti/damage to property	36.7	36.3	36.4
Dangerous or noisy driving	44.5	48.6	47.6
Alcohol	55.4	38.3	42.6
Illegal drugs	43.7	35.5	37.5
Family violence	37.9	21.5	25.6
Assault	37.1	18.8	23.4
Sexual assault	16.3	10.6	12.0
Problems with your neighbours	16.5	15.6	15.8
Levels of neighbourhood conflict	22.1	12.0	14.5
Level of personal safety day or night	15.1	13.9	14.2
Total with neighbourhood/community problems	*76.2*	*72.5*	*73.4*
No neighbourhood/community problems reported	23.8	27.5	26.6
Total(a)	**100.0**	**100.0**	**100.0**
Total number	**81,501**	**245,600**	**327,101**

(a) Excludes unknown responses.

Source: AIHW analysis of 2008 NATSISS.

Neighbourhood/community problems by selected health and population characteristics

Table 2.10.15 present the proportion of Indigenous persons aged 15 years and over reporting neighbourhood/community problems by selected health and population characteristics.

- In 2008, around one-third (33%) of Indigenous persons who reported family violence as a neighbourhood/community problem currently lived in their homelands; 11% had been removed from their natural family; 76% were home owners and 51% were in the lowest income quintile. These proportions were similar for Indigenous persons who reported assault, sexual assault or personal safety as a neighbourhood/community problem.

Table 2.10.15: Proportion of Indigenous persons aged 15 years and over reporting neighbourhood/community problems by selected health and population characteristics, 2008

	Neighbourhood/community problem reported			
	Family violence	**Assault**	**Sexual assault**	**Personal safety day or night**
	Per cent			
Self-assessed health status				
Excellent/good	38.4	41.1	36.8	36.0
Good	36.8	35.9	36.7	37.2
Fair/poor	24.8	23.1	26.6	26.8
Disability or long-term health condition				
Yes	56.0	55.7	59.2	61.3
No	44.0	44.3	40.8	38.7
Household income				
1st quintile	51.3	51.9	47.5	51.4
5th quintile	7.0	7.8	7.3	5.7
Financial stress—unable to raise $2,000 within a week for something important	60.1	58.7	58.2	60.3
Location				
Remote	37.0	39.7	33.8	26.6
Non-remote	63.0	60.3	66.2	73.4
Law and justice				
Used legal services in last 12 months	22.7	22.0	21.6	23.8
Arrested by police in last 5 years	20.2	22.2	20.4	21.1
Incarcerated in last 5 years	5.0	5.6	5.6	5.0
Housing				
Owner	22.3	19.3	22.3	23.5
Renter	75.7	78.5	75.9	75.4
Dwelling has major structural problems	38.7	37.9	36.1	35.4
Family and culture				
Participated in sport/social/community activities in last 3 months	90.8	91.5	90.5	88.9
Able to get support in time of crisis from someone outside family	90.9	90.4	90.4	89.1
Has been removed from natural family	10.8	11.3	11.4	12.2
Relative removed from natural family	55.1	54.4	57.7	55.9
Currently lives in homelands	33.4	34.0	30.1	26.4
Attended cultural event(s) in last 12 months	72.2	72.3	71.6	64.9
Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**

(a) Excludes ‘not known’ or ‘not stated’ cases. Proportions will not sum to 100% for ‘family and culture’ characteristics as persons can respond yes to multiple items.

Source: AIHW analysis of 2008 NATSISS.

Hospitalisations

- For the period July 2008 to June 2010, there were 10,606 hospitalisations of Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, in which assault was recorded as the principal diagnosis (Table 2.10.16). This represented approximately 2% of total hospitalisations of Indigenous Australians in these states and territories.
- Indigenous Australians were hospitalised for assault at a rate of 10.7 per 1,000 population, while non-Indigenous Australians were hospitalised for assault at 0.9 per 1,000 population. This was a difference of 9.8 hospitalisations per 1,000 population and indicates that Indigenous Australians were hospitalised for assault at over 12 times the rate of non-Indigenous Australians.

Hospitalisations by age and sex

- The hospitalisation rate for assault was highest for the age group 25–34 for the Indigenous population (23 per 1,000 population), followed by the 35–44 age group (21 per 1,000). For non-Indigenous Australians, the highest rate was for the 15–24 age group (2.2 per 1,000), followed by the 25–34 age group (1.6 per 1,000) (Table 2.10.16).
- Indigenous males and females were hospitalised for assault at similar rates (10.9 and 10.6 per 1,000 respectively). While the rate difference between Indigenous and non-Indigenous was similar for males and females (9.4 and 10.3 per 1,000 respectively), the rate ratio was much higher for females (34.4) than for males (7.5).
- The age-groups with the largest disparity in hospitalisation rates for assault were 25–34, 35–44 and 45–54 years (rate differences of 22, 20 and 11 per 1,000 respectively). Indigenous males in the age groups 35–44, 45–54 and 55–64 age groups were hospitalised for assault at over 10 times the rate of non-Indigenous males in those age groups. Indigenous females aged 25–34 and 35–44 years were hospitalised for assault at over 40 times the rate of non-Indigenous females.

Table 2.10.16: Hospitalisations with a principal diagnosis of injury and poisoning and a first reported external cause of assault, by Indigenous status, sex and age, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010 (a)(b)(c)(d)

	Indigenous				Non-Indigenous					
	Number	Number per 1,000(e)	LCL 95%(f)	UCL 95%(g)	Number	Number per 1,000(e)	LCL 95%(f)	UCL 95%(g)	Ratio(h)	Difference(i)
					Males					
0–4	58	0.9	0.7	1.1	182	0.1	0.1	0.2	6.4*	0.7*
5–14	99	0.8	0.6	0.9	542	0.2	0.2	0.2	3.7*	0.6*
15–24	1,464	13.4	12.7	14.1	11,278	3.8	3.7	3.9	3.5*	9.6*
25–34	1,557	21.3	20.3	22.4	7,898	2.7	2.6	2.7	7.9*	18.6*
35–44	1,312	20.9	19.7	22	5,317	1.8	1.8	1.9	11.5*	19*
45–54	605	13.2	12.2	14.3	3,009	1.1	1	1.1	12.3*	12.1*
55–64	122	4.7	3.9	5.6	1,023	0.4	0.4	0.5	10.8*	4.3*
65+	27	1.8	1.1	2.5	546	0.2	0.2	0.2	8.5*	1.6*
Total(j)	**5,244**	**10.9**	**10.5**	**11.2**	**29,795**	**1.4**	**1.4**	**1.5**	**7.5***	**9.4***
					Females					
0–4	59	0.9	0.7	1.2	146	0.1	0.1	0.1	8.1*	0.8*
5–14	82	0.7	0.5	0.8	189	0.1	0.1	0.1	8.8*	0.6*
15–24	1,364	13.1	12.4	13.8	1,583	0.6	0.5	0.6	23*	12.5*
25–34	1,837	25	23.9	26.1	1,562	0.5	0.5	0.6	46.3*	24.5*
35–44	1,402	20.6	19.5	21.6	1,369	0.5	0.4	0.5	44.7*	20.1*
45–54	502	10.1	9.2	10.9	808	0.3	0.3	0.3	35.6*	9.8*
55–64	93	3.2	2.5	3.8	288	0.1	0.1	0.1	26.1*	3.1*
65+	23	1.2	0.7	1.7	327	0.1	0.1	0.1	10.9*	1.1*
Total(j)	**5,362**	**10.6**	**10.3**	**10.9**	**6,272**	**0.3**	**0.3**	**0.3**	**34.4***	**10.3***
					Persons					
0–4	117	0.9	0.7	1.1	328	0.1	0.1	0.1	7.2*	0.8*
5–14	181	0.7	0.6	0.8	731	0.1	0.1	0.2	5.1*	0.6*
15–24	2,828	13.2	12.7	13.7	12,861	2.2	2.2	2.3	5.9*	11*
25–34	3,394	23.2	22.4	23.9	9,460	1.6	1.6	1.7	14.3*	21.5*
35–44	2,714	20.7	19.9	21.5	6,686	1.1	1.1	1.2	18.3*	19.6*
45–54	1,107	11.6	10.9	12.3	3,817	0.7	0.7	0.7	17.2*	10.9*
55–64	215	3.9	3.4	4.4	1,311	0.3	0.3	0.3	14*	3.6*
65+	50	1.5	1.1	1.9	873	0.2	0.1	0.2	9.3*	1.3*
Total(j)	**10,606**	**10.7**	**10.5**	**10.9**	**36,067**	**0.9**	**0.9**	**0.9**	**12.2***	**9.8***

(continued)

Table 2.10.16 (continued): Hospitalisations with a principal diagnosis of injury and poisoning and a first reported external cause of assault, by Indigenous status, sex and age, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010 (a)(b)(c)(d)

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data are from public and most private hospitals. Excludes private hospitals in the Northern Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010). Causes of injury are based on the first reported external cause as 'assault' ICD–10–AM codes X85–Y09, where the principal diagnosis was 'injury and poisoning' (S00–T98).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Age-specific rate per 1,000 population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio Indigenous: non-Indigenous.

(i) Rate difference Indigenous minus non-Indigenous Australians.

(j) Directly age-standardised rates using the Australian 2001 standard population.

Note: Population estimates are based on the 2006 Census.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 2.10.17 presents hospitalisations for a principal diagnosis of injury and poisoning and a first reported external cause of assault for the 2-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Rates for Tasmania, the Australian Capital Territory have also been included however should be interpreted with caution.

- Over the period July 2008 to June 2010, Indigenous hospitalisation rates for assault ranged from 4.2 per 1,000 in Victoria to 21.7 per 1,000 in the Northern Territory.
- Indigenous Australians were hospitalised for assault at more than 15 times the rate of non-Indigenous Australians in Western Australia, South Australia and the Northern Territory. In New South Wales, Victoria and Queensland, rate ratios were between 5 and 7.
- The highest rate difference of hospitalisation for assault between Indigenous and non-Indigenous Australians, which was 20.3 per 1,000 population, occurred in the Northern Territory, followed by Western Australia (17.9 per 1,000) and South Australia (15.8 per 1,000).

Hospitalisation rates by state/territory should be interpreted with caution due jurisdictional differences in the level of Indigenous under-identification in hospital separations data.

Table 2.10.17: Hospitalisations with a principal diagnosis of injury and poisoning and a first reported external cause of assault, by Indigenous status and jurisdiction, July 2008 to June 2010 (a)(b)(c)(d)(e)

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[f]	Number	Rate per 1,000[f]	Ratio[g]	Difference[h]
NSW	1,552	5.1	10,892	0.8	6.5*	4.3*
Vic	282	4.2	9,294	0.9	4.9*	3.4*
Qld	2,261	7.6	8,759	1.0	7.3*	6.6*
WA	2,749	18.9	4,017	0.9	20.5*	17.9*
SA	917	16.6	2,631	0.9	19.2*	15.8*
NT	2,845	21.7	474	1.4	15.5*	20.3*
NSW, Vic, Qld, WA, SA and NT[i]	**10,606**	**10.7**	**36,067**	**0.9**	**12.2***	**9.8***
Tas	37	0.9	727	0.8	1.1	0.1
ACT	35	3.4	555	0.7	4.6*	2.6*

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010). Causes of injury are based on the first reported external cause as 'assault' ICD–10–AM codes X85–Y09, where the principal diagnosis was 'injury and poisoning' (S00–T98).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(f) Directly age-standardised using the Australian 2001 standard population.

(g) Rate ratio Indigenous: non-Indigenous.

(h) Rate difference Indigenous minus non-Indigenous.

(i) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions

Notes

1. Rates for Indigenous hospitalisations are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation with a principal diagnosis of injury and poisoning and a first reported external cause of assault in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented by Australian Standard Geographical Classification (ASGC) in Table 2.10.18.

- During the period July 2008 to June 2010, Indigenous Australians across all remoteness categories were more likely to be hospitalised for assault than non-Indigenous Australians.
- Hospitalisation rates for assault were highest for Indigenous people living in *Remote* areas, at 24.6 per 1,000 and lowest in *Major cities* (4.6 per 1,000). The same pattern was evident for non-Indigenous Australians.
- The greatest rate ratio between Indigenous and non-Indigenous hospitalisation rates for assault were in *Remote* areas of Australia, where Indigenous people were hospitalised at more than 16 times that of non-Indigenous Australians. Inner regional areas had the lowest rate ratio, with Indigenous persons hospitalised for assault at 5.4 times the rate of non-Indigenous Australians. Nationally the rate ratio was 12.2.
- Remote areas had the greatest rate difference between Indigenous and non-Indigenous hospitalisation rates for assault (23.1 per 1,000).

Table 2.10.18: Hospitalisations with a principal diagnosis of injury and poisoning and a first reported external cause of assault, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)(e)(f)

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%(g)	UCL 95%(h)	Number	No. per 1,000	LCL 95%(g)	UCL 95%(h)	Ratio(i)	Difference(j)
Major cities	1,558	4.6	4.4	4.9	24,602	0.8	0.8	0.8	5.6*	3.8*
Inner regional	1,012	5.3	4.9	5.6	6,662	1.0	0.9	1.0	5.4*	4.3*
Outer regional(k)	2,207	10.7	10.3	11.2	3,552	1.1	1.0	1.1	9.9*	9.6*
Remote(l)	2,374	24.6	23.5	25.6	796	1.5	1.4	1.6	16.4*	23.1*
Very remote	3,424	20.5	19.7	21.2	289	1.7	1.5	1.9	12.1*	18.8*
Total(m)	**10,606**	**10.7**	**10.5**	**10.9**	**36,067**	**0.9**	**0.9**	**0.9**	**12.2***	**9.8***

* Indicates a significant difference at the p <0.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010). Causes of injury are based on the first reported external cause as 'assault' ICD–10–AM codes X85–Y09, where the principal diagnosis was 'injury and poisoning' (S00–T98).

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analyses

Time series data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations for all years from 1998–99 to 2009–10—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population. New South Wales and Victoria were identified as having adequate identification of Indigenous hospitalisations from 2004–05 onwards; therefore, they were included as part of the current period analysis (2008–10) but not as part of the time series analyses.

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for assault over the 12-year period 1998–99 to 2009–10 are presented in Table 2.10.19 and Figure 2.10.1.

- Over the period 1998–99 to 2009–10, there were no significant changes in the hospitalisation rates for assault among Indigenous males and females.
- Over the same period there were significant increases in the hospitalisation rates for assault for non-Indigenous Australians (increase of 22%).
- There was a significant decline in the hospitalisation rate ratios between Indigenous and non-Indigenous Australians for assault over the period 1998–99 to 2009–10, and no significant change in the rate differences.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all affect the level of hospitalisation over time. Caution should be used in interpreting changes over time as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rate at which Indigenous people are hospitalised. An increase in hospitalisations may reflect better access rather than a worsening of health.

Table 2.10.19: Age-standardised hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for a principal diagnosis of injury and poisoning and a first reported external cause of assault, Qld, WA, SA and NT, 1998–99 to 2009–10 [(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Indigenous separations														
Males	1,602	1,571	1,580	1,960	1,835	1,764	1,803	1,868	1,880	1,994	2,032	2,093	43*	29.3*
Females	1,749	1,782	1,701	2,180	2,132	2,127	2,181	2,255	2,363	2,232	2,277	2,370	57*	35.9*
Persons	3,351	3,353	3,281	4,140	3,967	3,891	3,984	4,123	4,243	4,226	4,309	4,463	100*	32.7*
Non-Indigenous separations														
Males	4,589	4,510	4,835	5,039	4,814	4,729	5,062	5,496	5,916	6,296	6,632	6,365	194*	46.6*
Females	1,022	967	1,028	1,117	1,078	1,090	1,029	1,160	1,154	1,243	1,424	1,460	38*	40.7*
Persons	5,611	5,477	5,864	6,156	5,893	5,819	6,091	6,656	7,070	7,539	8,056	7,825	232*	45.5*
Indigenous rate (separations per 1,000)														
Males	13.9	13.1	12.7	15.7	14.4	13.3	13.3	13.5	13.2	13.8	13.6	13.7	–0.02	–1.6
Females	13.7	13.5	12.6	15.7	15.2	14.7	15.1	15.2	15.5	14.4	14.4	14.7	0.1	9.0
Persons	13.7	13.3	12.6	15.7	14.7	14.0	14.2	14.3	14.4	14.1	14.0	14.2	0.05	3.7
Non-Indigenous rate (separations per 1,000)														
Males	1.3	1.3	1.4	1.4	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.5	0.03*	22.0*
Females	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.01*	19.1*
Persons	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	0.02*	22.1*
Rate ratio[(d)]														
Males	10.5	10.2	9.2	11.0	10.7	10.3	9.7	9.3	8.6	8.7	8.4	9.0	–0.2*	–19.5*
Females	45.4	47.8	42.4	49.2	50.0	48.5	53.5	48.4	50.8	44.8	40.0	40.6	–0.3	–8.3
Persons	16.8	16.8	15.0	17.8	17.8	17.4	17.1	16.1	15.5	14.6	13.9	14.9	–0.2*	–15.3*

(continued)

Table 2.10.19 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for a principal diagnosis of injury and poisoning and a first reported external cause of assault, Qld, WA, SA and NT, 1998–99 to 2009–10 (a)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(b)	Per cent change(c)
Rate difference(e)														
Males	12.5	11.8	11.3	14.2	13.0	12.0	11.9	12.0	11.7	12.2	12.0	12.1	–0.05	–4.1
Females	13.4	13.2	12.3	15.4	14.9	14.4	14.8	14.9	15.2	14.1	14.1	14.3	0.1	8.8
Persons	12.9	12.5	11.8	14.8	13.9	13.2	13.4	13.4	13.4	13.1	13.0	13.2	0.03	2.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

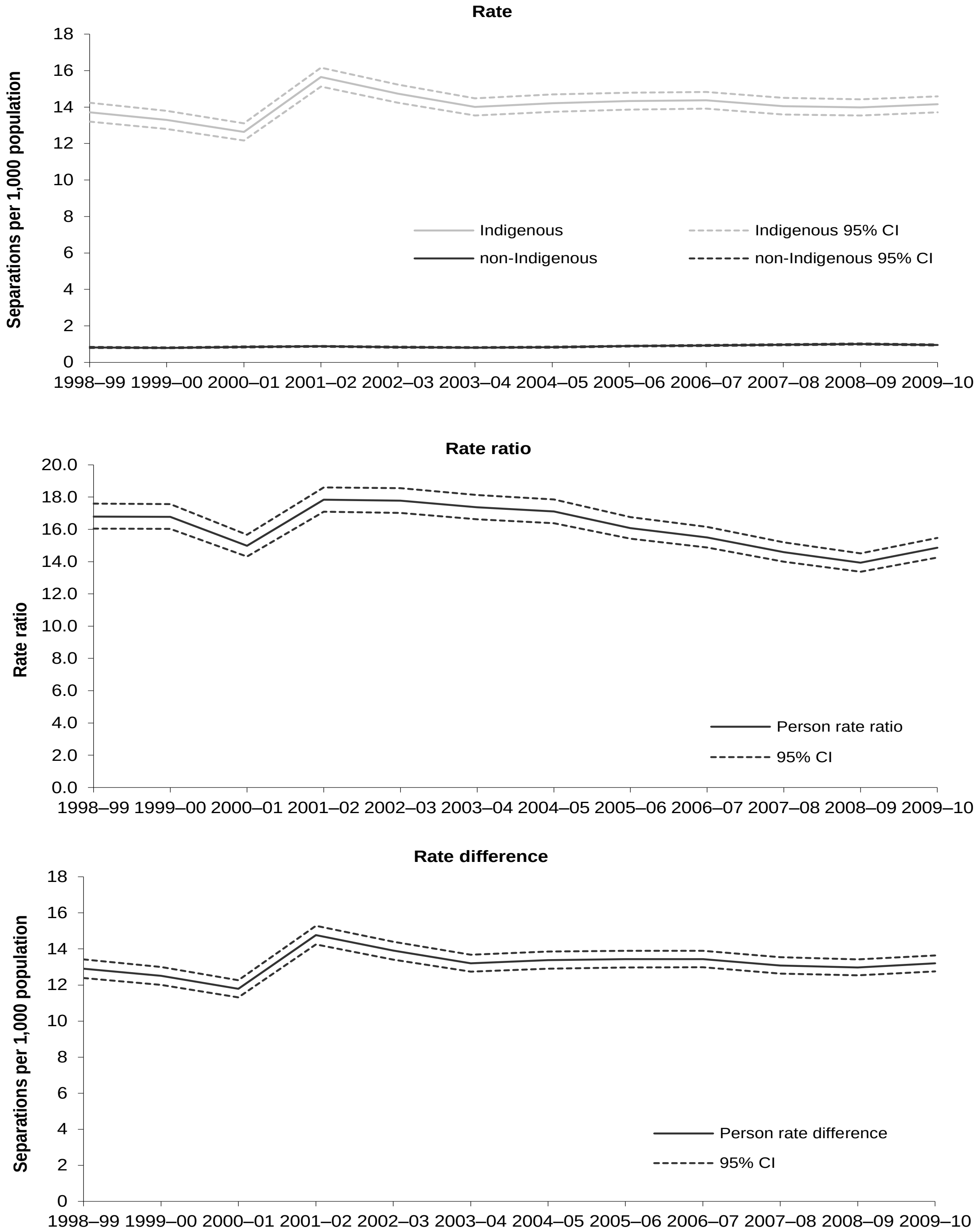
(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010). Causes of injury are based on the first reported external cause as 'assault' ICD–10–AM codes X85–Y09, where the principal diagnosis was 'injury and poisoning' (S00–T98).
2. Rates have been directly age-standardised using the 2001 Australian standard population.
3. Population estimates are based on 2006 census.
4. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 2.10.1: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for a principal diagnosis of injury and poisoning and a first reported external cause of assault, Qld, WA, SA and NT, 1998-1999 to 2009-2010

Mortality

Table 2.10.20 and 2.10.21 present deaths from assault in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory over the 5-year period 2006–2010.

- Over the period 2006–2010, there were 178 deaths of Indigenous people from assault (homicide) in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (Table 2.10.20). This represented approximately 1.6% of total deaths of Aboriginal and Torres Strait Islander people in these states and territories.
- The mortality rate from assault was 8.6 per 100,000 population for Indigenous Australians, compared to 1.0 per 100,000 population for non-Indigenous Australians. Indigenous Australians in the five states and territories combined died from assault at 8.9 times the rate of non-Indigenous Australians.

Mortality by age and sex

- Mortality rates for assault was highest for Indigenous persons aged 35–44 (19 per 100,000 population), followed by 25–34 and 45–54 (13 per 100,000). For non-Indigenous persons, mortality rates for assault were highest amongst those aged 25–34 and 35–44 (1.4 per 100,000), followed by 45–54 (1.1 per 100,000). In these age groups, Indigenous Australians died from assault at between 9.6 and 13.6 times the rate of non-Indigenous Australians (Table 2.10.20; Figure 2.10.2).
- For both Indigenous and non-Indigenous Australians, the mortality rate for assault among males was higher than among females. Indigenous males and females died from assault at around 8 and 11 times the rate of non-Indigenous males and females respectively (Table 2.10.21).

Table 2.10.20: Deaths from assault (homicide), by Indigenous status and age, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)]

	Indigenous				Non-Indigenous					
	Number	Age-specific rate. per 100,000[(f)]	95% LCL[(g)]	95% UCL[(h)]	Number	Age-specific rate. per 100,000[(g)]	95% LCL[(g)]	95% UCL[(h)]	Rate ratio[(i)]	Rate difference[(j)]
0–4	6	2.0	0.4	3.6	48	1.0	0.7	1.3	2.0	1.0
5–14	n.p.	n.p.	n.p.	n.p.	19	0.2	0.1	0.3	n.p.	n.p.
15–24	31	6.5	4.2	8.8	105	1.0	0.8	1.2	6.3*	5.5*
25–34	44	13.1	9.2	16.9	141	1.4	1.1	1.6	9.6*	11.7*
35–44	56	18.6	13.7	23.5	147	1.4	1.2	1.6	13.6*	17.3*
45–54	28	13.0	8.2	17.8	110	1.1	0.9	1.3	12.2*	12.0*
55–64	7	5.8	1.5	10.1	76	0.9	0.7	1.1	6.5*	4.9*
65+	n.p.	n.p.	n.p.	n.p.	72	0.7	0.6	0.9	n.p.	n.p.
Total (crude)	**178**	**7.4**	**6.3**	**8.5**	**718**	**1.0**	**0.9**	**1.0**	**7.7***	**6.4***
Total (age standardised)[(k)]	**178**	**8.6**	**7.2**	**9.9**	**718**	**1.0**	**0.9**	**1.0**	**8.9***	**7.6***

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) Age-specific death rates for age groups calculated per 100,000 estimated resident population for selected age group.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(k) Rates are directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

Notes

1. ICD–10 codes X85–Y09.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Table 2.10.21: Deaths from assault (homicide), by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2006–2010[(a)(b)(c)(d)(e)]

	Indigenous				Non-Indigenous					
	Deaths	**No. per 100,000[(f)]**	**95% LCL[(g)]**	**95% UCL[(h)]**	**Deaths**	**No. per 100,000[(f)]**	**95% LCL[(g)]**	**95% UCL[(h)]**	**Rate ratio[(i)]**	**Rate difference[(j)]**
Males	101	10.3	8.1	12.5	481	1.3	1.2	1.4	8.0*	9.0*
Females	77	7.0	5.4	8.6	237	0.6	0.6	0.7	10.9*	6.3*
Persons	**178**	**8.6**	**7.2**	**9.9**	**718**	**1.0**	**0.9**	**1.0**	**8.9***	**7.6***

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(e) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(f) Rates are directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

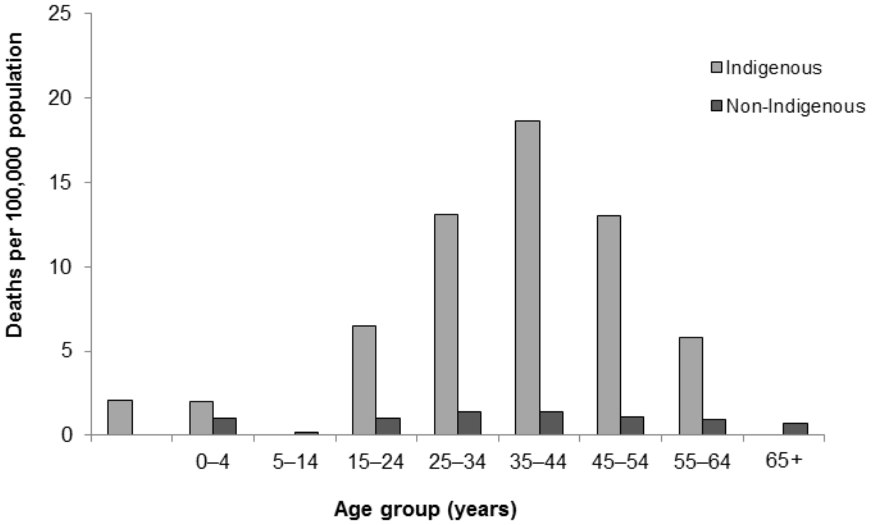
(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD–10 codes X85–Y09.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Source: AIHW analysis of ABS Mortality Database

Figure 2.10.2: Age-specific mortality rates for assault (homicide), by Indigenous status and age, NSW, Qld, WA, SA and NT, 2006–2010

Mortality by state/territory

- During 2006–2010, in the Northern Territory, the age standardised mortality rate from assault among Indigenous Australians was 18 per 100,000, while in New South Wales, the rate was 3.8 per 100,000 (Table 2.10.22).
- The highest rate ratio of mortality from assault occurred in Western Australia, where Indigenous Australians died from assault at about 16 times the rate for non-Indigenous Australians. New South Wales had the lowest rate ratio, which was 3.8. Nationally, the rate ratio was 8.9. The highest rate difference (16.2 per 100,000) occurred in the Northern Territory. Nationally, the rate difference was 7.6 per 100,000 population.

Table 2.10.22: Deaths from assault (homicide), by Indigenous status, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(f)

	Indigenous					Non-Indigenous						
	Number	Crude rate(g)	No. per 100,000(h)	95% LCL(i)	95% UCL(j)	Number	Crude rate(g)	No. per 100,000(h)	95% LCL(i)	95% UCL(j)	Rate ratio(k)	Rate difference(l)
NSW	28	3.5	3.8	2.3	5.2	343	1.0	1.0	0.9	1.1	3.8*	2.8*
Qld	37	4.8	5.4	3.6	7.3	176	0.8	0.9	0.7	1.0	6.4*	4.6*
WA	44	12	15.0	10.2	19.9	102	1	1	0.8	1.1	15.7*	14.1*
SA	12	8.2	10.3	4.1	16.5	80	1.0	1.0	0.8	1.3	9.8*	9.2*
NT	57	17.2	18.4	13.5	23.4	17	2.2	2.2	1.0	3.4	8.4*	16.2*
NSW, Qld, WA, SA & NT	**178**	**7.4**	**8.6**	**7.2**	**9.9**	**718**	**1.0**	**1.0**	**0.9**	**1.0**	**8.9***	**7.6***

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Rates are crude rates per 100,000 population.

(h) Rates are directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(l) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD–10 codes X85–Y09.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Time series analyses

Longer term mortality trend data are limited to three jurisdictions—Western Australia, South Australia and the Northern Territory for 1991 onwards, and five jurisdictions —New South Wales, Queensland, Western Australia, South Australia and the Northern Territory for 1998 onwards. These jurisdictions have over 10 years of reasonable coverage of Indigenous deaths in their recording systems.

There is a consistent time series of population estimates from 1991. Because of changes in the classification and coding of causes of death from ICD–9 (used up until 1996) to ICD–10 (used from 1997 onwards) which affect the comparability of the data, the analysis reported for this indicator has been undertaken for two time periods—1991–1996 and 1997–2010. Data are presented in 3-year or 4-year groupings because of low numbers of deaths from assault each year.

Because of the late inclusion of a 'not stated' category of Indigenous status in 1998 (before which 'not stated' responses were included with non-Indigenous deaths), Indigenous mortality rates have been compared with the mortality rates of other Australians (which include deaths of both non-Indigenous people and deaths for which Indigenous status was not stated).

Mortality rates, rate ratios and rate differences between Indigenous and other Australians for assault over the periods 1991–1993 to 1994–1996 and 1997–1999 to 2009–2010 are presented in Table 2.10.23 and Figure 2.10.3. Mortality rates, rate ratios and rate differences between Indigenous and other Australians for assault over the period 2001–2002 to 2009–2010 are presented in Table 2.10.24 and Figure 2.10.4.

- For the two time periods 1991–1993 and 1994–1996, the mortality rate from assault for Indigenous Australians in Western Australia, South Australia and the Northern Territory combined was 25.0 and 18.6 per 100,000 respectively. For other Australians, the mortality rate for assault was 1.5 per 100,000 in 1991–1993 and 1.7 per 100,000 in 1994–1996 (Table 2.10.23).
- Over the period 1997–1999 to 2009–2010, there was a non-significant increase in the mortality rates from assault for Indigenous Australians and a non-significant decline in mortality rates from assault for other Australians (Table 2.10.23).

Fluctuations in the level of Indigenous mortality over time partly reflect changing levels of coverage of Indigenous deaths and population estimates. Given the volatility in the measures of Indigenous mortality, caution should be exercised in assessing trends in Indigenous mortality over time and comparisons between jurisdictions and with the non-Indigenous population.

Table 2.10.23: Age-standardised mortality rates, rate ratios and rate differences for deaths from assault (homicide), WA, SA and NT, 1991–1993 to 1994–1996 and 1997–1999 to 2009–2010(a)(b)(c)(d)

	Indigenous				Other(e)					
	Number	No. per 100,000(f)	95% LCL(g)	95% LCL(h)	Number	No. per 100,000(f)	95% LCL(g)	95% LCL(h)	Rate ratio(i)	Rate difference(j)
1991–1996										
1991–1993	78	25.0	19.5	30.5	147	1.5	1.3	1.7	16.2	23.5
1994–1996	66	18.6	14.1	23.1	171	1.7	1.4	2.0	10.9	16.9
Difference in rates(k)	. .	–6.4	. .	. .	. .	0.2	. .	. .	. .	. .
1997–2010										
1997–1999	39	9.7	6.7	12.7	156	1.5	1.3	1.7	6.3	8.2
2000–2003	101	18.8	15.1	22.5	171	1.2	1	1.4	15.3	17.5
2004–2006	51	11.9	8.4	15.43	97	0.9	0.7	1.1	13.3	11.0
2007–2008(d)	44	15.7	10.6	20.8	83	1.1	0.9	1.3	14.4	14.6
2009–2010	46	15	10.5	19.5	87	1.1	0.9	1.3	13.8	13.9
Annual change(l)	**–1.3**	**0.3**	**0.1**	**0.4**	**–7.9***	**–0.04**	**–0.04***	**0.0**	**0.5**	**0.3**
Per cent change over period(m)	**–40.7**	**32.8**	**20.5**	**39.3**	**–60.9***	**–28.5**	**–35.6***	**–23.0**	**99.0**	**44.5**

(continued)

Table 2.10.23 (continued): Age-standardised mortality rates, rate ratios and rate differences for deaths from assault (homicide), WA, SA and NT, 1991–1993 to 1994–1996 and 1997–1999 to 2009–2010[a][b][c][d]

* Represents statistically significant differences at the $p < 0.05$ level over the periods 1991–1993 to 1994–1996 and 1997–1999 to 2009–2010.

(a) Data are reported for Western Australia, South Australia and the Northern Territory only. These three jurisdictions are considered to have adequate levels of Indigenous identification in mortality data for the time periods shown. They do not represent a quasi-Australian figure.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and other mortality rates because of these data quality issues.

(c) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(d) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(e) Other includes non-Indigenous and Indigenous not stated.

(f) Rates are directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(j) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(k) Mortality rate for 1994–1996 minus mortality rate for 1991–1993.

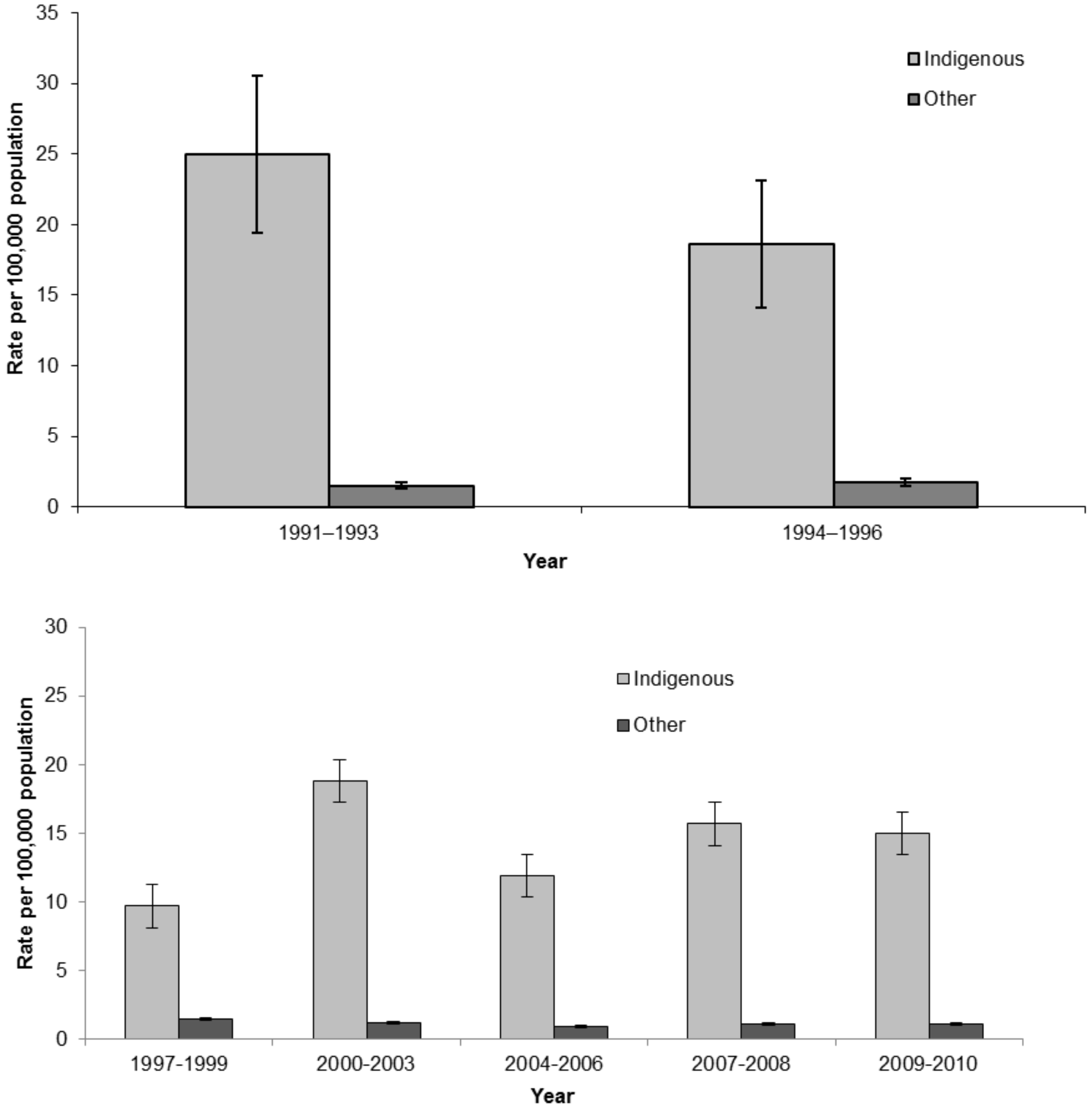
(l) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the periods 1997–2010.

(m) Per cent change between 1997 and 2010 based on the average annual change over the period.

Notes

1. 1991–1996 ICD9 codes E960–E969, 1997–2010 ICD–10 codes X85–Y09.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database

Figure 2.10.3: Age-standardised mortality rates from assault (homicide), by Indigenous status, 1991–1993 to 1994–1996 and 1997–1999 to 2009–2010

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001–2002 to 2009–2010 for Indigenous and non-Indigenous Australians in Table 2.10.24 and Figure 2.10.5. Data are presented in 2-year groupings because of low numbers of deaths from assault each year. Queensland has had adequate identification of Indigenous deaths in its recording systems since 1998, and these have been compared with those of non-Indigenous Australians (excluding deaths for which Indigenous status was not stated).

- Over the period 2001–2002 to 2009–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a non-significant decline in mortality rates from assault for Indigenous Australians; and a significant decline for non-Indigenous Australians (Table 2.10.24).
- There was no significant change in the mortality rate ratio or rate difference between Indigenous and non-Indigenous Australians over the period 2001 to 2010 (Table 2.10.24).

Table 2.10.24: Age-standardised mortality rates, rate ratios and rate differences for deaths from assault (homicide), NSW, Qld, WA, SA and NT, 2001–2010(a)(b)(c)(d)(e)(f)

	2001–2002	2003–2004	2005–2006	2007–2008	2009–2010	Annual change(g)	Per cent change(h)
Indigenous deaths per 100,000(i)							
Males	11.4	9.6	10.8	9.8	9.5	–0.2	–13.6
Females	8.8	4.2	5.9	8.7	5.7	–0.1	–7.9
Persons	10.0	6.9	8.3	9.2	7.6	–0.1	–11.6
Non-Indigenous deaths per 100,000(j)							
Males	1.7	1.4	1.2	1.3	1.2	–0.05*	–25.9*
Females	0.9	0.6	0.6	0.7	0.6	0.0	–29.1
Persons	1.3	1.0	0.9	1.0	0.9	–0.04*	–27.0*
Rate ratio(k)							
Males	6.7	7.1	8.8	7.8	7.6	0.1	16.8
Females	9.5	6.8	9.2	13.3	9.5	0.3	30.6
Persons	7.7	7.0	8.9	9.6	8.2	0.2	21.1
Rate difference(l)							
Males	9.7	8.3	9.6	8.6	8.3	–0.1	–11.5
Females	7.8	3.6	5.3	8.0	5.1	0.0	–5.4
Persons	8.7	5.9	7.3	8.2	6.7	–0.1	–9.2

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–2002 to 2009–2010.

(a) Data are reported for New South Wales, Queensland, Western Australia, Western Australia, South Australia and the Northern Territory only. These five states and territories are considered to have adequate levels of Indigenous identification in mortality data. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(c) Data are presented in 2-year groupings because of small numbers each year.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2007 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis over the periods 2001–2010.

(h) Per cent change between 2001 and 2010 based on the average annual change over the period.

(i) Rates are directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

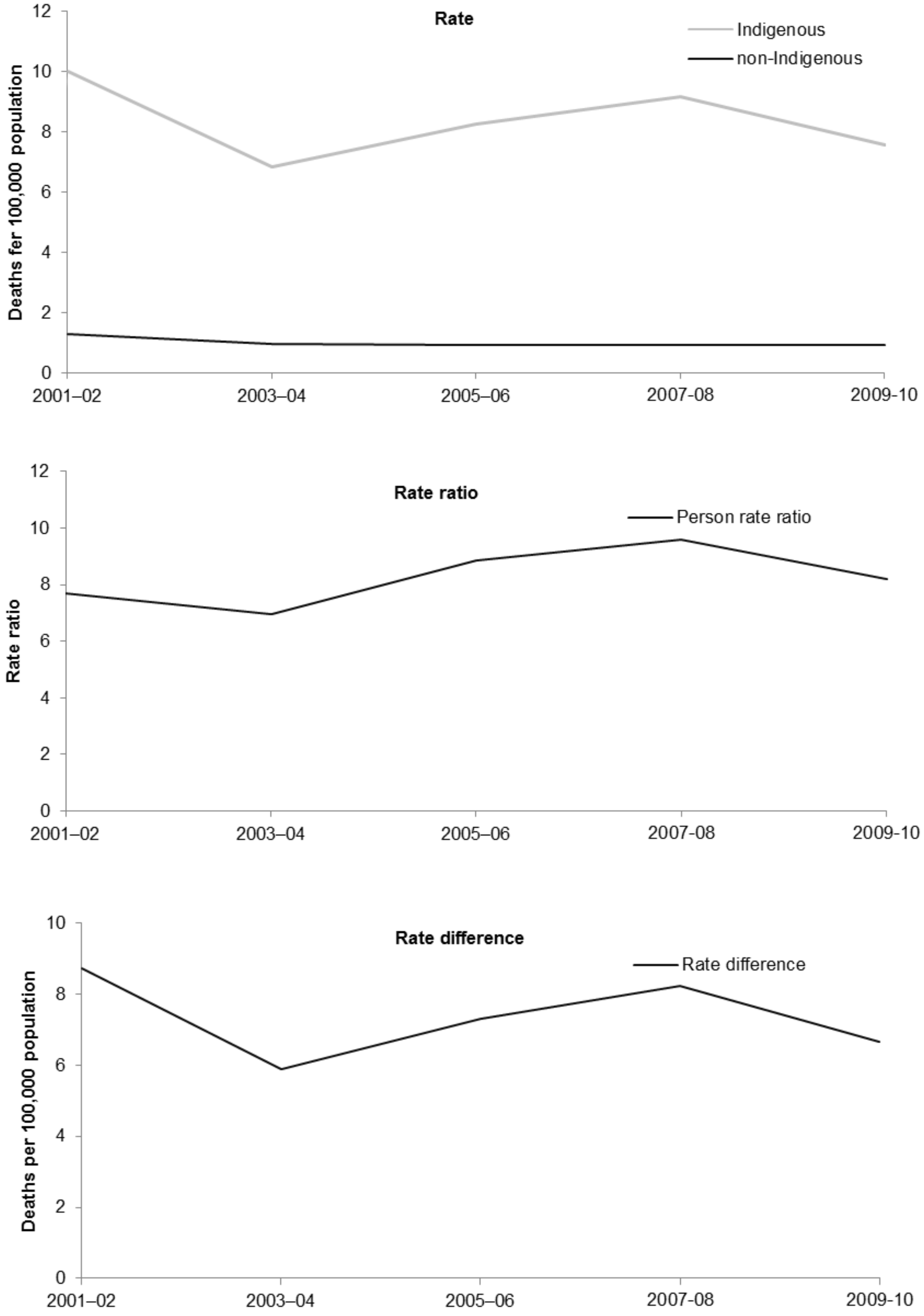
(j) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(k) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. ICD–10 codes X85–Y09.
2. Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database

Figure 2.10.4: Mortality rates, rate ratios and rate differences for deaths from assault (homicide) between Indigenous and non-Indigenous Australians, NSW, Qld, WA, SA and NT, 2001–2002 to 2009–2010

Victims of homicide

The National Homicide Monitoring Program collects data on all homicides recorded in Australia. Table 2.10.25 presents data from 1998 to 2010 as four periods of 3-financial years.

- In general, over the four 3-year periods from 1998–99 to 2000–01 until 2007–08 to 2009–10, the number of deaths from homicide decreased for Indigenous Australians (from 134 in 1998–99 to 2000–01, to 99 in 2007–08 to 2009–10) and non-Indigenous Australians (from 864 in 1998–99 to 2000–01, to 686 in 2007–08 to 2009–10) (Table 1.10.25).
- In 2007–08 to 2009–10, 12% of persons who died from homicide were Indigenous Australians. This was the lowest over the four periods. The highest occurred in in 2004–05 to 2006–07 at 14%.
- Most of the deaths from homicide were caused by male offenders (about 80% for Indigenous and 90% for non-Indigenous).
- For Indigenous Australians, in most of cases of homicide, both the offender and the victim were not working (unemployed/not in the labour force), ranging from 76% in 2007–08 to 2009–10, to 88% in 2004–05 to 2006–07. For non-Indigenous Australians, the proportions ranged from 39% in 2007–08 to 2009–10, to 47% in 1998–99 to 2001–02.
- For both Indigenous and non-Indigenous Australians, most of the homicides happened between intimate partners, family members, friends and acquaintances (around 90% for Indigenous and 80% for non-Indigenous).

Table 2.10.25: Victims of homicide for all jurisdictions where data are available, by Indigenous status, with selected data on circumstances surrounding the homicide[(a)], 1998–99 to 2009–10

	1998–99 to 2000–2001				2001–02 to 2003–04				2004–05 to 2006–07				2007–08 to 2009–10			
	Indig.		Non-Indig.		Indig.		Non-Indig.		Indig.		Non-Indig.		Indig.		Non-Indig.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Sex[(b)]																
Male victim/ male offender	49	38.9	394	55.6	51	41.8	433	55.2	47	41.6	372	56.1	36	37.1	370	58.5
Female victim/ male offender	50	39.7	244	34.5	43	35.2	252	32.1	38	33.6	195	29.4	38	39.2	195	30.8
Male victim/ female offender	20	15.9	59	8.3	25	20.5	68	8.7	21	18.6	70	10.6	15	15.5	47	7.4
Female victim/ female offender	7	5.6	31	4.4	3	2.5	31	4.0	7	6.2	26	3.9	8	8.2	21	3.3
Total	**126**	**100.0**	**728**	**102.8**	**122**	**100.0**	**784**	**100.0**	**113**	**100.0**	**663**	**100.0**	**97**	**100.0**	**633**	**100.0**
Employment status[(b)]																
Offender & victim both working	2	1.7	83	13.3	3	2.9	131	20.8	1	1.3	103	21.7	2	3.6	97	23.7
Neither working	97	83.6	293	47.0	81	79.4	257	40.7	67	88.2	207	43.7	42	76.4	160	39.0
Offender working only	5	4.3	100	16.1	10	9.8	112	17.7	4	5.3	71	15.0	7	12.7	65	15.9
victim working only	12	10.3	147	23.6	8	7.8	131	20.8	4	5.3	93	19.6	4	7.3	88	21.5
Total	**116**	**100.0**	**623**	**100.0**	**102**	**100.0**	**631**	**100.0**	**76**	**100.0**	**474**	**100.0**	**55**	**100.0**	**410**	**100.0**
Circumstance																
Domestic altercation	56	42.7	164	21.1	47	36.4	172	20.6	24	21.2	127	19.7	41	53.2	123	22.4
Alcohol-related argument	41	31.3	62	8.0	32	24.8	82	9.8	27	23.9	75	11.6	14	18.2	60	10.9
Other argument	9	6.9	117	15.0	12	9.3	124	14.9	15	13.3	86	13.3	8	10.4	95	17.3
Other	17	13.0	347	44.6	21	16.3	336	40.3	29	25.7	249	38.6	9	11.7	191	34.7
No apparent motive/unknown	8	6.1	88	11.3	17	13.2	120	14.4	18	15.9	108	16.7	5	6.5	81	14.7
Total	**131**	**100.0**	**778**	**100.0**	**129**	**100.0**	**834**	**100.0**	**113**	**100.0**	**645**	**100.0**	**77**	**100.0**	**550**	**100.0**

(continued)

Table 2.10.25 (continued): Victims of homicide for all jurisdictions where data are available, by Indigenous status, with selected data on circumstances surrounding the homicide[(a)], 1998–99 to 2009–10

	1998–99 to 2000–01				2001–02 to 2003–04				2004–05 to 2006–07				2007–08 to 2009–10			
	Indig.		Non-Indig.		Indig.		Non-Indig.		Indig.		Non-Indig.		Indig.		Non-Indig.	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Victim–offender relationship[(c)]																
Intimate partners and other family	76	56.7	276	31.9	81	59.1	352	40.1	73	64.0	284	40.0	61	61.6	270	39.4
Friends & acquaintances	46	34.3	345	39.9	33	24.1	316	36.0	32	28.1	263	37.0	27	27.3	243	35.4
Strangers	4	3.0	103	11.9	8	5.8	102	11.6	6	5.3	110	15.5	4	4.0	94	13.7
Other relationship	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Unknown	8	6.0	140	16.2	15	10.9	107	12.2	3	2.6	53	7.5	7	7.1	79	11.5
Total	**134**	**100.0**	**864**	**100.0**	**137**	**100.0**	**877**	**100.0**	**114**	**100.0**	**710**	**100.0**	**99**	**100.0**	**686**	**100.0**
Total[(d)]	**134**	**13.4**	**864**	**86.6**	**137**	**13.5**	**877**	**86.5**	**114**	**13.8**	**710**	**86.2**	**99**	**12.6**	**686**	**87.4**

(a) Where an offender has been identified.

(b) Where a victim is killed by more than one offender, only the gender and employment status of the first recorded offender is used. Each victim is counted once only.

(c) Refers only to relationship between victim and first recorded offender, where identified.

(d) Excludes victims where racial appearance, sex, employment status, circumstances or victim–offender relationship data were unknown.

Source: Australian Institute of Criminology, National Homicide Monitoring Program, 1998–2010 data.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: Users' guide, 2008* (ABS 2010).

Community safety and family violence data

The sensitive nature of many of the issues surrounding community safety could also influence responses to these questions. Any data that are self-reported are likely to underestimate circumstances in which the respondent may feel frightened or ashamed or be unwilling to admit to the data collector, such as experience of family violence involvement with the police. Any such self-reported figures are likely to underestimate the occurrence of the circumstance in question.

In addition, the NATSISS question on 'family violence' does not directly measure experience of family violence, because it asks about whether certain issues are a problem in the neighbourhood/community. However, these data do provide useful information about the social setting for family violence.

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and ACT data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only (AIHW 2010).

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Qld deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010**.**

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

'While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records' (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006–07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: New South Wales 76%, Victoria 74%, Queensland 87%, South Australia 86%, Western Australia 92% and Northern Territory 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

National Homicide Monitoring Program (NHMP)

The NHMP was established in 1990 and reports annually by financial year on all homicides recorded in Australia. The Indigenous status of the victim is based on police identification of 'racial appearance', and therefore will underestimate the level of homicide involving Indigenous persons. Nevertheless, the NHMP includes useful information on the circumstances surrounding homicides involving Indigenous persons.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2008. Information Paper : Census Data Enhancement - Indigenous Mortality Quality Study. Cat. No. 472 3.0 . 2006– 07

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2.11 Contact with criminal justice system

The prevalence of Aboriginal and Torres Strait Islander people in prison custody, other contact with the criminal justice system, including police custody and juvenile justice, and relationships with health and social factors.

Data sources

Data for this measure come from the National Prison Census, the National Deaths in Custody Program annual report, the Drug Use Monitoring in Australia survey and the National Aboriginal and Torres Strait Islander Social Survey, the Juvenile Justice National Minimum Data Set and the National Prisoner Health Census.

National Prisoner Census

The ABS collects data from administrative records on persons in prison custody on 30 June each year in all jurisdictions. This Census includes all prisoners in adult corrective services, but not persons in juvenile institutions, psychiatric care or police. The Census collects information on the number of people in custody, legal status (sentenced or unsentenced), prior imprisonment, the most serious offence committed and length of sentence.

Most jurisdictions collect Indigenous status from individual prisoners. It is uncommon for corrective services agencies to collect Indigenous status from anyone other than the prisoners themselves. However, the accuracy of these data has not been assessed.

Deaths in Custody Australia

As a requirement of the Deaths in Custody Royal Commission, the Australian Institute of Criminology (AIC) collects data on deaths in custody each year for all jurisdictions. Data collected include custodial authority (police, prison, juvenile justice/welfare), legal status (sentenced or unsentenced), cause of death, manner of death, location of death and most serious offence.

Indigenous status is determined by previous self-identification to prison authorities.

Drug Use Monitoring in Australia (DUMA) Survey

DUMA is an annual survey which has been conducted by the AIC since 1999 at some locations across Australia. The survey reports on drug use among police detainees at selected police stations. The survey is by a voluntary questionnaire and drug use is confirmed by a urine sample provided by the detainee.

The number of detainees questioned is quite low and thus includes a very small Indigenous sample. The Indigenous status of the detainee is established by the following question: ‘What is your ethnic background?’ (if the respondent mentions ‘Australian’ but not ‘Aboriginal’, prompt: ‘Do you consider yourself an Aboriginal or Torres Strait Islander?’).

Analysis is presented by state/territory, as the figures do not permit national coverage.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Juvenile Justice National Minimum Data Set

The Juvenile Justice National Minimum Data Set is held by the AIHW and contains data on young people under juvenile justice supervision in the community and in detention. These data are collected by the AIHW from the departments in each state and territory with responsibility for juvenile justice.

The JJ NMDS was initially developed between 2002 and 2004 and the first report containing data from the JJ NMDS was published in 2006. This first version of the JJ NMDS, contained information on only the most serious supervised legal arrangement or order for each young person under juvenile justice supervision. In 2009, the JJ NMDS was redeveloped to capture all supervised legal arrangements and orders for young people under juvenile justice supervision, rather than only the most serious one. This version of the JJ NMDS (known as JJ NMDS 2009) allows for a more complete analysis of the numbers and types of supervised orders that juvenile justice agencies administer.

National Prisoner Health Census

In 2010 the AIHW conducted the second National Prisoner Health Census. This census collected information from prisoners during a two week period in all states and territories except New South Wales and Victoria. It includes information on the health of prisoners at the time of entry to prisons, their use of health services while in prison, as well as some information on the prison environment. The Census data was used in compiling a report on indicators of the health of prisoners.

Most jurisdictions collect Indigenous status information from individual prisoners. It is uncommon for corrective services agencies to collect Indigenous status from anyone other than the prisoner themselves. The accuracy of this data has not been assessed.

Data analyses

People in prison custody

Data on Indigenous people in prison custody come from the ABS National Prison Census which collected information about persons held in Australian prisons on the night of 30 June 2011. These data are published in the ABS publication *Prisoners in Australia 2011* (ABS 2011).

- As at 30 June 2011, there were 7,655 Indigenous prisoners (7,639 aged 18 years and over) recorded in the National Prison Census (Table 2.11.1).
- After adjusting for differences in age structure, the age-standardised rate of imprisonment for Indigenous persons was 1,868 per 100,000 adult population compared with 130 per 100,000 adult population for non-Indigenous prisoners, making Indigenous people 14 times more likely than non-Indigenous persons to be in prison at 30 June 2009 (Table 2.11.2).
- Indigenous Australians were imprisoned at a crude rate of 2,248 per 100,000 (Table 2.11.2).

People in prison custody by age and sex

- The median age of Indigenous prisoners was 32 years compared with 37 years for non-Indigenous prisoners (Table 2.11.1).
- Imprisonment rates were highest among those aged 25–29 and 20–24 in the Indigenous population and among those aged 25–29 and 30–34 in the non-Indigenous population.
- Approximately 92% of the total Indigenous prisoners were male, and 8% were female. Imprisonment rates were much higher for Indigenous males than Indigenous females (4228 per 100,000 compared with 358 per 100,000). The non-Indigenous proportions of prisoners are similar, 93% are male, 7% are female, however the crude rates are lower 237 and 16 per 100,000 respectively (Table 2.11.1).

People in prison custody by state/territory

- Western Australia and South Australia recorded the highest age-standardised ratios of Indigenous to non-Indigenous rates of imprisonment, with Indigenous persons being 18 and 17 times as likely to be in prison as non-Indigenous Australians in these jurisdictions respectively (Table 2.11.2).

Table 2.11.1: People in prison custody, by Indigenous status, sex and age group, 30 June 2011

	Males			Females			Persons				
Age group (years)	**No.**	**%**	**Rate per 100,000**	**No.**	**%**	**Rate per 100,000**	**No.**	**%**	**Rate per 100,000**	**Rate ratio[(a)]**	**Rate difference[(b)]**
						Indigenous					
Under 18	13	0.2	173.2	3	0.5	41.4	16	0.2	108.5	12.5	99.8
18	153	2.2	2,296.6	10	1.6	161.3	163	2.1	1,267.3	21.2	1,207.4
19	217	3.1	3,322.6	15	2.4	241.2	232	3.0	1,819.6	15.4	1,701.5
20–24	1,495	21.3	5,319.3	105	16.9	386.1	1,600	20.9	2,893.2	15.2	2,702.6
25–29	1,525	21.7	6,809.3	148	23.8	673.5	1,673	21.9	3,770.5	16.6	3,543.0
30–34	1,201	17.1	6,685.6	106	17.0	574.2	1,307	17.1	3,588.3	15.1	3,350.8
35–39	1,035	14.7	5,976.1	120	19.3	654.4	1,155	15.1	3,239.2	16.1	3,037.4
40–44	695	9.9	4,320.3	68	10.9	381.1	763	10.0	2,248.7	13.6	2,083.1
45–49	401	5.7	2,874.6	30	4.8	194.9	431	5.6	1,468.7	11.8	1,344.3
50–54	165	2.3	1,440.4	11	1.8	87.1	176	2.3	730.7	8.4	644.2
55–59	79	1.1	877.6	6	1.0	61.2	85	1.1	451.9	7.3	389.6
60–64	32	0.5	509.8	0	0.0	0.0	32	0.4	239.0	9.4	213.5
65 and over	22	0.3	254.2	0	0.0	0.0	22	0.3	110.1	6.2	92.2
Total (crude)	**7,033**	**100.0**	**4,227.5**	**623**	**100.0**	**357.5**	**7,655**	**100.0**	**2,247.2**	**18.0**	**2,122.1**
Total (Age-standardised)[(c)]	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**. .**	**. .**	**1,867.6**	**14.3**	**1,737.4**
Mean age	32.0	. .	. .	32.4	. .	. .	32.1	. .	. .	. .	. .
Median age	30.4	. .	. .	31.6	. .	. .	30.5	. .	. .	. .	. .

(continued)

Table 2.11.1 (continued): People in prison custody, by Indigenous status, sex and age group, 30 June 2011

	Males			Females			Persons				
Age group (years)	**No.**	**%**	**Rate per 100,000**	**No.**	**%**	**Rate per 100,000**	**No.**	**%**	**Rate per 100,000**	**Rate ratio[(a)]**	**Rate difference[(b)]**
						Non-Indigenous					
Under 18	26	0.1	17.0	0	0.0	0.0	26	0.1	8.7	. .	. .
18	168	0.8	112.7	6	0.4	4.2	174	0.8	59.9	. .	. .
19	342	1.7	222.4	12	0.9	8.2	354	1.7	118.1	. .	. .
20–24	2,923	14.6	354.2	132	9.4	17.0	3,055	14.3	190.6	. .	. .
25–29	3,351	16.7	403.1	211	15.0	26.1	3,562	16.6	227.5	. .	. .
30–34	3,362	16.8	440.8	283	20.2	37.3	3,645	17.0	237.5	. .	. .
35–39	2,919	14.6	376.0	215	15.3	27.4	3,134	14.6	201.8	. .	. .
40–44	2,354	11.8	305.8	196	14.0	25.2	2,550	11.9	165.6	. .	. .
45–49	1,719	8.6	225.2	143	10.2	18.5	1,862	8.7	124.4	. .	. .
50–54	1,101	5.5	152.0	106	7.6	14.3	1,207	5.6	86.5	. .	. .
55–59	740	3.7	112.9	54	3.9	8.1	794	3.7	62.3	. .	. .
60–64	496	2.5	81.5	20	1.4	3.2	516	2.4	25.5	. .	. .
65 and over	525	2.6	37.4	24	1.7	1.5	549	2.6	17.9	. .	. .
Total (crude)	**20,026**	**100.0**	**236.9**	**1,402**	**100.0**	**16.2**	**21,428**	**100.0**	**125.1**	**. .**	**. .**
Total (Age-standardised)[(c)]	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**. .**	**. .**	**130.2**	**. .**	**. .**
Mean age	36.8	. .	. .	37.9	. .	. .	36.8	. .	. .	. .	. .
Median age	34.8	. .	. .	36.3	. .	. .	34.9	. .	. .	. .	. .

(a) Rate ratio is the Indigenous age-standardised rate divided by the non-Indigenous age-standardised rate.

(b) Rate difference is the Indigenous age-standardised rate minus the non-Indigenous age-standardised rate.

(c) Data are age standardised by the 2001 Australian standard population.

Source: ABS 2011.

Table 2.11.2: People in prison custody, by Indigenous status, sex and state/territory, 30 June 2011

	Indigenous					Non-Indigenous					
	Number					Number					
	Males	Females	Persons	Crude rate[(a)]	Age-standardised rate[(b)]	Males	Females	Persons	Age-standardised rate[(b)]	Rate ratio[(c)]	Rate difference[(d)]
NSW	2,083	211	2,294	2,350.9	1,985.2	7,239	489	7,728	146.4	13.6	1,838.8
Vic	276	18	294	1,320.7	1,155.2	4,142	299	4,441	105.4	11.0	1,049.8
Qld	1,510	140	1,650	1,693.2	1,397.0	3,646	273	3,919	118.6	11.8	1,278.4
SA	449	32	481	2,633.9	2,209.3	1,455	90	1,545	132.3	16.7	2,077.0
WA	1,618	157	1,775	3,809.9	3,105.7	2,678	198	2,876	170.1	18.3	2,935.6
Tas	65	3	68	605.2	486.3	405	29	434	133.5	3.6	352.8
NT	992	49	1,041	2,418.6	2,028.4	222	9	231	181.7	11.2	1,846.7
ACT	44	3	47	1,455.8	1,116.7	237	13	250	87.5	12.8	1,029.2
Aust.	**7,037**	**613**	**7,650**	**2,247.5**	**1,867.6**	**20,024**	**1,400**	**21,424**	**130.2**	**14.3**	**1,737.4**

(a) Number per 100,000 adult population.

(b) Number per 100,000 adult population directly age standardised to 2001 Australian standard population.

(c) Rate ratio is the Indigenous age-standardised rate divided by the non-Indigenous age-standardised rate.

(d) Rate difference is the Indigenous age-standardised rate minus the non-Indigenous age-standardised rate.

(e) The total number of Indigenous Australian counted in this table is different with the total number of Indigenous Australia counted by age groups in table 2.11.1. This lead s to a smidgen different in the crude rate reported in this table.

Source: ABS 2011.

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People in prison custody by legal status and most serious offence/charge

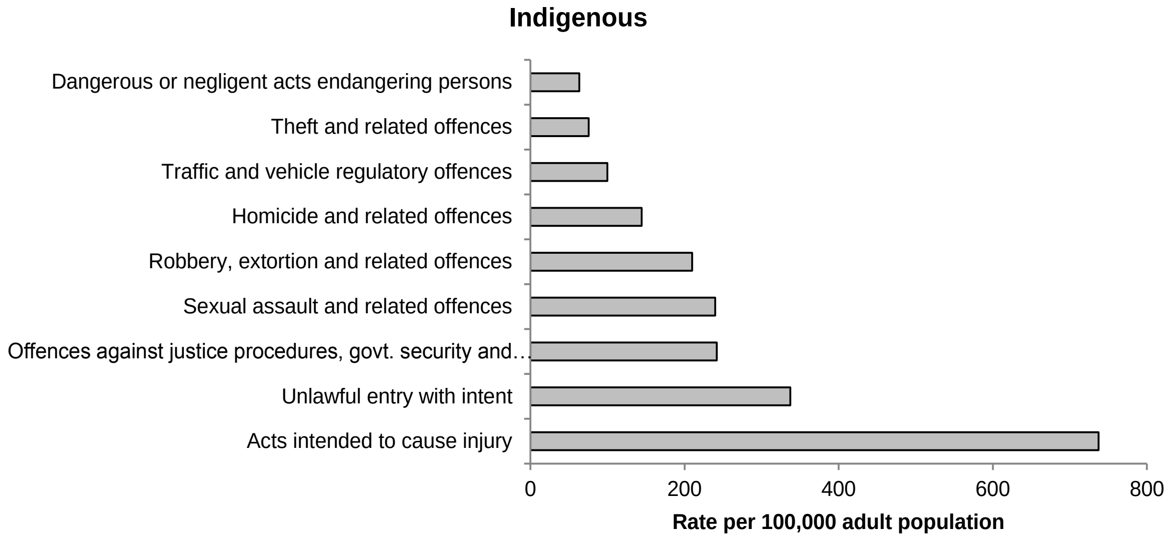
- As at 30 June 2011, approximately 76% of Indigenous prisoners had a prior imprisonment under sentence, compared with 48% of non-Indigenous prisoners (Table 2.11.3).
- The most common offences for Indigenous prisoners were acts intended to cause injury and unlawful entry with intent, being the most serious offences for 32% and 15% or all Indigenous prisoners respectively.
- For non-Indigenous prisoners the most common offences were illicit drug offences and acts intended to cause injury, each accounting for 15% of all imprisonments. Illicit drug offences were recorded as the most serious offence for only 1.4% of Indigenous prisoners.
- Indigenous prisoners were also less likely than non-Indigenous prisoners to have homicide recorded as the most serious offence (6% compared with 11%).
- Indigenous Australians were taken into prison custody for acts intended to cause injury and unlawful entry with intent at rates of 749 and 320 per 100,000 adult population respectively (Figure 2.11.1).
- Non-Indigenous Australians were taken into prison custody for acts intended to cause injury and unlawful entry with intent at rates of 19 and 13 per 100,000 adult population respectively (Figure 2.11.2).

Table 2.11.3: People in prison custody, by Indigenous status, legal status and most serious offence/charge and prior imprisonment[(a)], 30 June 2011

	Indigenous		Non-Indigenous	
	No.	**Prior %**	**No.**	**Prior %**
Sentenced	5,848	76.2	16,510	48.7
Unsentenced	1,808	68.5	4,915	44.1
Acts intended to cause injury	2,480	75.8	3,108	50.8
Unlawful entry with intent	1,135	78.4	2,106	75.6
Offences against justice procedures, govt. security and operations	814	88.3	2,106	62.9
Sexual assault and related offences	806	59.6	2,856	26.3
Robbery, extortion and related offences	706	68.4	2,088	57.4
Homicide and related offences	486	58.0	2,346	31.5
Traffic and vehicle regulatory offences	336	85.7	622	67.5
Theft and related offences	254	81.1	865	67.3
Dangerous or negligent acts endangering persons	213	77.9	447	57.3
Illicit drug offences	106	67.9	3,184	33.8
Property damage and environmental pollution	101	71.3	274	50.7
Public order offences	67	76.1	133	49.6
Abduction, harassment and other offences against the person	75	76.0	250	51.2
Fraud, deception and related offences	35	65.7	714	30.5
Prohibited and regulated weapons and explosives offences	36	63.9	168	57.1
Miscellaneous offences	3	0.0	146	15.8
Unknown	3	0.0	12	83.3
Total	**7,656**	**74.4**	**21,425**	**47.6**

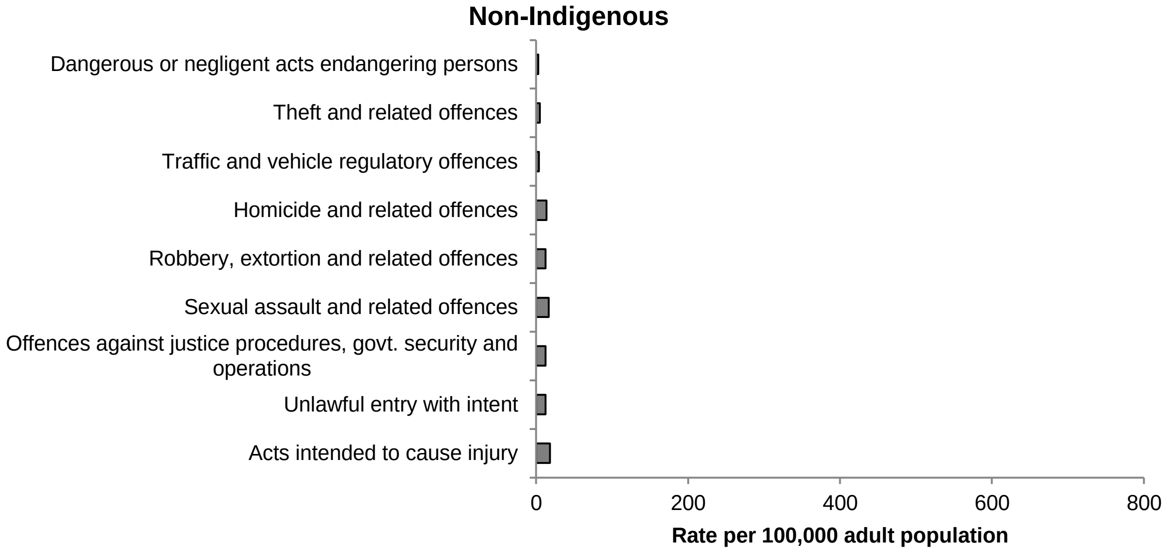
(a) Prior adult imprisonment under sentence.

Source: ABS 2011.



Source: AIHW analysis of ABS 2011 data.

Figure 2.11.1: Most serious offence/charge, crude rates, Indigenous adults, 30 June 2011



Source: AIHW analysis of ABS 2011 data.

Figure 2.11.2: Most serious offence/charge, crude rates, non-Indigenous adults, 30 June 2011

People in prison custody by sentence length

- As at 30 June 2011, the median sentence length for Indigenous sentenced prisoners was 24 months. The longest median sentence lengths were for homicide and related offences (120 months, or 10 years), sexual assault and related offences (84 months, or 7 years) and robbery, extortion and related offences (60 months, or 5 years) (Table 2.11.4).
- The mean (66 months) and median (47 months) sentence lengths for non-Indigenous sentenced prisoners was longer than those for Indigenous sentenced prisoners (44 months and 24 months, respectively) (ABS 2011).
- The mean (5.5 months) and median (3.2 months) time on remand for non-Indigenous unsentenced prisoners was longer than for Indigenous unsentenced prisoners (3.7 months and 2.0 months, respectively) (ABS 2011).

Table 2.11.4: Number of Indigenous sentenced prisoners, by average sentence length and most serious offence, 30 June 2011

	Periodic detention	Under 3 months	3 & under 6 months	6 & under 12 months	1 & under 2 years	2 & under 5 years	5 & under 10 years	10 & under 15 years	15 & under 20 years	20 years & over	Life	Other	Total	Total (%)	Mean (months)(a)	Median (months)
Homicide and related offences	0	0	0	0	4	24	91	50	42	38	132	10	391	6.7	144.1	120.1
Acts intended to cause injury	8	43	127	291	498	492	168	31	7	3	0	8	1,676	28.7	29.4	18.0
Sexual assault and related offences	0	3	6	8	27	127	254	128	29	16	6	35	639	10.9	92.7	84.0
Dangerous or negligent acts endangering persons	0	4	3	44	59	48	14	3	0	0	0	0	175	3.0	25.5	17.0
Abduction, harassment and other offences against the person	3	0	0	5	10	11	9	6	0	0	0	0	44	0.8	52.6	34.0
Robbery, extortion and related offences	3	3	3	8	42	203	214	46	16	6	0	4	548	9.3	70.2	60.0
Unlawful entry with intent	5	7	23	67	227	378	148	18	8	3	0	3	887	15.1	39.6	30.1
Theft and related offences	0	10	20	36	70	44	16	3	0	0	0	0	199	3.4	26.8	15.0
Fraud, deception and related offences	0	0	5	3	10	5	4	0	0	0	0	0	27	0.5	24.6	18.0
Illicit drug offences	0	3	6	7	11	23	18	0	0	3	0	0	71	1.2	43.7	36.0
Prohibited and regulated weapons and explosives offences	0	3	0	0	6	3	4	0	0	0	0	0	16	0.3	32.6	19.4
Property damage and environmental pollution	0	3	6	17	16	20	7	0	0	0	0	3	72	1.2	26.0	16.0
Public order offences	0	7	13	14	13	10	0	3	3	0	0	0	63	1.1	24.9	9.0
Traffic and vehicle regulatory offences	3	29	58	106	99	23	0	0	0	0	0	0	318	5.4	10.9	9.0
Offences against justice procedures, gov't security and operations	0	72	102	191	226	109	11	0	0	0	4	4	719	12.3	15.7	11.8
Miscellaneous offences	0	0	0	0	0	0	0	0	0	3	0	0	3	0.1	162.1	162.1
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	0.0	0.0
Total	**22**	**187**	**372**	**797**	**1,318**	**1,520**	**958**	**288**	**105**	**72**	**142**	**67**	**5,848**	**100.0**	**44.1**	**24.0**

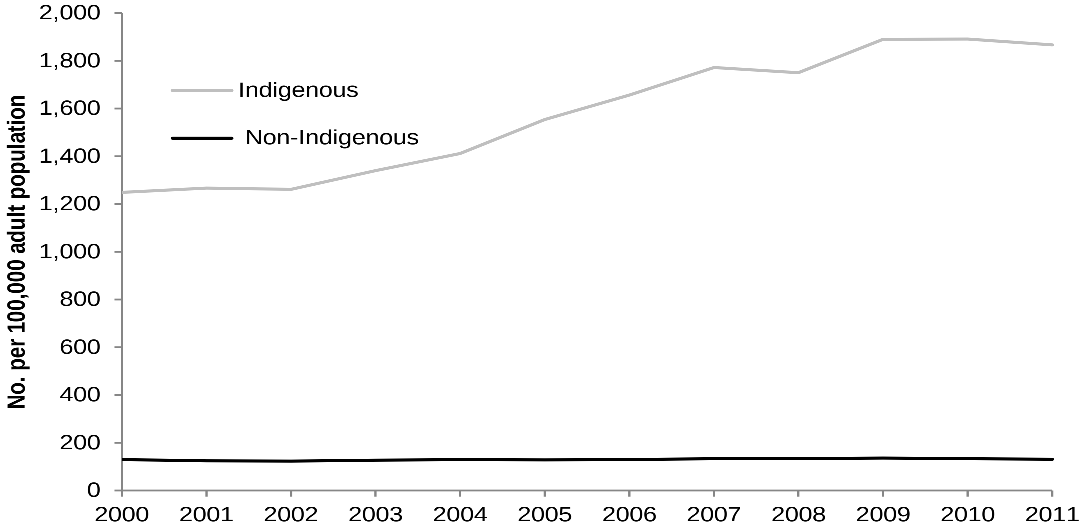
(a) Mean is average number of months; median is the number at which half the sample lies above and half the sample lies below.

Source: ABS 2011.

Time series analyses

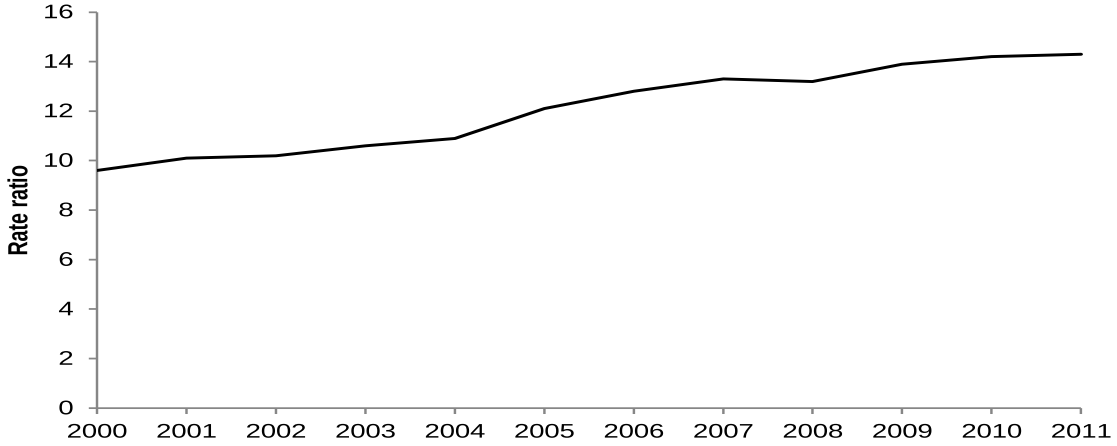
Data on the imprisonment rates of Indigenous and non-Indigenous people aged 18 years and over are presented below for the period 2000–2011.

- During the period of 2000–2011 age-standardised Indigenous imprisonment rates increased steadily from 1,248 to 1,868 per 100,000. In comparison, the age-standardised imprisonment rates for non-Indigenous Australians remained relatively stable over this period (ranged from 123 per 100,000 in 2002 to 130 per 100,000 in 2011) (Figure 2.11.3; Table 2.11.5).
- The rate ratio of age-standardised imprisonment rates ranged from 9.6 in 2000 to 14.3 in 2009 (Figure 2.11.4; Table 2.11.5).



Source: AIHW analysis of ABS 2011 data.

Figure 2.11.3: Age-standardised imprisonment rates, by Indigenous status, 2000–2011



Source: AIHW analysis of ABS 2011 data.

Figure 2.11.4: Age-standardised imprisonment rate ratio, Indigenous to non-Indigenous Australians, 2000–2011

Table 2.11.5: Age-standardised imprisonment rates[(a)], by Indigenous status, 2000–2011

	Indigenous	Non-Indigenous	Rate ratio
2000	1,248.4	129.5	9.6
2001	1,266.5	124.8	10.1
2002	1,261.9	123.2	10.2
2003	1,339.5	126.5	10.6
2004	1,411.3	128.9	10.9
2005	1,554.0	128.4	12.1
2006	1,656.9	129.1	12.8
2007	1,771.9	133.1	13.3
2008	1,750.0	132.7	13.2
2009	1,890.7	135.6	13.9
2010	1,891.5	133.5	14.2
2011	1,867.6	130.2	14.3
Annual Change[(b)]	70.2*	0.8*	0.5*
% change over period[(c)]	61.8*	6.4*	54.2*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2000 to 2011.

(a) Rate per 100,000 adult population.

(b) Average quarterly change determined using linear regression analysis.

(c) Per cent change between 2000 and 2011 based on the average annual change over the period.

Source: AIHW analysis of ABS 2011 data.

Deaths in custody

Data on deaths in custody in Australia come from the Australian Institute of Criminology (AIC) National Deaths in Custody Program and are presented below.

Deaths by selected characteristics

- In 2010–11, there were 21 Indigenous deaths in custody and 64 non-Indigenous deaths. In 2009–10 there was a similar number of Indigenous and non-Indigenous deaths (Tables 2.11.6a and 2.11.6b).
- In 2010–11, 57% of all Indigenous deaths in custody were within prison and 38% within police custody. This compares with 72% of non-Indigenous deaths in custody that were within prison and 28% within police custody (Table 2.11.6). In 2009–10, the proportion of Indigenous deaths within prison was 70% and police custody deaths was 30%; and the proportions of non-Indigenous deaths was 67% in prison and 33% in police custody (Table 2.11.7).
- In 2009–10, 95% of Indigenous deaths in custody were males, compared with 91%in 2010–11. Proportions for non-Indigenous male deaths were 98% in 2009–10 and 100% in 2010–11 (Tables 2.11.6 and 2.11.7).
- In 2009–10, New South Wales and Western Australia had the highest number of Indigenous deaths in custody (6 deaths in each state), while in 2010–11 Western Australia had the most deaths (7).
- In 2009–10 and 2010–11, natural causes were the most common causes of death for Indigenous and non-Indigenous people in custody.

- In both years, Indigenous deaths in custody were less likely than non-Indigenous deaths to be self-inflicted or to be caused by homicide. However, a higher proportion of Indigenous deaths were caused by accident.

Table 2.11.6: Deaths in custody (police and prison), by Indigenous status and selected characteristics, 2010–11

	Indigenous		Non-Indigenous		Total	
	No.	%	No.	%	No.	%
Custodial authority						
Police	8	38.1	18	28.1	26	30.6
Prison	12	57.1	46	71.9	58	68.2
Juvenile justice/welfare	1	4.8	0	0.0	1	1.2
Other/Commonwealth[(a)]	0	0.0	0	0.0	0	0.0
Total custodial authority	**21**	**100.0**	**64**	**100.0**	**85**	**100.0**
Legal status						
Sentenced	9	42.9	32	50.0	41	48.2
Unsentenced	5	23.8	14	21.9	19	22.4
Other[(b)]	7	33.3	18	28.1	25	29.4
Total legal status	**21**	**100.0**	**64**	**100.0**	**85**	**100.0**
Sex						
Males	19	90.5	63	98.4	82	96.5
Females	2	9.5	1	1.6	3	3.5
Total sex	**21**	**100.0**	**64**	**100.0**	**85**	**100.0**
Age						
Less than 25	6	28.6	7	10.9	13	15.3
25–39	10	47.6	19	29.7	29	34.1
40–54	5	23.8	16	25.0	21	24.7
55+	0	0.0	22	34.4	22	25.9
Total age	**21**	**100.0**	**64**	**100.0**	**85**	**100.0**
State/territory						
NSW	2	9.5	23	35.9	25	29.4
Vic	1	4.8	11	17.2	12	14.1
Qld	2	9.5	16	25.0	18	21.2
WA	7	33.3	4	6.3	11	12.9
SA	1	4.8	5	7.8	6	7.1
Tas	2	9.5	3	4.7	5	5.9
ACT	0	0.0	1	1.6	1	1.2
NT	6	28.6	1	1.6	7	8.2
Total state/territory	**21**	**100.0**	**64**	**100.0**	**85**	**100.0**

(continued)

Table 2.11.6 (continued): Deaths in custody (police and prison), by Indigenous status and selected characteristics, 2010–11

	Indigenous		Non-Indigenous		Total	
	No.	**%**	**No.**	**%**	**No.**	**%**
Manner of death						
Self-inflicted	4	19.1	16	25.0	20	23.5
Not Intentionally self-inflicted	0	0.0	0	0.0	0	0.0
Natural causes	9	42.9	33	51.6	42	49.4
Justifiable homicide	1	4.8	5	7.8	6	7.1
Unlawful homicide	0	0.0	2	3.1	2	2.4
Accident	6	28.6	6	9.4	12	14.1
Other	0	0.0	0	0.0	0	0.0
Missing	1	4.8	2	3.1	3	3.5
Total manner of death	**21**	**100.0**	**64**	**100.0**	**85**	**100.0**
Most serious offence						
Violent	8	38.1	29	45.3	37	43.5
Theft-related	5	23.8	10	15.6	15	17.7
Good order	1	4.8	4	6.3	5	5.9
Drug-related	0	0.0	5	7.8	5	5.9
Traffic	1	4.8	6	9.4	7	8.2
Other	5	23.8	7	10.9	12	14.1
Missing	1	4.8	3	4.7	4	4.7
No offence	0	0.0	0	0.0	0	0.0
Total most serious offence	**21**	**100.0**	**64**	**100.0**	**85**	**100.0**
Grand Total	**21**	**24.7**	**64**	**75.3**	**85**	**100.0**

(a) Deaths occurring in Australian Federal Police custody.

(b) Includes situations where the deceased had not been physically apprehended (for example, sieges, motor vehicle pursuits).

Notes

1. Numbers in the various breakdowns may not reflect overall column total due to missing information and data that was not available.
2. Percentages may not reflect column totals due to missing information and rounding.
3. The data presented here is based on the information available at the time of analysis. Coronial findings may be handed down between the time of analysis and time of reporting which may change some of the information contained herein.

Source: AIC National Deaths in Custody Program 2010–11 dataset.

Table 2.11.7: Deaths in custody (police and prison), by Indigenous status and selected characteristics, 2009–10

	Indigenous		Non-Indigenous		Total	
	No.	%	No.	%	No.	%
Custodial authority						
Police	6	30.0	22	33.3	28	32.6
Prison	14	70.0	44	66.7	58	67.4
Juvenile justice/welfare	0	0.0	0	0.0	0	0.0
Other/Commonwealth[(a)]	0	0.0	0	0.0	0	0.0
Total custodial authority	**20**	**100.0**	**66**	**100.0**	**86**	**100.0**
Legal status						
Sentenced	11	55.0	31	47.0	42	48.8
Unsentenced	4	20.0	15	22.7	19	22.1
Other[(b)]	5	25.0	20	30.3	25	29.1
Total legal status	**20**	**100.0**	**66**	**100.0**	**86**	**100.0**
Sex						
Males	19	95.0	66	100.0	85	98.8
Females	1	5.0	0	0.0	1	1.2
Total sex	**20**	**100.0**	**66**	**100.0**	**86**	**100.0**
Age						
Less than 25	5	25.0	10	15.2	15	17.4
25–39	6	30.0	15	22.7	21	24.4
40–54	6	30.0	18	27.3	24	27.9
55+	3	15.0	23	34.9	26	30.2
Total age	**20**	**100.0**	**66**	**100.0**	**86**	**100.0**
State/territory						
NSW	6	30.0	20	30.3	26	30.2
Vic	1	5.0	13	19.7	14	16.3
Qld	4	20.0	12	18.2	16	18.6
WA	6	30.0	6	9.1	12	14.0
SA	0	0.0	6	9.1	6	7.0
Tas	0	0.0	4	6.1	4	4.7
ACT	0	0.0	2	3.0	2	2.3
NT	3	15.0	3	4.5	6	7.0
Total state/territory	**20**	**100.0**	**66**	**100.0**	**86**	**100.0**
Manner of death						
Self-inflicted	4	20.0	19	28.8	23	26.7
Not Intentionally self-inflicted	0	0.0	0	0.0	0	0.0
Natural causes	12	60.0	29	43.9	41	47.7
Justifiable homicide	0	0.0	3	4.5	3	3.5
Unlawful homicide	0	0.0	4	6.1	4	4.7

(continued)

Table 2.11.7 (continued): Deaths in custody (police and prison), by Indigenous status and selected characteristics, 2009–10

	Indigenous		Non-Indigenous		Total	
	No.	**%**	**No.**	**%**	**No.**	**%**
Accident	4	20.0	10	15.2	14	16.3
Other	0	0.0	1	1.5	1	1.2
Missing	0	0.0	0	0.0	0	0.0
Total manner of death	**20**	**100.0**	**66**	**100.0**	**86**	**100.0**
Most serious offence						
Violent	9	45.0	37	56.1	46	53.5
Theft-related	4	20.0	3	4.5	7	8.1
Good order	1	5.0	2	3.0	3	3.5
Drug-related	1	5.0	3	4.5	4	4.7
Traffic	2	10.0	10	15.2	12	14.0
Other	2	10.0	10	15.2	12	14.0
Missing	1	5.0	0	0.0	1	1.2
No offence	0	0.0	1	1.5	1	1.2
Total most serious offence	**20**	**100.0**	**66**	**100.0**	**86**	**100.0**
Grand Total	**20**	**23.3**	**66**	**76.7**	**86**	**100.0**

(a) Deaths occurring in Australian Federal Police custody.

(b) Includes situations where the deceased had not been physically apprehended (for example, sieges, motor vehicle pursuits).

Notes

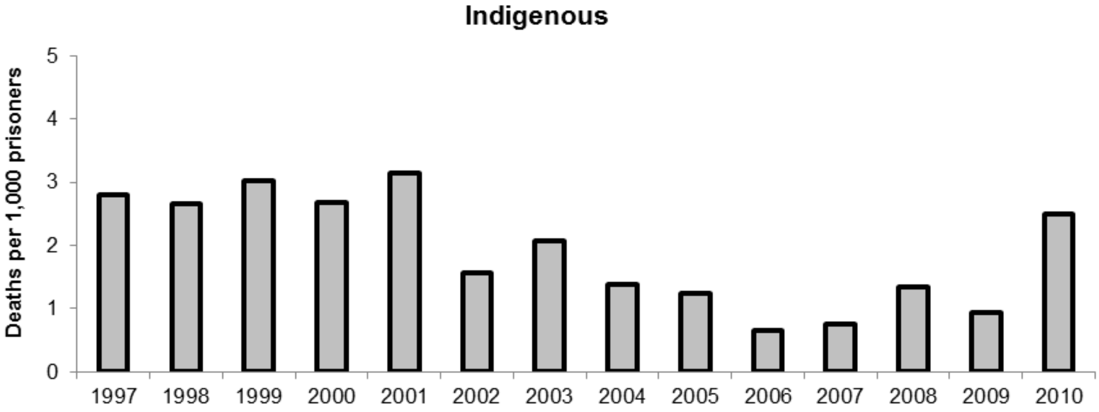
1. Numbers in the various breakdowns may not reflect overall column total due to missing information and data that was not available.
2. Percentages may not reflect column totals due to missing information and rounding.
3. The data presented here is based on the information available at the time of analysis. Coronial findings may be handed down between the time of analysis and time of reporting which may change some of the information contained herein.

Source: AIC National Deaths in Custody Program 2010–11 dataset.

Time series analyses

Figures 2.11.5 and 2.11.6 and Table 2.11.8 present the crude death rates for Indigenous and other Australians in prison custody over the period 1997 to 2010.

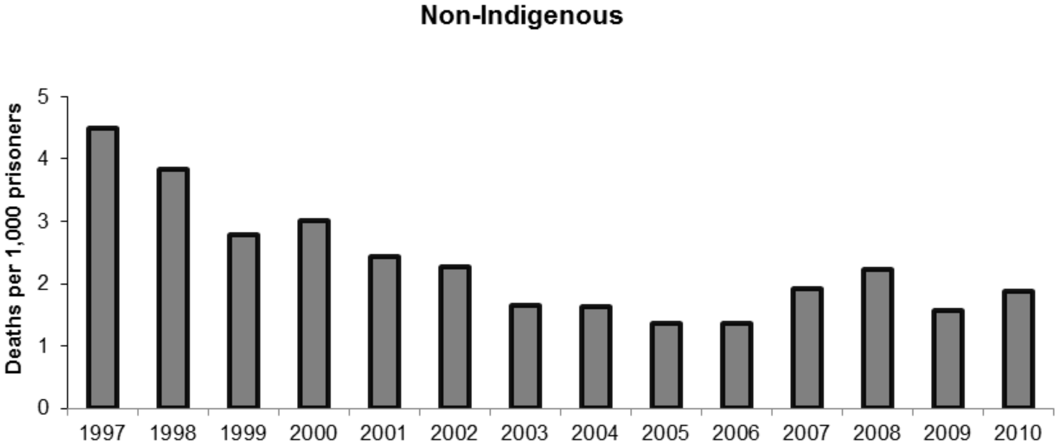
- Over the period 1997 to 2010 there were between 3.1 and 0.7 Indigenous deaths in custody per 1,000 Indigenous prisoners (Figure 2.11.5).
- Over the same period, there were between 4.5 and 1.4 non-Indigenous deaths per 1,000 non-Indigenous prisoners (Figure 2.11.6).
- There has been a decline in the rates of deaths in prison custody for both Indigenous and non-Indigenous prisoners. Between 1997 and 2010 the average annual change in rates of Indigenous deaths decreased by 0.1 per 1,000 prisoners, while there was a 66% decrease in the per cent change over the whole period. This compares with non-Indigenous prisoners were the average annual change in rates decreased by 0.2, and the per cent change over the whole period decreased by 51% (Table 2.11.8).



Note: Rates are per 1,000 prison population and have not been age-standardised.

Source: AIHW analysis of AIC National Deaths in Custody Program data.

Figure 2.11.5: Crude rates of deaths in prison custody, Indigenous Australians, 1997 to 2010



Note: Rates are per 1,000 prison population and have not been age-standardised.

Source: AIHW analysis of AIC National Deaths in Custody Program data.

Figure 2.11.6: Crude rates of deaths in prison custody, Other Australians, 1998 to 2008

Table 2.11.8: Crude rates of deaths per 1,000 prisoners in prison custody on 30 June each year, 1997 to 2010

Calendar Year[(a)]		
	Indigenous	**Non-Indigenous**
1997	2.8	4.5
1998	2.7	3.8
1999	3.0	2.8
2000	2.7	3.0
2001	3.1	2.4
2002	1.6	2.3
2003	2.1	1.7
2004	1.4	1.6
2005	1.2	1.4
2006	0.7	1.4
2007	0.8	1.9
2008	1.3	2.2
2009	0.9	1.6
2010	2.5	1.9
Annual Change[(b)]	**–0.1***	**–0.2***
Per cent change[(c)]	**–66.0***	**–51.0***

* Represents results with statistically significant increases or declines at the $p < 0.05$ level .

(a) Denominator used to calculate rates is the 30 June census count, Australian Bureau of Statistics, Prisoners in Australia cat. no. 4517.0.

(b) Average period change determined using regression analysis.

(c) Per cent change between 1998 and 2010 based on the average annual change over the period.

Note: The data presented here is based on the information available at the time of analysis. Coronial findings may be handed down between the time of analysis and time of reporting which may change some of the information contained herein.

Source: AIC National Deaths in Custody Program 1997 to 2010 datasets.

Detainees and drug use

The AIC Drug Use Monitoring in Australia (DUMA) survey reports on drug use among police detainees at selected police stations in Australia. The survey is by a voluntary questionnaire and drug use is confirmed by a urine sample provided by the detainee. Data from the 2010 and 2011 surveys are presented in Tables 2.11.9 and 2.11.10.

Data from 2010 DUMA survey

- In 2010, in all of the selected police stations shown in Table 2.11.9, there was a higher proportion of Indigenous detainees who tested positive to at least one drug than non-Indigenous detainees.
- Between 57% and 100% of Indigenous detainees at selected police stations in South Australia, New South Wales, Queensland, Western Australia, the Northern Territory and Victoria tested positive to drugs in 2010 compared with between 54% and 70% of non-Indigenous detainees.
- Cannabis was the most common drug for which both Indigenous and non-Indigenous detainees tested positive. Methamphetamines and benzodiazepines were also common drugs to which Indigenous and non-Indigenous detainees tested positive. Between 2.5%

and 55% of Indigenous detainees and between 2.3% and 29% of non-Indigenous detainees tested positive for multiple drugs.

Data from 2011 DUMA survey

Data from the 2011 DUMA survey is presented in table 2.11.10. Please note that this data only became available after the 2012 Aboriginal and Torres Strait Islander Health Performance Framework was published by the Department of Health and Ageing.

- In 2011, in all of the selected police stations shown in Table 2.11.9, there was a higher proportion of Indigenous detainees who tested positive to at least one drug than non-Indigenous detainees.
- Between 70% and 100% of Indigenous detainees at selected police stations in South Australia, New South Wales, Queensland, Western Australia, the Northern Territory and Victoria tested positive to drugs compared with between 52% and 71% of non-Indigenous detainees.
- Cannabis was the most common drug for which both Indigenous and non-Indigenous detainees tested positive. Methamphetamines and benzodiazepines were also common drugs to which Indigenous and non-Indigenous detainees tested positive. Between 4.4% and 40% of Indigenous detainees and between 2.1% and 24% of non-Indigenous detainees tested positive for multiple drugs.

Table 2.11.9: Detainees at selected police stations, by drug use and Indigenous status, 2010

	Adelaide (SA)		Bankstown + Parramatta (NSW)		Brisbane + Southport (Qld)		East Perth (WA)		Darwin (NT)		Footscray/Sunshine (Vic)	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Tested positive to a drug							**Per cent**					
Benzodiazepines	25.4	21.1	29.4	18.9	25.2	23.5	17.1	22.6	4.6	12.5	57.1	40.2
Cannabis	63.5	34.9	54.9	36.4	66.4	43.3	74.3	45.6	53.7	45.8	100.0	40.9
Cocaine	0.0	0.7	11.8	5.5	0.0	1.0	0.0	0.0	0.9	0.0	0.0	2.4
Heroin	6.4	9.4	27.5	11.8	15.4	10.8	2.7	7.0	0.0	8.3	85.7	44.5
Methamphetamine	3.2	14.8	11.8	11.0	18.2	17.2	19.3	19.3	3.7	12.5	0.0	25.8
Multiple drugs	12.6	7.4	28.1	9.7	32.4	21.9	18.3	9.1	2.5	2.3	54.6	28.7
Total tested positive to a drug[(a)]	*73.0*	*54.0*	*70.6*	*54.3*	*78.3*	*61.7*	*81.3*	*62.5*	*56.5*	*54.2*	*100.0*	*69.5*
Did not test positive to a drug	27.0	46.0	29.4	45.7	21.7	38.3	18.7	37.5	43.5	45.8	0.0	30.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**63**	**298**	**51**	**508**	**143**	**985**	**187**	**371**	**108**	**24**	**7**	**164**

(a) Proportion who tested positive to a least one drug. Sum of components will add to more than the subtotal because detainees can test positive to more than one type of drug.

Source: AIC Drug Use Monitoring in Australia (DUMA) survey 2010.

Table 2.11.10: Detainees at selected police stations, by drug use and Indigenous status, 2011

	Adelaide (SA)		Bankstown, Kings Cross + Parramatta (NSW)		Brisbane + Southport (Qld)		East Perth (WA)		Darwin (NT)		Footscray (Vic)	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Tested positive to a drug	**Per cent**											
Benzodiazepines	35.6	22.9	32.7	18.2	22.8	24.0	16.7	21.2	9.9	19.1	50.0	36.1
Cannabis	64.4	39.9	67.3	34.1	60.9	43.5	69.1	47.1	66.9	33.3	100.0	41.4
Cocaine	2.2	1.2	1.8	3.9	0.0	1.1	0.0	0.3	0.0	0.0	0.0	3.8
Heroin	4.4	10.7	16.4	12.6	11.6	9.9	3.1	5.5	0.7	4.8	66.7	55.1
Methylamphetamine	15.6	23.3	27.3	16.5	19.1	23.8	26.0	25.9	0.7	14.3	16.7	18.8
Multiple drugs	26.1	7.8	29.6	10.7	29.8	23.9	25.5	9.5	4.4	2.1	40.0	20.0
Total tested positive to a drug[(a)]	*71.1*	*61.3*	*87.3*	*53.7*	*74.1*	*65.0*	*75.8*	*68.3*	*69.7*	*52.4*	*100.0*	*71.4*
Did not test positive to a drug	28.9	38.7	12.7	46.3	25.9	35.0	24.2	31.7	30.3	47.6	0.0	28.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**45**	**253**	**55**	**484**	**189**	**1,011**	**223**	**382**	**142**	**42**	**6**	**133**

(a) Proportion who tested positive to a least one drug. Sum of components will add to more than the subtotal because detainees can test positive to more than one type of drug.

Source: AIC Drug Use Monitoring in Australia (DUMA) survey 2011.

Contact with police

Information on police contact with Indigenous persons is available from the 2008 NATSISS. This information is presented in tables 2.11.11 and 2.11.12. Table 2.11.11 compares the population characteristics of Indigenous people who were formally charged, or arrested or incarcerated in the last 5 years, with percentages being calculated within columns. Table 2.11.12 compares the police contact status of different elements of the Indigenous population, with percentages being calculated across the rows.

- In 2008, approximately 34% of Indigenous persons aged 15 years and over had been formally charged by the police, 15% had been arrested by the police in the previous 5 years and 36% had been incarcerated in the previous 5 years (Table 2.11.12).

Contact with police by selected characteristics

- Indigenous persons aged 35–44 years were most likely to have been formally charged, Indigenous persons aged 25–34 years were most likely to have been arrested by the police in the previous 5 years, and Indigenous persons aged 15–24 years were most likely to have been incarcerated by the police in the previous 5 years (Table 2.11.12).
- A higher proportion of Indigenous males than females had been formally charged (48% compared with 21%), arrested by police in the previous 5 years (22% compared with 9%) and incarcerated in the previous 5 years (37% compared with 30%) (Table 2.11.12).
- In 2008, Western Australian had the highest proportion of Indigenous people aged 15 years and over who had been formally charged (44%) (Table 2.11.12).
- Indigenous Australians with a disability or long-term health condition were more likely than those without a disability or long term health condition to have been formally charged, however they were almost as likely to be arrested in the last 5 years, and less likely to be incarcerated.
- Indigenous Australians aged 15 years and over who were current daily smokers, had consumed alcohol at moderate or high risk levels in the previous 12 months and had used substances in the previous 12 months were more likely to have been formally charged than Indigenous Australians who had not engaged in these activities (Table 2.11.12).
- In 2008, a higher proportion of Indigenous Australians in the lowest (1st) quintile of household income had been formally charged and arrested by the police in the previous 5 years than Indigenous Australians in the highest (5th) quintile of household income.
- The majority of Indigenous Australians who had been formally charged by police reported that the age at which they were first formally charged was between 12 and 24 years (78%) (Table 2.11.11).
- According to the 2008 NATSISS, 15% of Indigenous persons aged 15 years and over had been arrested in the previous 5 years, compared to 16% in 2002 and 23% in 2008. During 2008, 8% of Indigenous persons aged 15 years and over reported being arrested once and 7% reported being arrested more than once (ABS 2008).

Table 2.11.11: Contact with the police, by selected population characteristics, Indigenous persons aged 15 years and over, 2008

	Formally charged	Arrested by police in last 5 years	Incarcerated in last 5 years[(a)]
		Per cent	
Sex			
Males	67.7	70.1	86.6
Females	32.3	29.9	13.4
Persons	100.0	100.0	100.0
Age			
15–24	23.4	36.6	28.5
25–34	25.9	30.6	37.3
35–44	24.9	21.2	24.9
45–54	17.4	8.7	6.6
55 and over	8.4	3.0	2.6
State/territory			
NSW	30.1	25.5	16.5
Vic	6.5	6.7	2.9
Qld	24.9	23.0	33.8
WA	17.9	21.1	17.6
SA	5.9	6.5	5.6
Tas/ACT	4.2	3.8	3.1
NT	10.4	13.4	20.5
Self-assessed health status			
Excellent/good	38.5	40.9	48.3
Good	34.9	34.0	29.6
Fair/poor	26.6	25.1	22.1
Has disability or long-term health condition			
Yes	56.9	54.0	50.5
No	43.1	46.0	49.5
Smoker status			
Current daily smoker	63.4	72.0	82.6
Not current daily smoker	36.6	28.0	17.4
Risky/high-risk alcohol consumption in last 12 months			
Yes	37.6	34.0	37.7
No	62.4	66.0	62.3
Whether used substances in last 12 months			
Yes	37.6	48.6	49.3
No	62.4	51.4	50.7

(continued)

Table 2.11.11 (continued): Contact with the police, by selected population characteristics, Indigenous persons aged 15 years and over, 2008

	Formally charged	Arrested by police in last 5 years	Incarcerated in last 5 years[(a)]
		Per cent	
Household income			
1st quintile	52.2	60.5	64.7
5th quintile	8.2	6.1	5.7
Index of disparity			
1st quintile	58.4	63.6	66.6
5th quintile	3.5	2.4	4.9
Employment			
Employed	50.9	44.8	41.3
Unemployed	13.9	20.9	23.2
Not in the labour force	35.2	34.4	35.6
Location			
Remote	26.3	32.1	40.1
Non-remote	73.7	67.9	59.9
Has non-school qualification			
Yes	32.2	26.8	24.5
No	67.8	73.2	75.5
Completed Year 12			
Yes	14.6	13.4	8.2
No	85.4	86.6	91.8
Housing			
Owner	21.0	14.5	3.1
Renter	77.7	84.2	94.2
Dwelling has major structural problems	32.8	36.4	33.1
Dwelling requires additional bedrooms[(a)]	26.0	30.9	35.6
Family and culture			
Participated in sporting, social or community activities in last 12 months	91.6	90.0	90.3
Able to get support in time of crisis from someone outside the household	87.8	85.7	82.1
Person removed from natural family	12.8	13.6	20.5
Relative removed from natural family	51.4	50.6	57.2
Currently lives in homelands/traditional country	38.2	37.4	35.4
Participated in cultural activities in last 12 months	64.1	65.8	69.2

(continued)

Table 2.11.11 (continued): Contact with the police, by selected population characteristics, Indigenous persons aged 15 years and over, 2008

	Formally charged	Arrested by police in last 5 years	Incarcerated in last 5 years[(a)]
		Per cent	
Victim of physical violence in last 12 months			
Yes	24.0	34.5	30.0
No	76.0	65.5	70.0
Victim of threatened physical violence in last 12 months			
Yes	26.7	36.5	33.7
No	73.3	63.5	66.3
Stressors experienced in last 12 months			
At least one stressor experienced in last 12 months	66.6	72.0	69.3
No stressors experienced in last 12 months	33.4	28.0	30.7
Age first formally charged by the police[(b)]			
11 years or younger	3.4	4.6	7.7
12–24	77.9	79.6	80.6
25–34	12.3	10.3	8.3
35 and over	6.4	5.5	3.5
Total number	**109,685**	**49,070**	**10,628**

(a) Based on Canadian National Occupancy Standard for housing appropriateness.

(b) Proportions are of those formally charged not of total persons.

Source: AIHW analysis of 2008 NATSISS.

Table 2.11.12: Contact with the police, by selected population characteristics, Indigenous persons aged 15 years and over, 2008

	Formally charged	Not formally charged	Arrested by police in last 5 years	Not arrested by police in last 5 years	Incarcerated in last 5 years	Not incarcerated in last 5 years	Total
				Per cent			
Sex							
Males	47.6	52.4	22.1	77.9	37.1	62.9	100.0
Females	20.7	79.3	8.6	91.4	29.5	70.5	100.0
Persons	33.6	66.4	15.0	85.0	35.9	64.1	100.0
Age							
15–24	24.7	75.3	17.3	82.7	82.6	17.4	100.0
25–34	40.7	59.3	21.5	78.5	59.9	40.1	100.0
35–44	42.9	57.1	16.3	83.7	29.7	70.3	100.0
45–54	40.7	59.3	9.1	90.9	10.9	89.1	100.0
55 and over	21.5	78.5	3.4	96.6	6.9	93.1	100.0
State/territory							
NSW	34.4	65.6	13.0	87.0	21.6	78.4	100.0
Vic	32.6	67.4	15.1	84.9	17.9	82.1	100.0
Qld	30.3	69.7	12.5	87.5	50.6	49.4	100.0
WA	44.4	55.6	23.4	76.6	32.8	67.2	100.0
SA	36.4	63.6	17.7	82.3	28.3	71.7	100.0
Tas/ACT	30.4	69.6	12.3	87.7	43.0	57.0	100.0
NT	27.7	72.3	15.9	84.1	52.9	47.1	100.0
Self-assessed health status							
Excellent/good	29.5	70.5	14.0	86.0	52.8	47.2	100.0
Good	34.4	65.6	15.0	85.0	30.6	69.4	100.0
Fair/poor	40.1	59.9	17.0	83.0	24.4	75.6	100.0
Has disability or long term health condition							
Yes	37.0	63.0	14.5	85.5	25.9	74.1	100.0
No	28.8	71.2	12.7	87.3	40.3	59.7	100.0
Smoker status							
Current daily smoker	47.8	52.2	24.3	75.7	40.7	59.3	100.0
Not current daily smoker	22.2	77.8	7.6	92.4	23.0	77.0	100.0
Risky/high-risk alcohol consumption in last 12 months							
Yes	55.6	44.4	29.2	70.8	39.0	61.0	100.0
No	28.8	71.2	11.9	88.1	35.6	64.4	100.0
Whether used substances in last 12 months							
Yes	56.6	43.4	32.5	67.5	44.2	55.8	100.0
No	27.4	72.6	10.0	90.0	28.9	71.1	100.0

(continued)

Table 2.11.12 (continued): Contact with the police, by selected population characteristics, Indigenous persons aged 15 years and over, 2008

	Formally charged	Not formally charged	Arrested by police in last 5 years	Not arrested by police in last 5 years	Incarcerated in last 5 years	Not incarcerated in last 5 years	Total
Household income							
1st quintile	37.3	62.7	18.8	81.2	37.5	62.5	100.0
5th quintile	27.8	72.2	9.0	91.0	57.7	42.3	100.0
Index of disparity							
1st quintile	37.0	63.0	18.0	82.0	37.4	62.6	100.0
5th quintile	29.6	70.4	9.3	90.7	71.2	28.8	100.0
Employment							
Employed	33.1	66.9	13.0	87.0	34.6	65.4	100.0
Unemployed	45.7	54.3	30.7	69.3	55.3	44.7	100.0
Not in the labour force					30.2	69.8	100.0
Location							
Remote	35.4	64.6	19.4	80.6	45.4	54.6	100.0
Non-remote	33.0	67.0	13.6	86.4	31.4	68.6	100.0
Has non-school qualification							
Yes	33.5	66.5	12.5	87.5	33.8	66.2	100.0
No	33.6	66.4	16.2	83.8	36.6	63.4	100.0
Completed Year 12							
Yes	24.0	76.0	9.8	90.2	46.0	54.0	100.0
No	36.0	64.0	16.3	83.7	35.2	64.8	100.0
Housing							
Owner	23.9	76.1	7.4	92.6	11.3	88.7	100.0
Renter	37.9	62.1	18.3	81.7	38.3	61.7	100.0
Dwelling has major structural problems	38.9	61.1	19.3	80.7	35.4	64.6	100.0
Dwelling requires additional bedrooms[(a)]	34.9	65.1	18.5	81.5	43.2	56.8	100.0

(continued)

Table 2.11.12 (continued): Contact with the police, by selected population characteristics, Indigenous persons aged 15 years and over, 2008

	Formally charged	Not formally charged	Arrested by police in last 5 years	Not arrested by police in last 5 years	Incarcerated in last 5 years	Not incarcerated in last 5 years	Total
Family and culture							
Participated in sporting, social or community activities in last 12 months	33.3	66.7	14.6	85.4	36.3	63.7	100.0
Able to get support in time of crisis from someone outside the household	33.2	66.8	14.5	85.5	34.9	65.1	100.0
Person removed from natural family	51.1	48.9	24.3	75.7	33.3	66.7	100.0
Relative removed from natural family	38.8	61.2	13.5	86.5	38.1	61.9	100.0
Currently lives in homelands/traditional country	39.3	60.7	17.2	82.8	33.6	66.4	100.0
Participated in cultural activities in last 12 months	34.2	65.8	15.7	84.3	38.6	61.4	100.0
Victim of physical violence in last 12 months							
Yes	54.9	45.1	35.4	64.6	45.5	54.5	100.0
No	29.8	70.2	11.5	88.5	32.9	67.1	100.0
Victim of threatened physical violence in last 12 months							
Yes	49.4	50.6	30.1	69.9	45.7	54.3	100.0
No	30.0	70.0	11.6	88.4	32.3	67.7	100.0
Stressors experienced in last 12 months							
At least one stressor experienced in last 12 months	38.9	61.1	18.8	81.2	36.9	63.1	100.0
No stressors experienced in last 12 months	26.3	73.7	9.9	90.1	33.7	66.3	100.0
Age first formally charged by the police(b)							
11 years or younger	n.a.	n.a.	52.3	47.7	35.5	64.5	100.0
12–24	n.a.	n.a.	39.8	60.2	35.7	64.3	100.0
25–34	n.a.	n.a.	32.8	67.2	39.5	60.5	100.0
35 and over	n.a.	n.a.	33.4	66.6	45.1	54.9	100.0
Total number	**109,685**	**217,087**	**49,070**	**277,702**	**10,628**	**19,003**	**326,773**

(a) Based on Canadian National Occupancy Standard for housing appropriateness.

(b) Proportions are of those formally charged not of total persons.

Source: AIHW analyses of 2008 NATSISS.

Young people in unsentenced detention

Data on young people in unsentenced detention come from the AIHW Juvenile Justice National Minimum Data Set. Data on juvenile justice were first collected in 2000–01 and the data presented here are for 2009–10. These data exclude Western Australia and the Northern Territory, as data were not provided by these jurisdictions.

The term 'unsentenced detention' is used to indicate young people on remand (who have been remanded in custody by a court) and those under police referred detention (before an initial court appearance) (AIHW 2011a).

Young people in unsentenced detention by selected characteristics

- On an average day in 2009—10, 201 Indigenous and 232 non-Indigenous young people were in unsentenced detention (Table 2.11.13).
- For both Indigenous and non-Indigenous Australians, the majority of young people in unsentenced detention were in 14—17 year age group (Table 2.11.13).
- The rate of Indigenous Australians aged 10—17 years in unsentenced detention on an average day was 22 times the rate of non-Indigenous Australians (245 and 11 per 100,000, respectively) (Table 2.11.14).
- New South Wales (317 per 100,000) and South Australia (249 per 100,000) had the highest rates of Indigenous young people aged 10—17 years in unsentenced detention (Table 2.11.14).

Table 2.11.13: Number of young people in unsentenced detention on an average day, by age, Indigenous status and state/territory, 2009–10(a)

Age	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust. excl. WA & NT
				Indigenous					
10–13	8	—	7	n.a.	2	—	—	n.a.	18
14–17	91	8	52	n.a.	12	7	4	n.a.	174
18+	5	1	0	n.a.	1	—	1	n.a.	9
Total	**105**	**10**	**59**	**n.a.**	**15**	**7**	**5**	**n.a.**	**201**
				Non-Indigenous					
10–13	3	2	3	n.a.	2	2	1	n.a.	14
14–17	96	36	34	n.a.	15	12	7	n.a.	200
18+	14	1	—	n.a.	3	—	—	n.a.	18
Total	**113**	**40**	**38**	**n.a.**	**20**	**14**	**8**	**n.a.**	**232**

(a) Number of young people on an average day may not sum to total due to rounding.

Notes

1. Western Australia and the Northern Territory did not supply JJ NMDS data for 2009–10.
2. Total includes young people with unknown age.
3. Age calculated as at start of financial year if first period of unsentenced detention in the relevant year began before the start of the financial year, otherwise age calculated as at start of first period of unsentenced detention in the relevant year.
4. Number of unsentenced and sentenced young people may not sum to total number of young people as some young people may have changed legal status during the same day.
5. People in the JJ NMDS who are aged 18 years or older include (a) young people who committed or allegedly committed an offence while aged 17 years or younger, who are supervised in relation to that offence when they are aged 18 years or older; and (b) people who were aged 18 years or older at the time of the offence who are supervised by the juvenile justice system rather than the adult correctional system because of their vulnerability or immaturity.

Source: AIHW 2011a. Juvenile justice in Australia 2009–10, table D23a.

Table 2.11.14: Rates of young people in unsentenced detention on an average day, by age, Indigenous status and state/territory, 2009–10(a)(b)

Age	NSW	Vic	Qld	WA	SA	Tas	ACT(c)	NT	Aust. excl. WA & NT
				Indigenous no. per 100,000					
10–13	51.7	—	46.2	n.a.	70.5	—	n.a.	n.a.	46.2
14–17	578.3	234.7	347.2	n.a.	430.1	358.1	n.a.	n.a.	442.6
Total 10–17	**317.3**	**119.1**	**195.8**	**n.a.**	**248.7**	**186.7**	**n.a.**	**n.a.**	**245.2**
				Non-Indigenous no. per 100,000					
10–13	0.9	0.8	1.4	n.a.	2.6	8.1	n.a.	n.a.	1.5
14–17	26.9	13.0	14.7	n.a.	18.5	46.3	n.a.	n.a.	20.2
Total 10–17	**14.1**	**7.0**	**8.2**	**n.a.**	**10.7**	**27.7**	**n.a.**	**n.a.**	**11.0**
				Rate ratio(d)					
10–13	59.3	. .	34.1	n.a.	27.1	. .	n.a.	n.a.	31.2
14–17	21.5	18.1	23.6	n.a.	23.3	7.7	n.a.	n.a.	21.9
Total 10–17	**22.5**	**17.0**	**24.0**	**n.a.**	**23.1**	**6.7**	**n.a.**	**n.a.**	**22.2**
				Rate difference(e)					
10–13	50.9	. .	44.8	n.a.	67.9	. .	n.a.	n.a.	44.7
14–17	551.5	221.7	332.5	n.a.	411.6	311.7	n.a.	n.a.	422.4
Total 10–17	**303.2**	**112.0**	**187.6**	**n.a.**	**238.0**	**159.0**	**n.a.**	**n.a.**	**234.2**

(a) Rates for Indigenous persons are calculated using population estimates based on the 2006 Census (Series B).

(b) Age calculated at start of financial year if period of detention began before start of financial year, otherwise age calculated as at start of period of detention.

(c) Australian Capital Territory single year of age population data not available for rate calculations.

(d) Rate ratio Indigenous: non-Indigenous.

(e) Rate difference: Indigenous minus non-Indigenous.

Notes

1. Western Australia and the Northern Territory did not supply JJ NMDS data for 2009–10.
2. Age calculated as at start of financial year if first period of unsentenced detention in the relevant year began before the start of the financial year, otherwise age calculated as at start of first period of unsentenced detention in the relevant year.

Source: AIHW analysis of Juvenile Justice National Minimum Data Set.

Completed periods of unsentenced detention

- In 2009—10, Indigenous young people completed periods of unsentenced detention that lasted a median length of 7 days, compared to 3 days for non-Indigenous young people (Table 2.11.15).
- Indigenous young people completed around 3,300 and non-Indigenous young people completed around 4,900 periods of unsentenced detention during 2009—10 (Table 2.11.15).
- The rate of Indigenous Australians aged 10—17 years who completed a period of unsentenced detention was 15 times the rate of non-Indigenous Australians (1,907 and 127 per 100,000, respectively) (Table 2.11.16).
- Of those aged 10—17 years who completed periods of unsentenced detention, around half of Indigenous people (51%) completed multiple periods, compared with 42% of non-Indigenous people (Table 2.11.16).

Table 2.11.15: Completed periods of unsentenced detention by Indigenous status and state/territory, 2009–10

Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust. excl. WA & NT
				Median length (days)					
Indigenous	5	18	15	n.a.	3	15	6	n.a.	7
Non-Indigenous	2	12	6	n.a.	3	15	2	n.a.	3
Total[(a)]	**3**	**13**	**11**	**n.a.**	**3**	**15**	**3**	**n.a.**	**4**
				Number of completed periods of unsentenced					
Indigenous	1,780	108	812	n.a.	456	67	86	n.a.	3,309
Non-Indigenous	2,494	601	674	n.a.	688	175	285	n.a.	4,917
Total[(a)]	**4,389**	**712**	**1,495**	**n.a.**	**1,149**	**242**	**372**	**n.a.**	**8,359**
				Number of young people					
Indigenous	855	69	369	n.a.	190	40	35	n.a.	1,558
Non-Indigenous	1,346	388	364	n.a.	321	95	133	n.a.	2,647
Total[(a)]	**2,277**	**459**	**742**	**n.a.**	**515**	**135**	**169**	**n.a.**	**4,297**

(a) Total includes those with unknown Indigenous status.

Notes

1. Western Australia and the Northern Territory did not supply JJ NMDS data for 2009–10.
2. The duration of periods of unsentenced detention separated by a transfer to another detention centre were summed.
3. Median lengths were not calculated where there were fewer than five periods.

Source: AIHW 2011a. Juvenile justice in Australia 2009–10, table D26.

Table 2.11.16: Number and rates of young people aged 10–17 years[(a)] who completed a period of unsentenced detention during the year by number of periods completed and Indigenous status, Australia (excluding WA and NT), 2009–10

	Indigenous		Non-Indigenous			
	Number	No. per 100,000[(b)]	Number	No. per 100,000	Ratio[(c)]	Difference[(d)]
Number of unsentenced detention periods						
1	732	934.8	1,430	73.8	12.7	861.0
2	353	450.8	542	28.0	16.1	422.8
3	177	226.0	226	11.7	19.4	214.4
4	104	132.8	119	6.1	21.6	126.7
5	47	60.0	62	3.2	18.8	56.8
6+	80	102.2	88	4.5	22.5	97.6
Total	**1,493**	**1,906.7**	**2,467**	**127.3**	**15.0**	**1,779.4**

(a) Age calculated at start of financial year if period of detention began before start of financial year, otherwise age calculated as at start of period of detention.

(b) Rates for Indigenous are calculated using population estimates based on the 2006 Census (Series B).

(c) Rate ratio Indigenous: non-Indigenous.

(d) Rate difference: Indigenous minus non-Indigenous.

Notes

1. Western Australia and the Northern Territory did not supply JJ NMDS data for 2009–10.
2. Number of unsentenced and sentenced young people may not sum to total number of young people as some young people may have changed legal status during the same day.

Source: AIHW analysis of Juvenile Justice National Minimum Data Set.

Additional information

Prisoner health census

Selected data from the 2010 National Prisoner Health Census are presented in tables 2.11.17 to 2.11.25.

Further information is available from the AIHW's *The health of Australia's prisoners, 2010* (AIHW 2011b).

Health status of prisoners

- A similar proportion of Indigenous (78%) and non-Indigenous (74%) prison entrants consulted a medical professional for their own health in prison during the previous 12 months. The proportion of prison entrants who had consulted a medical professional for their own health in the community was 68% of Indigenous and 81% of non-Indigenous entrants (Table 2.11.17).
- During the previous 12 months, a similar percentage of Indigenous (10%) and non-Indigenous (13%) prison entrants needed to but did not consult with a medical professional while in prison. This compares with much higher proportions in the community (35% and 47% respectively) (Table 2.11.17).

Table 2.11.17: Access to medical advice(a) by Indigenous status and type of health service (community or prison), proportion of prison entrants(b) aged 18 years and over, 2010

	Indigenous	Non-Indigenous
	Per cent	
Consulted a medical professional for their own health in the community	68	81
Consulted a medical professional for their own health in prison	78	74
Needed to consult with a medical professional in the community but did not	35	47
Needed to consult with a medical professional while in prison but did not	10	13
Total number of prison entrants access to medical advice	**262**	**327**

(a) Consultations within the previous 12 months.

(b) Per cents are calculated from the total number of prison entrants (610) for the community visits, and from the number of Indigenous (135) and non-Indigenous (119) entrants reporting having been in prison during the previous 12 months for the prison visits.

Source: The health of Australia's prisoners, 2010 (AIHW 2011b).

- In 2010, 21% of prisons received visits at least every 2 weeks from an Aboriginal Community Controlled Health Organisation or an Aboriginal Medical Service (AIHW 2011b).
- A lower proportion of Indigenous (23%) than non-Indigenous (38%) prison entrants reported that they were told by a doctor, psychiatrist or psychologist that they have a mental health disorder (including alcohol and drug abuse). However, a higher proportion of Indigenous (73%) than non-Indigenous prison entrants (48%) reported a risk of alcohol-related harm, and a similar proportion reported they engaged in illicit drug use during the previous 12 months (68% and 65% respectively) (Table 2.11.18).

- The rates of diagnosed health conditions for Indigenous and non-Indigenous prison entrants were lower for asthma (13% and 27% respectively), and similar for cardiovascular disease (9% and 7% respectively) and diabetes (6% and 4% respectively) (Table 2.11.18).
- In 2010, similar proportions of Indigenous (39%) and non-Indigenous (40%) prisoners in custody used the prison clinic during the census period (AIHW 2011b).
- Similar proportions of Indigenous (4%) and non-Indigenous (3%) prisoners in custody who attended a clinic during the census period did so for a communicable disease. Note however, that this was the proportion of all prisoners who attended the clinic for a communicable disease, not the proportion of clinic visits for a communicable disease. It was from a two week snapshot of clinic attendance (and therefore is not related to prevalence data) and may be an underestimate because some prisoners may have attended the clinic for other conditions or symptoms arising from a communicable disease.

Table 2.11.18: Diagnosed health conditions, by Indigenous status and age, prison entrants aged 18 years and over, 2010

	Indigenous	Non-Indigenous
	Per cent	
Told by a doctor, psychiatrist or psychologist that they have a mental health disorder (including alcohol and drug abuse)	23	38
Told by a doctor or nurse that they have ever had asthma	13	27
Told by a doctor or nurse that they have ever had cardiovascular disease	9	7
Told by a doctor or nurse that they have ever had arthritis	5	13
Told by a doctor or nurse that they have ever had diabetes	6	4
Risk of alcohol related harm (self-report)	73	48
Report they have engaged in illicit drug use in the last 12 months	68	65
Total number of prison entrants	**262**	**327**
Attended clinic during census period due to communicable disease[(a)(b)(c)(d)]	4	3
Total number of prisoners in custody	**1,912**	**3,590**

(a) Attending clinic data is for prisoners in custody, not all prison entrants.

(b) Proportion of all prisoners who attended the clinic for a communicable disease. Not the proportion of clinic visits for a communicable disease.

(c) From a two week snapshot of clinic attendance (therefore not related to prevalence data).

(d) May be an underestimation because some prisoners may have attended the clinic for other conditions or symptoms arising from a communicable disease.

Source: The health of Australia's prisoners, 2010 (AIHW 2011b).

Education level

- Educational attainment among Indigenous prison entrants was lower than for the general Indigenous population; 9% of Indigenous prisoners aged 18–24 years had completed Year 12 or equivalent, compared with 33% of all Indigenous Australians in the same age group (Table 2.11.19).
- Across all age groups Indigenous prisoners were twice as likely as the general Indigenous population to have Year 9 or below as their highest level of school completed (Table 2.11.19).

Table 2.11.19: Indigenous prison entrants (2010) and the general Indigenous population (2008), by education status and age group (per cent)

	Indigenous prisoners (years)			General Indigenous population (years)		
	18–24	25–34	35–44	18–24	25–34	35–44
Highest year of school completed						
Year 12 or equivalent	9	8	18	33	30	27
Year 10 or 11	48	47	44	47	49	51
Year 9 or below	44	46	39	20	21	22
Non-school qualification						
Has a non-school qualification	19	18	14	25	36	42

Notes

1. Excludes New South Wales and Victoria, as they did not participate in the 2010 Prison Census.
2. Indigenous data were sourced from entrant forms, National Prisoner Health Census 2010.
3. General Indigenous population data was from AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey.

Source*:* The health of Australia's prisoners, 2010 (AIHW 2011b).

Employment status

- In the 30 days prior to imprisonment, two-thirds (67%) of Indigenous prison entrants aged 18–24 years were unemployed, compared with 13% of those in the general Indigenous population of the same age. Just one-quarter (25%) of prison entrants aged 18–24 years were employed, making them the age group least likely to be employed prior to imprisonment (Table 2.11.20).
- The unemployment rate decreased with increasing age for Aboriginal and Torres Strait Islander people in both population groups, reducing from 67% of prison entrants aged 18–24 years to 40% of prison entrants aged 35–44 years, and 13% of those in the general Indigenous population aged 18–24 years to 8% of those aged 35–44 years.

Table 2.11.20: Indigenous prison entrants (2010) and the general Indigenous population (2008), labour force status, by age group (per cent)

	Indigenous prison entrants (years)			General Indigenous population (years)		
Employment status	**18–24**	**25–34**	**35–44**	**18–24**	**25–34**	**35–44**
Employed	25	39	34	55	60	66
Unemployed	67	51	40	13	11	8
Not in the labour force	9	11	25	32	29	26

Notes

1. Excludes New South Wales and Victoria, as they did not participate in the 2010 Prison Census.
2. 'Not in the labour force' includes those who are studying, and those who are unable to work.
3. Indigenous data were sourced from entrant forms, National Prisoner Health Census 2010.
4. General Indigenous population data was from AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey.

Source*:* The health of Australia's prisoners, 2010 (AIHW 2011b).

Mental health

- Indigenous prison entrants reported levels of psychological distress that were similar to or lower than those in the general Indigenous population. Indigenous prison entrants aged 18–34 years were more likely to feel low/moderate psychological distress compared with the general Indigenous population (79–81% and 62–69%, respectively) (Table 2.11.21).

- Similar levels of psychological distress were felt by Indigenous prison entrants and the general Indigenous population aged 35–44 years, in both the low/moderate (67%) and high/very high categories (30–31%).

Table 2.11.21: Indigenous prison entrants (2010) and the general Indigenous population (2008), level of psychological distress as indicated by K5[(a)], by age group (per cent)

	Indigenous prisoners (years)			General Indigenous population (years)		
Level of distress	**18–24**	**25–34**	**35–44**	**18–24**	**25–34**	**35–44**
Low/moderate	79	81	67	62	69	67
High/very high	20	15	30	34	29	31

(a) K5 is the Kessler 5, a psychological distress scale.

Notes

1. Excludes New South Wales and Victoria, as they did not participate in the 2010 Prison Census.
2. Indigenous data were sourced from entrant forms, National Prisoner Health Census 2010.
3. General Indigenous population data was from AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey.

Source*:* The health of Australia's prisoners, 2010 (AIHW 2011b).

Tobacco smoking

- While it is recognised that relatively high rates of smoking exist in Indigenous communities, rates are still substantially higher among the prison population. Just under half (47%) of the general Indigenous population in Australia smoked tobacco daily, compared with almost three-quarters (74%) of Indigenous prison entrants. And only 10% of Indigenous prison entrants had never smoked a cigarette, compared with 31% of the general Indigenous population (Table 2.11.22).
- Prison entrants aged 18–24 years were the least likely to have never smoked (just 4%), but the most likely among the general population (36%). A similar contrast can be made with those aged 35–44 years: among Indigenous prison entrants, they were the group most likely to have never smoked a cigarette (11%), but within the general Indigenous population, they were the least likely (Table 2.11.23).

Table 2.11.22: Indigenous prison entrants (2010) and the general Indigenous population (2008), tobacco smoking status (per cent)

Smoking status	Indigenous prison entrants	General Indigenous population
Current daily smoker	74	47
Never smoked	10	31

Notes

1. Excludes New South Wales and Victoria, as they did not participate in the 2010 Prison Census.
2. Indigenous data were sourced from entrant forms, National Prisoner Health Census 2010.
3. General Indigenous population data was from AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey.

Source*:* The health of Australia's prisoners, 2010 (AIHW 2011b).

Table 2.11.23: Prison entrants (2010), the general Indigenous population (2008) and non-Indigenous population (2010) by tobacco smoking status and age group, 2010 (per cent)

	Prisoners (years)			General population (years)		
	18–24	25–34	35–44	18–24	25–34	35–44
			Indigenous			
Never smoked	4	5	11	36	28	27
Ex-smoker	5	2	2	11	16	18
Current smoker	91	92	87	53	56	54
			Non-Indigenous			
Never smoked	14	13	9	72	58	47
Ex-smoker	6	2	8	8	19	29
Current smoker	80	84	82	20	23	24

Notes

1. Excludes New South Wales and Victoria, as they did not participate in the 2010 Prison Census.
2. 'Not in the labour force' includes those who are studying, and those who are unable to work.
3. Indigenous data were sourced from entrant forms, National Prisoner Health Census 2010.
4. General Indigenous population data was from AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey.

Source: The health of Australia's prisoners, 2010 (AIHW 2011b).

Risky alcohol consumption

- Alcohol consumption was higher among Indigenous prison entrants than the general Indigenous population, for both the proportion who drank alcohol and the frequency of consumption. A higher proportion of Indigenous prison entrants reported having consumed alcohol in the previous 12 months compared with the general Indigenous population. (Table 2.11.24).
- Consumption of alcohol four or more times per week was more common among Indigenous prison entrants when compared with those in the general population, although the difference varied. The gap between the age groups in the two populations narrowed from the youngest to the oldest age group. In the general Indigenous population, consuming alcohol 4 or more times per week became more common with age, increasing from 7% for those aged 18–24 years to 13% for those aged 35–44 years; but this trend was not reflected in the prison population.

Table 2.11.24: Indigenous prison entrants (2010) and the general Indigenous population (2008), alcohol drinking status, by age group (per cent)

	Indigenous prison entrants (years)			General Indigenous population (years)		
Alcohol drinking status	18–24	25–34	35–44	18–24	25–34	35–44
4 or more times per week	24	27	25	7	10	13
2–3 times per week	31	23	21	20	14	18
Less than 2–3 times per week	35	42	40	53	55	48

Notes

1. Excludes New South Wales and Victoria, as they did not participate in the 2010 Prison Census.
2. Indigenous data were sourced from entrant forms, National Prisoner Health Census 2010.
3. General Indigenous population data was from AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey.

Source*:* The health of Australia's prisoners, 2010 (AIHW 2011b).

Illicit drug use

- Among Aboriginal and Torres Strait Islander prison entrants, cannabis/marijuana was the most commonly used drug in 2010. Although rates were substantially lower, this was also true of the general Indigenous population aged 18 years and over. Cannabis/marijuana use was most prevalent in Indigenous Australians aged 18–24 years in both the Indigenous prison entrant population (63%) and the general Indigenous population (23%) (Table 2.11.25).
- While cannabis/marijuana use lessened with age to 13% of Indigenous aged 35–44 years in the general Indigenous population, it remained high at just under half (46%) of Indigenous prison entrants of the same age. Amphetamine and pain killer use for non-medical purposes were also much higher among Indigenous prison entrants when compared with the general Indigenous population (Table 2.11.25).
- Among non-Indigenous prison entrants cannabis/marijuana was also the most commonly used drug. In the youngest age group, non-Indigenous prison entrants were at least twice as likely to report using each type of drug as those in the general community, while non-Indigenous prison entrants aged 35–44 years were at least 3 times as likely to report using each type of drug as those in the general community. Tranquilisers and/or sleeping pills were used illicitly by only 2% of people aged 18–24 years in the general non-Indigenous community, but by almost one-fifth (19%) of non-Indigenous prison entrants in this age group (Table 2.11.25).
- Only 3% of non-Indigenous Australians aged 35–44 years in the general community reported using meth/amphetamines, compared with almost half (47%) of prison entrants (Table 2.11.25).

Table 2.11.25: Prison entrants (2010), the general Indigenous population (2008) and non-Indigenous population (2010) by illicit drug use in previous 12 months, by drug type and age group (per cent)

	Prison entrants (years)			General population (years)		
Illicit drug	**18–24**	**25–34**	**35–44**	**18–24**	**25–34**	**35–44**
			Indigenous			
Cannabis/marijuana	63	55	46	23	20	13
Meth/amphetamine/speed	25	19	18	5	5	1
Analgesics/pain killers	15	23	14	6	5	5
Any illicit drug	**76**	**69**	**68**	**40**	**35**	**29**
			Non-Indigenous			
Cannabis/marijuana	58	61	43	25	20	12
Meth/amphetamine	39	45	47	6	6	3
Analgesics/pain killers	19	17	9	4	3	3
Tranquilisers/sleeping pills	19	18	14	2	2	2
Ecstasy	24	9	13	11	7	2
Any illicit drug	**66**	**79**	**63**	**30**	**26**	**16**

Notes

1. Excludes New South Wales and Victoria, as they did not participate in the 2010 Prison Census.
2. Questions about illicit substance use in the 2008 National Aboriginal and Torres Strait Islander Social Survey were optional, so the per cents in the general population could be an underestimate.
3. Indigenous data were sourced from entrant forms, National Prisoner Health Census 2010;
4. General Indigenous population data was from AIHW analysis of 2008 National Aboriginal and Torres Strait Islander Social Survey.

Source*:* The health of Australia's prisoners, 2010 (AIHW 2011b).

Prisoner health survey data

There have been two recent prisoner health surveys where Indigenous status was recorded, the 2009 New South Wales Inmate Health Survey and the 2002 Queensland Women Prisoners' Health Survey.

- Fewer than half of all male and female prisoners surveyed reported a history of regular injecting drug use. Regular drug use at the time of incarceration, which may include injecting, was reported by 42% of male prisoners in New South Wales, as well as 54% and 63% of female prisoners in New South Wales and Queensland respectively.
- In both surveys, high proportions of prisoners tested positive for communicable diseases, particularly hepatitis C, which is strongly associated with injecting drug use. In New South Wales, the rate of hepatitis C among Indigenous male prisoners rose from 30% in 1996 to 58% in 2004. In comparison, the rate of hepatitis C among non-Indigenous male prisoners has increased only slightly over the same period, from 35% in 1996 to 39% in 2004. The rate of hepatitis C among female Indigenous prisoners also increased slightly, from 72% in 1996 to 75% in 2004. There has been a reduction in the rate of hepatitis C among non-Indigenous female prisoners, from 64% in 1996 to 58% in 2004.
- Approximately 82% of Indigenous prisoners were current smokers compared with 77% of non-Indigenous prisoners, which was over four times the rate of the general population.
- Mental health concerns were common among inmates. In New South Wales, 41% of males and 54% of female inmates reported having received some form of psychiatric

treatment during their lifetime; in Queensland 61% of female inmates had received treatment. Incarceration may be both a risk factor for, and a result of, emotional distress and mental illness. The 1991 Royal Commission into Aboriginal Deaths in Custody found that Aboriginal people who were imprisoned 'often experience depressive symptoms and unresolved anger which sometimes leads them to attempt or commit suicide whilst in custody' (HREOC 1993:698).

- The 1991 Royal Commission also found that the incarceration of young Indigenous men and juveniles during their formative years left them 'permanently alienated from their communities', so that on release from prison, they were likely to turn to substance abuse and violence (HREOC 1993:698).
- Released Aboriginal and Torres Strait Islander prisoners in Western Australia have risk of death almost 10 times that of the general Western Australian population and almost 3 times that of their peers in the community. The main causes of death include suicide, drug and alcohol events, and motor vehicle accidents (Krieg 2006).

Data quality issues

National Prisoner Census

Most jurisdictions collect Indigenous status from individual prisoners. It is uncommon for corrective services agencies to collect Indigenous status from anyone other than the prisoners themselves. However, the accuracy of these data has not been assessed.

The Prisoner Census provides a picture of persons in prison at a point in time (30 June) and does not represent the flow of prisoners during the year. The majority of prisoners in the annual Prisoner Census were serving long-term sentences for serious offences. In comparison, the flow of offenders in and out of prisons consists mainly of persons serving shorter sentences for lesser offences.

The data is extracted from each state and territory's prisoner management and information systems.

Deaths in Custody Australia

As a requirement of the Deaths in Custody Royal Commission, the AIC collects data on deaths in custody each year for all jurisdictions. Indigenous status is by previous self-identification to prison authorities.

Drug Use Monitoring in Australia (DUMA) Survey

The Indigenous status of the detainee is established in the questionnaire by the following questions:

'What is your ethnic background?'(if the respondent mentions 'Australian' but not 'Aboriginal', prompt: 'Do you consider yourself an Aboriginal or Torres Strait Islander?').

It is likely that this question will under-estimates the number of Indigenous persons being detained through a reluctance on the part of detainees to identify as Indigenous.

This survey is conducted at police stations in selected metropolitan areas and does not provide regional coverage. In addition, the actual number of detainees questioned is quite low, which does not permit great analysis of the Indigenous data. Finally, the figures do not permit national coverage, but instead analysis by state is recommended.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

Juvenile Justice National Minimum Data Set

Responsibility for juvenile justice rests at state and territory level, and there is marked diversity in the legislation, policy and practices among jurisdictions. Areas of variation throughout Australia include; the age when young people are considered juveniles or adults by the justice system, key policy directions, diversionary options, possible court outcomes, and specific programs and services available to young people (AIHW 2007). Therefore caution is required in comparing data across the jurisdictions.

Overall, the coverage of data in the JJ NMDS is good. Around 7% of all young people since 2000–01 have an unknown Indigenous status (in 2009–10 this was around 4%), and around 5% of records in each of the order and detention files have unknown or missing information for the postcode and suburb of the young person's usual residence. For all other variables, the proportion of missing data is less than 0.1% (AIHW 2011).

There are a number of additional issues specific to particular states and territories. First, not all states and territories provided JJ NMDS data for 2009–10. Second, not all states and territories were able to provide JJ NMDS data in the new format for all years of the JJ NMDS (2000–01 to 2009–10). For example, complete data for Tasmania are only available from 2006–07, and Western Australia and the Northern Territory did not supply JJ NMDS data for 2008–09 to 2009–10. See Juvenile justice in Australia 2009–10 (AIHW 2011) for more information about JJ NMDS data quality.

Information on Indigenous status has been collected since the implementation of the national data collection, although some differences still exist in how jurisdictions collect the information. Not all jurisdictions use the recommended national standard question and standard codes for recording Indigenous status. However, a number of jurisdictions have recently taken steps to improve their data collection forms and information systems to be more in line with the national standard (AIHW 2012).The calculation of rates for Indigenous and non-Indigenous young people excludes young people with unknown Indigenous status. Rates are not calculated where there are fewer than five young people due to a lack of reliability.

National Prisoner Health Census

Some data are collected with reference to the time period 'within the previous 12 months'. Not all prison entrants had been in prison during the previous 12 months. The proportion of prison entrants who had ever been in prison before was higher among Indigenous than non-Indigenous entrants. Therefore it may be expected that a higher proportion of Indigenous prison entrants may have been in prison during the previous 12 months and had access to prison health services.

Data on prison entrants who attended a clinic due to a communicable disease must be considered with three caveats. First, this is the proportion of all prisoners who attended the clinic for a communicable disease, not the proportion of clinic visits for a communicable disease. Second, this data is a two week sample of clinic attendance and is not related to prevalence data. Finally, the reported data may be an underestimation because prisoners may have attended the clinic for other conditions or symptoms arising from a communicable disease.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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2.12 Child protection

Aboriginal and Torres Strait Islander children in substantiations, on care and protection orders and in out-of-home care

Data sources

National Child Protection Australia

The National Child Protection (NCP) Data Collection is comprised of data from state and territory child protection administrative data sets, and consists of six sub-collections comprising notifications, investigations and substantiations; care and protection orders; out-of-home care; foster carers; relative/kinship carers; and intensive family support services.

These data are collected each year by the AIHW from the relevant departments in each state and territory. Each state and territory has its own legislation, policies and practices in relation to child protection, which accounts for some of the differences between jurisdictions in the data provided. Australian totals have not been provided for those data that are not comparable across the states and territories.

The reporting process for child protection involves a number of stages. At the notification stage, children in need of protection come into contact with departments responsible for child protection. Notifications may be followed through with an investigation and/or referral to support services. The aim of an investigation is to determine whether notifications are 'substantiated' or 'not substantiated'. A substantiation indicates there is sufficient reason (after an investigation) to believe the child has been, is being, or is likely to be, abused, neglected, or otherwise harmed. In situations where further intervention is required, the child may be placed on a care and protection order and/or in out-of-home care (including foster care and relative/kinship care).

In this collection, children are counted as Indigenous if they are identified as such in the state and territory collections. Children whose Indigenous status is recorded as 'unknown' are excluded, where possible, from calculations of rates and proportions. The counts for Aboriginal and Torres Strait Islander children are therefore likely to be an under-estimate of the actual number of Aboriginal and Torres Strait Islander children in the child protection system.

Note that Tasmania and the Australian Capital Territory have very small numbers, and statistics from these jurisdictions are susceptible to random fluctuations.

Data analyses

Children in substantiated notifications

The data presented for this indicator are from notifications, investigations and substantiations (NIS); care and protection orders (CPO) and out-of-home care (OOHC) collections that the state and territory departments responsible for child protection have provided to the AIHW. Only child protection matters that were notified to state and territory child protection and support services are included in these national collections. Notifications made to other organisations, such as the police or non-government welfare agencies, are included only if these notifications were also referred to state and territory child protection and support services.

Substantiations are defined as situations where, after investigation, the relevant authorities concluded that there was reasonable cause to believe that the child has been, was being or was likely to be abused, neglected or otherwise harmed. Substantiation does not necessarily require sufficient evidence for a successful prosecution and does not imply that treatment or case management was provided (AIHW 2010).

Note that because a child can be the subject of more than one notification, investigation or substantiation in a year, there are fewer children than there are total notifications, investigations and substantiations.

Children in substantiated notifications by age

- In 2010–11, in the majority of jurisdictions, the highest numbers of Indigenous children who were the subject of a substantiated notification were aged between 1 and 4 years. The highest numbers of other children who were the subject of a substantiated notification were aged between 10 and 14 years (Table 2.12.1).

Table 2.12.1: Children in substantiated notifications, by age, Indigenous status and state/territory, 2010–11

Age group (years)	NSW[(a)]	Vic	Qld	WA[(b)]	SA	Tas[(c)]	ACT	NT	Aust.
					Number				
Indigenous children									
< 1	503	154	370	42	87	19	17	165	1357
1–4	911	209	468	152	117	44	30	381	2312
5–9	899	198	440	166	151	44	22	336	2256
10–14	773	157	369	153	83	32	28	243	1838
15–17	217	49	84	26	13	7	9	61	466
Unknown	0	1	0	0	1	0	0	0	2
Total	**3,303**	**768**	**1,731**	**539**	**452**	**146**	**106**	**1,186**	**8,231**
Other children									
< 1	983	884	611	169	261	135	49	13	3,105
1–4	1,983	1,594	983	354	399	281	92	56	5,742
5–9	2,109	1,678	1,133	376	368	266	89	63	6,082
10–14	2,347	1,814	1,103	337	291	228	94	78	6,292
15–17	808	589	380	95	59	75	35	29	2070
Unknown	3	0	0	0	1	1	0	0	5
Total	**8,233**	**6,559**	**4,210**	**1,331**	**1,379**	**986**	**359**	**239**	**23,296**

(a) Following the New South Wales Keep Them Safe reforms, the 2010–11 data reflect the first full year of reporting under legislative changes to the New South Wales Children and Young Persons (Care and Protection) Act 1998, proclaimed on 24 January 2010. This includes raising the reporting threshold from ‘risk of harm’ to the new ‘risk of significant harm’.

(b) Western Australia is currently unable to report a child’s characteristics based on their first substantiation. As a result, a small number of children may be double-counted in this table where they have more than one substantiation and the notifications had differing characteristics such as age or abuse type.

(c) In Tasmania, the proportion of substantiations for children with an unknown Indigenous status affects the reliability of these data.

Notes

1. Finalised investigations, and thus substantiations, refer only to cases that were notified during the year, not the total number of investigations finalised by 31 August 2011.
2. ‘Other children’ includes children whose Indigenous status was unknown.
3. Totals include children of unknown age.
4. The ‘less than 1’ category includes unborn children for New South Wales (428: 154 Indigenous unborn, 274 'other' unborn), Queensland (384: 157 Indigenous unborn, 227 'other' unborn), Western Australia (42: 9 Indigenous unborn, 33 'other' unborn), Tasmania (42: 4 Indigenous unborn, 38 'other' unborn) and the Australian Capital Territory (4: 1 Indigenous unborn, 3 'other' unborn). These children are included in the totals.

Source: AIHW Child Protection Collections 2011.

Substantiated notifications by state/territory

Aboriginal and Torres Strait Islander children are more likely to be the subjects of substantiated notifications than other children. In 2010–11, in all jurisdictions the substantiation rate for Indigenous children was higher than the rate for other children. Across Australia, Indigenous children were more than eight times as likely as non-Indigenous children to be the subject of a substantiated notification (Table 2.12.2).

The reasons for the over-representation of Aboriginal and Torres Strait Islander children in child protection substantiations are complex. The 1997 report *Bringing them home* (HREOC 1997) noted that some of the underlying causes of the over-representation of Aboriginal and Torres Strait Islander children in the child welfare system include:

- the legacy of past policies of the forced removal of Aboriginal children from their families
- intergenerational effects of previous separations from family and culture
- poor socioeconomic status
- perceptions arising from cultural differences in child-rearing practices.

Table 2.12.2: Children aged 0–16 years who were the subjects of substantiations of notifications: number and rates per 1,000 children, by Indigenous status and state/territory, 2010–11

	Number of children					Number per 1,000 children				
State / territory	Indigenous	Non-Indigenous	Unknown no.	Unknown %	All children	Indigenous	Non-Indigenous	All children	Rate ratio Indigenous/ non-Indigenous	Rate Difference[(a)]
NSW[(b)]	3,126	7,860	17	0.2	11,003	46.6	5.3	7.1	8.8	41.3
Vic	767	6,555	2	0.0	7,324	53.3	5.7	6.3	9.3	47.6
Qld	1,566	3,791	159	2.9	5,516	23.5	3.9	5.4	6.0	19.5
WA[(c)]	527	680	602	33.3	1,809	17.9	1.4	3.5	12.7	16.5
SA	450	1,322	45	2.5	1,817	37.6	4.1	5.4	9.2	33.6
Tas[(d)]	141	746	195	18.0	1,082	18.0	7.2	9.7	2.5	10.8
ACT	101	322	29	6.4	452	55.4	4.4	6.0	12.7	51.0
NT	1,181	227	7	0.5	1,415	45.5	6.8	23.9	6.7	38.7
Aust.	**7,859**	**21,503**	**1,056**	**3.5**	**30,418**	**34.9**	**4.7**	**6.3**	**7.5**	**30.2**

(a) Rate difference equals Indigenous rate minus non-Indigenous rate.

(b) Following the New South Wales Keep Them Safe reforms, the 2010–11 data reflect the first full year of reporting under legislative changes to the New South Wales Children and Young Persons (Care and Protection) Act 1998, proclaimed on 24 January 2010. This includes raising the reporting threshold from ‘risk of harm’ to the new ‘risk of significant harm’.

(c) Western Australia is currently unable to report a child’s characteristics based on their first substantiation. As a result a small number of children may be double-counted in this table where they have more than one substantiation and the notifications had differing characteristics such as age or abuse type.

(d) In Tasmania, the proportion of substantiations for children with an unknown Indigenous status affects the reliability of these data.

Notes

1. Population estimates are based on the 2006 census, refer to Appendix table A1.35 in the 2010–11 Child Protection Australia report for the specific populations used in the calculation of rates.
2. Rate ratios are calculated by dividing the un-rounded rate of Indigenous children who were the subject of substantiations by the un-rounded rate of non-Indigenous children who were the subject of substantiations. The resulting number shows a comparative representation per 1,000 children.
3. Percentage of unknown is the percentage of ‘All children’ in state/territory.
4. The above table excludes unborn children and those in the ‘not stated’ age category.

Source: AIHW analysis of National Child Protection Data Collection 2011.

Substantiated notifications by types of abuse and neglect

Substantiated notifications are classified into four categories depending on the main type of abuse or neglect that has occurred: physical abuse, sexual abuse, emotional abuse and neglect. If a child was the subject of more than one type of abuse or neglect as part of the same notification, the abuse or neglect reported is the one that the child protection workers consider to cause the most harm to the child. Where a child was the subject of more than one substantiation during the year, the type of abuse reported was the one associated with the first substantiation decision during the year. Therefore, it is difficult to measure the overall patterns of types of abuse or neglect that each child may experience.

- For Indigenous children across Australia, the most common type of abuse was neglect. However, in Victoria, Queensland, Tasmania and the Australian Capital Territory, the most common type of abuse for Indigenous children was emotional abuse.
- For non-Indigenous children across most jurisdictions, the most common type of abuse was emotional abuse. However, in Western Australia, South Australia and Australian Capital territory, the most common type of abuse for non-Indigenous children was neglect and in the Northern Territory it was physical abuse (Table 2.12.3).

Table 2.12.3: Children aged 0–17 years who were the subject of a substantiation of a notification: type of abuse or neglect, by Indigenous status and state/territory, 2010–11 (per cent)

Type of abuse or neglect	NSW[(a)]	Vic	Qld	WA[(b)]	SA	Tas[(c)]	ACT	NT	Aust.
Indigenous children									
Physical abuse	19.7	30.3	21.4	20.4	11.1	6.8	25.5	15.9	**19.9**
Sexual abuse	14.4	5.2	5.0	20.6	5.5	4.1	6.6	4.3	**9.7**
Emotional abuse	28.2	56.1	37.1	18.7	29.6	44.5	40.6	26.1	**32.3**
Neglect	37.6	8.3	36.5	40.3	53.8	33.6	27.4	53.6	**37.8**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Other children[(d)]									
Physical abuse	20.2	31.8	21.8	23.0	17.1	15.5	24.5	38.9	**23.8**
Sexual abuse	25.7	10.3	6.7	23.0	7.8	8.0	8.6	9.2	**15.6**
Emotional abuse	27.8	50.7	41.3	19.3	33.6	40.5	29.0	22.6	**37.0**
Neglect	26.3	7.1	30.2	34.7	41.5	32.2	37.9	29.3	**23.4**
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Following the New South Wales Keep Them Safe reforms, the 2010–11 data reflect the first full year of reporting under legislative changes to the New South Wales Children and Young Persons (Care and Protection) Act 1998, proclaimed on 24 January 2010. This includes raising the reporting threshold from ‘risk of harm’ to the new ‘risk of significant harm’.

(b) Western Australia is currently unable to report a child’s characteristics based on their first substantiation. As a result, a small number of children may be double-counted in this table where they have more than one substantiation and the notifications had differing characteristics such as age or abuse type.

(c) In Tasmania, the abuse type for some substantiations was recorded as ‘other’ or ‘not stated’ and could not be mapped to physical, sexual, emotional or neglect. These substantiations are included in the totals: as such, totals may not equal the sum of categories. The proportion of substantiations for children with an unknown Indigenous status affects the reliability of these data. As such, comparisons to previous year’s data should be made with caution.

(d) ‘Other children’ includes children whose Indigenous status was unknown.

Notes

1. Finalised investigations, and thus substantiations, refer only to cases that were notified during the year, not the total number of investigations finalised by 31 August 2011.
2. If a child was the subject of more than one type of abuse or neglect as part of the same notification, then the abuse and/or neglect is the one considered by the child protection workers to cause the most harm to the child. Where a child is the subject of more than one substantiation during the year, then the type of abuse reported in this table is the type of abuse and/or neglect associated with the substantiation decision relating to the earliest notification during the year.
3. In Tasmania and the Australian Capital Territory, the proportion of Aboriginal and Torres Strait Islander children who were the subject of a substantiation should be interpreted with caution due to small numbers.
4. Percentages in the table may not add to 100 due to rounding.

Source: AIHW Child Protection Collections 2011.

Time series analyses

Rates of Aboriginal and Torres Strait Islander children aged 0–16 years who were the subject of a substantiation of a notification received during the relevant year, are presented below for all states and territories over the period 2006–07 to 2010–11.

- The highest rates of substantiated notifications received during 2010–11 were within Australian Capital Territory (55 per 1,000 children), while the lowest rates were in Western Australia and Tasmania (18 per 1,000 children) (Table 2.12.4).
- Over the period 2006–07 to 2010–11 there was no significant change to the rate of substantiated notifications received in Australia.

Table 2.12.4: Rates of Aboriginal and Torres Strait Islander children aged 0–16 years who were the subject of a substantiation of a notification received during the relevant year, by state/territory, 2006–07 to 2010–11 (per 1,000 children)

Year	NSW	Vic [(a)]	Qld	WA	SA	Tas[(b)(c)(d)]	ACT[(d)]	NT	Aust
2006–07	53.5	56.6	29.2[(e)]	15.0	39.0	3.9	41.3[(f)]	16.8	34.3
2007–08	53.0	54.9	27.1	17.4	48.1	5.0	46.2	23.7	35.2
2008–09	54.6	48.3	27.0	18.1	50.6	12.6	53.6	24.1	36.1
2009–10	52.7	49.6	26.9	21.1	31.6	16.3	64.6	33.5	36.2
2010–11	46.6	53.3	23.5	17.9	37.6	18.0	55.4	45.5	34.9
Annual change[(g)]	. .	. .	. .	. .	. .	. .	. .	. .	0.2
% Change[(h)]	. .	. .	. .	. .	. .	. .	. .	. .	2.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2006–07 to 2010–11

(a) Due to new service and data reporting arrangements, the Victorian child protection data for 2006–07 onwards may not be fully comparable with previous years' data.

(b) Due to the high number of children with Indigenous status unknown in Tasmania, Indigenous children may be considerably under-reported and comparison of rates from previous years should be conducted with caution.

(c) Data relating to substantiations in Tasmania for 2005–06 and 2006–07 should be interpreted carefully due to the high proportion of investigations in process by 31 August.

(d) Rates from Tasmania and the Australian Capital Territory should be interpreted with care due to small numbers. Any fluctuation in the numbers of children has a large impact on the rates.

(e) 2006–07 data for Queensland was updated in 2008 and may not reflect that interim data originally published in CPA 2006–07.

(f) The decrease in the number of substantiated investigations reflects a requirement of staff to substantiate emotional abuse or neglect only if there was, or is likely to be, significant harm and there was no-one with parental responsibility willing and able to protect the child/young person. Recording an outcome of an appraisal as not substantiated does not exclude ongoing work with the child or young person.

(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(h) Per cent change between 2006–07 to 2010–11 based on the average annual change over the period.

Notes

1. From 2007–08 onwards, legislative and policy changes allowed for the capture of data on 'unborn children' as a distinct age grouping. Prior to this year it is not possible to determine whether unborns were included in the less than 1 year age counts and following 2007–08 the 'unborn children' category has been excluded.
2. Some of the rates calculated differ to rate trend data previously reported in AIHW Child Protection collections due to the inclusion of children with a 'not stated' age category and unborn children. The above table excludes unborn children and those in the 'not stated' age category.
3. Population estimates have been updated in 2009 and this may affect rate comparison over time.
4. Due to small numbers and volatility in jurisdiction level data, significance testing of trends was only calculated for Australia level data.

Source: AIHW analysis of National Child Protection Data Collection 2011.

Care and protection orders

If a child has been the subject of a child protection substantiation, there is often a need for state and territory child protection and support services to have continued involvement with the family. The relevant department generally attempts to protect the child through the provision of appropriate support services to the child and family. In situations where further intervention is required, the department may apply to the relevant court to place the child on a care and protection order.

Recourse to the court is usually a last resort—for example, where the family resists supervision and counselling, where other avenues for resolution of the situation have been exhausted, or where removal of the child to out-of-home care needs legal authorisation. However, not all applications for an order will be granted. The term 'care and protection order' refers not only to legal orders but also to other legal processes relating to the care and protection of children, including administrative arrangements or care applications (AIHW 2010).

Care and protection orders by age

- At 30 June 2011, the highest numbers of Indigenous children who were on care and protection orders were aged 5–9 and 10–14 years. This trend also applied to other children (Table 2.12.5).

Table 2.12.5: Children on care and protection orders, by age, Indigenous status and state/territory, at 30 June 2011

Age group (years)	NSW[(a)]	Vic	Qld	WA	SA	Tas[(b)]	ACT	NT
				Number				
Indigenous children								
<1	156	35	102	43	17	7	3	19
1–4	1,136	277	739	388	146	47	49	153
5–9	1,617	328	1,071	487	224	81	45	174
10–14	1,401	267	868	424	173	71	50	171
15–17	589	153	401	154	98	28	29	58
Unknown	1	0	0	0	0	0	0	0
Total	**4,900**	**1,060**	**3,181**	**1,496**	**658**	**234**	**176**	**575**
Other children[(c)]								
<1	302	131	148	63	53	32	18	2
1–4	2,183	1,113	1,044	359	404	196	117	16
5–9	3,213	1,548	1,542	548	577	275	154	43
10–14	3,153	1,686	1,548	516	550	305	160	59
15–17	1,587	1,197	993	295	378	144	98	27
Unknown	1	0	0	0	0	0	0	0
Total	**10,439**	**5,675**	**5,275**	**1,781**	**1,962**	**952**	**547**	**147**
				Per cent[(d)(e)]				
Indigenous children								
< 1	3.2	3.3	3.2	2.9	2.6	3.0	1.7	3.3
1–4	23.2	26.1	23.2	25.9	22.2	20.1	27.8	26.6
5–9	33.0	30.9	33.7	32.6	34.0	34.6	25.6	30.3
10–14	28.6	25.2	27.3	28.3	26.3	30.3	28.4	29.7
15–17	12.0	14.4	12.6	10.3	14.9	12.0	16.5	10.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Other children[(c)]								
< 1	2.9	2.3	2.8	3.5	2.7	3.4	3.3	1.4
1–4	20.9	19.6	19.8	20.2	20.6	20.6	21.4	10.9
5–9	30.8	27.3	29.2	30.8	29.4	28.9	28.2	29.3
10–14	30.2	29.7	29.3	29.0	28.0	32.0	29.3	40.1
15–17	15.2	21.1	18.8	16.6	19.3	15.1	17.9	18.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) New South Wales data do not include children on finalised supervisory orders.

(b) Numbers for Tasmania are over reported due to considerable data lag with the recording of order status.

(c) 'Other children' includes those children whose Indigenous status was unknown.

(d) Percentages exclude children of unknown age.

(e) Percentages in tables may not add to 100 because of rounding.

Source: AIHW analysis of National Child Protection Data Collection 2011.

Care and protection orders by state/territory

- As at June 2011, the rates of Aboriginal and Torres Strait Islander children on care and protection orders varied considerably across jurisdictions, ranging from 21 per 1,000 in the Northern Territory to 91 per 1,000 in the Australian Capital Territory (Table 2.12.6).
- In all jurisdictions, the rate of Indigenous children on care and protection orders was higher than the rate for non-Indigenous children, ranging from 3 to 15 times as high across jurisdictions. Nationally, the rate of Indigenous children on orders was 10 times that of non-Indigenous children.

Table 2.12.6: Children on care and protection orders: number and rate (number per 1,000 children aged 0–17 years), by Indigenous status and state/territory, at 30 June 2011

	Number of children					Number per 1,000 children				
State / territory	Indigenous	Non-Indigenous	Unknown no.	Unknown %	All children[(a)]	Indigenous	Non-Indigenous	All children[(a)]	Rate ratio Indigenous/ non-Indigenous	Rate difference[(b)]
NSW[(c)]	4,900	10,435	4	0.0	15,339	68.8	6.7	9.4	10.3	62.1
Vic	1,060	5,665	10	0.1	6,735	69.2	4.6	5.4	14.9	64.6
Qld	3,181	5,247	28	0.3	8,456	44.8	5.1	7.7	8.7	39.7
WA	1,496	1,663	118	3.6	3,277	48.0	3.2	6.0	14.8	44.8
SA	658	1,904	58	2.2	2,620	51.8	5.5	7.3	9.4	46.3
Tas[(d)]	234	936	16	1.3	1,186	28.0	8.5	10.0	3.3	19.5
ACT	176	535	12	1.7	723	90.9	6.8	9.0	13.3	84.1
NT	575	146	1	0.1	722	20.9	4.2	11.6	5.0	16.7
Aust.	**12,280**	**26,531**	**247**	**0.6**	**39,058**	**51.4**	**5.4**	**7.6**	**9.5**	**46.0**

(a) Includes children whose Indigenous status was unknown.

(b) Rate difference equals Indigenous rate minus non-Indigenous rate.

(c) New South Wales data do not include children on finalised supervisory orders.

(d) Numbers and rates for Tasmania are over reported due to considerable data lag with the recording of order status.

Notes

1. Percentage of unknown is the percentage of ‘All children’ in state/territory.
2. Population estimates are based on the 2006 census, refer to Appendix table A1.35 in the 2010–11 Child Protection Australia report for the specific populations used in the calculation of rates.
3. Rate ratios are calculated by dividing the un-rounded rate of Indigenous children who were on a care and protection order by the un-rounded rate of non-Indigenous children who were on a care and protection order. The resulting number shows a comparative representation per 1,000 children.
4. The above table excludes children in the ‘not stated’ age category.

Source: AIHW analysis of National Child Protection Data Collection 2011.

Types of care and protection orders

There were more orders issued during 2010–11 than children admitted to orders because more than one order can be issued for any one child. For example, a child will often be admitted to a temporary or interim order followed by a guardianship or custody order. The orders issued in 2010–11 for Indigenous and other children are presented in Table 2.12.7.

- As at 30 June 2011, most Indigenous children on care and protection orders were on guardianship and custody orders or arrangements (73%). The types of orders that Indigenous children were on compared with other children were very similar; however, Indigenous children were generally less likely to be on third-party parental responsibility or supervisory orders than other Australian children.

Table 2.12.7: Children on care and protection orders, by type of order, by state/territory and Indigenous status, 30 June 2011

Type of order	NSW[(a)]	Vic	Qld	WA[(b)]	SA	Tas[(c)]	ACT	NT	Total
Indigenous children					**Number**				
Guardianship or custody orders/arrangements	3,231	732	2,368	1,263	594	205	121	470	8,984
Third-party parental responsibility	1,120	0	234	75	12	6	10	0	1,457
Finalised supervisory orders	0	290	142	34	0	n.p.	n.p.	0	483
Interim and temporary orders	535	38	437	124	35	20	24	76	1,289
Administrative arrangements	14	0	0	0	17	n.p.	n.p.	29	67
Total	**4,900**	**1,060**	**3,181**	**1,496**	**658**	**234**	**176**	**575**	**12,280**
					Per cent				
Guardianship or custody orders/arrangements	65.9	69.1	74.4	84.4	90.3	87.6	68.8	81.7	73.2
Third-party parental responsibility	22.9	0.0	7.4	5.0	1.8	2.6	5.7	0.0	11.9
Supervisory orders	0.0	27.4	4.5	2.3	0.0	n.p.	n.p.	0.0	3.9
Interim and temporary orders	10.9	3.6	13.7	8.3	5.3	8.5	13.6	13.2	10.5
Administrative arrangements	0.3	0.0	0.0	0.0	2.6	n.p.	n.p.	5.0	0.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Other children[(d)]					**Number**				
Guardianship or custody orders/arrangements	6,922	4,148	3,898	1,450	1,817	793	394	137	19,559
Third-party parental responsibility	2,256	0	607	112	44	21	33	0	3,073
Finalised supervisory orders	0	1,364	266	44	0	20	62	0	1,756
Interim and temporary orders	1,175	163	504	175	82	112	51	4	2,266
Administrative arrangements	86	0	0	0	19	6	7	6	124
Total	**10,439**	**5,675**	**5,275**	**1,781**	**1,962**	**952**	**547**	**147**	**26,778**
					Per cent				
Guardianship or custody orders/arrangements	66.3	73.1	73.9	81.4	92.6	83.3	72.0	93.2	73.0
Third-party parental responsibility	21.6	0.0	11.5	6.3	2.2	2.2	6.0	0.0	11.5
Supervisory orders	0.0	24.0	5.0	2.5	0.0	2.1	11.3	0.0	6.6
Interim and temporary orders	11.3	2.9	9.6	9.8	4.2	11.8	9.3	2.7	8.5
Administrative arrangements	0.8	0.0	0.0	0.0	1.0	0.6	1.3	4.1	0.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) New South Wales data do not include children on finalised supervisory orders.

(b) In Western Australia, the application for a care and protection order to be issued for a child is counted as an interim order for national reporting purposes. However, there is, in fact, no order issued during this stage. It is thus not valid to compare the number of orders by a percentage basis.

(c) Numbers for Tasmania are over reported due to considerable data lag with the recording of order status.

(d) Includes children whose Indigenous status was unknown.

Note: Percentages in the table may not add to 100 due to rounding.

Source: AIHW Child Protection Collections 2011.

Length of time on care and protection orders

- In 2010–11, in New South Wales and the Northern Territory, Indigenous children were most likely to be on care and protection orders for less than 1 month. In Victoria, Queensland, Western Australia and South Australia, Indigenous children were most likely to be on care and protection orders for a period of 2 years to less than 4 years. In Tasmania, Indigenous children were most likely to be on care and protection orders for 1 year to less than 2 years. In the Australian Capital Territory Indigenous children were most likely to be on care and protection orders for 8 years or more (Table 2.12.8).
- A similar pattern was evident for other children on care and protection orders in 2010–11 for most states and territories, with the exception of South Australia, Tasmania and the Australian Capital Territory.

Table 2.12.8: Children discharged from care and protection orders, by length of time on an order, by state/territory, 2010–11

	Length of time continually on an order at time of discharge								
	Months				Years				
	<1	1 to <3	3 to <6	6 to <12	1 to <2	2 to <4	4 to <8	8 or more	Total
					Number				
Indigenous children									
New South Wales[(a)]	129	35	21	39	90	94	59	95	**562**
Victoria	0	5	34	45	73	82	43	14	**296**
Queensland	134	45	26	81	159	185	86	55	**771**
Western Australia	0	0	1	1	26	85	25	20	**158**
South Australia	7	24	10	3	23	25	6	15	**113**
Tasmania[(b)]	4	4	1	3	14	3	3	3	**35**
Australian Capital Territory	4	4	4	1	0	5	4	8	**30**
Northern Territory	90	45	25	13	16	12	10	6	**217**
Other children[(c)]									
New South Wales[(a)]	394	105	88	92	156	258	163	268	**1,524**
Victoria	1	20	149	164	312	403	244	73	**1,366**
Queensland	188	77	41	177	273	374	163	121	**1,414**
Western Australia	1	0	2	6	55	105	40	30	**239**
South Australia	24	87	37	32	93	38	27	61	**399**
Tasmania[(b)]	34	33	7	7	40	44	11	10	**186**
Australian Capital Territory	16	18	8	5	12	14	14	11	**98**
Northern Territory	22	14	5	2	9	11	6	3	**72**
					Per cent				
Indigenous children									
New South Wales[(a)]	23.0	6.2	3.7	6.9	16.0	16.7	10.5	16.9	**100.0**
Victoria	0.0	1.7	11.5	15.2	24.7	27.7	14.5	4.7	**100.0**
Queensland	17.4	5.8	3.4	10.5	20.6	24.0	11.2	7.1	**100.0**
Western Australia	0.0	0.0	0.6	0.6	16.5	53.8	15.8	12.7	**100.0**
South Australia	6.2	21.2	8.8	2.7	20.4	22.1	5.3	13.3	**100.0**
Tasmania[(b)]	11.4	11.4	2.9	8.6	40.0	8.6	8.6	8.6	**100.0**
Australian Capital Territory	13.3	13.3	13.3	3.3	0.0	16.7	13.3	26.7	**100.0**
Northern Territory	41.5	20.7	11.5	6.0	7.4	5.5	4.6	2.8	**100.0**

(continued)

Table 2.12.8 (continued): Children discharged from care and protection orders, by length of time on an order, by state/territory, 2010–11

	Length of time continually on an order at time of discharge								
	Months				Years				
	<1	1 to <3	3 to <6	6 to <12	1 to <2	2 to <4	4 to <8	8 or more	Total
	Per cent								
Other children[(c)]									
New South Wales[(a)]	25.9	6.9	5.8	6.0	10.2	16.9	10.7	17.6	**100.0**
Victoria	0.1	1.5	10.9	12.0	22.8	29.5	17.9	5.3	**100.0**
Queensland	13.3	5.4	2.9	12.5	19.3	26.4	11.5	8.6	**100.0**
Western Australia	0.4	0.0	0.8	2.5	23.0	43.9	16.7	12.6	**100.0**
South Australia	6.0	21.8	9.3	8.0	23.3	9.5	6.8	15.3	**100.0**
Tasmania[(b)]	18.3	17.7	3.8	3.8	21.5	23.7	5.9	5.4	**100.0**
Australian Capital Territory	16.3	18.4	8.2	5.1	12.2	14.3	14.3	11.2	**100.0**
Northern Territory	30.6	19.4	6.9	2.8	12.5	15.3	8.3	4.2	**100.0**

(a) New South Wales data do not include children on finalised supervisory orders.

(b) Numbers for Tasmania are under reported due to considerable data lag with the recording of order status.

(c) Other children' includes those children whose Indigenous status was unknown.

Notes

1. If a child is discharged from an order and a new care and protection order/arrangement is applied within 5 days of the discharge, the orders are deemed to be consecutive (i.e. the length of time continuously on an order will include both orders).
2. If a child is on multiple care and protection orders/arrangements, all orders/arrangements must be discharged before a discharge for the purposes of this table is counted.
3. Length of time continuously on an order is counted only for the first order/arrangement that the child is discharged from during the year.
4. Totals exclude discharges of unknown length.
5. Percentages in tables may not add to 100 due to rounding.

Source: AIHW analysis of National Child Protection Data Collection 2011.

Time series analyses

The number of children aged 0–17 years on care and protection orders by Indigenous status and state and territory is reported for the period of 2007–2011 in Table 2.12.9 and Figure 2.12.1.

- As at 30 June 2011 there were 12,280 Aboriginal and Torres Strait Islander children on care and protection orders, an increase of 65% since June 2007. There was a 21% increase for other children over the same period.

Table 2.12.9: Number of children on care and protection orders: children aged 0–17 years, by Indigenous status and state/territory, at 30 June 2007 to 30 June 2011

State/territory	2007	2008	2009	2010	2011	Annual change[(a)]	% Change[(b)]
Indigenous							
NSW[(c)]	2,880	3,380	3,979	4,555	4,900	. .	. .
Vic[(d)]	623	775	825	948	1,060	. .	. .
Qld[(e)]	1,915	2,216	2,720	2,969	3,181	. .	. .
WA[(f)]	1,091	1,279	1,465	1,525	1,496	. .	. .
SA	440	540	573	631	658	. .	. .
Tas[(g)]	164	139	151	157	234	. .	. .
ACT[(h)]	113	117	130	159	176	. .	. .
NT	300	363	428	507	575	. .	. .
Australia	**7,526**	**8,809**	**10,271**	**11,451**	**12,280**	**1,215.0***	**64.6***
Other[(i)]							
NSW[(c)]	7,759	8,706	9,512	10,134	10,439	. .	. .
Vic[(d)]	5,556	5,464	5,275	5,567	5,675	. .	. .
Qld[(e)]	4,476	4,824	5,222	5,121	5,275	. .	. .
WA[(f)]	1,538	1,815	1,872	1,907	1,781	. .	. .
SA	1,441	1,657	1,788	1,912	1,962	. .	. .
Tas[(g)]	733	775	840	955	952	. .	. .
ACT[(h)]	461	435	480	494	547	. .	. .
NT	151	157	149	189	147	. .	. .
Australia	**22,115**	**23,833**	**25,138**	**26,279**	**26,778**	**1,177.2***	**21.3***

(continued)

Table 2.12.9 (continued): Number of children on care and protection orders: children aged 0–17 years, by Indigenous status and state/territory, at 30 June 2007 to 30 June 2011

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2007 to 2011.

(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(b) Per cent change between 2007 and 2011 based on the average annual change over the period.

(c) New South Wales data do not include finalised supervisory orders.

(d) Because of new service and data reporting arrangements, the Victorian child protection data from 2006–07 may not be fully comparable with previous years data. See AIHW (2008) for more information.

(e) 2007 data for Queensland published in *Child protection Australia* were interim and were revised in 2008.

(f) 2007 data include 24 children who were placed on Enduring Parental Responsibility orders.

(g) Numbers for Tasmania for 2010 and 2011 are over reported due to considerable data lag with the recording of order status.

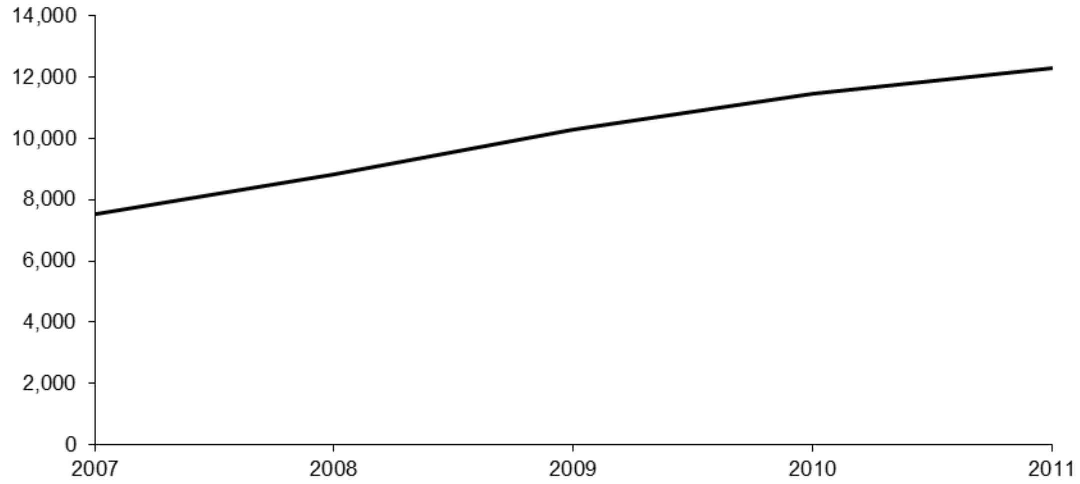
(h) Additional systems have been put in place to tackle the Indigenous status recording issues, including quarterly monitoring.

(i) Other children includes those children whose Indigenous status was unknown. Children of unknown Indigenous status were not collected at a national level until 2006–07; hence interpretation of these trend data should therefore be treated with caution.

Notes

1. The counts of Aboriginal and Torres Strait Islander children are likely to be an underestimate of the actual number of Aboriginal and Torres Strait Islander children in the child protection system.
2. Due to small numbers and volatility in jurisdiction level data, significance testing of trends was only calculated for Australia level data.

Source: AIHW analysis of National Child Protection Data Collection 2011.



Source: AIHW analysis of National Child Protection Data Collection 2011.

Figure 2.12.1: Indigenous children aged 0–17 years on care and protection orders as at 30 June 2007 to 30 June 2011

Out-of-home care

Out-of-home care is one of a range of services provided to children and young people under 18 years of age who are in need of care and protection. This service provides alternative accommodation to children and young people who are unable to live with their parents. These arrangements include foster care, placements with relatives or kin, and residential care. In most cases, children in out-of-home care are also on a care and protection order of some kind.

Some children are placed in out-of-home care because they are the subject of a child protection substantiation and require a more protective environment. Other situations in which a child may be placed in out-of-home care include those whose parents are incapable of providing adequate care for the child, or where alternative accommodation is needed during times of family conflict. There are no national data available, however, on the reasons children are placed in out-of-home care. This is expected to change with the introduction of the unit record collection which is currently being developed (AIHW 2010).

Out-of-home care by state/territory

- At 30 June 2011, there were 12,358 Aboriginal and Torres Strait Islander children aged 0–17 years in out-of-home care. The rate was 52 per 1,000, ranging from 18 in the Northern Territory to 81 in New South Wales (Table 2.12.10).
- In all jurisdictions there were higher rates of Indigenous children in out-of-home care than non-Indigenous children. The national rate of Indigenous children in out-of-home care was 10 times that for non-Indigenous children.

Table 2.12.10: Children in out-of-home care: number and rate (number per 1,000 children aged 0–17 years), by Indigenous status and state/territory, at 30 June 2011

	Number of children					Number per 1,000 children				
State/ territory	Indigenous	Non-Indigenous	Unknown no.	Unknown %	All children[(a)]	Indigenous	Non-Indigenous	All children[(a)]	Rate ratio Indigenous/ non-Indigenous	Rate difference[(b)]
NSW	5,737	10,994	9	0.1	16,740	80.6	7.0	10.2	11.5	73.6
Vic	877	4,701	100	1.8	5,678	57.3	3.8	4.6	14.9	53.5
Qld	2,850	4,722	30	0.4	7,602	40.2	4.6	7.0	8.7	35.6
WA	1,448	1,527	145	4.6	3,120	46.4	3.0	5.7	15.6	43.4
SA	630	1,690	48	2.0	2,368	49.6	4.9	6.6	10.1	44.7
Tas	196	754	16	1.7	966	23.5	6.8	8.1	3.4	16.7
ACT	119	409	12	2.2	540	61.4	5.2	6.7	11.8	56.2
NT	501	132	1	0.2	634	18.2	3.8	10.2	4.8	14.4
Australia	**12,358**	**24,929**	**361**	**1.0**	**37,648**	**51.7**	**5.1**	**7.3**	**10.1**	**46.6**

(a) Includes children whose Indigenous status was unknown.

(b) Rate difference equals Indigenous rate minus non-Indigenous rate.

Notes

1. Percentage of unknown is the percentage of ‘All children’ in state/territory.
2. Population estimates are based on the 2006 Census; refer to Appendix table A1.35 in the 2010–11 Child Protection Australia report for the specific populations used in the calculation of rates.
3. Rate ratios are calculated by dividing the un-rounded rate of Indigenous children who were in out-of-home care by the un-rounded rate of non-Indigenous children who were in out-of-home care. The resulting number shows a comparative representation per 1,000 children.
4. The above table excludes children in the ‘not stated’ age category.

Source: AIHW analysis of National Child Protection Data Collection 2011.

Out-of-home care by Indigenous status of caregivers

The Aboriginal Child Placement Principle outlines a preference for the placement of Aboriginal and Torres Strait Islander children with other Aboriginal and Torres Strait Islander people when they are placed outside their family (Lock 1997:50). The principle has the following order of preference for the placement of Aboriginal and Torres Strait Islander children:

- with the child's extended family
- within the child's Indigenous community
- with other Indigenous people.

All jurisdictions have adopted the Aboriginal Child Placement Principle either in legislation or policy. The impact of the Principle is reflected in many jurisdictions in the relatively high proportions of Aboriginal and Torres Strait Islander children who were placed either with Indigenous caregivers or with relatives.

It is important to note that the Aboriginal Child Placement Principle is just one of the many considerations taken into account when making decisions on placements for Indigenous children. Where placement options outlined in the principle are not optimal for a child's safety and wellbeing, the child may be placed in an alternative care arrangement; this is usually only done after extensive consultation with Indigenous individuals and organisations.

- As at 30 June 2011, the proportion of Aboriginal and Torres Strait Islander children who were placed with either an Indigenous carer or a relative was above 50% except for Tasmania (43%) and the Northern Territory (34%). In New South Wales, 82% of Indigenous children were placed with relative/kin, other Indigenous caregivers or in Indigenous residential care (Table 2.12.11).

Table 2.12.11: Aboriginal and Torres Strait Islander children in out-of-home care: Indigenous status and relationship of carer, by state/territory, at 30 June 2011

Relationship	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
					Number				
Indigenous relative/kin	2,887	216	605	654	247	26	54	114	4,803
Other Indigenous caregiver	1,024	57	570	204	118	17	13	52	2,055
Other relative/kin	796	231	320	171	89	41	9	0	1,657
Total placed with relatives/kin, other Indigenous caregivers or in Indigenous residential care	*4,707*	*504*	*1,495*	*1,029*	*454*	*84*	*76*	*166*	*8,515*
Other caregiver	1,005	373	1,355	417	153	112	43	330	3,788
Total not placed with relatives/kin, other Indigenous caregivers or in Indigenous residential care	*1,005*	*373*	*1,355*	*417*	*153*	*112*	*43*	*330*	*3,788*
Total	**5,712**	**877**	**2,850**	**1,446**	**607**	**196**	**119**	**496**	**12,303**
					Per cent				
Indigenous relative/kin	50.5	24.6	21.2	45.2	40.7	13.3	45.4	23.0	39.0
Other Indigenous caregiver	17.9	6.5	20.0	14.1	19.4	8.7	10.9	10.5	16.7
Other relative/kin	13.9	26.3	11.2	11.8	14.7	20.9	7.6	0.0	13.5
Total placed with relatives/kin, other Indigenous caregivers or in Indigenous residential care	*82.4*	*57.5*	*52.5*	*71.2*	*74.8*	*42.9*	*63.9*	*33.5*	*69.2*
Other caregiver	17.6	42.5	47.5	28.8	25.2	57.1	36.1	66.5	30.8
Total not placed with relatives/kin, other Indigenous caregivers or in Indigenous residential care	*17.6*	*42.5*	*47.5*	*28.8*	*25.2*	*57.1*	*36.1*	*66.5*	*30.8*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Notes

1. This table does not include Aboriginal and Torres Strait Islander children who were living independently or whose living arrangements were unknown.
2. Percentages in the table may not add to 100 due to rounding.
3. Family group homes and residential care are reported under other caregiver.

Source: AIHW Child Protection Collections 2011.

Data quality issues

Child protection data

Reported rates for Aboriginal and Torres Strait Islander children in the child protection system for 2008–09, 2009–10 and 2010–11 cannot be compared directly with previous years data published in AIHW Child protection in Australia reports. In previous years, rates were calculated using ABS Indigenous population denominators from the 1996 and 2001 Census, while the 2008–09, 2009–10 and 2010–11 rates are based on the 2006 census population data. For time series analyses presented in this measure, rates were taken from the published reports and they have not been re-calculated using recent Indigenous population estimates based on 2006 Census.

State/territory comparisons

As each state or territory has a different legal regime and different human services policies around child protection, states and territory comparisons should be made with caution. Tasmania and the Australian Capital Territory have very small numbers, and statistics from these jurisdictions are susceptible to random fluctuations.

Child protection is an area in which legislation and human services practice changes. Often notification rates vary owing to public awareness of child abuse, and practices in relation to the intensity of follow-up of notifications which are affected by a number of factors. For these reasons time series comparisons may not be statistically valid.

In addition, one-off global changes may occur in the legal and procedural regime of a particular jurisdiction, which may make comparisons between time series data from before and after such change invalid.

Child abuse

Child protection policies and practices are continually under development. As such, they impact on the number of children in the child protection system in different ways. Therefore, trends in child protection numbers should be interpreted carefully.

The definition of what constitutes child abuse and neglect has changed and broadened over time (AIFS: Bromfield & Holzer 2008). Naturally, any broadening of the definition of child abuse and neglect is likely to increase notifications and substantiations. The focus of child protection in many jurisdictions has shifted away from the identification and investigation of narrowly defined incidents of child abuse and neglect. Instead, the focus has moved towards a broader assessment of whether a child or young person has suffered harm.

Care and protection orders

For the 2010–11 financial year Indigenous children are counted only once, even if they were admitted to or discharged from more than one order or were on more than one order at 30 June 2011. If a child is on more than one order at 30 June, 2011, then they are counted as being on the order that implies the highest level of intervention by the department (with guardianship or custody orders being the most interventionist, and interim and temporary orders the least) (AIHW 2012).

Substantiations

Since 1997 the number of substantiated notifications of child abuse across Australia has increased significantly. Therefore, interpretation of the figures for Indigenous children should be in the light of the increasing number of all children subject to these substantiated notifications.

Indigenous status

Information on Indigenous status may be collected at each stage of a child protection case; this varies by jurisdiction, with some collecting only at the investigation stage, others at the notification and investigation stages, and others at all stages. However, data are not reported at the notification stage as the quality of these data is questionable, as many notifications are from third parties who do not know the child or family well.

The practices used to identify and record the Indigenous status of children in the child protection system also vary across states and territories, with some jurisdictions recording large numbers of children with unknown Indigenous status. No state or territory can validate the data on Aboriginal and/or Torres Strait Islander children by other means and the quality of the data is therefore unknown. Over the last few years, several jurisdictions have introduced measures to improve the identification of Indigenous children in the child protection system. However, in some jurisdictions the quality of data on Aboriginal and/or Torres Strait Islander children is still affected by the high proportion of children whose Indigenous status is unknown. The counts for Aboriginal and Torres Strait Islander children are therefore likely to be an under-estimate of the actual number of Aboriginal and Torres Strait Islander children in the child protection system.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

AIFS (Australian Institute of Family Studies): Bromfield and Holzer 2008. NCPASS comparability of child protection data: Project report. Melbourne: AIFS.

AIHW (Australian Institute of Health and Welfare) 2008. Child protection Australia 2006–07. Child welfare series no. 43. Cat. no. CWS 31. Canberra: AIHW.

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HREOC (Human Rights and Equal Opportunity Commission) 1997. Bringing them home: report of the national inquiry into the separation of Aboriginal and Torres Strait Islander children from their families. Sydney: HREOC.

Lock JA 1997. The Aboriginal Child Placement Principle: research project no. 7. Sydney: New South Wales Law Reform Commission.

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2.13 Transport

The use of transport, including walking, access to motor vehicles and perceived difficulty with transport among Aboriginal and Torres Strait Islander people.

Data sources

Data for this measure come from the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Data analyses

Motor vehicle access

- Results from the 2008 NATSISS indicate that approximately 51% of Indigenous households had access to a working motor vehicle in 2008.
- In 2008, around 78% of Indigenous people aged 18 years and over had access to a working motor vehicle to drive compared with 86% of non-Indigenous people.

Motor vehicle access by remoteness

- In 2008, approximately 50% of Indigenous households in non-remote areas reported having access to at least one motor vehicle compared with 57% of Indigenous households in remote areas. In Other Australian households, access to motor vehicles in non-remote areas was 85% (Table 2.13.1).
- Other households in *Outer Regional* areas were most likely to have access to a vehicle (90%) while Indigenous households were most likely to have access to a vehicle when located in *Inner Regional* areas (54%) (Table 2.13.1).

Table 2.13.1: Proportion of households with and without access to motor vehicles, by Indigenous status and remoteness, 2008

	Without motor vehicle access		With motor vehicle access		Total	
	Indigenous households	**Other households**	**Indigenous households**	**Other households**	**Indigenous households**	**Other households**
Major cities	51.5	17.6	48.5	82.4	100.0	100.0
Inner regional	46.5	10.7	53.5	89.3	100.0	100.0
Outer regional	51.7	9.8	48.3	90.2	100.0	100.0
Total non-remote	*50.2*	*15.3*	*49.8*	*84.7*	*100.0*	*100.0*
Remote	46.5	. .	53.5	. .	100.0	. .
Very Remote	39.4	. .	60.6	. .	100.0	. .
Total remote	*42.8*	. .	*57.2*	. .	*100.0*	. .
Total	**48.9**	. .	**51.1**	. .	**100.0**	. .

Note: Other households includes non-Indigenous households and households for which Indigenous status is not stated.

Source: ABS analysis of 2008 NATSISS and 2006 GSS.

Motor vehicle access by age

- Of Indigenous people aged 18 years and over, Indigenous people aged 18–24 years were least likely to have access to a motor vehicle (70%), followed by Indigenous people 55 years and over (73%) (Table 2.13.2).

Table 2.13.2: Access to motor vehicles for persons aged 18 years and over, by Indigenous status and age, 2008

Age group		Proportion	Number
18–24	Indigenous	70.1*	47,349
	Non-Indigenous	78.1*	1,506,641
	Ratio	0.9	. .
25–34	Indigenous	79.7*	55,575
	Non-Indigenous	89.0*	2,480,039
	Ratio	0.9	. .
35–44	Indigenous	84.7*	53,958
	Non-Indigenous	92.7*	2,740,810
	Ratio	1.0	. .
45–54	Indigenous	82.6*	38,404
	Non-Indigenous	91.6*	2,542,392
	Ratio	0.9	. .
55 years and over	Indigenous	73.3*	30,839
	Non-Indigenous	81.1*	3,848,043
	Ratio	0.9	. .
Total	**Indigenous**	**78.1***	**226,125**
	Non-Indigenous	**86.3***	**13,117,925**
	Ratio	**0.9**	**. .**

*Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

Sources: 2008 NATSISS and 2006 GSS.

Transport access, difficulty and use

The 2008 NATSISS collected data on access to transport, perceived level of difficulty with transport, use of transport (including public transport) in the 2 weeks before the survey, modes of transport, and reasons for not using public transport. These data are presented below.

- Around 6.5% of Indigenous persons aged 18 years and over reported they could only access a motor vehicle in an emergency and 8% could not access a motor vehicle but could drive (Table 2.13.3).
- Around 11% of Indigenous Australians aged 18 years and over reported that they could not get to or often had difficulty getting to the places they needed to, compared with only 4% of non-Indigenous Australians (Table 2.13.4).
- Approximately 26% of Indigenous Australians aged 18 years and over used public transport in the previous 2 weeks and a further 72% used other forms of transport (Table 2.13.6).
- Of those who used transport in the previous 2 weeks, the most common mode of transport was a car or 4WD as a passenger (63%), followed by a car/4WD as a driver (55%) and walking (55%) (Table 2.13.7).

- The main reasons given for not using public transport in the previous 2 weeks were 'prefer to use own transport or walk' (32%) and 'no service available in local area' (32%) (Table 2.13.5).

Transport access, difficulty and use by age and sex

- Indigenous Australians aged 18–24 years were more likely to report they could only access a motor vehicle in an emergency (Table 2.13.3), and to have used public transport in the previous 2 weeks (31%) than those in older age groups (Table 2.13.6).
- A higher proportion of Indigenous males than Indigenous females reported having access to a motor vehicle (81% compared with 75%) (Table 2.13.8).
- A higher proportion of Indigenous females reported using public transport in the previous 2 weeks than Indigenous males (28% compared with 23%) (Table 2.13.8).

Table 2.13.3: Access to transport, by Indigenous status and age group, persons aged 18 years and over, 2008 (per cent)

		Can access and/or drive a motor vehicle									
		Can access whenever needed	Can access only in emergency	Total with access to motor vehicle	Cannot access but can drive	Total can access and/or drive	Holds a current drivers licence	Does not hold a current drivers licence	Only holds L-plate licence	Cannot access and cannot drive	Total(a)(b)
18–24 years	Indig.	58.3	11.8	70.0*	9.3	79.3	45.8	22.7	10.8	20.6	100.0
	Non-Indig.	. .	. .	78.1*	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9	. .	. .	. .	. .	. .	. .	. .
25–34 years	Indig.	72.2	7.3	79.5*	7.9	87.4	62.5	21.7	3.1	12.4	100.0
	Non-Indig.	. .	. .	89.0*	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9	. .	. .	. .	. .	. .	. .	. .
35–44 years	Indig.	80.1	4.4	84.5*	5.9	90.4	74.5	14.6	1.3(c)	9.3	100.0
	Non-Indig.	. .	. .	92.7*	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9	. .	. .	. .	. .	. .	. .	. .
45–54 years	Indig.	78.8	3	81.9*	5.9	87.8	75.5	10.7	1.6(d)	11.4	100.0
	Non-Indig.	. .	. .	91.6*	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9	. .	. .	. .	. .	. .	. .	. .
55 years +	Indig.	68.3	4.1	72.4*	9.0	81.4	61.9	18.9	0.5(c)	17.4	100.0
	Non-Indig.	. .	. .	81.1*	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9	. .	. .	. .	. .	. .	. .	. .

(continued)

Table 2.13.3 (continued): Access to transport, by Indigenous status and age group, persons aged 18 years and over, 2008 (per cent)

		Can access and/or drive a motor vehicle									
		Can access whenever needed	Can access only in emergency	Total with access to motor vehicle	Cannot access but can drive	Total can access and/or drive	Holds a current drivers licence	Does not hold a current drivers licence	Only holds L-plate licence	Cannot access and cannot drive	Total$^{(a)(b)}$
Total	**Indig.**	**71.2**	**6.5**	**77.7***	**7.6**	**85.3**	**63.3**	**18.2**	**3.9**	**14.2**	**100.0**
	Non-Indig.	**. .**	**. .**	**86.3***	**. .**	**. .**	**. .**	**. .**	**. .**	**. .**	**. .**
	Ratio	**. .**	**. .**	**0.9**	**. .**	**. .**	**. .**	**. .**	**. .**	**. .**	**. .**

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the $p<0.05$ level for these categories.

(a) Includes persons who did not state whether they have access to a motor vehicle.

(b) Includes persons who are housebound and/or never went out.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.4: Perceived level of difficulty with transport, by Indigenous status and age group, persons aged 18 years and over, 2008 (per cent)

		Perceived level of difficulty with transport			
		Can easily get to the places needed	**Sometimes have difficulty getting to the places needed**	**Cannot or often have difficulty getting to the places needed**	**Total$^{(a)}$**
18–24 years	Indig.	67.9*	19.6	12.5*	100.0
	Non-Indig.	77.3*	18.6	4.0*	100.0
	Ratio	0.9	1.1	3.1	. .
25–34 years	Indig.	73.3*	14.7	11.7*	100.0
	Non-Indig.	84.3*	12.3	3.4*	100.0
	Ratio	0.9	1.2	3.5	. .
35–44 years	Indig.	76.8*	12.5*	10.4*	100.0
	Non-Indig.	88.9*	8.7*	2.4*	100.0
	Ratio	0.9	1.4	4.3	. .
45–54 years	Indig.	79.3*	11.2	8.7*	100.0
	Non-Indig.	86.4*	9.1	4.5*	100.0
	Ratio	0.9	1.2	1.9	. .
55 years +	Indig.	77.7*	11.1	9.9*	100.0
	Non-Indig.	82.8*	11.2	5.7*	100.0
	Ratio	0.9	1	1.8	. .
Total	**Indig.**	**74.4***	**14.3***	**10.8***	**100.0**
	Non-Indig.	**84.2***	**11.5***	**4.2***	**100.0**
	Ratio	**0.9**	**1.2**	**2.6**	**. .**

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

(a) Includes persons who are housebound and/or never went out.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.5: Use of public transport in the last two weeks, Indigenous persons aged 18 years and over by age group, 2008 (per cent)

	Where public transport is available in local area main reason did not use public transport							
	Prefer to use own transport or walk	No service available at right/convenient time	No services available for destination/takes too long	Other reasons[(a)]	Total with access to public transport	No public transport available in local area	Not known	Total[(b)]
18–24 years	27.1	3.5	1.2[(c)]	4.2	36.0	32.1	0.7[(c)]	68.8
25–34 years	35.6	3.2	2.5[(c)]	4.2	45.5	29.4	0.8[(c)]	75.8
35–44 years	35.0	2.8	2.3[(c)]	2.7	42.8	32.3	0.7[(d)]	75.8
45–54 years	36.1	3.5	2.1[(c)]	3.0[(c)]	44.7	30.7	0.9[(d)]	76.2
55 years +	27.8	2.9	2.5[(c)]	6.6	39.8	34.2	0.5[(c)]	74.5
Total	**32.4**	**3.2**	**2.1**	**4.0**	**41.7**	**31.6**	**0.7**	**74.0**

(a) Comprises cost, health reasons, being treated badly/discrimination, concerns about personal safety and other reasons n.f.d.

(b) Includes persons who are housebound and/or never went out.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.6: Use of transport in the last 2 weeks, Indigenous persons aged 18 years and over by age group, 2008 (per cent)

	Use of transport in last 2 weeks					
	Used transport, but not public transport, in last 2 weeks	Walking only form of transport in last 2 weeks	Did not use public transport[(a)]	Used public transport in last 2 weeks	Total not housebound in last 2 weeks[(b)]	Total[(c)]
18–24 years	66.4	2.4	68.8	31.1	99.9	100.0
25–34 years	72.9	2.8	75.8	24.0	99.7	100.0
35–44 years	72.8	2.9	75.8	23.9	99.7	100.0
45–54 years	74.2	2.0[(d)]	76.2	22.9	99.2	100.0
55 years +	72.6	1.9	74.5	24.3	99.8	100.0
Total	**71.5**	**2.5**	**74.0**	**25.5**	**99.5**	**100.0**

(a) Comprises persons who used transport, but not public transport, and those persons for whom walking was the only form of transport in the last 2 weeks.

(b) Comprises persons who used transport and those for whom walking was the only form of transport in the last 2 weeks.

(c) Includes persons who are housebound and/or never went out.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.7: Mode of transport, Indigenous persons aged 18 years and over by age group, 2008 (per cent)

	Modes of transport									
	Bus	Tram/light rail	Taxi	Car / 4WD / Truck - as driver	Motorcycle / Motorised scooter	Car / 4WD / Truck - as passenger	Bicycle	Walk	Other[(a)]	Total[(b)]
18–24 years	28.3	16.4	24.7	43.2	2.1	71.3	9.2	65.7	6.1	100.0
25–34 years	20.0	10.2	20.6	56.8	2.7[(c)]	61.9	7.0	58.6	7.8	100.0
35–44 years	19.9	9.8	17.9	63.5	2.2[(c)]	61.2	7.0	52.8	7.0	100.0
45–54 years	19.6	9.2	16.3	62.9	1.9[(c)]	58.6	4.2	46.9	6.9	100.0
55 years +	20.8	7.1	14.5	46.2	1.0[(d)]	60.1	1.5[(c)]	41.1	6.5	100.0
Total	**21.9**	**10.9**	**19.4**	**54.5**	**2.1**	**63.2**	**6.3**	**54.5**	**6.9**	**100.0**

(a) Comprises boats/ferries, regular/chartered aircraft and other modes n.f.d.

(b) Includes persons who are housebound and/or never went out.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.8: Transport, by Indigenous status and sex, persons aged 18 years and older, 2008 (per cent)

	Males			Females			Total		
	Indig.	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**
Can access and/or drive a motor vehicle									
Can access whenever needed	73.6	. .	. .	69.0	. .	. .	71.2	. .	. .
Can access only in emergency	7.2	. .	. .	5.9	. .	. .	6.5	. .	. .
Total with access to motor vehicle	*80.8***	*90.4***	*0.9**	*75.0***	*82.4***	*0.9**	*77.7*	*86.3*	*0.9**
Cannot access but can drive	8.2	. .	. .	7.1	. .	. .	7.6	. .	. .
Total can access and/or drive	*89.0*	. .	. .	*82.0*	. .	. .	*85.3*	. .	. .
Holds a current drivers licence	66.6	. .	. .	60.3	. .	. .	63.3	. .	. .
Does not hold a current drivers licence	19.7	. .	. .	16.7	. .	. .	18.2	. .	. .
Only holds L-plate licence	2.7	. .	. .	5.0	. .	. .	3.9	. .	. .
Cannot access and cannot drive	10.6	. .	. .	17.4	. .	. .	14.2	. .	. .
Total[(a)(b)]	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**
Perceived level of difficulty with transport									
Can easily get to the places needed	76.9**	85.3	0.9*	72.2**	83.2	0.9*	74.4	84.2	0.9*
Sometimes have difficulty getting to the places needed	13.17	11.18	1.2	15.3	11.7	1.3*	14.3	11.5	1.2*
Cannot or often have difficulty getting to the places needed	9.6**	3.5**	2.7*	12.0**	4.9**	2.5*	10.8	4.2	2.6*
Total[(b)]	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**

(continued)

Table 2.13.8 (continued): Transport, by Indigenous status and sex, persons aged 18 years and older, 2008 (per cent)

	Males			Females			Total		
	Indig.	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**
Use of transport in last 2 weeks									
Used transport, but not public transport, in last 2 weeks	73.7	. .	. .	69.6	. .	. .	71.5	. .	. .
Walking only form of transport in last 2 weeks	2.6	. .	. .	2.4	. .	. .	2.5	. .	. .
Did not use public transport[(c)]	*76.3*	. .	. .	*72.0*	. .	. .	*74.0*	. .	. .
Public transport is available in local area									
Main reason did not use public transport									
Prefer to use own transport or walk	33.3	. .	. .	31.6	. .	. .	32.4	. .	. .
No service available at right/ convenient time	2.8	. .	. .	3.5	. .	. .	3.2	. .	. .
No services available for destination	1.0	. .	. .	1.1[(d)]	. .	. .	1.1	. .	. .
Takes too long	1.1[(d)]	. .	. .	1.0[(d)]	. .	. .	1.0	. .	. .
Costs too much	0.8[(d)]	. .	. .	0.9[(d)]	. .	. .	0.9	. .	. .
Health reasons	1.0[(d)]	. .	. .	1.1	. .	. .	1.1	. .	. .
Other reasons[(e)]	2.3	. .	. .	2.0	. .	. .	2.1	. .	. .
Total with access to public transport	*42.4*	. .	. .	*41.2*	. .	. .	*41.7*	. .	. .
No public transport available in local area	33.5	. .	. .	29.9	. .	. .	31.6	. .	. .
Not known	0.4[(d)]	. .	. .	1.0[(d)]	. .	. .	0.7	. .	. .
Total[(b)]	*76.3*	. .	. .	*72.0*	. .	. .	*74.0*	. .	. .
Used public transport in last 2 weeks	23.3	. .	. .	27.5	. .	. .	25.5	. .	. .
Total not housebound in last 2 weeks[(f)]	*99.6*	. .	. .	*99.5*	. .	. .	*99.5*	. .	. .
Total[(b)]	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**

(continued)

Table 2.13.8 (continued): Transport, by Indigenous status and sex, persons aged 18 years and older, 2008 (per cent)

	Males			Females			Total		
	Indig.	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**
Modes of transport									
Bus	19.4	. .	. .	24.2	. .	. .	21.9	. .	. .
Tram/light rail	10.7	. .	. .	11.1	. .	. .	10.9	. .	. .
Taxi	18.2	. .	. .	20.4	. .	. .	19.4	. .	. .
Car / 4WD / Truck - as driver	57.6	. .	. .	51.8	. .	. .	54.5	. .	. .
Motorcycle / Motorised scooter	3.8	. .	. .	0.5(d)	. .	. .	2.1	. .	. .
Car / 4WD / Truck / as passenger	61.6	. .	. .	64.5	. .	. .	63.2	. .	. .
Bicycle	9.3	. .	. .	3.5	. .	. .	6.3	. .	. .
Walk	54.1	. .	. .	54.9	. .	. .	54.5	. .	. .
Other(g)	8.7	. .	. .	5.3	. .	. .	6.9	. .	. .
Total(b)	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

** Difference between male and female rates is statistically significant.

(a) Includes persons who did not state whether they have access to a motor vehicle.
(b) Includes persons who are housebound and/or never went out.
(c) Comprises persons who used transport, but not public transport, and those persons for whom walking was the only form of transport in the last 2 weeks.
(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(e) Comprises treated badly/discrimination, concerns about personal safety and other reasons n.f.d.
(f) Comprises persons who used transport and those for whom walking was the only form of transport in the last 2 weeks.
(g) Comprises boats/ferries, regular/chartered aircraft and other modes n.f.d.

Sources: 2008 NATSISS and 2006 GSS.

Transport access, difficulty and use by state/territory

- Indigenous Australians in every state and territory were much more likely than non-Indigenous Australians to report having difficulty getting to the places they needed to. Indigenous Australians living in the Northern Territory were five times as likely, and in Western Australia were three times as likely, to have had difficulty getting to the places needed compared to non-Indigenous Australians in these states and territories (Table 2.13.10).
- In all states and territories, except for Tasmania, Indigenous Australians were less likely to have access to motor vehicles (Table 2.13.9).
- Indigenous Australians in Tasmania were least likely to have used public transport in the 2 weeks before the survey compared to those in other states and territories (Table 2.13.12).
- In all states and territories Indigenous Australians described the main reason they did not use public transport was because they prefer to use their own transport or walk. This ranged from 48% in the Australian Capital Territory to 23% in the Northern Territory (Table 2.13.11).

Table 2.13.9: Access to transport, by Indigenous status and state/territory, persons aged 18 years and over, 2008 (per cent)

		Can access and/or drive a motor vehicle									
		Can access whenever needed	Can access only in emergency	Total with access to motor vehicle	Cannot access but can drive	Total can access and/or drive	Holds a current drivers licence	Does not hold a current drivers licence	Only holds L-plate licence	Cannot access and cannot drive	Total[(a)(b)]
NSW	Indig.	70.5	5.2	75.7	8.2	84.0	64.7	15.5	3.7	15.6	100.0
	Non-Indig.	. .	. .	82.0	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9*	. .	. .	. .	. .	. .	. .	. .
Vic	Indig.	77.9	5.3	83.2	6.9	90.1	74.0	11.9	4.2	9.9	100.0
	Non-Indig.	. .	. .	88.2	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9*	. .	. .	. .	. .	. .	. .	. .
Qld	Indig.	73.3	6.6	79.9	5.4	85.2	68.0	12.1	5.1	14.5	100.0
	Non-Indig.	. .	. .	88.5	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9*	. .	. .	. .	. .	. .	. .	. .
WA	Indig.	73.3	6.7	80.0	9.4	89.4	57.9	28.2	3.3[(c)]	10.4	100.0
	Non-Indig.	. .	. .	91.4	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9*	. .	. .	. .	. .	. .	. .	. .
SA	Indig.	72.8	6.8	79.6	7.3	86.8	62.9	20.4	3.6	12.5	100.0
	Non-Indig.	. .	. .	86.0	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9*	. .	. .	. .	. .	. .	. .	. .
Tas	Indig.	83.9	5.0	88.9	3.6[(c)]	92.5	76.7	11.4	4.4	7.4	100.0
	Non-Indig.	. .	. .	86.4	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	1.0	. .	. .	. .	. .	. .	. .	. .

(continued)

Table 2.13.9 (continued): Access to transport, by Indigenous status and state/territory, persons aged 18 years and over, 2008 (per cent)

		Can access and/or drive a motor vehicle									
		Can access whenever needed	Can access only in emergency	Total with access to motor vehicle	Cannot access but can drive	Total can access and/or drive	Holds a current drivers licence	Does not hold a current drivers licence	Only holds L-plate licence	Cannot access and cannot drive	Total[(a)(b)]
ACT	Indig.	83.0	3.0[(c)]	86.0	2.9[(c)]	88.8	78.8	5.5[(c)]	4.6[(c)]	11.2	100.0
	Non-Indig.	. .	. .	91.5	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9	. .	. .	. .	. .	. .	. .	. .
NT	Indig.	57.6	10.4	68.0	11.1	79.1	45.4	31.9	1.9[(c)]	19.4	100.0
	Non-Indig.	. .	. .	89.8	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.8*	. .	. .	. .	. .	. .	. .	. .
Australia	Indig.	71.2	6.5	77.7	7.6	85.3	63.3	18.2	3.9	14.2	100.0
	Non-Indig.	. .	. .	86.3	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9*	. .	. .	. .	. .	. .	. .	. .

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

(a) Includes persons who did not state whether they have access to a motor vehicle.

(b) Includes persons who are housebound and/or never went out.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.10: Transport, by Indigenous status and state/territory, persons aged 18 years and over, 2008 (per cent)

		Perceived level of difficulty with transport			
		Can easily get to the places needed	Sometimes have difficulty getting to the places needed	Cannot or often have difficulty getting to the places needed	Total[(a)]
NSW	Indigenous	73.3	15.1	11.2	100.0
	Non-Indigenous	80.0	14.5	5.4	100.0
	Ratio	0.9*	1.0*	2.1*	. .
Vic	Indigenous	74.8	16.5	8.7	100.0
	Non-Indigenous	85.5	11.0	3.4	100.0
	Ratio	0.9*	1.5*	2.6*	. .
Qld	Indigenous	79.5	11.3	8.9	100.0
	Non-Indigenous	85.9	9.8	4.1	100.0
	Ratio	0.9*	1.1	2.2*	. .
WA	Indigenous	72.8	16.9	10.2	100.0
	Non-Indigenous	87.9	8.8	3.3	100.0
	Ratio	0.8*	1.9*	3.1*	. .
SA	Indigenous	71.3	19.9	8.3	100.0
	Non-Indigenous	87.0	9.2	3.8	100.0
	Ratio	0.8*	2.2*	2.2*	. .
Tas	Indigenous	78.7	13.9	7.3	100.0
	Non-Indigenous	88.3	9.0	2.5	100.0
	Ratio	0.9*	1.5*	2.9*	. .
ACT	Indigenous	83.5	12.0	4.7[(b)]	100.0
	Non-Indigenous	90.4	7.4	2.2	100.0
	Ratio	0.9*	1.6	2.2	. .
NT	Indigenous	67.3	12.8	18.4	100.0
	Non-Indigenous	85.7	10.3	3.9	100.0
	Ratio	0.8*	1.2	4.8*	. .
Australia	Indigenous	74.4	14.3	10.8	100.0
	Non-Indigenous	84.2	11.5	4.2	100.0
	Ratio	0.9*	1.2*	2.6*	. .

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the $p<0.05$ level for these categories.

(a) Includes persons who are housebound and/or never went out.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.11: Use of public transport in the last two weeks, Indigenous persons aged 18 years and over by state/territory, 2008 (per cent)

	Where public transport is available in local area main reason did not use public transport							
	Prefer to use own transport or walk	No service available at right/convenient time	No services available for destination/ takes too long	Other reasons[(a)]	Total with access to public transport	No public transport available in local area	Not known	Total[(b)]
NSW	42.0	5.4[(c)]	1.8[(c)]	5.5	54.6	16.2	0.8[(c)]	71.6
Vic	42.6	3.0	2.9	6.7	55.1	7.8	0.8	63.7
Qld	26.7	2.4[(c)]	2.9[(c)]	2.4[(c)]	34.4	40.4	0.7	75.5
WA	28.3	1.0[(c)]	2.4[(c)]	2.8	34.5	40.0	0.6	75.1
SA	29.6	1.0[(c)]	1.9[(c)]	5.3	37.8	26.5	0.0	64.3
Tas	28.9	10.4	1.3[(c)]	5.4	46.1	36.6	2.0	84.6
ACT	47.7	8.9[(c)]	5.4[(c)]	5.0[(c)]	67.0	1.2	0.0	68.2
NT	23.2	0.8[(c)]	0.5[(d)]	3.2[(c)]	27.7	53.9	0.6	82.2
Australia	32.4	3.2	2.1	4.0	41.7	31.6	0.7	74.0

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

(a) Comprises cost, health reasons, being treated badly/discrimination, concerns about personal safety and other reasons n.f.d.

(b) Includes persons who are housebound and/or never went out.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Estimate has a relative standard error greater than 50% and is generally unreliable for use.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.12: Use of transport in the last 2 weeks, Indigenous persons aged 18 years and over by state/territory, 2008 (per cent)

	Use of transport in last 2 weeks					
	Used transport, but not public transport, in last 2 weeks	Walking only form of transport in last 2 weeks	Did not use public transport[(a)]	Used public transport in last 2 weeks	Total not housebound in last 2 weeks[(b)]	Total[(c)]
NSW	28.0	1.6[(d)]	71.6	28.0	99.6	100.0
Vic	36.2	0.7	63.7	36.2	99.9	100.0
Qld	24.2	1.8[(d)]	75.5	24.2	99.7	100.0
WA	24.8	3.5	75.1	24.8	99.9	100.0
SA	35.0	1.9	64.3	35.0	99.3	100.0
Tas	15.2	n.p.	84.6	15.2	99.8	100.0
ACT	31.8	n.p.	68.2	31.8	100.0	100.0
NT	16.4	6.7	82.2	16.4	98.6	100.0
Australia	25.5	2.5	74.0	25.5	99.5	100.0

(a) Comprises persons who used transport, but not public transport, and those persons for whom walking was the only form of transport in the last 2 weeks.

(b) Comprises persons who used transport and those for whom walking was the only form of transport in the last 2 weeks.

(c) Includes persons who are housebound and/or never went out.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.13: Mode of transport, Indigenous persons aged 18 years and over by state/territory, 2008 (per cent)

	Modes of transport									
	Bus	Tram/light rail	Taxi	Car/4WD/Truck - as driver	Motorcycle/ Motorised scooter	Car/4WD/ Truck - as passenger	Bicycle	Walk	Other[(a)]	Total[(b)]
NSW	24.3	12.7	18.4	52.6	2.3(c)	58.8	5.9	48.1	2.7	100.0
Vic	25.0	22.7	19.2	62.3	3.4	56.8	6.9	49.0	4.6	100.0
Qld	19.7	10.4	25.6	58.9	1.9(c)	65.8	6.4	54.2	11.3	100.0
WA	21.3	14.7	17.9	56.6	1.4(c)	64.3	6.5	61.2	6.9	100.0
SA	33.1	11.8	14.8	56.9	1.4(c)	66.4	5.3	61.2	3.5(c)	100.0
Tas	14.1	1.7(c)	10.1	75.8	5.2(c)	59.7	4.7(c)	47.6	5.1	100.0
ACT	31.6	3.7(c)	26.2	73.4	4.6(c)	66.0	14.9(c)	58.1	13.9(c)	100.0
NT	17.4	0.9(c)	14.1	35.3	1.3(c)	69.1	6.6	64.8	9.6	100.0
Australia	21.9	10.9	19.4	54.5	2.1	63.2	6.3	54.5	6.9	100.0

(a) Comprises boats/ferries, regular/chartered aircraft and other modes n.f.d.

(b) Includes persons who are housebound and/or never went out.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Sources: 2008 NATSISS and 2006 GSS.

Transport access, difficulty and use by remoteness

- In non-remote areas, a higher proportion of Indigenous Australians reported having access to a motor vehicle to drive than Indigenous Australians in remote areas (81% compared with 70%) (Table 2.13.14).
- In remote areas, Indigenous Australians were more likely to report that they could not get to or often had difficulty getting to the places they needed to (18%) than Indigenous Australians in non-remote areas (8%) (Table 2.13.14).
- In remote areas, Indigenous Australians were much more likely to report not having used transport in the previous 2 weeks (7%) than in non-remote areas (1%). In remote areas, unavailability of public transport in local area (83%) was the main reason for not using public transport (Table 2.13.14).

Table 2.13.14: Transport, by Indigenous status and remoteness, persons aged 18 years and over, 2008

	Non-remote			Remote			Total		
	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio
Access to motor vehicle	%	%		%	%		%	%	
Access to motor vehicle	80.6	86.2	0.9	69.5	. .		77.7	. .	. .
No access	19.1	13.8	1.4	29.6	. .		21.8	. .	. .
Total[(a)]	**100.0**	**100.0**		**100.0**			**100.0**		**. .**
Perceived level of difficulty with transport									
Can easily get to the places needed	77.4	84.4	0.9	66.0	. .		74.4	. .	. .
Sometimes have difficulty getting to the places needed	14.1	11.4	1.2	14.8	. .		14.3	. .	. .
Cannot or often have difficulty	8.2	4.1	2.0	18.3	. .		10.8	. .	. .
Total[(b)]	**100.0**	**100.0**	**. .**	**100.0**	**. .**		**100.0**	**. .**	**. .**
Use of transport in last 2 weeks[(c)]									
Used transport in last 2 weeks	98.8	. .	. .	92.1	. .	. .	97.0	. .	. .
Did not use transport in last 2 weeks	0.9	. .	. .	7.0	. .	. .	2.5	. .	. .
Total[(b)]	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**
Use of public transport in last 2 weeks[(c)]									
Used public transport in last 2 weeks	30.0	. .	. .	12.7	. .	. .	25.5	. .	. .
Used transport but not public transport in last 2 weeks	68.8	. .	. .	79.4	. .	. .	71.5	. .	. .
Did not use any transport in last 2 weeks	0.9	. .	. .	7.0	. .	. .	2.5	. .	. .
Total[(b)]	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**
Modes of transport[(b)(c)]									
Bus	25.7	. .	. .	11.2	. .	. .	21.9	. .	. .
Train, tram/light rail[(d)]	14.4	. .	. .	. .	. .	. .	14.4	. .	. .
Taxi	21.4	. .	. .	13.6	. .	. .	19.4	. .	. .

(continued)

Table 2.13.14 (continued): Transport, by Indigenous status and remoteness, persons aged 18 years and over, 2008

	Non-remote			Remote			Total		
	Indigenous	**Non-Indigenous**	**Ratio**	**Indigenous**	**Non-Indigenous**	**Ratio**	**Indigenous**	**Non-Indigenous**	**Ratio**
	%	%		%	%		%	%	
Car/4WD/motorcycle/motorised scooter as driver	60.2	. .	. .	40.4	. .	. .	55.1	. .	. .
Car/4WD as passenger	60.6	. .	. .	70.4	. .	. .	63.2	. .	. .
Bicycle	6.4	. .	. .	6.0	. .	. .	6.3	. .	. .
Walk	49.3	. .	. .	69.6	. .	. .	54.5	. .	. .
Other	5.7	. .	. .	10.2	. .	. .	6.9	. .	. .
Total	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**
Main reason did not use public transport(c)(e)									
Prefer to use own transport or walk	57.9	. .	. .	12.7	. .	. .	44.2	. .	. .
Costs too much/takes too long	3.3	. .	. .	1.0(f)	. .	. .	2.6	. .	. .
No suitable services(g)	7.4	. .	. .	2.3(f)	. .	. .	5.8	. .	. .
Personal reasons(h)	2.6	. .	. .	0.3(f)	. .	. .	1.9	. .	. .
Other	3.1	. .	. .	0.9(f)	. .	. .	2.4	. .	. .
Total with access to public transport in local area	*74.2*	. .	. .	*17.1*	. .	. .	*56.9*	. .	. .
No public transport available in local area	25.8	. .	. .	82.9	. .	. .	43.1	. .	. .
Total(i)	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**	**100.0**	**. .**	**. .**

(a) Includes persons who did not state whether they have access to a motor vehicle.

(b) Includes persons who were housebound.

(c) Data collected for Indigenous Australians only.

(d) Calculation based on non-remote areas only.

(e) Asked of people who had not used public transport in last 2 weeks but who had access to public transport in their area.

(f) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(g) No suitable services includes no services available at night/convenient and available for destination.

(h) Personal reasons includes concerns about personal safety, treated badly/discrimination and health reasons.

(i) Total excludes not known responses.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.15: Difficulty with transport, by Indigenous status and remoteness, persons aged 18 years and over, 2008

	Remote		Non-remote	
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
		Per cent		
Can easily get to the places needed	66.0	. .	77.4	84.4
Sometimes have difficulty getting to the places needed	14.8	. .	14.1	11.4
Cannot or often have difficulty	18.3	. .	8.2	4.1
Other[(a)]	0.9[(b)]	. .	0.3[(b)]	0.1[(b)]
Total	**100.0**		**100.0**	**100.0**

(a) 'Other' includes sometimes has difficulty getting to places needed and never go out/housebound.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Sources: 2008 NATSISS and 2006 GSS.

Transport difficulty by selected health and population characteristics

Tables 2.13.16 and 2.13.17 present information on Indigenous persons aged 18 years and over, by perceived level of difficulty with transport and selected health and population characteristics. Proportions in Table 2.13.16 are calculated within a column using the total across the rows as a denominator; while proportions in Table 2.13.17 are calculated within a row using the column totals as a denominator.

- A higher proportion of both Indigenous and non-Indigenous Australians aged 18 years and over who could not get to places when needed reported fair/poor health status and having a disability or long-term health condition than Australians who could easily get to places when needed (Table 2.13.16).
- A higher proportion of Indigenous Australians who could not get to places when needed were in the lowest (1st) quintile of household income and reported they could not raise $2,000 within a week for something important than Indigenous Australians who could easily get to places when needed (Table 2.13.16).

Table 2.13.16: Perceived level of difficulty with transport, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008 (per cent)

	Can easily get to the places needed		Sometimes have difficulty getting to the places needed		Often have difficulty getting to the places needed		Can't get to the places needed		Total[(a)]	
	Indigenous	Non-Indigenous.	Indigenous	Non-Indigenous.	Indigenous	Non-Indigenous.	Indigenous	Non-Indigenous.	Indigenous	Non-Indigenous
Self-assessed health status[(b)]										
Excellent/very good	39.7*	61.8*	23.5*	41.7*	28.7	38.5	29.5	23.7	36.4	58.4
Good	33.9*	25.8*	36.7	31.3	32.7	26.0	32.7	21.0	34.0	26.3
Fair/poor	26.4*	12.4*	39.8*	27*	38.5	35.5	37.8	55.3	29.5	15.3
Disability or long-term health condition[(b)]										
Has disability or long-term health condition	55.0*	35.7*	71.9*	53.1*	74.5	63.5	76.4	75.5	58.9*	38.7*
No disability or long-term conditions	45.0*	64.3*	28.1*	46.9*	25.5	36.5	23.6	24.5	41.1*	61.3*
Household income[(c)]										
1st quintile	41.8	. .	67.8	. .	77.1	. .	74.6	. .	49.2	. .
5th quintile	6.1	. .	2.1[(d)]	. .	n.p.	. .	n.p.	. .	4.9	. .
Index of disparity[(c)]										
1st quintile	46.7	. .	56.7	. .	69.1	. .	71.9	. .	50.8	. .
5th quintile	4.2	. .	3.9[(d)]	. .	0.9[(e)]	. .	0.5[(e)]	. .	3.8	. .
Financial stress – unable to raise $2,000 within a week for something important[(c)]	42.8	. .	68.4	. .	70.7	. .	81.7	. .	50	. .
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(continued)

Table 2.13.16 (continued): Perceived level of difficulty with transport, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008 (per cent)

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

(a) Includes those who never go out/housebound.

(b) Data for self-assessed health status and disability or long-term health condition are age-standardised.

(c) Proportions are based on totals which exclude not stated and not known.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.17: Perceived level of difficulty with transport, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008 (per cent)

	Can easily get to the places needed		Sometimes have difficulty getting to the places needed		Often have difficulty getting to the places needed		Can't get to the places needed		Total(a)	
	Indigenous	Non-Indigenous.	Indigenous	Non-Indigenous.	Indigenous	Non-Indigenous.	Indigenous	Non-Indigenous.	Indigenous(b)	Non-Indigenous
Self-assessed health status(c)										
Excellent/very good	83.4*	89.8*	8.0	8.1	2.2	1.7	6.2*	0.3*	100.0	100.0
Good	75.3*	82.6*	14.4	13.6	2.6	3.3	7.4*	0.6*	100.0	100.0
Fair/poor	66.0	66.9	18.8	21.1	4.2*	7.8*	9.9	3.7*	100.0	100.0
Disability or long-term health condition(c)										
Has disability or long-term health condition	73.2*	77.9*	15.7	15.1	3.7*	5.1*	6.7*	1.7*	100.0	100.0
No disability or long-term conditions	87.0	89.5	8.4	8.6	1.8	1.5	2.7*	0.3*	100.0	100.0
Household income(b)										
1st quintile	63.7	. .	20.0	. .	4.3	. .	11.1	. .	100.0	100.0
5th quintile	93.3	. .	6.2(d)	. .	n.p.	. .	n.p.	. .	100.0	100.0
Index of disparity(b)										
1st quintile	68.9	. .	15.7	. .	3.9	. .	10.9	. .	100.0	100.0
5th quintile	83.5	. .	14.3(d)	. .	0.7(e)	. .	0.9(e)	. .	100.0	100.0
Financial stress – unable to raise $2,000 within a week for something important(b)	63.7	. .	18.5	. .	4.2	. .	12.8	. .	100.0	100.0

(continued)

Table 2.13.17 (continued): Perceived level of difficulty with transport, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the p<0.05 level for these categories.

(a) Includes those who never go out/housebound.
(b) Proportions are based on totals which exclude not stated and not known.
(c) Data for self-assessed health status and disability or long-term health condition are age-standardised.
(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.13.18: Perceived level of difficulty with transport, by selected transport characteristics and Indigenous status, persons aged 18 years and over, 2008 (per cent)

	Can easily get to the places needed		Sometimes have difficulty getting to the places needed		Often have difficulty getting to the places needed		Can't get to the places needed/never go out/housebound		Total	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Access to motor vehicle[a]										
Access to motor vehicle	86.1*	92.4*	62.0	59.1	54.5	44.1	38.2	27.2	77.7	86.3
No access	13.9*	7.6*	38.0	40.9	45.5	55.9	56.3	72.8	21.8	13.7
Total[b]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Use of transport in last 2 weeks										
Used transport, but not public transport, in last 2 weeks	75.7	. .	59.7	. .	62.2	. .	57.6	. .	71.5	. .
Walking only form of transport in last 2 weeks	1.7	. .	3.1	. .	1.1	. .	9.0	. .	2.5	. .
Did not use public transport[c]	*77.4*	. .	*62.9*	. .	*63.3*	. .	*66.6*	. .	*74.0*	. .
Public transport is available in local area				. .		. .		. .		. .
Main reason did not use public transport										
Prefer to use own transport or walk	39.2	. .	15.3	. .	13.7[d]	. .	7.4	. .	32.4	. .
No service available at right/convenient time	2.8	. .	4.8	. .	5.9[e]	. .	3.3[d]	. .	3.2	. .
No services available for destination/takes too long	1.9	. .	2.8[d]	. .	2.5[d]	. .	2.0[e]	. .	2.1	. .
Other reasons[f]	2.9	. .	7.2	. .	11.3[d]	. .	6.6[d]	. .	4.0	. .
Total with access to public transport	*46.8*	. .	*30.1*	. .	*33.4*	. .	*19.4*	. .	*41.7*	. .
No public transport available in local area	29.8	. .	32.6	. .	29.6	. .	46.4	. .	31.6	. .
Not known	0.8	. .	n.p.	. .	n.p.	. .	0.8[e]	. .	0.7	. .
Total[b]	*77.4*	. .	*62.9*	. .	*63.3*	. .	*66.6*	. .	*74.0*	. .

(continued)

Table 2.13.18 (continued): Perceived level of difficulty with transport, by selected transport characteristics and Indigenous status, persons aged 18 years and over, 2008 (per cent)

	Can easily get to the places needed		Sometimes have difficulty getting to the places needed		Often have difficulty getting to the places needed		Can't get to the places needed/never go out/housebound		Total	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Used public transport in last 2 weeks	22.6	. .	37.1	. .	36.7	. .	27.9	. .	25.5	. .
Total not housebound in last 2 weeks[(g)]	*100.0*	. .	*100.0*	. .	*100.0*	. .	*100.0*	. .	*100.0*	. .
Total[(b)]	**100.0**	**. .**	**100.0**	**. .**	**100.0**	**. .**	**100.0**	**. .**	**100.0**	**. .**

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant at the $p<0.05$ level for these categories.

(a) Includes persons who did not state whether they have access to a motor vehicle.

(b) Includes persons who are housebound and/or never went out.

(c) Comprises persons who used transport, but not public transport, and those persons for whom walking was the only form of transport in the last 2 weeks.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(f) Comprises cost, health reasons, being treated badly/discrimination, concerns about personal safety and other reasons n.f.d.

(g) Comprises persons who used transport and those for whom walking was the only form of transport in the last 2 weeks.

Sources: 2008 NATSISS and 2006 GSS.

Transport/distance as a barrier to accessing health services

The 2008 NATSISS collected information on reasons Indigenous Australians didn't visit a dentist, doctor, other health professional or hospital when needed, including transport/distance. These data are presented below and can be found in Indicator 3.12.

- In 2008, 10% of Indigenous Australians reported that transport/distance was a reason they had problems accessing a service.
- A higher proportion of Indigenous people living in remote areas (19%) than in non-remote areas (7%) reported transport/distance as a reason for not accessing health services.
- Indigenous Australians aged 25–34 years were more likely than those in older age groups to report transport as the main reason they didn't access health services when needed.
- Indigenous females (11%) were more likely than males (8%) to report transport/distance as the main reason they didn't access a doctor or hospital in the previous 12 months when needed (See Indicator 3.12 for more details).

The data on vehicles per household and per person presented in this indicator suggest that non-Indigenous Australians have better access to personal transport than Indigenous Australians and would therefore be more readily able to reach a health facility or service. Public transport may compensate for the lack of personal transport, and clinics may provide a transport service for their patients, but these services are not available everywhere. The main reason given by 33% of those who sometimes have difficulty in getting to the places they needed to and did not use public transport in the 2 weeks before the survey was that no service was available (Table 2.13.18).

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82 per cent of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS as the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may however be used to obtain rough non-Indigenous comparisons for some data items. Where possible ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

There was a relatively large level of under-coverage and caution should be exercised when interpreting the survey results. The under-identification of Indigenous persons in non-community areas is estimated to be up to 31% of those screened. This estimate is the remaining level of undercoverage when all other known sources of undercoverage have been removed. Part of this percentage is likely to be due to other factors which are unknown. (ABS 2010)

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: users' guide 2008* (ABS 2010).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2010. National Aboriginal and Torres Strait Islander Social Survey: users' guide 2008. ABS Cat. no. 4720.0. Canberra: ABS.

List of tables

2.14 Indigenous people with access to their traditional lands

The proportion of Aboriginal and Torres Strait Islander people living on or visiting traditional areas of land with which they have ancestral and/or cultural links

Data sources

Data for this indicator come from the 2008 National Aboriginal and Torres Strait Islander Social Survey.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Data analyses

Access to traditional lands

- In 2008, approximately 71% of Indigenous Australians aged 15 years and over reported they recognised their homeland or traditional country. Approximately 26% reported they lived on their homeland, 45% were allowed to visit their homeland and 1% were not allowed to visit their homeland/traditional country (Table 2.14.1).

Access to traditional lands by age group

- In 2008, the proportion of Indigenous Australians aged 15 years and over who reported they recognised their homelands was highest among those aged 35–44 years (81%) and lowest among those aged 15–34 years (65%) (Table 2.14.1).
- In 2008, only 39% of 15–34 year olds were allowed to visit homelands/traditional country compared with 51–53% of all other age groups (Table 2.14.1).

Table 2.14.1: Access to homelands/traditional country, by age group, Indigenous Australians, 2008

	Does not recognise homelands/ traditional country	Recognises homelands/traditional country				Total
		Lives on homelands/ traditional country	Allowed to visit homelands/ traditional country	Not allowed to visit	*Total Recognises homelands/ traditional country*	
		Per cent				
15–34 years	34.9	25.1	39.4	0.5	*65.1*	100.0
35–44 years	19.4	29.1	51.0	0.5	*80.6*	100.0
45–54 years	22.9	23.0	52.8	1.2	*77.1*	100.0
55 years and over	23.6	24.6	51.3	0.5	*76.4*	100.0
Australia	**28.7**	**25.5**	**45.2**	**0.6**	***71.3***	**100.0**
Number	**92,718**	**82,607**	**146,017**	**2,051**	***230,674.7***	**323,393**

Note: Proportions and numbers exclude not stated responses.

Source: AIHW analysis of 2008 NATSISS.

Access to traditional lands by state/territory

- The proportion of Indigenous Australians who reported they recognised their homelands varied by jurisdiction, being highest in the Northern Territory *Remote* and *Very remote* areas (91%) and lowest in New South Wales *Major Cities* (57%) (Table 2.14.2).
- The proportion of Indigenous Australians who lived on their homeland was highest in the Northern Territory *Remote* and *Very remote* areas (48%) and lowest in Queensland *Major Cities* (3%).
- The proportion of Indigenous people who were allowed to visit their homelands/traditional country was highest in Queensland *Major cities* (71%) and lowest in *Remote* and *Very remote* areas of New South Wales, South Australia and Tasmania combined (23%).

Table 2.14.2: Access to homelands/traditional country, by state/territory and remoteness, Indigenous Australians aged 15 years and over, 2008[(a)]

		Recognises homelands/traditional country				
State/ territory	**Does not recognise homelands/ traditional country**	**Lives on homelands/ traditional country**	**Allowed to visit homelands/ traditional country**	**Not allowed to visit**	***Total Recognises homelands/ traditional country***	**Total**
			Per cent			
NSW Major cities	43.3	13.7	42.6	0.3	*56.7*	100.0
NSW Inner regional	32.9	39.4	26.8	0.9	*67.1*	100.0
NSW Outer regional	25.1	44.4	30.1	0.3	*74.9*	100.0
Vic Total	33.0	16.9	49.5	0.6	*67.0*	100.0
Qld Major cities	25.1	2.9	71.4	0.6	*74.9*	100.0
Qld Inner regional	39.7	9.5	50.8	0.0	*60.3*	100.0
Qld Outer regional	33.4	16.4	49.4	0.8	*66.6*	100.0
Qld Remote/Very remote	14.0	40.7	44.3	1.1	*86.0*	100.0
WA Non-remote	31.1	21.8	45.8	1.3	*68.9*	100.0
WA Remote/Very remote	15.2	42.2	42.2	0.5	*84.8*	100.0
NT Remote/Very remote	8.8	47.5	43.2	0.5	*91.2*	100.0
Balance of Australia - Non-remote[(b)]	33.0	13.1	53.1	0.8	*67.0*	100.0
Balance of Australia - Remote/Very remote[(c)]	30.2	46.9	22.9	0.0	*69.8*	100.0
Australia	**28.7**	**25.5**	**45.2**	**0.6**	***71.3***	**100.0**
Number	**92,718**	**82,607**	**146,017**	**2,051**	***230,674.7***	**323,393**

(a) Proportions and numbers exclude not stated responses.

(b) Includes Non-Remote areas of SA, NT, and Tas/ACT.

(c) Includes Remote/Very Remote areas of NSW, SA, and Tas/ACT

Source: AIHW analysis of 2008 NATSISS.

Access to traditional lands by remoteness

- In general, the proportion of Indigenous Australians aged 15 years and over who reported they recognised their homelands in 2008 increased with remoteness. The highest proportion was in *Very remote* areas (90%) and lowest was in Inner Regional areas (63%) (Table 2.14.3).
- Around 44% of Indigenous Australians reported they lived on their homeland in remote areas, and 19% in non-remote areas (Table 2.14.3).
- The proportion of Indigenous people who were allowed to visit their homelands/traditional country but did not live there was highest in *Major cities* (55%) (Table 2.14.3).

Table 2.14.3: Access to homelands/traditional country, by remoteness, Indigenous Australians aged 15 years and over, 2008

	Major cities	Inner regional	Outer regional	Total non-remote	Remote	Very remote	Total remote	Australia
				Per cent				
Recognises homelands								
Lives on homelands[(a)]	9.5	26.3	25.6	18.9	32.9	51.0	44.4	25.3
Does not live on homelands								
Allowed to visit homelands	55.4	35.4	41.9	45.9	45.8	38.0	40.9	44.6
Not allowed to visit homelands	0.6[(b)]	0.7[(c)]	0.7[(b)]	0.6[(b)]	1.0[(b)]	0.3[(b)]	0.6[(b)]	0.6
Not known	1.7[(b)]	1.0[(b)]	1.4[(b)]	1.4	0.3[(c)]	0.2[(c)]	0.2[(c)]	1.1
Total	*57.6*	*37.1*	*44.1*	*48.0*	*47.1*	*38.5*	*41.7*	*46.4*
Total recognises homelands	67.1	63.4	69.7	66.9	80.0	89.6	86.1	71.7
Does not recognise homelands	32.9	36.6	30.3	33.1	20.0	10.4	13.9	28.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Asked of persons who recognised their homelands (234,383).

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: AIHW Analysis of 2008 NATSISS.

Access to traditional lands by remoteness and selected population and socioeconomic characteristics

- In 2008, Indigenous Australians who recognised their homelands and lived in remote areas were more likely to be living under financial stress (68%) then those in non-remote areas (47%) (Table 2.14.4).
- Total employment rates for those who recognised their homelands and lived in remote areas were lower (50%) than those who lived in non-remote areas (53%). Similar rates by remoteness were observed for those who have access to homelands (Table 2.14.4).

Table 2.14.4: Access to homelands/traditional country by selected population and socioeconomic characteristics, 2008

	Recognises homelands/traditional country			Has access to homelands/traditional country		
	Remote	Non-remote	Total	Remote	Non-remote	Total
	Per cent					
Main language spoken at home						
English	50.9	97.8	83.1	49.4	97.7	83.0
Language other than English	49.1	2.2	16.9	50.6	2.3	17.0
Household income						
1st quintile	19.2	21.3	20.7	19.6	22.6	21.8
5th quintile	7.5	8.8	6.3	7.0	10.1	9.2
Index of socioeconomic disadvantage						
1st quintile (lowest)	83.1	44.1	56.3	83.2	43.7	55.7
5th quintile (highest)	0.9	5.0	3.7	1.0	5.6	4.2
Financial stress						
Unable to raise $2,000 within a week for something important	68.1	46.6	53.4	67.6	45.1	52.0
Employment						
Employed CDEP	38.1	2.0	12.3	38.4	2.0	12.7
Employed non-CDEP	61.8	98.0	87.7	61.7	98.0	87.3
Total employed	50.2	53.4	52.4	50.4	53.2	52.4
Unemployed	8.7	10.9	10.3	8.8	11.2	10.4
Subtotal in labour force	*58.9*	*64.3*	*62.7*	*59.2*	*64.4*	*62.8*
Not in labour force	41.1	35.7	37.3	40.8	35.6	37.2
Housing						
Dwelling has major structural problems	40.6	25.9	30.5	40.4	25.8	30.2
Repairs and maintenance carried out in last 12 months	63.5	62.6	62.9	63.5	61.8	62.3
Dwelling requires additional bedroom(s)	54.1	18.4	29.6	50.4	16.7	26.9
Mobility						
Moved dwellings in last 12 months	20.0	22.1	21.4	20.6	22.7	22.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: AIHW analysis of 2008 NATSISS.

Access to traditional lands by selected health characteristics

- In 2008, among Indigenous Australians aged 15 years and over who recognised and lived on their homelands/traditional country, 79% were in excellent/very good health status and 21% were in fair/poor health status. Among Indigenous Australians who recognised and was allowed to visit their homelands/traditional country, 76% were in excellent/very good health status and 24% were in fair/poor health status. Among Indigenous Australians who recognised but did not live on and was not allowed to visit their homelands/traditional country, 42% were in excellent/very good health status and 58% were in fair/poor health status (Table 2.14.5).
- The proportions of Indigenous Australians aged 15 years and over who recognised and lived on their homelands/traditional country were similar between different levels of health status, levels of selected risk factors and levels of psychological distress. The proportions ranged from 24% (fair/poor health status, low risk alcohol consumption) to 28% (medium/ high risk alcohol consumption). Similar patterns were observed for proportions of Indigenous Australians aged 15 years and over who did not recognise their homelands/traditional country, and proportions of Indigenous Australians aged 15 years and over who recognised but did not live on and was not allowed to visit their homelands/traditional country (Table 2.14.6).

Table 2.14.5: Access to homelands/traditional country, by health status and risk factors and psychological distress, Indigenous Australians aged 15 years and over, 2008

	Self-assessed health status			Alcohol consumption				Smoking			Psychological distress (Kessler 5)		
	Excellent/ very good/ good	Fair/ poor	Total(a)	Medium/ high risk alcohol consumption	Low risk alcohol consumption	Did not consume alcohol	Total(a)	Current smoker	Ex-smoker or never smoked	Total(a)	Low/ moderate	High/ very high	Total(a)
							Per cent						
Does not recognise homelands/ traditional country	80.6	19.4	100.0	16.9	49.3	33.8	100.0	43.0	57.0	100.0	71.4	28.6	100.0
Recognises and lives on homelands/ traditional country	79.3	20.7	100.0	18.6	43.7	37.7	100.0	49.6	50.4	100.0	66.7	33.3	100.0
Recognises and allowed to visit homelands/traditional country but does not live there	75.8	24.2	100.0	17.0	47.4	35.6	100.0	47.6	52.4	100.0	68.9	31.1	100.0
Recognises homelands/traditional country but does not live there and not allowed to visit	42.4	57.6	100.0	9.5	44.0	46.5	100.0	56.1	43.9	100.0	45.0	55.0	100.0
Total	**77.8**	**22.2**	**100.0**	**17.3**	**47.0**	**35.7**	**100.0**	**46.8**	**53.2**	**100.0**	**68.9**	**31.1**	**100.0**

(a) Excludes not stated and unknown responses.

Source: AIHW analysis of 2008 NATSISS.

Table 2.14.6: Access to homelands/traditional country, by health status and risk factors and psychological distress, Indigenous Australians aged 15 years and over, 2008

	Self-assessed health status		Alcohol consumption			Smoking		Psychological distress (Kessler 5)	
	Excellent/ very good/ good	Fair/ poor	Medium/ high risk alcohol consumption	Low risk alcohol consumption	Did not consume alcohol	Current smoker	Ex-smoker or never smoked	Low/moderate	High/very high
	Per cent								
Does not recognise homelands/ traditional country	29.7	25.2	28.1	30.3	27.3	26.3	30.7	29.8	26.5
Recognises and lives on homelands/ traditional country	26.0	23.8	27.6	23.9	27.1	27.0	24.2	24.5	27.2
Recognises and allowed to visit homelands/traditional country but does not live there	43.9	49.4	43.9	45.2	44.7	45.9	44.5	45.3	45.3
Recognises homelands/traditional country but does not live there and not allowed to visit	0.3	1.6	0.4	0.6	0.8	0.8	0.5	0.4	1.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**251,726**	**71,666**	**55,2392**	**150,001**	**113,813**	**151,469**	**171,924**	**219,612**	**98,960**

Source: AIHW analysis of 2008 NATSISS.

Access to traditional lands by community cohesion

- In 2008, 90% of Indigenous Australians aged 15 years and over who recognised and lived on their homelands had support in a time of crisis, 88% of those who did not recognised their homelands had support in a time of crisis (Table 2.14.7).
- A higher proportion of Indigenous Australians who recognised their homelands and lives there reported neighbourhood problems (75%), compared with 67% of those who recognise their homelands but are not allowed to visit or live there (Table 2.14.7).

Table 2.14.7: Access to homelands/traditional country, by community cohesion, Indigenous Australians aged 15 years and over, 2008

	Support in time of crisis			Presence of neighbourhood/community problems		
	Does not have support in time of crisis	Has support in time of crisis	Total	Neighbourhood/ community problems reported	No neighbourhood/ community problems reported	Total[(a)]
	Per cent					
Does not recognise homelands/traditional country	12.1	87.9	100.0	69.7	30.3	100.0
Recognises and lives on homelands/traditional country	9.6	90.4	100.0	75.2	24.8	100.0
Recognises and allowed to visit homelands/traditional country but does not live there	11.7	88.3	100.0	74.5	25.5	100.0
Recognises homelands/ traditional country but does not live there and not allowed to visit	4.6	95.4	100.0	67.0	33.0	100.0
Total	**11.2**	**88.8**	**100.0**	**73.3**	**26.7**	**100.0**

(a) Excludes not stated.

Source: AIHW analysis of 2008 NATSISS.

Table 2.14.8: Access to homelands/traditional country, by community cohesion, Indigenous Australians aged 15 years and over, 2008

	Support in time of crisis		Presence of neighbourhood/community problems	
	Does not have support in time of crisis	Has support in time of crisis	Neighbourhood/ community problems reported	No neighbourhood/ community problems reported
		Per cent		
Does not recognise homelands/traditional country	30.9	28.4	27.2	32.4
Recognises and lives on homelands/traditional country	21.8	26.0	26.3	23.8
Recognises and allowed to visit homelands/traditional country but does not live there	47.1	44.9	45.9	43.1
Recognises homelands/ traditional country but does not live there and not allowed to visit	0.3	0.7	0.6	0.8
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: AIHW analysis of 2008 NATSISS.

Access to traditional lands by personal stressors

- In 2008, 28% of Indigenous Australians who lived on their homelands reported a death of a family member or close friend, 11% reported difficulty in getting a job and 10% reported overcrowding (Table 2.14.9).
- Around 30% of Indigenous people who recognised their homelands but were not allowed to visit reported a death of a family member or close friend and 21% reported divorce or separation (Table 2.14.9).

Table 2.14.9: Access to traditional lands, by type of personal stressors in last 12 months, Indigenous Australians aged 15 years and over, 2008

		Recognises homelands/traditional country		
Type of stressor	**Does not recognise homelands/traditional country**	**Lives on homelands/ traditional country**	**Allowed to visit homelands/ traditional country**	**Not allowed to visit**
Really bad illness	10.9	10.1	14.7	17.0
Really bad accident	2.4	4.4	3.7	4.8
Death of family member or close friend	20.0	27.8	27.7	30.8
You, a family member or friend spent time in gaol	2.8	6.2	3.9	3.6
Overcrowding at home	4.8	10.1	7.1	2.4
Divorce or separation	4.8	3.9	4.4	20.8
Not able to get a job	11.7	11.4	11.3	6.5
Lost job / made redundant / sacked / retired	3.7	3.2	4.3	1.2
Alcohol/drug problems	5.7	7.9	9.1	13.1
Witness to violence	1.9	3.4	4.6	18.9
Abuse or violent crime	2.6	2.6	3.1	19.5
Trouble with police	3.4	6.7	5.9	19.4
Gambling problem	1.5	2.4	3.0	0.0
Other	20.2	24.2	29.0	43.7
Total[(a)]	**96.3**	**124.2**	**131.8**	**201.6**

(a) Sum of components will not add to 100% because multiple stressors can be reported.

Source: AIHW analysis of 2008 NATSISS.

Frequency and length of time spent visiting homelands

- In 2008, of Indigenous Australians 15 years and over who recognised and were allowed to visit their homelands, 49% visited their homelands less than once a year. This was compared with only 2% that visited their homelands at least weekly and 2% who visited their homelands fortnightly (Table 2.14.10).
- In 2008, of Indigenous Australians 15 years and over who visited their homelands at least once a year, 43% reported the longest time that they spent at their homelands was one week to less than a month. This was compared with 2.2% that reported three to less than six months (Table 2.14.11)

Table 2.14.10: How often visits homelands/traditional country, Indigenous persons aged 15 years and over[(a)], 2008

	How often visits homelands/ traditional country
	Per cent
At least once a week	2.0
At least once a fortnight	2.1
At least once a month	4.3
Several times per year	24.4
Once per year	18.4
Less frequently than once per year	48.9
Total who recognises an area as their homelands and are allowed to visit	**100.0**
Total number	**146,017**

(a) Selected persons 15+ who recognise an area as their homelands and are allowed to visit.

Source: AIHW analysis of 2008 NATSISS.

Table 2.14.11: Longest time spent in homelands/traditional country in last 12 months, Indigenous persons aged 15 years and over, 2008

	Longest time spent in homelands/traditional country[(a)]
	Per cent
<1 week	42.4
1 week to less than 1 month	43.2
1 to less than 3 months	9.6
3 to less than 6 months	2.2
6+ months	2.6
Total	**100.0**
Total number	**74,687**

(a) Selected persons 15+ who visit their homelands/ traditional country at least once per year.

Source: AIHW analysis of 2008 NATSISS.

Length of time spent visiting homelands by health status and risk factors, psychological distress, community cohesion and personal stressors

- For those Indigenous Australians who reported spending 3 to less than 6 months visiting their homelands, 83% reported excellent/very good/good health compared with 17% who reported fair/poor health (Table 2.14.12).
- Of those who spent less than a week visiting their homelands, 78% reported excellent/very good/good and 22% reported fair/poor health (Table 2.14.12).
- Indigenous Australians who spent 6 months or more visiting their homelands were more likely to be a daily smoker, use risky amounts of alcohol and to have ever used substances (63%, 30% and 46%, respectively) than those who spent less than a week visiting their homelands (44%, 17% and 43%, respectively) (Table 2.14.13; Table 2.14.15).
- Of Indigenous Australians who reported that they did not have support during a time of crisis 11% has spent less than a week visiting their homelands in the past year while 2.1% had spent 3 to less than 6 months visiting their homelands (Table 2.14.12).

Table 2.14.12: Health status and risk factors, psychological distress, community cohesion and personal stressors by longest time spent in homelands/traditional country, 2008

		Longest time spent in homelands					
		<1 week	1 week to less than 1 month	1 to less than 3 months	3 to less than 6 months	6+ months	Total
Self-assessed health status	Excellent/ very good/ good	78.2	78.9	84.6	83.4	67.5	78.9
	Fair/ poor	21.8	21.1	15.4	16.6	32.5	21.1
	Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Psychological distress (Kessler 5)	Low/moderate	68.5	73.4	70.1	57.7	77.1	70.8
	High/very high	31.5	26.6	29.9	42.3	22.9	29.2
	Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Experienced personal stressors in last 12 months	Experienced stressors	58.2	65.8	69.4	67.5	68.8	63.0
	Did not experience stressors	41.8	34.2	30.6	32.5	31.2	37.0
	Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Support in time of crisis	Does not have support in time of crisis	11.2	9.9	13.1	2.1	19.5	10.9
	Has support in time of crisis	88.8	90.1	86.9	97.9	80.5	89.1
	Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Presence of neighbourhood/community problems	Neighbourhood/ community problems reported	70.5	76.3	77.2	81.7	63.8	73.8
	No neighbourhood/community problems	29.5	23.7	22.8	18.3	36.2	26.2
	Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Not stated responses excluded.

Source: AIHW analysis of 2008 NATSISS.

Table 2.14.13: Longest time spent in homelands/traditional country by health status and risk factors, psychological distress, community cohesion and personal stressors, 2008

	Smoking status			Alcohol use			Substance use		
Longest time spent in homelands	**Current daily smoker**	**Not current daily smoker**	**Total[(a)]**	**Risky/ high risk**	**Not risky/ high risk**	**Total[(a)]**	**Ever used substances**	**Never used substances**	**Total[(a)]**
<1 week	44.3	55.7	100.0	16.6	83.4	100.0	42.6	57.4	100.0
1 week to less than 1 month	42.5	57.5	100.0	15.5	84.5	100.0	42.9	57.1	100.0
1 to less than 3 months	50.7	49.3	100.0	17.3	82.7	100.0	40.6	59.4	100.0
3 to less than 6 months	56.5	43.5	100.0	27.8	72.2	100.0	58.8	41.2	100.0
6+ months	62.7	37.3	100.0	30.3	69.7	100.0	45.7	54.3	100.0
Total	**45.0**	**55.0**	**100.0**	**16.8**	**83.2**	**100.0**	**42.9**	**57.1**	**100.0**

(a) Not stated responses excluded.

Source: AIHW analysis of 2008 NATSISS.

Table 2.14.14: Health status and risk factors, psychological distress, community cohesion and personal stressors by longest time spent in homelands/traditional country, 2008

		Longest time spent in homelands					
		<1 week	**1 week to less than 1 month**	**1 to less than 3 months**	**3 to less than 6 months**	**6+ months**	**Total**
Self-assessed health status	Excellent/ very good/ good	42.0	43.2	10.3	2.3	2.2	**100.0**
	Fair/ poor	44.0	43.3	7.0	1.7	4.0	**100.0**
Psychological distress (Kessler 5)	Low/moderate	41.6	44.3	9.3	1.8	2.9	**100.0**
	High/very high	46.3	38.8	9.7	3.2	2.1	**100.0**
Experienced personal stressors in last 12 months	Experienced stressors	39.2	45.1	10.5	2.4	2.8	**100.0**
	Did not experience stressors	48.0	39.9	7.9	1.9	2.2	**100.0**
Support in time of crisis	Does not have support in time of crisis	44.0	39.4	11.5	0.4	4.7	**100.0**
	Has support in time of crisis	42.2	43.6	9.3	2.4	2.4	**100.0**
Presence of neighbourhood/ community problems	Neighbourhood/ community problems reported	40.8	44.7	10.1	2.4	2.0	**100.0**
	No neighbourhood/community problems	47.9	39.0	8.4	1.5	3.2	**100.0**

Source: AIHW analysis of 2008 NATSISS.

Table 2.14.15: Longest time spent in homelands/traditional country by health status and risk factors, psychological distress, community cohesion and personal stressors, 2008

	Smoking status		Alcohol use		Substance use	
Longest time spent in homelands	**Current daily smoker**	**Not current daily smoker**	**Risky/ high risk**	**Not risky/ high risk**	**Ever used substances**	**Never used substances**
<1 week	41.8	43.0	41.9	42.6	42.9	43.5
1 week to less than 1 month	38.9	43.1	37.9	41.8	40.8	40.8
1 to less than months	13.0	10.4	12.1	11.6	11.0	12.0
3 to less than 6 months	2.9	1.8	3.8	2.0	2.9	1.5
6+ months	3.5	1.7	4.3	2.0	2.4	2.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: AIHW analysis of 2008 NATSISS.

Identification with clan, tribal or language group

- The level of identification with a clan, tribal or language group was highest within the 35–44 year age group where 72% of Indigenous Australians reported identifying with their clan, tribal or language group. Identification was lowest for the 15–24 year age group where only 51% identified with the clan, tribal or language group (Table 2.14.16).

Table 2.14.16: Whether identifies with clan, tribal or language group, by age, 2008

	15–24 years	25–34 years	35–44 years	45–54 years	55 years and over
Identifies with clan, tribal or language group	50.6	63.9	71.8	68.2	66.0
Does not identify with clan, tribal or language group	49.4	36.2	28.3	31.8	34.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: AIHW analysis of 2008 NATSISS.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors

Care has been taken to ensure that the results of this survey are as accurate as possible. All interviews were conducted by trained ABS officers. However, some factor may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However, not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys; hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS as the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may however be used to obtain rough non-Indigenous comparisons for some data items. Where possible ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS user’s guide (ABS 2010).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' Guide. ABS Cat. no. 4720.0. Canberra: ABS.

List of tables

2.15 Tobacco use

The proportion of Indigenous Australians who are current regular smokers

Data sources

Data for this indicator come from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey, the 2008 National Aboriginal and Torres Strait Islander Social Survey.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Data analyses

NATSISS data

Smoking prevalence data presented below are from the 2008 NATSISS, with non-Indigenous comparisons from the 2007–08 National Health Survey.

- In 2008, approximately 48% of Indigenous Australians aged 18 years and over reported they were current daily smokers, 2% were current smokers weekly or less than weekly; 21% were ex-smokers and 29% reported that they had never smoked (Table 2.15.1).
- Indigenous Australians were more than twice as likely to be current daily smokers as non-Indigenous Australians (Table 2.15.1).

Smoking status by age group and sex

- A higher proportion of Indigenous males aged 18 years and over were current daily smokers compared to females of the same age (50% compared with 46%) (Table 2.15.1).
- The highest proportion of current daily smokers were among Indigenous persons aged 25–34 years (53%) (Table 2.15.1).
- Around one in five (20%) of Indigenous persons aged 15 to 17 years were current daily smokers. The rate ratio of Indigenous smokers to non-Indigenous smokers was also greatest at this age group (Table 2.15.1 and Table 2.15.2).
- The rate ratio of Indigenous to non-Indigenous smokers ranged from 3.2 in persons aged 15 to 17 years, to 2.2 for age groups 25–34, 35–44 and 45–54 years (Table 2.15.2).
- A rate ratio of Indigenous to non-Indigenous daily smokers were higher among females (5.0) aged 15–17 years than for males (2.2) in the same age group (Table 2.15.2).

Table 2.15.1: Smoker status (per cent), by Indigenous status, sex and age group, 2008

		Current smoker						
		Daily	**Other[(a)]**	***Total smokers***	**Ex-smoker**	**Never smoked**	**Total**	**Total number**
				Males				
15–17 years	Indigenous	17.7*	2.8[(b)]	*20.5**	5.5[(b)]	74*	100.0	. .
	Non-Indigenous	8.0[(b)]	0.9[(c)]	*8.9*	3.0[(b)]	88.0	100.0	. .
18–24 years	Indigenous	50.1*	4.0[(b)]	*54.2**	9.9	36.0*	100.0	. .
	Non-Indigenous	18.8	4.5[(b)]	*23.3*	11.7	65.0	100.0	. .
25–34 years	Indigenous	56.0*	2.5[(b)]	*58.5**	16.8*	24.7*	100.0	. .
	Non-Indigenous	29.2	3.2	*32.4*	25.7	41.9	100.0	. .
35–44 years	Indigenous	55.5*	3.4	*58.9**	18.3*	22.8*	100.0	. .
	Non-Indigenous	25.9	2.0	*27.9*	26.9	45.2	100.0	. .
45–54 years	Indigenous	47.9*	1.5[(b)]	*49.4**	32.8	17.8*	100.0	. .
	Non-Indigenous	22.4	1.7[(b)]	*24.1*	37.4	38.5	100.0	. .
55+ years	Indigenous	32.8*	1.0[(c)]	*33.8**	43.6	22.6*	100.0	. .
	Non-Indigenous	11.7	0.5[(b)]	*12.2*	52.6	35.3	100.0	. .
Total (15 years and over)	**Indigenous**	**46.1***	**2.7**	***48.8****	**19.8***	**31.4***	**100.0**	**. .**
	Non-Indigenous	**19.9**	**2.0**	***21.9***	**33.0**	**45.2**	**100.0**	**. .**

(continued)

Table 2.15.1 (continued): Smoker status (per cent), by Indigenous status, sex and age group, 2008

		Current smoker						
		Daily	Other[(a)]	*Total smokers*	Ex-smoker	Never smoked	Total	Total number
Total age-standardised (15 years and over)	**Indigenous**	**45.1**	**2.3**	***47.4***	**25.8**	**26.8**	**100.0**	**. .**
	Non-Indigenous	**20.2**	**2.0**	***22.2***	**32.5**	**45.3**	**100.0**	**. .**
	Rate ratio[(d)]	**2.2**	**1.1**	***2.1***	**0.8**	**0.6**	**1.0**	**. .**
Total (18 years and over)	**Indigenous**	**49.9***	**2.7**	***52.6****	**21.8***	**25.6***	**100.0**	**. .**
	Non-Indigenous	**20.5**	**2.0**	***22.6***	**34.5**	**42.9**	**100.0**	**. .**
Total age-standardised (18 years and over)	**Indigenous**	**46.9**	**2.3**	***49.2***	**27.0**	**23.9**	**100.0**	**. .**
	Non-Indigenous	**20.9**	**2.1**	***22.9***	**34.1**	**43.0**	**100.0**	**. .**
	Rate ratio[(d)]	**2.2**	**1.1**	***2.1***	**0.8**	**0.6**	**1.0**	**. .**
				Females				
15–17 years	Indigenous	21.5*	2.3(b)	*23.8**	7.1(b)	69.1*	100.0	. .
	Non-Indigenous	4.3(b)	0.2	*4.5*	3.9(b)	91.6	100.0	. .
18–24 years	Indigenous	49.2*	2.5	*51.8**	14.1	34.2*	100.0	. .
	Non-Indigenous	18.1	3.8	*21.9*	13.0	65.1	100.0	. .
25–34 years	Indigenous	50.1*	3.4(b)	*53.5**	19.1	27.4*	100.0	. .
	Non-Indigenous	18.9	3.1	*22.0*	23.9	54.1	100.0	. .
35–44 years	Indigenous	47.3*	0.8(b)	*48.1**	22.5	29.4*	100.0	. .
	Non-Indigenous	19.8	1.9	*21.7*	26.7	51.6	100.0	. .
45–54 years	Indigenous	46.1*	0.6(c)	*46.7**	25.4	27.9*	100.0	. .
	Non-Indigenous	20.3	1.1(b)	*21.4*	25.9	52.7	100.0	. .

(continued)

Table 2.15.1 (continued): Smoker status (per cent), by Indigenous status, sex and age group, 2008

		Current smoker						
		Daily	**Other(a)**	***Total smokers***	**Ex-smoker**	**Never smoked**	**Total**	**Total number**
55+ years	Indigenous	30.6*	0.4(c)	*30.9**	27.6	41.5*	100.0	. .
	Non-Indigenous	11.1	0.4(c)	*11.5*	30.0	58.5	100.0	. .
Total (15 years and over)	**Indigenous**	**43.1***	**1.8**	***44.9****	**19.6***	**35.5***	**100.0**	**. .**
	Non-Indigenous	**16.1**	**1.6**	***17.7***	**24.4**	**57.9**	**100.0**	**. .**
Total age-standardised (15 years and over)	**Indigenous**	**41.7**	**1.4**	***43.1***	**21.9**	**35.0**	**100.0**	**. .**
	Non-Indigenous	**16.3**	**1.7**	***18.0***	**24.1**	**57.9**	**100.0**	**. .**
	Rate ratio(d)	**2.6**	**0.8**	***2.4***	**0.9**	**0.6**	**1.0**	**. .**
Total (18 years and over)	**Indigenous**	**45.7***	**1.7**	***47.4****	**21.1***	**31.6***	**100.0**	**. .**
	Non-Indigenous	**16.7**	**1.7**	***18.4***	**25.4**	**56.1**	**100.0**	**. .**
Total age-standardised (18 years and over)	**Indigenous**	**43.0**	**1.4**	***44.4***	**22.8**	**32.9**	**100.0**	**. .**
	Non-Indigenous	**17.0**	**1.8**	***18.8***	**25.2**	**56.0**	**100.0**	**. .**
	Rate ratio(d)	**2.5**	**0.8**	***2.4***	**0.9**	**0.6**	**1.0**	**. .**
				Persons				
15–17 years	Indigenous	19.5*	2.6(b)	*22.1**	6.3	71.6*	100.0	36,164
	Non-Indigenous	6.1	0.6(c)	*6.7*	3.5(b)	89.9	100.0	820,373
18–24 years	Indigenous	49.7*	3.3	*53.0**	12.0	35.1*	100.0	67,616
	Non-Indigenous	18.5	4.1	*22.6*	12.3	65.0	100.0	1,963,576
25–34 years	Indigenous	52.9*	2.9	*55.8**	18.0*	26.1*	100.0	69,931
	Non-Indigenous	24.1	3.2	*27.2*	24.8	48.0	100.0	2,819,126

(continued)

Table 2.15.1 (continued): Smoker status (per cent), by Indigenous status, sex and age group, 2008

		Current smoker						
		Daily	Other[(a)]	*Total smokers*	Ex-smoker	Never smoked	Total	Total number
35–44 years	Indigenous	51.1*	2.0	*53.1**	20.6*	26.3*	100.0	63,851
	Non-Indigenous	22.8	2.0	*24.8*	26.8	48.5	100.0	2,987,518
45–54 years	Indigenous	46.9*	1.0[(b)]	*48.0**	28.9	23.2*	100.0	46,912
	Non-Indigenous	21.3	1.4	*22.7*	31.6	45.7	100.0	2,864,016
55+ years	Indigenous	31.6*	0.7[(b)]	*32.2**	34.8	32.9*	100.0	42,627
	Non-Indigenous	11.4	0.5[(b)]	*11.8*	40.8	47.3	100.0	4,919,592
Total (15 years and over)	**Indigenous**	**44.6***	**2.2**	***46.8****	**19.7**	**33.5***	**100.0**	**327,101**
	Non-Indigenous	**18.0**	**1.8**	***19.8***	**28.6**	**51.6**	**100.0**	**16,374,202**
Total age-standardised (15 years and over)	**Indigenous**	**43.3**	**1.8**	***45.1***	**23.7**	**31.3**	**100.0**	**. .**
	Non-Indigenous	**18.3**	**1.9**	***20.1***	**28.2**	**51.7**	**100.0**	**. .**
	Rate ratio[(d)]	**2.4**	**1.0**	***2.2***	**0.8**	**0.6**	**1.0**	**. .**
Total (18 years and over)	**Indigenous**	**47.7***	**2.2**	***49.8****	**21.4**	**28.8***	**100.0**	**. .**
	Non-Indigenous	**18.6**	**1.9**	***20.5***	**29.9**	**49.6**	**100.0**	**. .**
Total age-standardised (18 years and over)	**Indigenous**	**44.8**	**1.8**	***46.6***	**24.7**	**28.7**	**100.0**	**. .**
	Non-Indigenous	**18.9**	**1.9**	***20.8***	**29.5**	**49.6**	**100.0**	**. .**
	Rate ratio[(d)]	**2.4**	**0.9**	***2.2***	**0.8**	**0.6**	**1.0**	**. .**

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Comprises persons who smoked at least once a week, but not daily, and those who smoked less than weekly.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) The rate ratio is calculated by dividing the rate for Indigenous persons by the corresponding rate for non-Indigenous persons.

Source: ABS & AIHW analyses of 2008 NATSISS & 2007–08 NHS.

Table 2.15.2: Rate ratios (Indigenous: non-Indigenous), by age group, 2008

	15–17	18–24	25–34	35–44	45–54	55+	Total (15+)	Total (18+)
				Males				
Current smoker								
Daily	2.2	2.7	1.9	2.1	2.1	2.8	2.3	2.4
Other	3.1	0.9	0.8	1.7	0.9	2.0	1.4	1.4
Total smokers	*2.3*	*2.3*	*1.8*	*2.1*	*2.0*	*2.8*	*2.2*	*2.3*
Ex-smoker	1.8	0.8	0.7	0.7	0.9	0.8	0.6	0.6
Never smoked	0.8	0.6	0.6	0.5	0.5	0.6	0.7	0.6
				Females				
Current smoker								
Daily	5.0	2.7	2.7	2.4	2.3	2.8	2.7	2.7
Other	11.5	0.7	1.1	0.4	0.5	1.0	1.1	1.0
Total smokers	*5.3*	*2.4*	*2.4*	*2.2*	*2.2*	*2.7*	*2.5*	*2.6*
Ex-smoker	1.8	1.1	0.8	0.8	1.0	0.9	0.8	0.8
Never smoked	0.8	0.5	0.5	0.6	0.5	0.7	0.6	0.6
				Persons				
Current smoker								
Daily	3.2	2.7	2.2	2.2	2.2	2.8	2.5	2.6
Other	4.3	0.8	0.9	1.0	0.7	1.4	1.2	1.2
Total smokers	*3.3*	*2.3*	*2.1*	*2.1*	*2.1*	*2.7*	*2.4*	*2.4*
Ex-smoker	1.8	1.0	0.7	0.8	0.9	0.9	0.7	0.7
Never smoked	0.8	0.5	0.5	0.5	0.5	0.7	0.6	0.6

Source: AIHW & ABS analyses of 2008 NATSISS and 2007–08 NHS.

Smoker status by state/territory

- In 2008, the proportion of Indigenous persons aged 18 years and over who were current smokers ranged from 38% in the Australian Capital Territory to 55% in the Northern Territory (Table 2.15.3). The proportion of Indigenous persons aged 15 years and over who were current smokers ranged from 36% in the Australian Capital Territory to 53% in the Northern Territory (Table 2.15.4).
- The proportion of Indigenous ex-smokers aged 18 years and over in 2008 ranged from 14% in the Northern Territory to 29% in the Australian Capital Territory (Table 2.15.3) The proportion of Indigenous ex-smokers aged 15 years and over in 2008 ranged from 13% in the Northern Territory to 26% in the Australian Capital Territory (Table 2.15.4).
- The proportion of Indigenous persons aged 18 years and over who reported that they had never smoked was lowest in New South Wales (25%) and highest in the Australian Capital Territory (34%) (Table 2.15.3). The proportion of Indigenous persons aged 15 years and over who reported that they had never smoked was lowest in New South Wales (30%) and highest in the Australian Capital Territory (38%) (Table 2.15.4).
- Indigenous Australians were between 2.5 and 2.6 times as likely to be current daily smokers when compared to non-Indigenous Australians in all states and territories (Table 2.15.5; Table 2.15.6).

Table 2.15.3: Smoker status, by state/territory, Indigenous persons aged 18 years and over, 2008

	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Australia**
Current smoker									
Daily	49.8	48.3	45.6	44.1	48.9	47.2	36.4	50.9	47.7
Other[(a)]	1.7[(b)]	1.5[(b)]	1.8[(b)]	2.8	2.2[(b)]	1.8[(b)]	1.4[(c)]	3.7	2.2
Total smokers	*51.6*	*49.8*	*47.4*	*46.9*	*51.1*	*49.0*	*37.8*	*54.6*	*49.8*
Ex-smoker	23.9	24.1	22.0	20.4	19.5	24.4	28.7	13.6	21.4
Never smoked	24.5	26.1	30.6	32.7	29.4	26.6	33.5	31.8	28.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**85,257**	**19,312**	**80,218**	**38,925**	**16,111**	**10,777**	**2,564**	**37,774**	**290,937**

(a) Comprises persons who smoked at least once a week, but not daily, and those who smoked less than weekly.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.15.4: Smoker status, by state/territory, Indigenous persons aged 15 years and over, 2008

	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Australia**
Current smoker									
Daily	46.5	46.2	42.2	41.3	45.5	42.7	34.9	48.6	44.6
Other[(a)]	1.7[(b)]	1.5[(b)]	1.8[(b)]	2.9	2.5[(b)]	1.8[(b)]	1.3[(c)]	4.1	2.2
Total smokers	*48.2*	*47.6*	*44.0*	*44.2*	*48.0*	*44.5*	*36.2*	*52.7*	*46.8*
Ex-smoker	21.9	21.8	20.2	18.6	18.3	23.0	26.2	12.9	19.7
Never smoked	29.9	30.6	35.8	37.2	33.7	32.5	37.7	34.3	33.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**96,367**	**21,938**	**90,587**	**43,826**	**17,948**	**12,351**	**2,810**	**41,274**	**327,101**

(a) Comprises persons who smoked at least once a week, but not daily, and those who smoked less than weekly.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.15.5: Current daily smokers, by state/territory and Indigenous status, persons aged 18 years and over, 2008

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
						Per cent				
Indigenous	Current daily smoker	49.8	48.3	45.6	44.1	48.9	47.2	36.4	50.9	47.7
	Current smoker other(a)	1.7	1.5	1.8	2.8	2.2	1.8	1.4	3.7	2.2
	Ex-smoker	23.9	24.1	22	20.4	19.5	24.4	28.7	13.6	21.4
	Never smoked	24.5	26.1	30.6	32.7	29.4	26.6	33.5	31.8	28.8
	All persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	Total number of persons	**85,257**	**19,312**	**80,218**	**38,925**	**16,111**	**10,777**	**2,564**	**37,774**	**290,937**
Non-Indigenous	Current daily smoker	18.6	17.0	21.1	16.8	19.2	22.3	16.2	22.8(b)	18.6
	Current smoker other(a)	1.8	2.2	1.6	1.7	1.7	1.6	2.9	n.p.	1.9
	Ex-smoker	28.5	29.5	30.9	33.7	30.0	30.4	29.5	n.p.	29.9
	Never smoked	51.1	51.4	46.4	47.8	49.1	45.7	51.4	42.0	49.6
	All persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	Total number of persons	**5,106,453**	**3,966,725**	**3,040,931**	**1,529,520**	**1,194,166**	**352,052**	**255,733**	**108,248**	**15,553,828**

(a) Includes current smoker weekly and current smoker less than weekly.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Table 2.15.6: Current daily smokers, by state/territory and Indigenous status, persons aged 15 years and over, 2008

		NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
						Per cent				
Indigenous	Current daily smoker	46.5	46.2	42.2	41.3	45.5	42.7	35.9	48.6	44.6
	Current smoker other[(a)]	1.7	1.5	1.8	2.9	2.5	1.8	1.3	4.1	2.2
	Ex-smoker	21.89	21.8	20.2	18.6	18.3	23	26.2	12.9	19.7
	Never smoked	29.9	30.6	35.8	37.2	33.7	32.5	37.7	34.3	33.5
	All persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	Total number of persons	**96,367**	**21,938**	**90,587**	**43,826**	**17,948**	**12,351**	**2,810**	**41,274**	**327,101**
Non-Indigenous	Current daily smoker	17.8	16.6	20.5	16.1	18.7	21.4	15.7	22.2[(b)]	18.0
	Current smoker other[(a)]	1.8	2.1	1.6	1.6	1.6	1.6	2.8	NP	1.8
	Ex-smoker	27.2	28.2	29.7	32.2	28.7	28.8	28.3	NP	28.6
	Never smoked	53.3	53.2	48.3	50.1	51.0	48.2	53.2	43.5	51.6
	All persons	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
	Total number of persons	**5,400,320**	**4,157,596**	**3,192,880**	**1,614,710**	**1,254,826**	**373,776**	**268,844**	**111,250**	**16,374,202**

(a) Includes current smoker weekly and current smoker less than weekly.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Smoker status by remoteness

- In 2008, the proportion of Indigenous persons aged 18 years and over who were current smokers ranged from 45% in *Major cities* to 56% in the *Very remote* areas (Table 2.15.7). The proportion of Indigenous persons aged 15 years and over who were current smokers ranged from 42% in *Major cities* to 55% in *Very remote* areas (Table 2.15.8).
- For Indigenous persons 18 years and over, *Major cities* had the greatest proportion of ex-smokers (25%) and persons who had never smoked (31%). *Very remote* areas had the lowest proportion of ex-smokers (15%) and *Outer regional* areas had the lowest proportion of persons who had never smoked (26%) (Table 2.15.7). For Indigenous persons 15 years and over, *Major cities* had the greatest proportion of persons who had never smoked (36%) and *Outer regional* areas had the lowest proportion of persons who had never smoked (30%) (Table 2.15.8).

Table 2.15.7: Smoker status, by remoteness area and Indigenous status, persons aged 18 years and over, 2008

		Current smoker						
		Daily	**Other**[(a)]	***Total smokers***	**Ex-smoker**	**Never smoked**	**Total**	**Total number**
Major cities	Indigenous	42.9*	1.8[(b)]	*44.7**	24.5*	30.8*	**100.0**	**92,691**
	Non-Indigenous	17.2	2.0	*19.2*	28.7	52.2	**100.0**	**10,411,032**
	Rate ratio[(c)]	2.5	0.9	*2.3*	0.9	0.6	**1.0**	**. .**
Inner regional	Indigenous	48.6*	1.2[(b)]	*49.9**	21.9*	28.2*	**100.0**	**58,208**
	Non-Indigenous	19.6	1.8	*21.3*	32.8	45.9	**100.0**	**3,424,218**
	Rate ratio[(c)]	2.5	0.7	*2.3*	0.7	0.6	**1.0**	**. .**
Outer regional	Indigenous	49.1*	2.4	*51.6**	22*	26.4*	**100.0**	**64,889**
	Non-Indigenous	24.8	1.3[(b)]	*26.1*	32.0	41.9	**100.0**	**1,526,888**
	Rate ratio[(c)]	2.0	1.9	*2.0*	0.7	0.6	**1.0**	**. .**
Total Non-remote	Indigenous	46.3*	1.8	*48.2**	23.1*	28.8*	**100.0**	**215,788**
	Non-Indigenous	18.5	1.9	*20.3*	29.9	49.8	**100.0**	**15,362,137**
	Rate ratio[(c)]	2.5	1.0	*2.4*	0.8	0.6	**1.0**	**. .**
Remote	Indigenous	49.5*	2.4[(b)]	*51.9**	19.0*	29.1*	**100.0**	**27,031**
	Non-Indigenous	27.4	3.7[(b)]	*31.1*	30.7	38.2	**100.0**	**191,691**
	Rate ratio[(c)]	1.8	0.6	*1.7*	0.6	0.8	**1.0**	**. .**
Very remote	Indigenous	52.7*	3.5	*56.2**	15.2*	28.6*	**100.0**	**48,118**
	Non-Indigenous	. .	. .		. .	. .	**. .**	**. .**
	Rate ratio[(c)]	. .	. .		. .	. .	**. .**	**. .**
Australia	Indigenous	47.7*	2.2	*49.8**	21.4*	28.8*	**100.0**	**290,937**
	Non-Indigenous	18.6	1.9	*20.5*	29.9	49.6	**100.0**	**15,553,828**
	Rate ratio[(c)]	2.6	1.2	*2.4*	0.7	0.6	**1.0**	**. .**

(continued)

Table 2.15.7 (continued): Smoker status, by remoteness area and Indigenous status, persons aged 18 years and over, 2008

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Comprises persons who smoked at least once a week, but not daily, and those who smoked less than weekly.
(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(c) The rate ratio is calculated by dividing the rate for Indigenous persons by the corresponding rate for non-Indigenous persons.

Source: 2008 NATSISS, 2007–08 National Health Survey.

Table 2.15.8: Smoker status, by remoteness area and Indigenous status, persons aged 15 years and over, 2008

		Current smoker						
		Daily	**Other[(a)]**	***Total smokers***	**Ex-smoker**	**Never smoked**	**Total**	**Total number**
Major cities	Indigenous	39.9*	1.7[(b)]	*41.6**	22.2	36.3*	**100.0**	**105,217**
	Non-Indigenous	16.7	1.9	*18.6*	27.5	54.0	**100.0**	**10,941,587**
	Rate ratio[(c)]	2.4	0.9	*2.2*	0.8	0.7	**1.0**	**. .**
Inner regional	Indigenous	44.1*	1.3[(b)]	*45.4**	19.5	35.1*	**100.0**	**67,416**
	Non-Indigenous	18.8	1.7	*20.5*	31.0	48.5	**100.0**	**3,637,010**
	Rate ratio[(c)]	2.4	0.7	*2.2*	0.6	0.7	**1.0**	**. .**
Outer regional	Indigenous	46.5*	2.2	*48.7**	21.2	30.2*	**100.0**	**72,967**
	Non-Indigenous	23.8	1.3[(b)]	*25.1*	30.7	44.2	**100.0**	**1,600,168**
	Rate ratio[(c)]	2.0	1.7	*1.9*	0.7	0.7	**1.0**	**. .**
Total Non-remote	Indigenous	43.0*	1.7	*44.7**	21.1*	34.1*	**100.0**	**245,600**
	Non-Indigenous	17.9	1.8	*19.7*	28.6	51.8	**100.0**	**16,178,766**
	Rate ratio[(c)]	2.4	1.0	*2.3*	0.7	0.7	**1.0**	**. .**
Remote	Indigenous	47.0*	2.9[(b)]	*49.9**	17.4	32.8	**100.0**	**29,839**
	Non-Indigenous	26.8	3.7[(b)]	*30.5*	30.1	39.4	**100.0**	**195,436**
	Rate ratio[(c)]	1.8	0.8	*1.6*	0.6	0.8	**1.0**	**. .**
Very remote	Indigenous	50.5*	4.2	*54.7**	14.4	30.9	**100.0**	**51,662**
	Non-Indigenous	. .	. .	. .	. .	. .	**. .**	**. .**
	Rate ratio[(c)]	. .	. .	. .	. .	. .	**. .**	**. .**
Australia	Indigenous	44.6*	2.2	*46.8**	19.7*	33.5	**100.0**	**327,101**
	Non-Indigenous	18.0	1.8	*19.8*	28.6	51.6	**100.0**	**16,374,202**
	Rate ratio[(c)]	2.5	1.2	*2.4*	0.7	0.6	**1.0**	**. .**

(continued)

Table 2.15.8 (continued): Smoker status, by remoteness area and Indigenous status, persons aged 18 years and over, 2008

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Comprises persons who smoked at least once a week, but not daily, and those who smoked less than weekly.
(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(c) The rate ratio is calculated by dividing the rate for Indigenous persons by the corresponding rate for non-Indigenous persons.

Source: 2008 NATSISS, 2007–08 National Health Survey.

Smoking status over time

- From 2002 to 2008, the percentage of Indigenous persons aged 15 years and over who were current smokers increased from 33% to 45% and the proportion that had never smoked decreased from 49% to 31%. Over the same period, the proportion of ex-smokers increased from 2.3% to 24% (Table 2.15.9).
- From 1994–1995 to 2001–2002, the proportion of Indigenous persons aged 18 years and over in non-remote areas who were current smokers dropped from 55% to 52%. (Table 2.15.10).
- From 1994 to 2008, the proportion of Indigenous males aged 15 years and over who were smokers decreased from 55% to 49%. The percentage for females decreased from 49% to 45% (Table 2.15.11).
- Over the same period, the biggest decrease of any age-group was in the 15–17 year old group were the percentage of smokers dropped from 30% to 22% (Table 2.15.11).

Table 2.15.9: Smoker status, by Indigenous status, persons aged 15 years and over, 1994, 2002, 2008

	1994			2002			2008[(a)]		
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio[(b)]
					Per cent				
Current smoker	n.a.	n.a.	n.a.	33.2	n.a.	n.a.	45.1	20.1	2.2
Daily	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	43.3	18.3	2.4
Other[(c)]	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.8	1.9	1.0
Occasional smoker	n.a.	n.a.	n.a.	15.3	n.a.	n.a.	n.a.	n.a.	n.a.
Ex-smoker	n.a.	n.a.	n.a.	2.3	n.a.	n.a.	23.7	28.2	0.8
Never smoked	n.a.	n.a.	n.a.	48.6	n.a.	n.a.	31.3	51.7	0.6

(a) Data for 2008 are directly age-standardised.

(b) The rate ratio is calculated by dividing the rate for Indigenous persons by the corresponding rate for non-Indigenous persons.

(c) Comprises persons who smoked at least once a week, but not daily, and those who smoked less than weekly.

Source: ABS and AIHW analysis of 2002 NATSISS, 2008 NATSISS and 2007–08 NHS.

Table 2.15.10: Smoker status, by Indigenous status[a], persons aged 18 years and over in non-remote areas, 1994, 1995, 2001, 2002, 2008 and 2007–08

	1994, 1995			**2001, 2002**			**2008, 2007–08**		
	Indigenous	**Non-Indigenous**	**Rate ratio[b]**	**Indigenous**	**Non-Indigenous**	**Rate ratio[b]**	**Indigenous**	**Non-Indigenous**	**Rate ratio[b]**
	Per cent			**Per cent**			**Per cent**		
Current smoker									
Daily[c][d]	. .	. .	. .	50.3	22.0	2.3	46.3	18.5	2.5
Other[e]	. .	. .	. .	2.0	1.9	1.1	1.8	1.8	1.0
Total smokers[c][d][f]	*54.6*	*23.4*	*2.3*	*52.3*	*23.9*	*2.2*	*48.2*	*20.3*	*2.4*
Not a current smoker									
Ex-smoker[c][d]	. .	27.5	. .	18.1	26.4	0.7	23.1	29.9	0.8
Never smoked[c][d]	. .	49.2	. .	29.7	49.8	0.6	28.8	49.7	0.6
Total[c][d][f]	*45.4*	*76.6*	*0.6*	*47.7*	*76.1*	*0.6*	*51.8*	*79.7*	*0.7*
Total[g]	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**

(a) Data for Indigenous persons are from the 1994, 2002 and 2008 National Aboriginal and Torres Strait Islander Social Surveys. Data for non-Indigenous persons are from the 1995, 2001 and 2007–08 National Health Surveys.

(b) The rate ratio is calculated by dividing the rate for Indigenous persons by the corresponding rate for non-Indigenous persons.

(c) Difference between 2002 Indigenous rate and 2001 non-Indigenous rate is statistically significant at the $p<0.05$ level.

(d) Difference between 2008 Indigenous rate and 2007–08 non-Indigenous rate is statistically significant at the $p<0.05$ level.

(e) Comprises persons who smoked at least once a week, but not daily, and those who smoked less than weekly.

(f) Difference between 1994 Indigenous rate and 1995 non-Indigenous rate is statistically significant at the $p<0.05$ level.

(g) Excludes persons for whom smoker status was not known.

Source: AIHW analysis of 1994 NATSIS and 2002, 2008 NATSISS, 1995, 2001 and 2007–08 NHS.

Table 2.15.11: Proportion of smokers[(a)], by sex, age, remoteness area and state/territory, 1994, 2002 and 2008, Indigenous persons aged 15 years and over

	Indigenous		
	1994	2002	2008
Sex			
Males[(b)(c)]	55.3	53.1	48.8
Females[(c)]	48.5	49.5	44.9
Persons[(b)(c)]	51.8	51.2	46.8
Age			
15–17[(b)(c)]	29.6	32.8	22.1
18–24	55.5	57.6	53.0
25–34[(b)]	62.8	57.7	55.8
35–44	56.5	57.6	53.1
45–54	49.1	49.2	48.0
55+	32.5	35.4	32.2
Remoteness Area			
Major cities[(b)]	51.9	47.7	41.6
Inner regional[(b)(c)]	52.7	52.0	45.4
Outer regional	49.9	51.2	48.7
Total non-remote[(b)(c)]	*51.4*	*50.0*	*44.7*
Remote	54.3	52.7	49.9
Very remote	51.9	55.6	54.7
Total remote	*52.6*	*54.7*	*52.9*
State/Territory			
NSW	52.6	52.9	48.2
Vic[(b)(c)]	58.6	53.9	47.6
Qld[(b)(c)]	50.4	50.5	44.0
WA[(b)]	50.7	47.9	44.2
SA[(b)]	57.7	48.1	48.0
Tas	48.9	44.0	44.5
ACT	43.1[(d)]	44.7	36.2
NT	49.9	55.5	52.7
Total	**51.8**	**51.2**	**46.8**
Total number	**110,990**	**143,593**	**153,003**

(a) Comprises current daily smokers and persons who smoked less than daily.

(b) Difference between 1994 and 2008 is statistically significant at the p<0.05 level.

(c) Difference between 2002 and 2008 is statistically significant at the p<0.05 level.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of the 2008, 2002 NATSISS, and 1994 NATSISS.

Smoker status by population characteristics

- In 2008, Indigenous Australians aged 18 years and over were more likely to report being a current smoker if they were in the lowest (1st) household income fifth than if they were in the highest (57% compared with 37%); were in the most disadvantaged (socio-economic index for areas) quintile (1st) than if they were in the least disadvantaged (56% compared with 32%); and if they were unemployed than if they were employed (68% compared with 45%) (Table 2.15.12).
- Indigenous Australians were more likely to report being a current smoker if they did not have a non-school qualification than if they did (53% compared with 44%) or if the highest year of schooling completed was Year 9 or below than if they completed Year 12 (57% compared with 36%) (Table 2.15.12).
- Indigenous Australians aged 18 years and over were more likely to report being a current smoker if they reported high/very high levels of psychological distress than if they had low levels of distress (59% compared with 46%); and if they drank at risky/high-risk levels than if they did not (66% compared with 46%) (Table 2.15.12).
- Indigenous Australians aged 15 years and over were more likely to report being a current smoker if they reported high/very high levels of psychological distress than if they had low levels of distress (57% compared with 43%); and if they drank at risky/high-risk levels than if they did not (66% compared with 42%) (Table 2.15.13)
- Compared to Indigenous Australians who never smoked and were ex-smokers, a higher proportion Indigenous Australians both aged 15 years or 18 years and over who were current daily smokers were in the lowest quintile of household income and SEIFA disadvantage, did not have a non-school qualification, were currently renting; and had experienced stressors in the last 12 months (Table 2.15.14, Table 2.15.15).

Table 2.15.12: **Proportion of Indigenous Australians aged 18 years and over, by smoking status and selected population characteristics, 2008**

	Current smoker	Ex-smoker	Never smoked	Total
		Per cent		
Household income				
1st quintile (lowest)	57.2	19.5	23.3	100.0
5th quintile (highest)	37.1	24.8	38.1	100.0
SEIFA				
1st quintile (most disadvantaged)	56.2	17.7	26.1	100.0
5th quintile (least disadvantaged)	31.8	31.4	36.9	100.0
Employment				
Employed	44.8	22.3	32.9	100.0
Unemployed	68.1	11.7	20.2	100.0
Not in the labour force	52.5	22.7	24.9	100.0
Has non-school qualification				
Yes	43.7	24.8	31.5	100.0
No	53.2	19.5	27.3	100.0
Highest year of school completed				
Year 12	36.0	18.8	45.3	100.0
Year 9 or below	56.5	22.6	20.8	100.0
Housing				
Owner	34.0	29.0	37.0	100.0
Renter	56.7	18.0	25.3	100.0
Self-assessed health status				
Excellent/very good	45.3	21.0	33.7	100.0
Good	52.7	20.5	26.8	100.0
Fair/poor	53.5	23.3	23.1	100.0
Psychological distress (Kessler 5)				
Low/moderate	45.8	23.2	31.0	100.0
High/very high	59.0	18.3	22.7	100.0
Stressors experienced in last 12 months				
Really bad illness	49.9	24.5	25.6	100.0
Total experienced stressors	*53.5*	*20.1*	*26.4*	*100.0*
No stressors	44.5	23.3	32.2	100.0
Risky/high risk alcohol consumption				
Yes	66.4	18.5	15.2	100.0
No	45.6	22.2	32.2	100.0
Total	**49.8**	**21.4**	**28.8**	**100.0**
Total persons aged 18 years and over	**145,004**	**62,239**	**83,695**	**290,937**

Note: Proportions exclude not known and not stated responses.

Source: AIHW analyses of 2008 NATSISS.

Table 2.15.13: **Proportion of Indigenous Australians aged 15 years and over, by smoking status and selected population characteristics, 2008**

	Current smoker	Ex-smoker	Never smoked	Total
		Per cent		
Household income				
1st quintile (lowest)	53.4	17.6	29.0	100.0
5th quintile (highest)	35.8	23.5	40.7	100.0
SEIFA				
1st quintile (most disadvantaged)	53.6	16.4	30.0	100.0
5th quintile (least disadvantaged)	28.3	28.3	43.4	100.0
Employment				
Employed	43.1	21.1	35.7	100.0
Unemployed	62.5	10.8	26.7	100.0
Not in the labour force	47.5	20.2	32.3	100.0
Has non-school qualification				
Yes	43.3	24.5	32.2	100.0
No	48.4	17.5	34.1	100.0
Highest year of school completed				
Year 12	35.9	18.4	45.7	100.0
Year 9 or below	51.0	20.3	28.7	100.0
Housing				
Owner	31.3	26.1	42.6	100.0
Renter	53.7	16.7	29.6	100.0
Self-assessed health status				
Excellent/very good	41.2	18.5	40.3	100.0
Good	49.7	19.2	31.0	100.0
Fair/poor	53.3	22.9	23.9	100.0
Psychological distress (Kessler 5)				
Low/moderate	42.5	21.0	36.5	100.0
High/very high	56.9	17.6	25.5	100.0
Stressors experienced in last 12 months				
Really bad illness	47.9	23.6	28.6	100.0
Total experienced stressors	*51.7*	*19.1*	*29.2*	*100.0*
No stressors	40.1	20.6	39.3	100.0
Risky/high risk alcohol consumption				
Yes	66.4	18.2	15.3	100.0
No	42.3	20.1	37.6	100.0
Total	**46.8**	**19.7**	**33.5**	**100.0**
Total persons aged 18 years and over	**153,003**	**64,505**	**109,594**	**327,101**

Note: Proportions exclude not known and not stated responses.

Source: AIHW analyses of 2008 NATSISS.

Table 2.15.14: Proportion of Indigenous Australians aged 18 years and over, by smoking status and selected population characteristics, 2008

	Current smoker	Ex-smoker	Never smoked
		Per cent	
Household income			
1st quintile (lowest)	53.2	41.5	37.2
5th quintile (highest)	7.9	12.2	14.0
SEIFA			
1st quintile (most disadvantaged)	60.3	44.3	48.5
5th quintile (least disadvantaged)	2.5	5.8	5.1
Employment			
Employed	48.5	56.1	61.8
Unemployed	13.1	5.3	6.7
Not in the labour force	38.3	38.6	31.5
Has non-school qualification			
Yes	31.1	41.1	38.8
No	68.9	58.9	61.2
Highest year of school completed			
Year 12	16.3	19.8	35.4
Year 9 or below	38.3	35.7	24.4
Housing			
Owner	19.9	39.5	37.5
Renter	78.8	58.3	60.7
Self-assessed health status			
Excellent/very good	37.5	40.5	48.4
Good	36.3	33.0	32.0
Fair/poor	26.2	26.5	19.6
Psychological distress (Kessler 5)			
Low/moderate	62.0	72.8	74.2
High/very high	38.0	27.2	25.8
Stressors experienced in last 12 months			
Really bad illness	13.4	15.4	12.0
Total experienced stressors	*63.7*	*55.7*	*54.4*
No stressors	36.3	44.3	45.6
Risky/high risk alcohol consumption			
Yes	25.6	16.4	10.0
No	74.4	83.6	90.0
Total	**100.0**	**100.0**	**100.0**
Total persons aged 18 years and over	**145,004**	**62,239**	**83,695**

Note: Proportions exclude not known and not stated responses.

Source: AIHW analyses of 2008 NATSISS.

Table 2.15.15: Proportion of Indigenous Australians aged 15 years and over, by smoking status and selected population characteristics, 2008

	Current smoker	Ex-smoker	Never smoked
		Per cent	
Household income			
1st quintile (lowest)	54.1	41.6	40.4
5th quintile (highest)	7.7	11.7	12.0
SEIFA			
1st quintile (most disadvantaged)	60.8	44.2	47.4
5th quintile (least disadvantaged)	2.4	5.6	5.1
Employment			
Employed	47.7	55.3	55.2
Unemployed	13.6	5.6	8.1
Not in the labour force	38.7	39.1	36.7
Has non-school qualification			
Yes	29.9	40.0	31.0
No	70.1	60.0	69.0
Highest year of school completed			
Year 12	15.6	19.1	27.8
Year 9 or below	38.6	36.5	30.3
Housing			
Owner	19.7	39.0	37.5
Renter	79.1	58.5	60.8
Self-assessed health status			
Excellent/very good	38.5	41.0	52.6
Good	36.2	33.2	31.5
Fair/poor	25.3	25.8	15.8
Psychological distress (Kessler 5)			
Low/moderate	62.2	72.5	76.0
High/very high	37.8	27.5	24.0
Stressors experienced in last 12 months			
Really bad illness	12.9	15.1	10.8
Total experienced stressors	*63.6*	*55.6*	*50.2*
No stressors	36.4	44.4	49.8
Risky/high risk alcohol consumption			
Yes	24.9	16.1	7.9
No	75.1	83.9	92.1
Total	**100.0**	**100.0**	**100.0**
Total persons aged 18 years and over	**153,003**	**64,505**	**109,594**

Note: Proportions exclude not known and not stated responses.

Source: AIHW analyses of 2008 NATSISS.

NATSIHS data

Smoking prevalence data presented below are from the 2004–05 NATSIHS, with non-Indigenous comparisons from the 2004–05 National Health Survey.

- In 2004–05, approximately 46% of Indigenous Australians aged 18 years and over reported they were current daily smokers compared with 21% of non-Indigenous Australians. Around 24% of Indigenous adults were ex-smokers compared with 30% of non-Indigenous adults (Table 2.15.16).

Smoking status by age group and sex

- A higher proportion of Indigenous and non-Indigenous males were current daily smokers (48% and 24% respectively) compared with Indigenous and non-Indigenous females (45% and 18% respectively) (Table 2.15.16).
- Indigenous adults aged 25–34 and 35–44 years were most likely to report being current daily smokers (both 55%). The lowest proportion of Indigenous adults who were current daily smokers were aged 55 years and over (30%) (Table 2.15.16).

Table 2.15.16: Smoker status, by Indigenous status, sex and age group, 2004–05

	18-24		25-34		35-44		45-54		55+		Total		Total (age standardised)		
Smoker status	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio**
Males															
Current smoker	53	33	57	32	59	31	52	27	36	15	53	26	50	26	1.9
Daily	50	29	56	29	57	29	50	25	35	14	51	24	48	24	2.0
Other	3(c)	4	1(c)	3	2(c)	2	2(c)	2	1(d)	1(c)	2	2	2	2	1.0
Ex-smoker	13	13	15	24	15	28	30	37	43	55	20	35	26	35	0.7
Never smoked	34	54	28	43	25	41	19	36	21	30	26	39	24	39	0.6
Total number(b)	**26,714**	**939,483**	**32,574**	**1,368,120**	**27,186**	**1,439,208**	**18,812**	**1,340,599**	**15,193**	**2,170,272**	**139,595**	**7,666,352**	**139,595**	**7,666,352**	**. .**
Females															
Current smoker	52	25	55	26	59	25	52	21	27	10	51	20	47	20	2.3
Daily	51	23	54	23	54	23	51	20	26	9	49	18	45	18	2.4
Other	1(c)	2(c)	1(c)	3	5(c)	2	1(d)	1(c)	1(c)	1	2(c)	2	2(c)	2	1.0
Ex-smoker	12	14	18	24	19	25	19	29	33	29	19	25	22	25	0.9
Never smoked	36	62	27	50	22	50	29	50	40	62	30	55	31	55	0.6
Total number(b)	**30,009**	**917,595**	**37,198**	**1,393,234**	**31,871**	**1,460,358**	**20,766**	**1,364,981**	**17,974**	**2,359,406**	**154,046**	**7,866,025**	**154,046**	**7,866,025**	**. .**
Persons															
Current smoker	52	29	56	29	59	28	51	23	31	13	51	23	48	23	2.1
Daily	50	26	55	26	55	26	50	22	30	12	49	21	46	21	2.2
Other	2(c)	3	1	3	4(c)	2	1(c)	2	1(c)	1	2(c)	2	2	2	1.0
Ex-smoker	12	13	16	24	17	27	24	33	37	41	19	30	24	30	0.8
Never smoked	35	58	28	47	24	45	24	43	32	46	30	47	28	47	0.6
Total number(b)	**56,723**	**1,857,078**	**69,772**	**2,761,354**	**59,057**	**2,899,566**	**39,578**	**2,705,580**	**33,167**	**4,529,678**	**293,641**	**15,532,377**	**293,641**	**15,532,377**	**. .**

(continued)

Table 2.15.16 (continued): Smoker status, by Indigenous status, sex and age group, 2004–05

(a) Directly age-standardised proportions.
(b) Includes smoker status not known.
(c) Estimate has a relative standard error of between 25% and 50% and should be used with caution.
(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS 2006.

Smoking status by selected population and health characteristics

Table 2.15.17 presents the proportion of Indigenous and non-Indigenous Australians aged 18 years and over, by smoking status and selected population characteristics. The table should be interpreted noting that the proportions sum to 100% across the columns for smoking status (for Indigenous and non-Indigenous). The most useful interpretation of the data presented is to compare the proportions for the two categories presented for each population characteristic (rows) within each column for smoking status for firstly Indigenous Australians, and then compare this to the data for non-Indigenous Australians.

- In 2004–05, Indigenous Australians aged 18 years and over were more likely to report being a current smoker if they were in the lowest (1st) household income quintile than if they were in the highest (55% compared with 32%); were in the most disadvantaged SEIFA (socio-economic index for areas) quintile (1st) than if they were in the least disadvantaged (52% compared with 25%); and if they were unemployed than if they were employed (76% compared with 42%). Similar trends were reported for non-Indigenous Australians (Table 2.15.17).
- Indigenous Australians were more likely to report being a current smoker if they did not have a non-school qualification than if they did (52% compared with 41%) or if the highest year of schooling completed was Year 9 or below than if they completed Year 12 (58% compared with 29%) (Table 2.15.17).
- A higher proportion of Indigenous Australians aged 18 years and over with a self-assessed health status of fair/poor reported being a current smoker than those with a self-assessed health status of excellent/very good (57% compared with 40%). Indigenous Australians were slightly more likely to report being an ex-smoker if they had diabetes than if they did not (27% compared with 22%) and if they had cancer than if they did not (29% compared with 24%). A higher proportion of Indigenous Australians without cancer reported they had never smoked (28%) than those with cancer (21%) (Table 2.15.17).
- Indigenous Australians aged 18 years and over were more likely to report being a current smoker if they drank at short- or long-term risky/high-risk levels than if they did not (long-term 66% compared with 45%, short-term 67% compared with 49%) (Table 2.15.17).
- Indigenous Australians aged 18 years and over were more likely to report being a current smoker if they reported their exercise level as low/sedentary rather than high (49% compared with 32%); if they reported not eating fruit daily (65%) compared with those who did (46%); if they reported not eating vegetables daily (56%) compared with those who did (48%); and if they were normal or underweight rather than if they were overweight or obese (57% compared with 43%) (Table 2.15.17).

Table 2.15.17: Proportion[(a)] of Indigenous and non-Indigenous Australians aged 18 years and over, by smoking status and selected population characteristics, 2004–05

	Indigenous Australians			Non-Indigenous Australians		
	Current smoker	Ex-smoker	Never smoked	Current smoker	Ex-smoker	Never smoked
Household income						
1st quintile (lowest)	55.3*	22.4*	22.3*	32.4*	26.0*	41.7*
5th quintile (highest)	31.7*	26.4	41.9*	18.3*	31.6	50.1*
SEIFA (Socio-economic Indexes for Areas)						
1st quintile (most disadvantaged)	52.3*	21.2*	26.5*	31.4*	28.2*	40.4*
5th quintile (least disadvantaged)	24.7*	34.8[(b)]	40.6*	15.7*	32.0	52.3*
Employment						
Employed	41.5*	25.9	32.6*	23.0*	30.1	46.8*
Unemployed	75.9*	14.1*	10.0*	41.5*	23.7*	34.8*
Not in the labour force	53.7*	21.9*	24.3*	26.0*	27.8*	46.2*
Has non-school qualification						
Yes	40.7*	26.5	32.7*	19.6*	31.8	48.7*
No	52.1*	22.2	25.7*	28.5*	28.0	43.5*
Highest year of school completed						
Year 12	28.6*	28.7	42.7*	17.0*	30.1	52.9*
Year 9 or below	57.9*	21.0*	21.1*	37.5*	26.2*	36.3*
Housing						
Owner	37.4	23.4	39.2	n.a.	n.a.	n.a.
Renter	57.4	18.4	24.2	n.a.	n.a.	n.a.
Self-assessed health status						
Excellent/very good	40.4*	25.0	34.6*	18.9*	30.1	51.0*
Good	49.7*	22.1*	28.2*	27.1*	28.9*	44.0*
Fair/poor	56.8*	22.5*	20.7*	35.3*	27.4*	37.2*
Number of long-term health conditions						
None	52.1*	18.8	29.1*	28.8*	18.3	52.8*
One	54.8*	14.9*	30.2*	24.2*	26.1*	49.7*
Two	44.4*	23.0	32.7*	20.8*	27.5	51.6*
Three or more	48.9*	25.6*	25.4*	25.6*	31.7*	42.7*
Circulatory problems						
Yes	50.8*	23.5*	25.7*	22.2*	31.1*	46.6*
No	47.4*	23.6*	29.0*	24.1*	28.7*	47.2*
Has diabetes						
Yes	45.4*	26.7	27.9*	21.1*	31.4	47.5*
No	49.9*	22.2*	28.0*	23.2*	29.6*	47.2*

(continued)

Table 2.15.17 (continued): Proportion[(a)] of Indigenous and non-Indigenous Australians aged 18 years and over, by smoking status and selected population characteristics, 2004–05

	Indigenous Australians			Non-Indigenous Australians		
	Current smoker	Ex-smoker	Never smoked	Current smoker	Ex-smoker	Never smoked
Has cancer						
Yes	49.5*	29.1[(c)]	21.4*	29.1*	35.1	35.8*
No	48.1*	23.5*	28.4*	23.0*	29.7*	47.3*
Has respiratory problems						
Yes	47.5*	24.3*	28.1*	22.6*	31.0*	46.4*
No	48.7*	23.2*	28.2*	23.3*	29.3*	47.3*
Stressors in last 12 months						
Serious illness or disability	50.9	20.3	28.8	n.a.	n.a.	n.a.
Total experienced stressors	53.7	19.7	26.6	n.a.	n.a.	n.a.
No stressors	46.5	20.3	33.2	n.a.	n.a.	n.a.
Long-term risky/high-risk alcohol consumption						
Yes	65.8*	16.6[(b)]*	17.5*	36.9*	35.5*	27.6*
No	44.8*	25.0*	30.2*	20.9*	29.0*	50.1*
Short-term risky/high-risk alcohol consumption						
Yes	67.2*	16.4*	16.3	43.9*	34.8*	21.3
No	48.6*	24.6*	26.8*	22.2*	31.8*	46.1*
Physical activity[(c)]						
Low/sedentary	49.3*	24.0	26.7*	24.7*	28.6	46.7*
Moderate	42.9*	32.1	25.1*	20.0*	33.2	46.7*
High	31.7*	19.1[(b)]	49.1	14.6*	33.5	51.9
Eats fruit daily						
Yes	45.7*	24.7*	29.6*	21.4*	30.3*	48.3*
No	64.7*	16.0*	19.3*	48.0*	23.3*	28.7*
Eats vegetables daily						
Yes	47.7*	23.8*	28.5*	22.9*	29.9*	47.2*
No	55.7*	20.5	23.8*	43.0*	28.2	28.9*
Overweight/obesity						
Yes	43.0*	26.2*	30.8*	22.9*	32.2*	44.8*
No	57.0*	19.9*	23.0*	23.4*	27.4*	49.2*
Total (age-standardised)	**48.1***	**23.7***	**28.2***	**23.1***	**29.9***	**47.1***
Total (crude)	**52.1***	**19.7***	**28.3***	**22.8***	**30.1***	**47.1***
Total number persons aged 18 years and over	**134,537**	**50,748**	**72,964**	**3,365,115**	**4,444,458**	**6,943,683**

* Represents statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Proportions are age-standardised except for data for housing tenure and stressors experienced in the previous 12 months for which crude proportions are presented, because data for non-Indigenous Australians are not available.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Non-remote areas only.

Source: AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82 per cent of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on-health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS as the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may however be used to obtain rough non-Indigenous comparisons for some data items. Where possible ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

There was a relatively large level of under-coverage and caution should be exercised when interpreting the survey results. The under-identification of Indigenous persons in non-community areas is estimated to be up to 31% of those screened. This estimate is the remaining level of undercoverage when all other known sources of undercoverage have been removed. Part of this percentage is likely to be due to other factors which are unknown (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: users' guide, 2008* (ABS 2010).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys

with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, imperfect recall or individual interpretation of survey questions may affect some responses.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner* and *Outer regional* areas, and *Remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.

In remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

The survey included smoking status, starting age of tobacco use, Indigenous status, age and sex. The NATSIHS has a large Indigenous sample size resulting in reliable estimates.

The question on smoking is asked of persons aged 18 years and over. Since most Australians start smoking before the age of 18, this limits our understanding of teenage smoking patterns. Teenagers are one of the main groups that smoking prevention programs focus on.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat.no. 4715.0. Canberra: ABS.

ABS 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' Guide 2008. ABS Cat. no. 4720.0. Canberra: ABS.

List of tables

2.16 Risky alcohol consumption

The proportion of Aboriginal and Torres Strait Islander people who consume alcohol at risky or high-risk levels

Data sources

Data for this measure come from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey, the 2008 National Aboriginal and Torres Strait Islander Social Survey, the National Mortality Database and the National Hospital Morbidity Database.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS).

The NATSIHS collected information on risky and high-risk alcohol consumption, which is defined as that which exceeds the National Health and Medical Research Council (NHMRC) guidelines for low-risk drinking, in the short-term or long-term. These guidelines are outlined below.

Risky/high-risk drinking—adult males

- Short-term risky drinking for males is consumption in excess of six but less than 11 standard drinks on any one day.
- Short-term high-risk drinking for males is consumption of 11 or more standard drinks on any one day.
- Long-term risky drinking is average consumption in excess of four but less than six standard drinks per day amounting to 29 but less than 42 standard drinks per week.
- Long-term high-risk drinking is average consumption in excess of six standard drinks per day amounting to 43 or more standard drinks per week.

Risky/high-risk drinking—adult females

- Short-term risky drinking is consumption in excess of four but less than seven standard drinks on any one day.
- Short-term high-risk drinking is consumption in excess of seven or more standard drinks on any one day.

- Long-term risky drinking is average consumption in excess of two but less than five standard drinks per day amounting to 15 but less than 28 standard drinks per week.
- Long-term high-risk drinking is consumption in excess of four standard drinks per day which amounts to 29 or more standard drinks per week.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

The National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the Australian Institute of Health and Welfare (AIHW). Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the Australian Bureau of Statistics (ABS). Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director.

While the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and the AIHW as having adequate identification. Longer term mortality trend data are limited to 3 jurisdictions (Western Australia, South Australia and the Northern Territory) with adequate identification of Indigenous deaths in their recording systems from 1991 onwards. The quality of the time-series data is also influenced by the late inclusion of a not stated category for Indigenous status in 1998. Prior to this time, the not stated responses were probably included with the non-Indigenous.

Deaths registered in 2010 with a usual residence of Queensland have been adjusted to exclude deaths registered in 2010 that occurred prior to 2007. This is to minimise the impact of late registration of deaths due to recent changes in the timeliness of death registrations in Queensland.

Western Australian Aboriginal and Torres Strait Islander deaths for 2007, 2008 and 2009, have been revised to correct for a data quality issue which resulted in the over-reporting of Indigenous deaths during this period.

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2006–2010 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years.

The National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Data analyses

Age-standardised rates and ratios have been used as a measure of hospitalisations in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of other Australians, taking into account differences in age distributions.

NATSIH data

The 2004–05 NATSIHS collected data on alcohol consumption based on levels of risk associated with short-term drinking (consuming alcohol at risky levels in a single day over the past 12 months) and long-term risk levels (based on average daily consumption over the previous week).

Self-reported alcohol consumption and risk levels

- In 2004–05, approximately 50% of Indigenous Australians aged 18 years and over reported having consumed alcohol in the week before the survey, and around one-quarter (24%) of Indigenous adults reported they had not consumed alcohol in the previous 12 months (Table 2.16.1).
- Of those who consumed alcohol in the week before the survey, around one-third (34%) reported drinking at long-term risky/high-risk levels (Table 2.16.1).
- Indigenous adults were twice as likely as non-Indigenous Australians to have abstained from alcohol consumption in the previous 12 months.
- Overall, based on alcohol consumption in the week before the survey, approximately 17% of Indigenous adults reported drinking at long-term risky/high-risk levels (Table 2.16.2).
- Fifty five per cent of Indigenous adults drank at short-term risky/high-risk levels in the previous 12 months and 19% drank at short-term risky/high-risk levels at least once a week in the previous 12 months (Table 2.16.2).
- After adjusting for differences in age structure, Indigenous Australians were twice as likely as non-Indigenous Australians to drink at short-term risky/high-risk levels at least once a week in the previous 12 months. However, Indigenous and non-Indigenous Australians were equally as likely to drink at long-term risky/high-risk levels in the week before the survey (about 15%).

Table 2.16.1: Alcohol consumption by Indigenous status, persons aged 18 years and over, 2004–05

	Non age-standardised proportions	Age-standardised proportions		
	Indig.	Indig.	Non-Indig.	Rate ratio
Consumed alcohol in last week	49	45	63	0.7*
Did not consume alcohol in last week	50	53	36	1.5*
Consumed alcohol in last 12 months	75	70	84	0.8*
Did not consume alcohol in last 12 months	24	29	15	1.9*
Long-term risk[(a)(b)(c)]				
Of those who consumed alcohol in last week, per cent who drank at risky/high risk levels in last week	34	34	22	1.6*

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) Based on responses to questions in 2004–05 NHS/NATSIHS about frequency of consumption of specified number of drinks in previous year. The number of drinks was based on the NHMRC guidelines for risky and high-risk short-term alcohol consumption for males and females.

(c) Risk level based on consumption in week before the interview.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Alcohol risk levels by age

- Indigenous Australians aged 35–44 years were most likely to report drinking at long-term risky/high-risk levels in the previous week (20%) (Table 2.16.2).
- Indigenous Australians were more likely than non-Indigenous Australians to report drinking at short-term risky/high-risk levels at least once in the previous 12 months across all age groups except in the 18–24 year aged group where the levels were similar (64% and 63%, respectively).
- A significantly higher proportion of Indigenous Australians aged 25–34 and 35–44 years drank at long-term risky/high-risk levels in the previous week than non-Indigenous Australians of the same age.

Table 2.16.2: Alcohol risk levels[(a)], by Indigenous status and age, persons aged 18 years and over, 2004–05

	Age group (years)														
	18–24		25–34		35–44		45–54		55 and over		Total non age-standardised	Total age-standardised		
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Indig.	Non-Indig.	Rate ratio
	Per cent														
Abstainers[(b)]	16*	12*	18*	12*	22*	12*	31*	15*	46*	22*	24*	29	15	1.9*
Short-term risk[(c)]														
Drank at risky/high-risk levels in last 12 months[(d)]	64	63	64*	56*	59*	46*	45*	35*	22	16	55*	47	40	1.2*
Drank at risky/high-risk levels at least once a week[(e)]	23*	15*	20*	9*	22*	9*	16*	8*	9*	4*	19*	17	8	2.1*
Long-term risk[(f)]														
Low	33*	47*	36*	51*	34*	52*	31*	50*	21*	47*	32*	30	49	0.6*
Risky or high-risk	16	14	17*	13*	20*	15*	17	16	10	12	17*	15	14	1.1
Total long-term risk[(g)]	*50**	*61**	*53**	*64**	*54**	*66**	*48**	*66**	*32**	*58**	*49**	*46*	*63*	*0.7**
Total[(h)(i)]	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	. .
Total number ('000)	**57**	**1,857**	**70**	**2,761**	**59**	**2,900**	**40**	**2,706**	**33**	**4,530**	**258**	**258**	**14,753**	. .

(continued)

Table 2.16.2 (continued): Alcohol risk levels[(a)], by Indigenous status and age, persons aged 18 years and over, 2004–05

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Risk level based on Australian Alcohol Guidelines 2000.
(b) No alcohol consumed in previous 12 months.
(c) Based on responses to questions in 2004–05 NHS/NATSIHS about frequency of consumption of specified number of drinks in previous year. The number of drinks was based on the NHMRC guidelines for risky and high-risk short-term alcohol consumption for males and females.
(d) Persons who consumed alcohol at specified risky/high-risk levels in the short-term on at least one occasion in the previous 12 months.
(e) Persons who consumed alcohol at specified risky/high-risk levels in the short-term at least once a week in the previous 12 months.
(f) Risk level based on consumption in week before the interview.
(g) Includes persons whose risk level was reported as 'not known'.
(h) Includes persons who consumed alcohol more than 1 week but less than 12 months before the survey.
(i) Includes persons who reported time since last consumed alcohol 'not known'.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Alcohol risk levels by sex

- A higher proportion of Indigenous females than Indigenous males reported abstaining from alcohol consumption in the 12 months prior to survey (30%compared with 17%) (Table 2.16.3).
- Indigenous males were more likely to report drinking at short-term and long-term risky/high-risk levels than Indigenous females.
- Indigenous males and females were two and three times as likely as non-Indigenous males and females to report drinking at short-term risky/high-risk levels at least once a week in the previous 12 months.
- Indigenous males were more likely to report drinking at long-term risky/high-risk levels in the week before the survey than non-Indigenous males (18% compared with 15%). The proportions of Indigenous and non-Indigenous females reporting drinking at long-term risky/high-risk levels were similar.

Table 2.16.3: Alcohol risk levels,(a) by Indigenous status and sex, persons aged 18 years and over, 2004–05 (per cent)

	Non age-standardised proportions		Age-standardised proportions					
	Males	Females	Males			Females		
	Indig.	Indig.	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio
	%	%	%	%		%	%	
Abstainers[b]	17*	30*	22*	10	2.1*	35	20	1.8*
Short-term risk[c]								
Drank at risky/high-risk levels in last 12 months[d]	64*	46*	56	48	1.2*	40	31	1.3*
Drank at risky/high-risk levels at least once a week[e]	24*	15*	21	12	1.8*	14	5	3.0*
Long-term risk[f]								
Low	38*	27*	36	50	0.7*	24	43	0.6*
Risky or high-risk	20*	14	18	15	1.2*	13	12	1.1
Total long-term risk[g]	*58**	*41**	*55*	*71*	*0.8**	*38*	*55*	*0.7**
Total[h][i]	**100**	**100**	**100**	**100**	. .	**100**	**100**	. .
Total number	**120,479**	**137,818**	**120,479**	**7,257,683**	. .	**137,818**	**7,495,573**	. .

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) No alcohol consumed in previous 12 months.

(c) Based on responses to questions in 2004–05 NHS/NATSIHS about frequency of consumption of specified number of drinks in previous year. The number of drinks was based on the NHMRC guidelines for risky and high-risk short-term alcohol consumption for males and females.

(d) Persons who consumed alcohol at specified risky/high-risk levels in the short-term on at least one occasion in the previous 12 months.

(e) Persons who consumed alcohol at specified risky/high-risk levels in the short-term at least once a week in the previous 12 months.

(f) Risk level based on consumption in week before the interview.

(g) Includes persons whose risk level was reported as 'not known'.

(h) Includes persons who consumed alcohol more than 1 week but less than 12 months before the survey.

(i) Includes persons who reported time since last consumed alcohol 'not known'.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Alcohol risk levels by state/territory

- The proportion of Indigenous adults who drank at long-term risky/high-risk levels ranged from 8% in the Northern Territory to 19% in Queensland and Western Australia (Table 2.16.4).
- Indigenous Australians were more likely than non-Indigenous Australians to report drinking at short-term risky/high-risk levels at least once a week in all states and territories. The proportion of Indigenous and non-Indigenous Australians reporting drinking at long-term risky/high-risk levels in the previous week was similar across all states and territories (Table 2.16.5).

Table 2.16.4: Alcohol risk levels,[a] Indigenous persons aged 18 years and over, by state/territory, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Abstainers[b]	19	16	21	26	23	11	12	48	24
Short-term risk[c]									
Drank at risky/high-risk levels in last 12 months[d]	56	58	59	57	49	54	59	40	55
Drank at risky/high-risk levels at least once a week[e]	19	17	18	27	19	14	17	16	19
Long-term risk[f]									
Drank at risky/high-risk levels in last week	17	16	19	19	17	13	11	8	16
Total number	**75,001**	**16,516**	**70,623**	**36,542**	**14,480**	**9,477**	**2,300**	**33,358**	**258,297**

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) No alcohol consumed in previous 12 months.

(c) Based on responses to questions in 2004–05 NHS/NATSIHS about frequency of consumption of specified number of drinks in previous year. The number of drinks was based on the NHMRC guidelines for risky and high-risk short-term alcohol consumption for males and females.

(d) Persons who consumed alcohol at specified risky/high-risk levels in the short-term on at least one occasion in the previous 12 months.

(e) Persons who consumed alcohol at specified risky/high-risk levels in the short-term at least once a week in the previous 12 months.

(f) Risk level based on consumption in the week before the interview.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 2.16.5: Age-standardised percentages of alcohol risk levels,[a] persons aged 18 years and over, by Indigenous status and state/territory, 2004–05

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT[b]	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
	Per cent (age standardised)															
Abstainers[c]	23*	17*	19	16	28*	13*	30*	14*	34*	13*	14	11	11[d]	11	51	n.a.
Short-term risk[e]																
Drank at risky/high-risk levels in last 12 months[f]	49*	37*	50*	38*	51*	42*	43	42	47	43	47	44	51*	40*	37	n.a.
Drank at risky/high-risk levels at least once a week[g]	17*	7*	17*	7*	16*	9*	18*	8*	22*	10*	13	10	15*[d]	6*	15	n.a.
Long-term risk[h]																
Drank at risky/high-risk levels in last week	17	13	17[d]	12	18	14	16	15	16	16	13	12	9[d]	14	7	n.a.
Total number	**75,001**	**4,970,170**	**16,516**	**3,758,032**	**70,623**	**2,790,801**	**14,480**	**1,138,920**	**36,542**	**1,418,543**	**9,477**	**347,075**	**2,300**	**239,879**	**33,358**	**n.a.**

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) Non-Indigenous data not available for the Northern Territory because of small sample size. Northern Territory records for non-Indigenous people contribute to the national estimates but are insufficient to support reliable estimates for the Northern Territory.

(c) No alcohol consumed in previous 12 months.

(d) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(e) Based on responses to questions in 2004–05 NHS/NATSIHS about frequency of consumption of specified number of drinks in previous year. The number of drinks was based on the NHMRC guidelines for risky and high-risk short-term alcohol consumption for males and females.

(f) Persons who consumed alcohol at specified risky/high-risk levels in the short-term on at least one occasion in the previous 12 months.

(g) Persons who consumed alcohol at specified risky/high-risk levels in the short-term at least once a week in the previous 12 months.

(h) Risk level based on consumption in the week before the interview.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Alcohol risk levels by remoteness

- Indigenous adults in remote areas were more likely than those in non-remote areas to report drinking at short-term risky/high-risk levels in the week before the interview. Similar proportions of Indigenous Australians in remote and non-remote areas reported drinking at long-term risky/high-risk levels in the week before the interview (15% and 17%, respectively) (Table 2.16.6).
- Indigenous adults in remote areas were much more likely to have abstained from alcohol consumption in the previous 12 months than Indigenous adults in non-remote areas (38% compared with 19%)

Table 2.16.6: Alcohol risk levels,(a) by remoteness, Indigenous persons aged 18 years and over, 2004–05

	Non-remote	Remote	Total
		Per cent	
Abstainers(b)	19	38	24
Short-term risk(c)			
Drank at risky/high-risk levels in last 12 months(d)	57	49	55
Drank at risky/high-risk levels at least once a week in last 12 months(e)	18	23	19
Long-term risk(f)			
Drank at risky or high-risk levels in last week	17	15	16
Total number	**185,515**	**72,782**	**258,297**

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) No alcohol consumed in previous 12 months.

(c) Based on responses to questions in 2004–05 NHS/NATSIHS about frequency of consumption of specified number of drinks in previous year. The number of drinks was based on the NHMRC guidelines for risky and high-risk short-term alcohol consumption for males and females.

(d) Persons who consumed alcohol at specified risky/high-risk levels in the short-term on at least one occasion in the previous 12 months.

(e) Persons who consumed alcohol at specified risky/high-risk levels in the short-term at least once a week in the previous 12 months.

(f) Risk level based on consumption in the week before the interview.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Alcohol risk levels by selected health and population characteristics

- The proportion of Indigenous Australians aged 18 years and over who drank at long-term risky/high-risk levels and reported their health as fair/poor (25%) was similar to the proportion of Indigenous Australians in the total population who reported their health as fair/poor (24%) (Table 2.16.7).
- Indigenous Australians who spoke English as their main language at home (18%) or were in the highest (4th and 5th) quintiles of household income (20%) were more likely to drink at long-term risky/high-risk levels than Indigenous Australians who spoke a language other than English as their main language (9%) or were in the lowest (1st) quintile of household income (15%) (Table 2.16.8).
- Indigenous Australians who were not in the labour force were less likely to report drinking at short-term or long-term risky/high-risk levels than Indigenous Australians who were employed or unemployed (Table 2.16.8).

Table 2.16.7: Alcohol risk levels,[(a)] by self-assessed health status, Indigenous persons aged 18 years and over, 2004–05

	Long-term[(b)]	Short-term[(c)]		Total population
Health status	**Drank at risky/high-risk levels in last week**	**Drank at risky/high-risk levels in last 12 months[(d)]**	**Drank at risky/high-risk levels at least once a week in last 12 months[(e)]**	**Indigenous persons aged 18 years and over**
		Per cent		
Excellent/very good	35	41	36	40
Good	40	38	42	36
Fair/poor	25	21	22	24
Total	**100**	**100**	**100**	**100**

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) Based on responses to questions in 2004–05 NHS/NATSIHS about frequency of consumption of specified number of drinks in previous year. The number of drinks was based on the NHMRC guidelines for risky and high-risk short-term alcohol consumption for males and females.

(c) Risk level based on consumption in the week before the interview.

(d) Persons who consumed alcohol at specified risky/high-risk levels in the short-term on at least one occasion in the previous 12 months.

(e) Persons who consumed alcohol at specified risky/high-risk levels in the short-term at least once a week in the previous 12 months.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 2.16.8: Alcohol risk level, by selected population characteristics, Indigenous persons aged 18 years and over, 2004–05

	Long-term risk[a]	Short-term risk[b]	
	Drank at risky/high-risk levels in last week	Drank at risky/high-risk levels in last 12 months[c]	Drank at risky/high-risk levels at least once a week in last 12 months[d]
		Per cent	
Main language spoken at home			
English	18	57	20
Language other than English	9	39	16
Location			
Remote	15	49	23
Non-remote	17	57	18
Household income			
1st quintile (lowest)	15	49	20
4th and 5th quintile (highest)	20	63	15
Employment			
Employed CDEP	21	60	32
Employed non-CDEP	19	62	18
Total employed	*19*	*61*	*21*
Unemployed	20	67	23
Not in the labour force	12	43	16
Housing tenure type			
Owner[e]	19	55	14
Renter	15	54	21
Other[f]	25[g]	65	22
Treatment when seeking health care in last 12 months compared with non-Indigenous people			
Worse	16	56	19
The same or better	16	53	19

(a) Risk level based on Australian Alcohol Guidelines 2000 for risk of harm in the long-term.

(b) Based on responses to questions in 2004–05 National Health Survey/NATSIHS about frequency of consumption of specified number of standard drinks in the previous year. The number of standard drinks is based on NHMRC guidelines for risky and high-risk short-term alcohol consumption for males and females.

(c) Persons who consumed alcohol at specified risky/high-risk levels in the short-term on at least one occasion in the previous 12 months.

(d) Persons who consumed alcohol at specified risky/high-risk levels in the short-term at least once a week in the previous 12 months

(e) Includes owners with a mortgage and owners without a mortgage.

(f) Includes persons living under life tenure schemes, participants of rent/buy (or shared equity) schemes, persons living rent-free, boarders and other tenure type.

(g) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

Note: CDEP = Community Development Employment Projects scheme.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

NATSISS data

The 2008 NATSISS included a set of questions on chronic alcohol consumption (amount consumed on a usual drinking day in previous 12 months) and binge drinking (largest quantity of alcohol consumed in a single day during the previous fortnight). Note that these questions are not the same questions that were asked in the 2004–05 NATSIHS and therefore results are not comparable.

Indigenous persons aged 15 years and over

- In 2008, 17% of Indigenous people aged 15 years and over reported drinking at chronic risky/high-risk levels, 46%reported drinking at low risk levels and 35% had not consumed alcohol in the previous 12 months (Table 2.16.9).
- The proportion of Indigenous people aged 15 years and over who reported drinking at chronic risky/high-risk levels in 2008 (17%) was similar to the proportion reported in the 2002 NATSISS (15%) (ABS 2012).
- Indigenous males were more likely than Indigenous females to drink at chronic risky/high-risk levels (20% compared with 14%) (Table 2.16.9).

Binge drinking

- In 2008, 37% of Indigenous people age 15 years and over reported drinking at acute risky/high-risk levels (binge drinking) in the two weeks prior to the survey, this is similar to the rate reported in 2002 (ABS 2012).
- Binge drinking was more common among Indigenous males (46%) than Indigenous females (28%) (ABS 2012).

Table 2.16.9: Alcohol risk levels[(a)], Indigenous persons aged 15 years and over, by sex, 2008

	Males	Females	Persons
		Per cent	
Low risk	51.1	41.9	46.3
Chronic risky/high risk levels	20.3	14.3	17.2
Did not consume alcohol in previous 12 months	26.5	43.0	35.1
Total[(b)]	**100.0**	**100.0**	**100.0**
Total number ('000)[(b)]	**156.1**	**171.0**	**327.1**

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) Includes not stated.

Source: ABS and AIHW analysis of 2008 NATSISS.

Indigenous persons aged 18 years and over

- In 2008, 39% of Indigenous people aged 18 years and over reported drinking at short-term risky/high-risk levels in the two weeks prior to interview (Table 2.16.10).
- The proportion of Indigenous persons aged 18 years and over who reported drinking at short-term risky/high-risk levels decreased with age, from 49% in the 18–24 year age group to 20% for those aged 55 years and over (Table 2.16.10).

Table 2.16.10: Alcohol risk levels[(a)], Indigenous persons aged 18 years and over, 2008

	Age group (years)					
	18–24	25–34	35–44	45–54	55 and over	Total Indigenous persons
	Per cent					
Short-term risk						
Low risk	10.2	11.7	16.1	15.2	16.5	13.6
Risky or high-risk	49.4	42.6	42.2	34.2	19.9	39.4
Total short term risk[(b)]	***59.6***	***54.3***	***58.3***	***49.4***	***36.4***	***53.0***
Long-term risk						
Low risk	52.1	54.8	49.1	41.1	34.7	47.8
Risky or high-risk	23.2	18.8	22.0	16.8	9.7	18.9
Total long term risk[(c)]	***75.3***	***73.5***	***71.1***	***57.9***	***44.4***	***66.6***

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) Total who reported drinking alcohol in the last 2 weeks.

(c) Total who reported drinking alcohol in the last 12 months.

Source: ABS and AIHW analysis of 2008 NATSISS.

Alcohol risk levels by sex

- Higher proportions of Indigenous males aged 18 years and over reported drinking at short (50%) and long-term (23%) risky/high-risk levels than Indigenous females (30% short-term and 15% long-term) (Table 2.16.11).

Table 2.16.11: Alcohol risk levels[(a)], Indigenous persons aged 18 years and over, 2008

	Males	Females	Persons
	Per cent		
Short-term risk			
Low risk	15.6	11.8	13.6
Risky or high-risk	50.2	29.7	39.4
Total short term risk[(b)]	*65.8*	*41.6*	*53.0*
Long-term risk			
Low risk	52.9	43.2	47.8
Risky or high-risk	22.7	15.4	18.9
Total long term risk[(c)]	*75.6*	*58.6*	*66.6*

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) Total who reported drinking alcohol in the last 2 weeks.

(c) Total who reported drinking alcohol in the last 12 months.

Source: ABS and AIHW analysis of 2008 NATSISS.

Alcohol risk levels by state/territory

- The proportion of Indigenous adults who drank at short-term risky levels in the last 12 months varied across jurisdictions, from 29% in the Northern Territory to 46% in Western Australia (Table 2.16.12).
- Western Australia had the highest proportion (18%) of Indigenous adults who drank at long-term risky levels at least once a week in the last 12 months, and the Northern Territory had the lowest proportion (13%) (Table 2.16.12).

Table 2.16.12: Alcohol risk levels(a), Indigenous persons aged 18 years and over, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Abstainers(b)	20.0	15.0	23.2	23.7	25.2	18.4	*15.4	44.7	24.4
Short-term risky drinking									
Drank alcohol in last 12 months	40.7	40.4	40.3	45.8	38.3	36.4	39.9	29.0	39.4
Drank alcohol at least once a week in last 12 months	31.5	27.7	31.3	31.8	27.1	28.7	32.8	21.8	29.6
Long-term risky drinking									
Drank alcohol at least once a week in last 12 months	18.3	16.1	18.4	18.8	18.6	13.7	15.6	13.2	17.4
Total Indigenous persons(c)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number of Indigenous persons ('000)	**85,257**	**19,312**	**80,218**	**38,925**	**16,111**	**10,777**	**2,564**	**37,774**	**290,937**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Risk level based on Australian Alcohol Guidelines 2000.
(b) Those who did not drink alcohol in the last 12 months.
(c) Rows do not add to total.

Source: ABS and AIHW analysis of 2008 NATSISS.

Alcohol risk levels by remoteness

- In general, the proportion of Indigenous adults who did not consume alcohol in the previous 12 months decreased with remoteness, from 82% in *Major cities* to 58% in *Very remote* areas (Table 2.16.13).
- The proportion of Indigenous adults who drank at short-term risky levels in the last 12 months was highest in I*nner regional* areas (44%) and lowest in *Very remote* areas (32%) (Table 2.16.13).

Table 2.16.13: Alcohol risk levels[(a)], by remoteness, Indigenous persons aged 18 years and over, 2008

	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
			Per cent			
Abstainers[(b)]	82.4	82.5	76.7	65.3	58.3	75.6
Short-term risk						
Drank alcohol in last 12 months	37.8	43.9	42.9	40.6	31.9	39.4
Drank alcohol at least once a week in last 12 months	28.4	32.6	32.8	31.7	22.9	29.6
Long-term risk						
Drank alcohol at least once a week in last 12 months	15.2	20.5	19.2	19.5	14.4	17.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number ('000)[(c)]	**92,691**	**58,208**	**64,889**	**27,031**	**48,118**	**290,937**

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) Those who did not drink alcohol in the last 12 months.

(c) Rows will not add to total.

Source: ABS and AIHW analysis of 2008 NATSISS.

Alcohol risk levels by selected health and population characteristics

- The proportion of Indigenous adults aged 18 years and over who drank at long-term risky levels and reported their health as fair/poor (24%) was similar to the proportion of Indigenous Australians in the total population who reported their health as fair/poor (24%) (Table 2.16.14).
- Around three quarters (76%) of Indigenous adults who reported drinking at long-term risky levels lived in non-remote areas (Table 2.16.15).
- A slightly higher proportion of Indigenous adults who reported drinking at long-term risky levels were employed (58%) compared with the total Indigenous adult population (54%) (Table 2.16.15).

Table 2.16.14: Alcohol risk levels[(a)], by self-assessed health status, Indigenous persons aged 18 years and over, 2008

	Short-term risky drinker		Long-term risky drinker	Total population
Health status	**Drank alcohol in last 12 months**	**Drank alcohol at least once a week in last 12 months**	**Drank alcohol at least once a week in last 12 months**	**Indigenous persons aged 18 years and over**
Excellent/very good	41.9	41.4	34.8	41.3
Good	36.3	37.0	41.4	34.4
Fair/poor	21.8	21.6	23.8	24.4
Total	**100.0**	**100.0**	**100.0**	**100.0**
Total number ('000)(b)	**114,715**	**86,203**	**50,720**	**290,937**

(a) Risk level based on Australian Alcohol Guidelines 2000.

(b) Columns will not add to total.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.16.15: Alcohol risk level[(a)], by selected population characteristics, Indigenous persons aged 18 years and over, 2008

	Short-term risky drinker		Long-term risky drinker	Total population
	Drank alcohol in last 12 months	Drank alcohol at least once a week in last 12 months	Drank alcohol at least once a week in last 12 months	Indigenous persons aged 18 years and over
		Per cent		
Main language spoken at home[(b)]				
English	91.3	92.3	90.8	86.4
Language other than English	8.7	7.7	9.2	13.6
Location[(c)]				
Remote	22.9	22.7	24.1	25.8
Non-remote	77.1	77.3	75.9	74.2
Employment				
Employed CDEP	6.4	6.0	5.7	5.8
Employed non-CDEP	55.7	58.1	52.6	48.2
Total employed	*62.2*	*64.1*	*58.3*	*54.0*
Unemployed	10.4	9.5	9.8	9.6
Not in the labour force	27.4	26.4	31.9	36.4
Housing tenure type				
Owner	26.8	28.5	28.2	28.3
Renter	70.5	68.4	69.0	68.8
Other	2.3*	2.7*	2.6*	2.3
Total persons[(d)]	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**114,715**	**86,203**	**50,720**	**290,937**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Risk level based on Australian Alcohol Guidelines 2000 for risk of harm in the long-term.

(b) Excludes not stated and not currently speaking.

(c) Exclude migratory.

(d) Total does not add to 100 because excludes not stated.

Note: CDEP = Community Development Employment Projects scheme.

Source: ABS and AIHW analysis of 2008 NATSISS.

Alcohol consumption during pregnancy

Information about alcohol consumption during pregnancy is available from the 2008 NATSISS.

- In 2008, 3% of mothers of Indigenous children aged 0–3 years drank more or the same amount of alcohol during pregnancy, 16% drank less and 80% did not drink at all during their pregnancy (Table 2.16.16).
- The proportion of mothers who did not drink alcohol during pregnancy was greatest in the Northern Territory (85%), and lowest in Victoria and Queensland (77%). The proportion of mothers who drank more or the same amount of alcohol during pregnancy

was greatest in Tasmania and the Australian Capital Territory combined (6%) and lowest in South Australia and Queensland (2%) (Table 2.16.16).

Table 2.16.16: Alcohol consumption by child's mother during pregnancy, Indigenous children aged 0–3 years, by state/territory, 2008

Alcohol consumption	NSW	Vic	Qld	WA	SA	Tas/ ACT	NT	Aust.
				Per cent				
Drank more or the same amount of alcohol during pregnancy	3.4	5.4	2.3	5.0	1.8	6.0	3.0	3.3
Drank less alcohol during pregnancy	14.1	17.6	20.5	15.7	15.2	13.1	11.9	16.3
Did not drink alcohol during pregnancy	82.6	77.0	77.3	79.3	83.1	80.9	85.1	80.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**13,261**	**2,474**	**13,334**	**5,444**	**2,240**	**1,856**	**4,144**	**42,753**

Note: Excludes not stated & not collected.

Source: ABS and AIHW analysis of 2008 NATSISS.

Mortality

Table 2.16.10 presents deaths related to alcohol use of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory over the period 2006–2010.

- In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, there were 382 deaths of Indigenous Australians related to alcohol use (Table 2.16.17). This represented approximately 3.4% of total deaths of Indigenous Australians in these jurisdictions.
- Of all deaths related to alcohol use among Indigenous people, the majority were for alcoholic liver disease (261 deaths).
- Overall, Indigenous males died from alcohol-related causes at 5 times the rate of non-Indigenous males and Indigenous females died from alcohol-related causes at 8 times the rate of non-Indigenous females.
- Indigenous Australians died from mental and behavioural disorders due to alcohol use at 7 times the rate of non-Indigenous Australians, from alcoholic liver disease at 6 times the rate, and by alcohol poisoning at 5 times the rate.

Table 2.16.17: Deaths related to alcohol use, NSW, Qld, WA, SA and NT, 2006–2010[a][b][c][d][e][f]

	Number		No. per 100,000[g]					
Cause of death	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio[h]**	**Rate difference[i]**	**Rate difference%[j]**	**Rate difference% all causes[k]**
				Males				
Alcoholic liver disease (K70)	158	1,764	21.7	4.5	4.8*	17.2*	. .	. .
Mental & behavioural disorders due to alcohol use (F10)	66	664	11.2	1.8	6.4*	9.4*	. .	. .
Poisoning by alcohol (X45, X65, Y15)	22	176	2.4	0.5	5.0*	1.9*	. .	. .
Total deaths related to alcohol use	**246**	**2,604**	**35.2**	**6.7**	**5.2***	**28.5***	**. .**	**. .**
				Females				
Alcoholic liver disease (K70)	103	593	12.8	1.5	8.6*	11.3*	. .	. .
Mental & behavioural disorders due to alcohol use (F10)	27	182	3.7	0.4	8.5*	3.3*	. .	. .
Poisoning by alcohol (X45, X65, Y15)	6	56	0.6	0.1	4.4*	0.5*	. .	. .
Total deaths related to alcohol use	**136**	**831**	**17.1**	**2.1**	**8.3***	**15.1***	**. .**	**. .**
				Persons				
Alcoholic liver disease (K70)	261	2,357	17.0	2.9	5.8*	14.1*	66.2	2.5
Mental & behavioural disorders due to alcohol use (F10)	93	846	7.1	1.1	6.7*	6.0*	28.3	1.1
Poisoning by alcohol (X45, X65, Y15)	28	232	1.5	0.3	4.8*	1.2*	5.5	0.2
Total deaths related to alcohol use	**382**	**3,435**	**25.6**	**4.3**	**5.9***	**21.3***	**100.0**	**3.8**

(continued)

Table 2.16.17 (continued): Deaths related to alcohol use, NSW, Qld, WA, SA and NT, 2006–2010(a)(b)(c)(d)(e)(g)

* Represents results with statistically significant differences at the $p < 0.05$ level, the Indigenous/non-Indigenous comparisons.

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are currently considered to have adequate levels of Indigenous identification in mortality data for these periods. Data for these five jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Mortality data for the five jurisdictions should not be assumed to represent the experience in the other jurisdictions.

(b) Data are presented in 5-year groupings because of small numbers each year.

(c) Although most deaths of Indigenous Australians are registered, it is likely that some are not accurately identified as Indigenous. Therefore, these statistics are likely to underestimate the Indigenous mortality rate. It is also difficult to exactly identify the difference between the Indigenous and non-Indigenous mortality rates because of these data quality issues.

(d) Deaths prior to 2007 are by year of registration and state/territory of usual residence. Deaths from 2007 onwards are by reference year and state/territory of usual residence. Registration year prior to 2007 is equivalent to reference year from 2007 onwards.

(e) Care should be taken when interpreting mortality rates for Queensland due to recent changes in the timeliness of birth and death registrations. Queensland deaths data for 2010 have been adjusted to minimise the impact of late registration of deaths on mortality indicators.

(f) All causes of death data from 2006 onward are subject to a revisions process - once data for a reference year are 'final', they are no longer revised. Affected data in this table are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised) and 2010 (preliminary). See Causes of Death, Australia, 2010 (cat.no. 3303.0) Explanatory Notes for further information.

(g) Rates are directly age-standardised death rates per 100,000, using the 2001 Australian Estimated Resident population, by 5-year age group to 75+.

(h) Rate ratio is the mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(i) Rate difference is the mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

(j) Rate difference per cent is the rate difference for each specific cause divided by the rate difference for deaths related to alcohol use.

(k) Rate difference per cent of all causes is the rate difference for each specific cause divided by the rate difference for all causes.

Note: Deaths with not stated age have been excluded from the calculation of rates, but included in totals. Note that the ABS pro ratas not stated age across each age group in the calculation of mortality rates. This leads to some small differences in the mortality rates as calculated by ABS and AIHW.

Source: AIHW analysis of ABS Mortality Database.

Hospitalisations

Table 2.16.18 presents hospitalisations of Indigenous and non-Indigenous Australians for principal diagnoses related to alcohol use in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, over the period July 2008 to June 2010.

- There were 7,763 hospitalisations of Indigenous Australians in the six jurisdictions combined with a principal diagnosis related to alcohol use. This represented approximately 2% of all hospitalisations of Indigenous Australians (excluding dialysis) in these jurisdictions.
- Indigenous males were hospitalised for diagnoses related to alcohol use at almost five times the rate of non-Indigenous males, and Indigenous females were hospitalised for alcohol-related conditions at almost four times the rate of non-Indigenous females.
- Over three-quarters (86%) of all hospitalisations of Indigenous Australians that were related to alcohol use had a principal diagnosis of mental and behavioural disorders due to alcohol use (6,638 hospitalisations). The most common type of mental and behavioural disorder due to alcohol use was acute intoxication, for which Indigenous Australians were hospitalised at eight times the rate of non-Indigenous Australians. Indigenous Australians were hospitalised at 8 times the rate of non-Indigenous Australians for mental and behavioural disorders due to withdrawal, and 17 times the rate of non-Indigenous Australians for psychotic disorder.
- Indigenous Australians were hospitalised for alcoholic liver disease at six times the rate of non-Indigenous Australians, and for accidental poisoning by alcohol at four times the rate of non-Indigenous Australians.

Table 2.16.18: Hospitalisations for principal diagnoses related to alcohol use, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

	Males						Females						Persons					
	Number		No per 1,000(e)				Number		No per 1,000(e)				Number		No per 1,000(e)			
Principal diagnosis	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio(f)**	**Difference(g)**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio(f)**	**Difference(g)**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio(f)**	**Difference(g)**
Mental & behavioural disorders due to alcohol use (F10)																		
Acute intoxication (F10.0)	2,033	13,049	5.0	0.6	7.9*	4.4*	1,642	8,084	3.5	0.40	8.9*	3.1*	3,675	21,133	4.2	0.5	8.2*	3.7*
Withdrawal state (F10.3, F10.4)	792	4,717	2.1	0.2	9.1*	1.8*	210	2,111	0.5	0.10	5.0*	0.4*	1,002	6,828	1.2	0.2	7.6*	1.1*
Dependence syndrome (F10.2)	860	26,866	2.2	1.3	1.7*	0.9*	482	23,936	1.1	1.13	1.0	0.0	1,342	50,802	1.6	1.2	1.4*	0.4*
Psychotic disorder (F10.5)	118	341	0.3	0.0	15.9*	0.2*	49	118	0.1	0.01	19.9*	0.1*	167	459	0.2	0.0	16.8*	0.2*
Harmful use (F10.1)	238	1,765	0.6	0.1	6.6*	0.5*	139	1,248	0.3	0.06	5.2*	0.2*	377	3,014	0.4	0.1	6.0*	0.4*
Other(h) (F10.6–F10.9)	52	997	0.2	0.1	3.6*	0.1*	23	296	0.1	0.01	4.8*	0.1*	75	1,293	0.1	0.0	3.8*	0.1*
Total F10 categories	*4,093*	*47,735*	*10.2*	*2.3*	*4.5**	*7.9**	*2,545*	*35,793*	*5.6*	*1.7*	*3.3**	*3.9**	*6,638*	*83,529*	*7.8*	*2.0*	*3.9**	*5.8**
Alcoholic liver disease (K70)	571	7,481	1.7	0.35	4.8*	1.3*	354	2,413	0.9	0.11	8.0*	0.8*	925	9,894	1.3	0.2	5.6*	1.0*
Toxic effect of alcohol (T51)	61	754	0.1	0.04	3.5*	0.1*	54	667	0.1	0.03	3.2*	0.1*	115	1,421	0.1	0.0	3.4*	0.1*
Other inflammatory diseases of the liver (K75)	31	982	0.1	0.05	1.6*	0.03	35	1,162	0.1	0.05	1.6*	0.0	66	2,144	0.1	0.1	1.6*	0.03*
Intentional self-poisoning by alcohol (X65)	21	298	0.0	0.01	3.1*	0.03*	22	359	0.0	0.02	2.7*	0.03*	43	657	0.0	0.0	2.9*	0.03*

(continued)

Table 2.16.18 (continued): Hospitalisations for principal diagnoses related to alcohol use, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Males						Females						Persons					
	Number		No per 1,000[(e)]				Number		No per 1,000[(e)]				Number		No per 1,000[(e)]			
Principal diagnosis	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio[(f)]**	**Difference[(g)]**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio[(f)]**	**Difference[(g)]**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio[(f)]**	**Difference[(g)]**
Accidental poisoning by alcohol (X45)	25	280	0.1	0.01	4.2*	0.04*	17	211	0.0	0.01	3.2*	0.02*	42	491	0.0	0.0	3.7*	0.03*
Poisoning by alcohol undetermined intent (Y15)	31	259	0.1	0.01	5.2*	0.1*	22	205	0.0	0.01	4.5*	0.03*	53	464	0.1	0.0	4.9*	0.04*
Total	**4,769**	**57,060**	**12.1**	**2.7**	**4.5***	**9.4***	**2,994**	**40,157**	**6.7**	**1.9**	**3.5***	**4.8***	**7,763**	**97,218**	**9.3**	**2.3**	**4.0***	**7.0***

* Represents results with statistically significant differences at the $p < 0.05$ level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) Includes amnesic syndrome, residual or late onset psychotic disorder, other and unspecified mental and behavioural disorders due to alcohol use.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for hospitalisations with a primary diagnosis related to alcohol use in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 2.16.19, covering the period July 2008 to June 2010.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for alcohol related conditions than non-Indigenous Australians. The ratio of hospitalisations of Indigenous people compared with non-Indigenous Australians was higher and the difference was statistically significant for all ASGC areas.
- Rates of hospitalisations per 1,000 head of population were highest for Indigenous people living in *Remote* areas, at 14 per 1,000. The rate was highest for non-Indigenous Australians who lived in *Major cities*, at 2.6 per 1,000. The lowest rates were observed in *Very remote* areas for Indigenous people (6.9 per 1,000) and *Outer regional* for non-Indigenous Australians (1.6 per 1,000).
- Indigenous people were hospitalised for alcohol related conditions at a rate of 7.9 times that of non-Indigenous Australians in *Remote* areas of Australia. In *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of 3.5 times that of non-Indigenous Australians. Nationally, the rate ratio was 4.1.

Table 2.16.19: Hospitalisations with a principal diagnosis related to alcohol use, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)(f)]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%[(g)]	UCL 95%[(h)]	Number	No. per 1,000	LCL 95%[(g)]	UCL 95%[(h)]	Ratio[(i)]	Difference[(j)]
Major cities	2,392	9.1	8.7	9.5	75,869	2.6	2.5	2.6	3.5*	6.5*
Inner regional	1,348	8.2	7.8	8.7	13,147	1.7	1.6	1.7	4.9*	6.6*
Outer regional[(k)]	1,765	9.9	9.4	10.4	5,979	1.6	1.6	1.7	6.1*	8.3*
Remote[(l)]	1,162	13.9	13.1	14.8	951	1.8	1.7	1.9	7.9*	12.1*
Very remote	955	6.9	6.4	7.3	322	1.9	1.7	2.2	3.6*	4.9*
Total[(m)]	**7,763**	**9.4**	**9.1**	**9.6**	**97,218**	**2.3**	**2.3**	**2.3**	**4.1***	**7.1***

* Indicates a significant difference at the p <0.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous Australians.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Data quality issues

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, imperfect recall or individual interpretation of survey questions may affect some responses.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors

Care has been taken to ensure that the results of this survey are as accurate as possible. All interviews were conducted by trained ABS officers. However, some factor may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010a).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010a).

Mortality data

Mortality data presented in this report are from the AIHW National Mortality Database. The AIHW National Mortality Database includes information on the factors that caused death, as well as other information about the deceased person, such as age at death, place of death, country of birth, and where applicable, the circumstances of their death. These data are collected in Australia by the Registrars of Births, Deaths and Marriages in each state and territory. The data are then compiled nationally by the ABS, which codes the data according to the International Classification of Diseases (ICD).

Deaths

Although it is considered likely that most deaths of Aboriginal and Torres Strait Islander (Indigenous) Australians are registered, a proportion of these deaths are not registered as Indigenous. Information about the deceased is supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred and may differ from the self-identified Indigenous origin of the deceased.

Queensland deaths

In November 2010, the Queensland Registrar of Births, Deaths and Marriages advised the ABS of an outstanding deaths registration initiative undertaken by the Registry. This initiative resulted in the November 2010 registration of 374 previously unregistered deaths which occurred between 1992 and 2006 (including a few for which a date of death was unknown). Of these, around three-quarters (284) were deaths of Aboriginal and Torres Strait Islander Australians.

The ABS discussed different methods of adjustment of Queensland death registrations data for 2010 with key stakeholders. Following the discussion, a decision was made by the ABS and key stakeholders to use an adjustment method that added together deaths registered in 2010 for usual residents of Queensland which occurred in 2007, 2008, 2009 and 2010. This method minimises the impact on mortality indicators used in various government reports. However, care should still be taken when interpreting Aboriginal and Torres Strait Islander death data for Queensland for 2010.

Western Australia deaths

Indigenous deaths registered in Western Australia in 2007, 2008 and 2009 were corrected by the ABS in mid-2012 due to some non-Indigenous deaths being incorrectly recorded as Indigenous for these years. Data presented in this report are based on the corrected data and will differ from mortality data presented in the 2010 Health Performance Framework report which presented data prior to the ABS corrections.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms.

Under-identification

At present, there is considerable variation across the states and territories in the completeness of mortality data for Indigenous people. Information concerning the number of deaths of Indigenous people is limited by the accuracy with which Indigenous persons are identified in death records. Problems associated with identification result in an underestimation of deaths of Indigenous people and in the gap in mortality between Indigenous and non-Indigenous Australians.

Mortality data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory are considered to have sufficient coverage to produce reliable statistics on Indigenous Australian deaths for the period 2001–2010.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) which are considered to have adequate identification from 1991. Queensland is considered to have sufficient coverage of Indigenous deaths from 1998.

The quality of the time series data is also influenced by the late inclusion of a ‘not stated’ category for Indigenous status in 1998. Before this time, the ‘not stated’ responses were probably included with the non-Indigenous.

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project (ABS 2008). The CDE Indigenous Mortality Quality Study linked Census records with death registration records for the 11-month period following the Census and examined differences in the reporting of Indigenous status across the two data sets.

For the purpose of this study, the linked record was assumed to be an Indigenous record if a positive response was recorded against the Indigenous status question on either the death registration or the corresponding Census record. Following linkage, the number of death records identified as Indigenous increased from 1,800 to 2,123 records, or from 1.7% to 2.0% of all registered deaths.

‘While 323 additional death records were able to be identified as Indigenous from Census records, more may have been expected if all death records had been linked. A key reason records could not be linked appears to be Census undercount, with a corresponding Census record not existing to link to for many Indigenous death records’ (ABS 2008).

The results from the study suggested that coverage of Indigenous deaths in death registrations is considerably higher, at least in 2006–07, than previous estimates have indicated. Nationally, the coverage rate was estimated to be 85%. State/territory coverage estimates were: NSW 76%, Vic 74%, Qld 87%, SA 86%, WA 92% and NT 99% (ABS 2008).

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories.

Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

2.17 Drug and other substance use including inhalants

The use of drugs and other substances including inhalants among Aboriginal and Torres Strait Islander people

Data sources

Data for this measure come from the 2008 National Aboriginal and Torres Strait Islander Social Survey, the National Hospital Morbidity Database and the Australian Institute of Criminology Drug Use Monitoring in Australia (DUMA) survey.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Drug Use Monitoring in Australia (DUMA) survey

DUMA is an annual survey which has been conducted by the AIC since 1999 at some locations across Australia. The survey reports on drug use among police detainees at selected police stations. The survey is by a voluntary questionnaire and drug use is confirmed by a urine sample provided by the detainee.

The number of detainees questioned is quite low and thus includes a very small Indigenous sample. The Indigenous status of the detainee is established by the following question: 'What is your ethnic background?' (if the respondent mentions 'Australian' but not 'Aboriginal', prompt: 'Do you consider yourself an Aboriginal or Torres Strait Islander?').

Analysis is presented by state/territory, as the figures do not permit national coverage.

Data analyses

Age-standardised rates and ratios have been used as a measure of morbidity in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of morbidity among Indigenous people and those of other Australians, taking into account differences in age distributions.

Illicit substance use can be divided into two categories: use of substances which are illegal to possess (for example, heroin) and non-medical use of substances that are legally available (for example, petrol inhalation and misuse of prescription drugs).

Self-reported illicit drug use

Self-reported data on illicit substance use among the Aboriginal and Torres Strait Islander population from the 2008 and 2002 NATSISS are presented below.

- In 2008, approximately 23% of Indigenous Australians aged 15 years and over reported illicit substance use in the 12 months before the survey (Table 2.17.1).
- In 2008, 43% of Indigenous persons aged 15 years and over reported illicit substance use at least once in their lifetime (Table 2.17.2).

Substance use by age and sex

- In 2008, the age groups with the highest proportions of Indigenous persons who used substances in the previous 12 months were aged 18–24 years (32%) and 25–34 years (26%) (Table 2.17.1).
- In 2008, 51% of Indigenous males and 36% of Indigenous females aged 15 years and over reported illicit substance use at least once in their lifetime (Table 2.17.2).

Substance use by remoteness

- In 2008, a higher proportion of Indigenous persons aged 15 years and over in non-remote areas than remote areas reported ever having used illicit substances (47% compared with 31%) and substance use in the previous 12 months (24% compared with 17%) (Table 2.17.3).

Table 2.17.1: Substance use, by age and sex, Indigenous persons aged 15 years and over[(a)], 2008

	Never used substances			Used substances but not in last 12 months			Used substances in last 12 months		
Age (years)	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
				Proportion of total persons (Per cent)					
15–17[(b)]	18.5	11.8	14.6	3.5	3.8	3.7	6.8	7.9	7.3
18–24	19.6	17.1	18.1	13.8	22.0	17.7	31.5	31.5	31.5
25–34	17.1	17.1	17.1	27.0	30.0	28.5	25.8	27.0	26.3
35–44	14.0	19.2	17.1	28.2	25.8	27.0	20.1	19.3	19.8
45–54	13.2	16.3	15.0	18.1	13.6	15.9	12.1	11.6	11.9
55+	17.5	18.5	18.1	9.3	4.8	7.1	3.7	2.7	3.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
				Proportion of age group (Per cent)					
15–17[(b)]	77.1	78.2	77.6	6.7	7.4	7.0	16.3	14.4	15.4
18–24	44.6	53.2	49.0	14.3	20.1	17.3	41.1	26.7	33.7
25–34	38.7	51.3	45.2	27.8	26.5	27.1	33.6	22.1	27.6
35–44	36.6	59.9	49.3	33.3	23.7	28.1	30.1	16.4	22.6
45–54	46.6	69.5	59.0	29.0	17.0	22.5	24.5	13.5	18.5
55+	73.4	89.6	82.4	17.8	6.8	11.7	8.8	3.6	5.9
Total	**49.3**	**63.8**	**56.9**	**22.4**	**18.8**	**20.5**	**28.3**	**17.4**	**22.6**
Total number	**69,293**	**98,949**	**168,242**	**31,453**	**29,104**	**60,557**	**39,764**	**26,996**	**66,759**

(a) People who accepted the substance use form.

(b) Excludes data obtained through child proxy.

Source: AIHW analysis of 2008 NATSISS.

Table 2.17.2: Substance use, by type of substance and sex, Indigenous Australians aged 15 years and over, 2008

	Males		Females		Persons	
	Number	Per cent	Number	Per cent	Number	Per cent
Has ever used substances						
Marijuana, hashish or cannabis resin	60,860	43.3	45,425	29.3	106,285	35.9
Amphetamines or speed	19,499	13.9	12,869	8.3	32,368	10.9
Ecstasy or designer drugs	13,433	9.6	9,270	6.0	22,704	7.7
Pain killers or analgesics for non-medical purposes	11,120	7.9	10,654	6.9	21,775	7.4
Kava	11,506	8.2	5,427	3.5	16,932	5.7
LSD or synthetic hallucinogens	9,744	6.9	5,692	3.7	15,437	5.2
Naturally occurring hallucinogens	9,323	6.6	3,334	2.1	12,656	4.3
Cocaine	7,143	5.1	4,400	2.8	11,543	3.9
Petrol	6,003	4.3	2,476	1.6	8,479	2.9
Other inhalants	5,203	3.7	3,267	2.1	8,470	2.9
Tranquillisers or sleeping pills for non-medical purposes	5,112	3.6	3,199	2.1	8,311	2.8
Heroin	4,932	3.5	2,099	1.4	7,031	2.4
Methadone for non-medical purposes	1,051	0.7	491	0.3	1,543	0.5
Total has ever used substances[(a)]	*71,263*	*50.7*	*56,295*	*36.3*	*127,558*	*43.1*
Has not used substances	69,293	49.3	98,949	63.7	168,242	56.9
Total	**140,555**	**100.0**	**155,244**	**100.0**	**295,799**	**100.0**
Not stated	15,497	9.9	15,805	9.2	31,302	9.6
Total	**156,052**	**100.0**	**171,049**	**100.0**	**327,101**	**100.0**
Has used substances in the last 12 months						
Marijuana, hashish or cannabis resin	32,596	23.2	18,229	11.8	50,825	17.2
Pain killers or analgesics for non-medical purposes	6,862	4.9	6,564	4.2	13,425	4.5
Amphetamines or speed	7,631	5.4	4,179	2.7	11,810	4.0
Ecstasy or designer drugs	6,116	4.4	3,555	2.3	9,671	3.3
Tranquillisers or sleeping pills for non-medical purposes	2,384	1.7	1,788	1.2	4,172	1.4
Kava	2,365	1.7	1,090	0.7	3,454	1.2
LSD or synthetic hallucinogens	1,813	1.3	753	0.5	2,566	0.9
Cocaine	1,515	1.1	817	0.5	2,332	0.8
Naturally occurring hallucinogens	1,537	1.1	297	0.2	1,834	0.6
Volatile solvents	877	0.6	273	0.2	1,150	0.4
Other analgesics	719	0.5	271	0.2	990	0.3
Total used substances in last 12 months[(a)]	*39,764*	*28.3*	*26,996*	*17.4*	*66,759*	*22.6*
Has not used substances in last 12 months	100,746	71.7	128,053	82.6	228,799	77.4
Total	**140,510**	**100.0**	**155,049**	**100.0**	**295,558**	**100.0**
Not stated	15,543	10.0	16,000	9.4	31,543	9.6
Total	**156,052**	**100.0**	**171,049**	**100.0**	**327,101**	**100.0**

(a) Totals may not be equal to the sum of their components as survey respondents may have used more than one type of substance.

Source: 2008 NATSISS.

Table 2.17.3: Illicit drug or substance use, by remoteness, Indigenous persons aged 15 years and over, 2008

	Remote		Non-remote		Persons	
	Number	Per cent	Number	Per cent	Number	Per cent
Has ever used substances						
Marijuana, hashish or cannabis resin	19,283	26.1	87,002	39.2	106,285	35.9
Amphetamines or speed	2,317	3.1	30,051	13.5	32,368	10.9
Ecstasy or designer drugs	1,916	2.6	20,788	9.4	22,704	7.7
Pain-killers/analgesics	2,872	3.9	18,903	8.5	21,775	7.4
Kava	2,235	3.0	14,698	6.6	16,932	5.7
LSD or synthetic hallucinogens	1,119	1.5	14,318	6.5	15,437	5.2
Naturally occurring hallucinogens	1,036	1.4	11,620	5.2	12,656	4.3
Cocaine	1,217	1.6	10,326	4.7	11,543	3.9
Petrol	2,210	3.0	6,269	2.8	8,479	2.9
Other inhalants	1,007	1.4	7,463	3.4	8,470	2.9
Tranquillisers/sleeping pills	484	0.7	7,826	3.5	8,311	2.8
Heroin	505	0.7	6,526	2.9	7,031	2.4
Total has ever used substances[(a)]	*22,608*	*30.6*	*104,950*	*47.3*	*127,558*	*43.1*
Has not used substances	51,224	69.4	117,018	52.7	168,242	56.9
Total	**73,832**	**100.0**	**221,967**	**100.0**	**295,799**	**100.0**
Not stated	7,669	9.4	23,632	9.6	31,302	9.6
Total	**81,501**	**100.0**	**245,600**	**100.0**	**327,101**	**100.0**
Has used substances in last 12 months						
Marijuana, hashish or cannabis resin	10,459	14.2	40,365	18.2	50,825	17.2
Pain Killers or Analgesics for non-medical purposes	1,405	1.9	12,021	5.4	13,425	4.5
Amphetamines or Speed	729	1.0	11,081	5.0	11,810	4.0
Ecstasy or Designer Drugs	1,073	1.5	8,598	3.9	9,671	3.3
Tranquillisers or Sleeping Pills for non-medical purposes	298	0.4	3,874	1.7	4,172	1.4
Kava	862	1.2	2,592	1.2	3,454	1.2
LSD or Synthetic Hallucinogens	165	0.2	2,401	1.1	2,566	0.9
Cocaine	464	0.6	1,868	0.8	2,332	0.8
Naturally Occurring Hallucinogens	82	0.1	1,752	0.8	1,834	0.6
Volatile solvents	156	0.2	995	0.4	1,150	0.4
Other Analgesics	170	0.2	820	0.4	990	0.3
Total used substances in last 12 months[(a)]	*12,739*	*17.3*	*54,021*	*24.4*	*66,759*	*22.6*
Has not used substances in last 12 months	60,988	82.7	167,811	75.6	228,799	77.4
Total	**73,727**	**100.0**	**221,831**	**100.0**	**295,558**	**100.0**
Not stated	7,774	9.5	23,768	9.7	31,543	9.6
Total	**81,501**	**100.0**	**245,600**	**100.0**	**327,101**	**100.0**

(a) Totals may not be equal to the sum of their components as survey respondents may have used more than one type of substance.

Source: 2008 NATSISS.

Type of substance use

- Marijuana was the most commonly reported illicit drug used by Indigenous Australians aged 15 years and over in 2008. Around 36% reported ever having tried marijuana and 17% had used marijuana in the previous 12 months. Amphetamines/speed was the next most frequently reported substance ever used (11%) while ecstasy and designer drugs followed (8%) (Table 2.17.4).

Table 2.17.4: Illicit substance use, Indigenous persons aged 15 years and over, 2008

	Ever used	Used in last 12 months
	Per cent	
Marijuana, hashish or cannabis	35.9	17.2
Amphetamines/speed	10.9	4.0
Painkillers/analgesics	7.4	4.5
LSD/synthetic hallucinogens	5.2	0.9
Ecstasy/designer drugs	7.7	3.3

Source: AIHW analysis of 2008 NATSISS

Time series analyses

- For Indigenous people aged 15 years and over who accepted the substance use form, reported rates of ever having used illicit substances increased slightly from 40% to 43% between 2002 and 2008 (Table 2.17.5).
- Over the same period, reported rates of illicit substance use in the 12 months before the survey were similar (24% in 2002 and 23% in 2008).
- The proportion of Indigenous Australians who reported marijuana, hashish or cannabis resin use in the previous 12 months decreased from 2002 to 2008 (19% compared with 17%).
- The proportion of Indigenous males who reported use of amphetamines/speed in the last 12 months in 2008 was similar to that reported in 2002 (around 5%).

Table 2.17.5: Indigenous persons aged 15 years and over in non-remote areas[(a)], substance use, by sex, 2002 and 2008

	2002			2008		
Substance use	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
			Per cent			
Used substances in last 12 months						
Marijuana, hashish or cannabis resin	23.0	15.5	19.1	23.1	11.7	17.1
Amphetamines or speed	4.9	4.5	4.7	5.4	2.7	4.0
Ecstasy or designer drugs	2.2	1.6	1.9	4.3	2.3	3.3
LSD or synthetic hallucinogens	0.7(b)	0.6(b)	0.7(b)	1.3(b)	0.5(b)	0.9(b)
Pain-killers or analgesics for non-medical purposes	4.1	4.6	4.4	4.9	4.2	4.5
Naturally occurring hallucinogens	0.5(b)	0.2(c)	0.3(b)	1.1(b)	0.2(b)	0.6(b)
Cocaine	0.5(b)	0.8(b)	0.6(b)	1.1(b)	0.5(b)	0.8(b)
Other analgesics and opiates(d)	0.5(b)	0.6(b)	0.5(b)	0.5(b)	0.2(b)	0.3(b)
Volatile organic and other inhalants(e)	0.5(b)	0.3(c)	0.4(b)	0.6(b)	0.2(b)	0.4
Tranquillisers or sleeping pills for non-medical purposes	0.7	2.2(b)	1.5	1.7	1.1	1.4
Kava	0.5(b)	0.6(b)	0.6(b)	1.7(b)	0.7(b)	1.2
Total used substances in last 12 months	**26.6**	**20.7**	**23.5**	**28.2**	**17.3**	**22.5**
Used substances but not in last 12 months	16.4	15.9	16.1	22.3	18.6	20.4
Total used substances	**43.0**	**36.6**	**39.6**	**50.5**	**35.9**	**42.8**
Never used substances	48.3	54.2	51.4	49.2	63.2	56.6
Total(a)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Substance use form status						
Form accepted	93	92	93	55.4	58.9	57.2
Form non-response	7	8	7	5.9	5.5	5.7
Form status not known	. .	. .	. .	38.7	35.7	37.1
Total	**100**	**100**	**100**	**100.0**	**100.0**	**100.0**

(a) People who accepted the substance use form.

(b) Estimates with a relative standard error of between 25% and 50% should be used with caution.

(c) Estimates with a relative standard error greater than 50% are considered too unreliable for general use.

(d) Includes other analgesics and heroin.

(e) Includes petrol, volatile solvents and other inhalants.

Source: AIHW and ABS analysis of 2002 and 2008 NATSISS.

Substance use by selected health and population characteristics

Tables 2.17.6 and 2.17.7 present information on Indigenous persons aged 15 years and over, by substance use status and selected health and population characteristics. Proportions in Table 2.17.6 are calculated within a column using the total across the rows as a denominator; while proportions in Table 2.17.7 are calculated within a row using the column totals as a denominator.

- In 2008, a higher proportion of Indigenous persons aged 15 years and over who were recent substance users (that is, used substances in the previous 12 months) reported they were currently daily smokers than those who had never used illicit substances (Table 2.17.6).
- Indigenous persons who were recent substance users were also more likely to be unemployed, renters and have experienced stressors in the last 12 months than persons who had never used illicit substances (Table 2.17.6).
- A higher proportion of Indigenous persons with high/very high levels of psychological distress had ever used substances, than Indigenous persons with low/moderate levels of psychological distress (50% compared with 40%) (Table 2.17.7).
- Interestingly, Indigenous persons in the highest quintiles of household income were more likely to have ever used substances that Indigenous persons in the lowest income quintiles (Table 2.17.7).

Table 2.17.6: Substance use status, by selected health and population characteristics, Indigenous persons aged 15 years and over[(a)(b)], 2008

	Never used illicit substances	Ever used substances[(a)]	Recent substance use[(b)]
		Per cent	
Self-assessed health status			
Excellent/very good	44.3	43.0	40.5
Good	33.8	34.4	35.4
Fair/poor	21.9	22.6	24.0
Total	*100.0*	*100.0*	*100.0*
Other substance use			
Current daily smoker	35.2	57.6	68.1
Risky/high-risk alcohol consumption (3 day)	3.0	7.0	7.3
Risky/high-risk alcohol consumption (7 day)	3.4	8.7	8.9
Level of psychological distress[(c)]			
Low or moderate	72.5	63.6	60.0
High or very high	27.5	36.4	40.0
Total	*100*	*100*	*100*
Gross weekly equivalised income			
1st quintile (lowest)	49.1	43.0	46.8
4th and 5th quintile (highest)	18.1	25.9	23.7
Financial stress—unable to raise $2,000 within a week for something important	50.8	49.8	55.1
Highest year of school completed[(d)]			
Year 12	17.9	22.8	18.5
Year 11	12.5	14.8	14.1
Year 10	30.5	31.7	33.4
Year 9 or below[(e)]	39.1	30.8	34.1
Total[(d)]	*100.0*	*100.0*	*100.0*
Whether has non-school qualification[(e)]			
Has a non-school qualification	31.8	37.7	34.2
Does not have a non-school qualification	68.3	62.3	65.8
Total[(d)]	*100.0*	*100.0*	*100.0*
Employment			
Employed CDEP	6.2	4.4	6.3
Employed non-CDEP	42.4	52.9	47.5
Total employed	*48.7*	*57.3*	*53.9*
Unemployed	8.9	12.0	14.8
Not in the labour force	42.4	30.7	31.4
Total	*100.0*	*100.0*	*100.0*

(continued)

Table 2.17.6 (continued): Substance use status, by selected health and population characteristics, Indigenous persons aged 15 years and over[(a)(b)], 2008

	Never used illicit substances	Ever used substances[(a)]	Recent substance use[(b)]
		Per cent	
Housing			
Owner	31.0	30.1	23.3
Renter[(f)]	69.0	69.9	76.7
Stressors in last 12 months			
Serious illness or disability	13.1	16.0	14.9
Witness to violence	2.8	5.1	6.4
Abuse or violent crime	1.8	4.6	5.9
Other stressors	46.1	62.1	67.0
Total experienced stressors[(g)]	*63.9*	*87.8*	*94.2*
No stressors	48.1	34.6	30.4
Total[(h)]	**100.0**	**100.0**	**100.0**

(a) People who accepted the substance use form.

(b) Excludes data obtained through child proxy.

(c) Grouped Kessler (K5) score.

(d) Persons not still at school.

(e) Includes persons who never attended school.

(f) Excludes boarders.

(g) Total may be greater than the sum of its components as survey respondents may indicate positive response to more than one category.

(h) Includes whether experienced stressor not stated and refusals.

Source: AIHW analysis of 2008 NATSISS.

Table 2.17.7: Substance use status, by selected health and population characteristics, Indigenous persons aged 15 years and over[(a)(b)], 2008

	Never used illicit substances	Ever used substances(a)(c)	Total	Recent substance use only(b)
		Per cent		
Self-assessed health status				
Excellent/very good	57.7	42.3	100.0	20.9
Good	56.5	43.5	100.0	23.5
Fair/poor	56.2	43.8	100.0	24.4
Total	*56.9*	*43.1*	*100.0*	*22.6*
Other substance use				
Current daily smoker	44.7	55.3	100.0	34.3
Risky/high-risk alcohol consumption (3 day)	36.1	63.9	100.0	35.2
Risky/high-risk alcohol consumption (7 day)	34.0	66.0	100.0	35.5
Level of psychological distress(d)				
Low or moderate	59.8	40.2	100.0	19.9
High or very high	49.7	50.3	100.0	29.1
Gross weekly equivalised income				
1st quintile (lowest)	59.3	40.7	100.0	23.0
4th and 5th quintile (highest)	47.1	52.9	100.0	25.2
Financial stress—unable to raise $2,000 within a week for something important	57.5	42.5	100.0	24.5
Highest year of school completed(e)				
Year 12	48.8	51.2	100.0	21.5
Year 11	50.5	49.5	100.0	24.5
Year 10	53.8	46.2	100.0	25.2
Year 9 or below(f)	60.6	39.4	100.0	22.6
Total(e)	*54.7*	*45.3*	*100.0*	*23.5*
Whether has non-school qualification(f)				
Has a non-school qualification	50.5	49.5	100.0	23.3
Does not have a non-school qualification	57.0	43.0	100.0	23.6
Total(e)	*54.7*	*45.3*	*100.0*	*23.5*
Employment				
Employed CDEP	65.3	34.7	100.0	26.3
Employed non-CDEP	51.4	48.6	100.0	22.9
Total employed	*52.9*	*47.1*	*100.0*	*23.2*
Unemployed	49.6	50.4	100.0	32.5
Not in the labour force	64.6	35.4	100.0	19.0
Total	*56.9*	*43.1*	*100.0*	*22.6*

(continued)

Table 2.17.7 (continued): Substance use status, by selected health and population characteristics, Indigenous persons aged 15 years and over[a][b], 2008

	Never used illicit substances	Ever used substances[a][c]	Total	Recent substance use only[b]
	Per cent			
Housing				
Owner	57.6	42.4	100.0	17.2
Renter[g]	56.6	43.4	100.0	25.0
Stressors in last 12 months				
Serious illness or disability	52.0	48.0	100.0	23.5
Witness to violence	41.7	58.3	100.0	38.2
Abuse or violent crime	34.4	65.6	100.0	44.0
Other stressors	49.5	50.5	100.0	28.5
Total experienced stressors	*51.2*	*48.8*	*100.0*	*27.2*
No stressors	64.8	35.2	100.0	16.3
Total[h]	*56.9*	*43.1*	*100.0*	*22.6*
Total number	**168,242**	**127,317**	**295,558**	**66,759**

(a) People who accepted the substance use form.
(b) Excludes data obtained through child proxy.
(c) Includes people who recently used illicit substances.
(d) Grouped Kessler (K5) score.
(e) Persons not still at school.
(f) Includes persons who never attended school.
(g) Excludes boarders.
(h) Includes whether experienced stressor not stated and refusals.

Note: Excludes not stated an unknown responses.

Source: 2008 NATSISS.

Multiple drug use

- In 2008, approximately 19% of Indigenous males and 13% of Indigenous females aged 15 years and over had used one substance in the previous 12 months, and 9% of Indigenous males and 4% of Indigenous females had used two or more substances in the previous 12 months (Table 2.17.8).
- Use of multiple substances among Indigenous Australians ranged from 13% among those who drank alcohol at risky/high risk levels, to 9% among current smokers and 8% among those who had high or very high levels of psychological distress (Table 2.17.9).
- In 2008, Indigenous Australians who consumed alcohol at risky or high risk levels, or who were current smokers, where around 3.5 times more likely than those who did not drink at risky levels or smoke to report multiple substance use. Indigenous Australians who reported high levels of psychological distress were almost 2 times more likely than those with low or moderate levels to report multiple substance use. These differences were statistically significant (Table 2.17.9).

Table 2.17.8: Multiple substance use, by sex, Indigenous persons aged 15 years and over, 2008[(a)]

	Did not use substances[(b)(c)]	Used one substance[(c)]	Used two or more substances[(c)]	Total used substances[(c)]	Total	Total number
			Per cent			
Males	71.7	19.4	8.9	28.3	100.0	140,510
Females	82.6	13.4	4.0	17.4	100.0	155,049
Persons	77.4	16.2	6.4	22.6	100.0	295,558

(a) Self-reported data.

(b) Comprises persons who have never used a substance and those who used substances, but not in the previous 12 months.

(c) In the previous 12 months.

Source: 2008 NATSISS.

Table 2.17.9: Multiple substance use, by alcohol use, smoking or psychological distress of Indigenous Australians aged 15 years and over, 2008

	Risky/ high risk alcohol consumption					Current smoker(a)					Level of psychological distress				
	Yes		No(b)		Significant difference	Yes		No(c)		Significant difference	High/very high		Low-moderate		Significant difference
	No.	Per cent	No.	Per cent		No.	Per cent	No.	Per cent		No.	Per cent	No.	Per cent	
Did not use substances(d)(e)	30,832	54.8	196,201	73.6	Yes	91,363	59.7	137,436	78.9	Yes	65,103	64.8	161,025	72.6	Yes
Used one substance(e)(g)	13,122	23.3	34,373	12.9	Yes	33,076	21.6	14,862	8.5	Yes	18,185	18.1	29,609	13.4	Yes
Used two or more substances(b)	7,412	13.2	10,272	3.9	Yes	14,325	9.4	4,496	2.6	Yes	8,482	8.4	10,339	4.7	Yes
Total persons aged 15 years and over(f)	**56,213**	**100.0**	**266,458**	**100.0**	. .	**153,003**	**100.0**	**174,098**	**100.0**	. .	**100,405**	**100.0**	**221,717**	**100.0**	. .

(a) Includes people who smoke daily, weekly but not daily and less than weekly.

(b) Includes people whose level of drinking was classified as low risk.

(c) Includes ex-smokers and people who never smoked.

(d) Comprises persons who have never used a substance and those who used substances, but not in the previous 12 months.

(e) In the previous 12 months.

(f) Total includes not stated.

Source: 2008 NATSISS.

Substance use during pregnancy

Data on the use of illicit drugs or substances by the mothers of Indigenous children aged 0–3 years during pregnancy from the 2008 NATSISS is presented in Table 2.17.10 and Table 2.17.11. Rates by state/territory are presented in Table 2.17.10 and rates by Australian Standard Geographical Classification (ASGC) are presented in Table 2.17.11. For further information on substance use during pregnancy see indicator '2.21 Health behaviours during pregnancy'.

- In 2008, 5% of mothers of Indigenous children aged 0–3 years reported that they used illicit substances during pregnancy.
- Use of illicit drugs or substances during pregnancy by the mothers of Indigenous children aged 0–3 years was highest in Victoria and Western Australian (9%) (Table 2.17.10).
- Use of illicit drugs or substances during pregnancy by the mothers of Indigenous children aged 0–3 years was similar in remote and non-remote areas (5%) (Table 2.17.11).

Table 2.17.10: Illicit drug or substance use by child's mother during pregnancy, Indigenous children aged 0–3 years, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas/ACT	NT	Aust.
				Per cent				
Used illicit drugs/ substances during pregnancy	3.9	9.3	3.9	8.5	6.1	4.2	4.2	5.0
Did not use illicit drugs/ substances during pregnancy	96.1	90.7	96.1	91.5	93.9	95.8	95.8	95.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**16,132**	**3,336**	**16,523**	**6,767**	**2,730**	**2,444**	**5,948**	**53,880**

Source: AIHW analysis of 2008 NATSISS.

Table 2.17.11: Illicit drug or substance use, by child's mother during pregnancy, by remoteness, Indigenous children aged 0–3 years, 2008

	Remote		Non-remote		Persons	
	Number	Per cent	Number	Per cent	Number	Per cent
Used illicit substances during pregnancy	429	4.9	1,693	5.0	2,122	5.0
Did not use illicit substances during pregnancy	8,295	95.1	32,354	95.0	40,649	95.0
Total	**8,724**	**100.0**	**34,047**	**100.0**	**42,771**	**100.0**
Not collected	3,256	27.2	7,853	18.7	11,109	20.6

Source: 2008 NATSISS.

Hospitalisations

Table 2.17.12 presents data on hospitalisations with principal diagnoses related to drug use for the period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- During the period July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined there were 4,537 hospitalisations of Indigenous Australians relating to substance use (Table 2.17.12).
- Indigenous Australians were hospitalised for conditions relating to substance use at around twice the rate of non-Indigenous Australians.
- Poisoning due to anti-epileptic, sedative-hypnotic and anti-Parkinson disease drugs, poisoning due to psychotropic drugs, and poisoning due to antibiotics and hormones were responsible for 14%, 15% and 13% respectively of all hospitalisations of Indigenous Australians relating to substance use over the period June 2008 to July 2010. Indigenous Australians were hospitalised for these three types of poisoning at almost twice the rate of non-Indigenous Australians.
- Mental and behavioural disorders due to use of cannabis and use of multiple drug and psychoactive substances were responsible for 17% and 9% respectively of all hospitalisations of Indigenous Australians relating to substance use. Indigenous Australians were hospitalised for these disorders at five and three times the rate of non-Indigenous Australians respectively.

Table 2.17.13 presents hospitalisations for external causes related to drug use for the period July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- Indigenous Australians were hospitalised for external causes related to drug use at 4.3 per 1,000 population, while the rate for non-Indigenous Australians was 1.9 per 1,000 population (Table 2.17.13).

Table 2.17.12: Hospitalisations with principal diagnoses related to drug use in NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

Principal diagnosis	Number		Per cent		Indigenous			Non-Indigenous				
	Indig.	Non-Indig.	Indig.	Non-Indig.	Rate per 1,000[(e)]	95% LCL[(f)]	95% UCL[(g)]	Rate per 1,000[(e)]	95% LCL[(f)]	95% UCL[(g)]	Ratio[(h)]	Difference[(i)]
Poisoning												
Antiepileptic, sedative-hypnotic and anti-Parkinson's drugs (T42)	654	16,647	14.4	21.5	0.7	0.6	0.7	0.4	0.4	0.4	1.7*	0.3*
Psychotropic drugs, includes antidepressants (T43)	698	15,014	15.4	19.3	0.7	0.6	0.7	0.4	0.4	0.4	1.8*	0.3*
Antibiotics and hormones (T36–T39)	599	13,233	13.2	17.1	0.6	0.5	0.6	0.3	0.3	0.3	1.8*	0.3*
Narcotics, including opium, heroin, methadone and cocaine (T40)	305	5,540	6.7	7.1	0.3	0.3	0.4	0.1	0.1	0.1	2.5*	0.2*
Toxic effect of organic solvents (T52)	61	481	1.3	0.6	0.0	0.0	0.1	0.0	0.0	0.0	3.6*	0.03*
Mental/behavioural disorders												
From use of cannabinoids (F12)	755	5,285	16.6	6.8	0.7	0.6	0.7	0.1	0.1	0.1	5.3*	0.6*
From use of multiple drug and psychoactive substances (F19)	406	5,481	8.9	7.1	0.4	0.4	0.4	0.1	0.1	0.1	2.9*	0.3*
From use of other stimulants (F15)	263	3,613	5.8	4.7	0.2	0.2	0.3	0.1	0.1	0.1	2.8*	0.2*
From use of opioids (F11)	429	8,414	9.5	10.8	0.4	0.4	0.5	0.2	0.2	0.2	2.1*	0.2*
From use of volatile solvents (F18)	128	72	2.8	0.1	0.1	0.1	0.1	0.0	0.0	0.0	51.5*	0.1*
From use of sedatives (F13)	78	2,519	1.7	3.2	0.1	0.1	0.1	0.1	0.1	0.1	1.3*	0.02*
From use of cocaine (F14)	10	380	0.2	0.5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Other												
Neonatal withdrawal symptoms from maternal use of drugs of addiction (P96.1)	135	750	3.0	1.0	0.1	0.1	0.1	0.0	0.0	0.0	3.6*	0.1*

(continued)

Table 2.17.12 (continued): Hospitalisations with principal diagnoses related to drug use in NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Number		Per cent		Indigenous			Non-Indigenous				
Principal diagnosis	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Rate per 1,000[(e)]**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Rate per 1,000[(e)]**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Ratio[(h)]**	**Difference[(i)]**
Acute hepatitis C (B17.1)	14	166	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	3.5*	0.01*
Maternal care for suspected damage to foetus by drugs (035.5)	2	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.9*	0.0
Total	**4,537**	**77,602**	**100.0**	**100.0**	**4.3**	**4.2**	**4.5**	**1.9**	**1.9**	**1.9**	**2.3***	**2.4***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio Indigenous: non-Indigenous Australians.

(i) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous persons are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 2.17.13: Hospitalisations for external causes relating to drug use in NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Number		Per cent		Indigenous			Non-Indigenous				
Principal diagnosis	Indig.	Non-Indig.	Indig.	Non-Indig.	Rate per 1,000[(e)]	95% LCL[(f)]	95% UCL[(g)]	Rate per 1,000[(e)]	95% LCL[(f)]	95% UCL[(g)]	Ratio[(h)]	Difference[(i)]
Accidental poisoning												
Antidepressants and barbiturates (X41)	389	6,665	53.4	49.0	0.4	0.3	0.4	0.2	0.2	0.2	2.2*	0.2*
Unspecified (includes glues and paints) (X49)	146	3,842	20.0	28.3	0.1	0.1	0.1	0.1	0.1	0.1	1.3*	0.03*
Narcotics (includes cannabis, cocaine, heroin, opium and methadone) and hallucinogens (X42)	206	3,715	28.3	27.3	0.2	0.2	0.3	0.1	0.1	0.1	2.6*	0.1*
Organic solvents, including petroleum derivatives (X46)	46	326	6.3	2.4	0.0	0.0	0.0	0.0	0.0	0.0	4.1*	0.02*
Total[(j)]	**729**	**13,593**	**100.0**	**100.0**	**0.7**	**0.6**	**0.7**	**0.3**	**0.3**	**0.3**	**2.1***	**0.4***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio Indigenous: non-Indigenous Australians.

(i) Rate difference Indigenous minus non-Indigenous Australians.

(j) Total may be less than sum of components as more than one external cause can be reported for each hospitalisation.

Notes

1. Rates for Indigenous persons are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates with a principal diagnosis related to drug use in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory covering the period July 2008 to June 2010 are presented by Australian Standard Geographical Classification (ASGC) in Table 2.17.14.

- Indigenous Australians were more likely to be hospitalised for drug related conditions than non-Indigenous Australians for all remoteness classifications. There was a statistically significant difference between the rate of hospitalisation of Indigenous Australians and non-Indigenous Australians in all remoteness areas.
- Rates of hospitalisation were highest for Indigenous Australians in *Major cities* (5.8 per 1,000 population), followed by *Inner regional* (4.7 per 1,000), *Remote* (4.1 per 1,000*), Outer regional* (3.6 per 1,000) and *Very remote* areas (1.9 per 1,000). For non-Indigenous Australians, rates were highest in *Major cities* and *Inner regional* areas (1.9 per 1,000), followed by *Outer regional* (1.7 per 1,000), remote (1.5 per 1,000) and *Very remote* areas (1.3 per 1,000).
- Indigenous Australians were three times more likely than non-Indigenous Australians to be hospitalised for drug related conditions in *Major cities* of Australia. In *Very remote* areas, where the lowest rate ratio was observed, Indigenous Australians were 1.4 times more likely than non-Indigenous Australians to be hospitalised.

Table 2.17.14: Hospitalisations with a principal diagnosis related to drug use, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)(e)(f)

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%(g)	UCL 95%(h)	Number	No. per 1,000	LCL 95%(g)	UCL 95%(h)	Ratio(i)	Difference(j)
Major cities	1,971	5.8	5.5	6.1	56,913	1.9	1.9	1.9	3.0*	3.9*
Inner regional	966	4.7	4.4	5.1	13,421	1.9	1.9	1.9	2.5*	2.9*
Outer regional(k)	811	3.6	3.4	3.9	5,672	1.7	1.6	1.7	2.2*	2.0*
Remote(l)	399	4.1	3.6	4.5	775	1.5	1.4	1.6	2.8*	2.6*
Very remote	334	1.9	1.6	2.1	228	1.3	1.1	1.5	1.4*	0.5*
Total(m)	**4,537**	**4.4**	**4.2**	**4.5**	**77,602**	**1.9**	**1.9**	**1.9**	**2.3***	**2.5***

* Indicates a significant difference at the p < 0.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification of Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008-10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisation rates for external causes related to drug use in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 2.17.15, covering the period July 2008 to June 2010.

- Indigenous Australians in all remoteness areas, except *Very remote*, were more likely to be hospitalised for these conditions than non-Indigenous Australians. There was a statistically significant difference between the rate of hospitalisations of Indigenous Australians and the rate of hospitalisations of non-Indigenous Australians in all ASGC areas, except *Very remote*.
- Rates of hospitalisations per 1,000 head of population were highest for Indigenous people living in *Major cities*, at 0.8 per 1,000. The rate was highest for non-Indigenous Australians who lived in *Very remote* areas, at 0.5 per 1,000. The lowest rates were observed in *Very remote* areas for Indigenous people (0.4 per 1,000) and *Major cities* for non-Indigenous Australians (less than 0.3 per 1,000).
- Indigenous people were hospitalised for these conditions at 2.6 times the rate of non-Indigenous Australians in *Major cities* of Australia. In *Very remote* areas, where the lowest

rate ratio was observed, Indigenous Australians were hospitalised at around the same rate as non-Indigenous Australians.

Table 2.17.15: Hospitalisations for any external causes related to drug use, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)(e)(f)

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%(g)	UCL 95%(h)	Number	No. per 1,000	LCL 95%(g)	UCL 95%(h)	Ratio(i)	Difference(j)
Major cities	267	0.8	0.7	0.9	9,249	0.3	0.3	0.3	2.6*	0.5*
Inner regional	142	0.6	0.5	0.7	2,638	0.3	0.3	0.4	1.8*	0.3*
Outer regional(k)	169	0.7	0.6	0.8	1,362	0.4	0.4	0.4	1.9*	0.3*
Remote(l)	73	0.7	0.5	0.9	214	0.4	0.3	0.5	1.8*	0.3*
Very remote	74	0.4	0.3	0.5	84	0.5	0.4	0.6	0.9	0.0
Total(m)	**729**	**0.7**	**0.6**	**0.7**	**13,593**	**0.3**	**0.3**	**0.3**	**2.1***	**0.4***

* Indicates a significant difference at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification of Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010): ICD10–AM codes X41, X49, X42 or X46 for any external cause.

Source: AIHW analysis of National Hospital Morbidity Database.

Detainees and drug use

The AIC Drug Use Monitoring in Australia (DUMA) survey reports on drug use among police detainees at selected police stations in Australia. The survey is by a voluntary questionnaire and drug use is confirmed by a urine sample provided by the detainee. Data from the 2010 and 2011 surveys are presented in Tables 2.17.16 and 2.17.17.

Data from 2010 DUMA survey

- In 2010, in all of the selected police stations shown in Table 2.17.16 there was a higher proportion of Indigenous detainees testing positive to drugs than non-Indigenous detainees.
- Between 57% and 100% of Indigenous detainees at selected police stations in South Australia, New South Wales, Queensland, Western Australia, the Northern Territory and

Victoria tested positive to drugs in 2010 compared with between 54% and 70% of non-Indigenous detainees.

- Cannabis was the most common drug for which both Indigenous and non-Indigenous detainees tested positive. Methamphetamines and benzodiazepines were also common drugs to which Indigenous and non-Indigenous detainees tested positive. Between 3% and 55% of Indigenous detainees and between 2% and 29% of non-Indigenous detainees tested positive for multiple drugs.

Data from 2011 DUMA survey

Data from the 2011 DUMA survey is presented in table 2.17.16. Please note that this data only became available after the 2012 Aboriginal and Torres Strait Islander Health Performance Framework was published by the Department of Health and Ageing.

- In 2011, in all of the selected police stations shown in Table 2.17.17 there was a higher proportion of Indigenous detainees testing positive to drugs than non-Indigenous detainees.
- Between 70% and 100% of Indigenous detainees at selected police stations in South Australia, New South Wales, Queensland, Western Australia, the Northern Territory and Victoria tested positive to drugs compared with between 52% and 71% of non-Indigenous detainees.
- Cannabis was the most common drug for which both Indigenous and non-Indigenous detainees tested positive. Methamphetamines and benzodiazepines were also common drugs to which Indigenous and non-Indigenous detainees tested positive. Between 4.4% and 40.0% of Indigenous detainees and between 2.1% and 23.9% of non-Indigenous detainees tested positive for multiple drugs.

Table 2.17.16: Detainees at selected police stations, by drug use and Indigenous status, 2010

	Adelaide (SA)		Bankstown, Kings Cross + Parramatta (NSW)		Brisbane + Southport (Qld)		East Perth (WA)		Darwin (NT)		Footscray (Vic)	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Tested positive to a drug						Per cent						
Benzodiazepines	25.4	21.1	29.4	18.9	25.2	23.5	17.1	22.6	4.6	12.5	57.1	40.2
Cannabis	63.5	34.9	54.9	36.4	66.4	43.3	74.3	45.6	53.7	45.8	100.0	40.9
Cocaine	0.0	0.7	11.8	5.5	0.0	1.0	0.0	0.0	0.9	0.0	0.0	2.4
Heroin	6.4	9.4	27.5	11.8	15.4	10.8	2.7	7.0	0.0	8.3	85.7	44.5
Methylamphetamine	3.2	14.8	11.8	11.0	18.2	17.2	19.3	19.3	3.7	12.5	0.0	25.8
Multiple drugs	12.6	7.4	28.1	9.7	32.4	21.9	18.3	9.1	2.5	2.3	54.6	28.7
Total tested positive to a drug[(a)]	*73.0*	*54.0*	*70.6*	*54.3*	*78.3*	*61.7*	*81.3*	*62.5*	*56.5*	*54.2*	*100.0*	*69.5*
Did not test positive to a drug	27.0	46.0	29.4	45.7	21.7	38.3	18.7	37.5	43.5	45.8	0.0	30.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**63**	**298**	**51**	**508**	**143**	**985**	**187**	**371**	**108**	**24**	**7**	**164**

(b) Proportion who tested positive to a least one drug. Sum of components will add to more than the subtotal because detainees can test positive to more than one type of drug.

Source: AIC Drug Use Monitoring in Australia (DUMA) survey 2010.

Table 2.17.17: Detainees at selected police stations, by drug use and Indigenous status, 2011

	Adelaide (SA)		Bankstown, Kings Cross + Parramatta (NSW)		Brisbane + Southport (Qld)		East Perth (WA)		Darwin (NT)		Footscray (Vic)	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Tested positive to a drug						**Per cent**						
Benzodiazepines	35.6	22.9	32.7	18.2	22.8	24.0	16.7	21.2	9.9	19.1	50.0	36.1
Cannabis	64.4	39.9	67.3	34.1	60.9	43.5	69.1	47.1	66.9	33.3	100.0	41.4
Cocaine	2.2	1.2	1.8	3.9	0.0	1.1	0.0	0.3	0.0	0.0	0.0	3.8
Heroin	4.4	10.7	16.4	12.6	11.6	9.9	3.1	5.5	0.7	4.8	66.7	55.1
Methylamphetamine	15.6	23.3	27.3	16.5	19.1	23.8	26.0	25.9	0.7	14.3	16.7	18.8
Multiple drugs	26.1	7.8	29.6	10.7	29.8	23.9	25.5	9.5	4.4	2.1	40.0	20.0
Total tested positive to a drug[(a)]	*71.1*	*61.3*	*87.3*	*53.7*	*74.1*	*65.0*	*75.8*	*68.3*	*69.7*	*52.4*	*100.0*	*71.4*
Did not test positive to a drug	28.9	38.7	12.7	46.3	25.9	35.0	24.2	31.7	30.3	47.6	0.0	28.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**45**	**253**	**55**	**484**	**189**	**1,011**	**223**	**382**	**142**	**42**	**6**	**133**

(a) Proportion who tested positive to a least one drug. Sum of components will add to more than the subtotal because detainees can test positive to more than one type of drug.

Source: AIC Drug Use Monitoring in Australia (DUMA) survey 2011.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: User's guide, 2008* (ABS 2010).

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

AIC Drug Use Monitoring in Australia (DUMA)

The Indigenous status of the detainee is established in the questionnaire by the following question:

'What is your ethnic background?' (if the respondent mentions 'Australian' but not 'Aboriginal' prompt: 'Do you consider yourself an Aboriginal or Torres Strait Islander?').

It is likely that this question will underestimate the number of Indigenous persons being detained through a reluctance on the part of detainees to identify as Indigenous.

This survey is conducted at police stations in selected metropolitan areas and does not provide regional coverage. In addition, the actual number of detainees questioned is quite low, which does not permit great analysis of the Indigenous data. Finally, the figures do not permit national coverage, but instead analysis by state is recommended.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2009. Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021. ABS cat. no. 3238.0. Canberra: ABS.

ABS 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' Guide 2008. ABS Cat. no. 4720.0. Canberra: ABS.

AIHW (Australian Institute of Health and Welfare) 2010. Indigenous identification in hospital separations data—quality report. Cat. no. HSE 85. Canberra: AIHW.

National Centre for Classification in Health 2010. International statistical classification of diseases and related health problems, 10th revision, Australian modification 6th edition. Sydney: National Centre for Classification in Health.

List of tables

2.18 Physical activity

The proportion of the Aboriginal and Torres Strait Islander adult population classified as having sedentary, low, moderate or high physical activity levels

Data sources

Data for this measure come from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Data analyses

Physical activity

Information on the level of physical activity of Indigenous and non-Indigenous Australians aged 15 years and over in the 2 weeks before the survey was collected in non-remote areas only and is presented below.

- In 2004–05, approximately 47% of Indigenous persons reported their exercise level as sedentary, 28% as low, 18% as moderate and 7% as high.
- After adjusting for differences in age structure, approximately 51% reported their exercise level as sedentary (very low or no exercise), 27% as low and 21% as moderate or high, compared with 33%, 36% and 31% respectively of non-Indigenous Australians (Table 2.18.1).

Physical activity by age and sex

- Sedentary or low levels of physical activity were highest among Indigenous people aged 45–54 years and 55 years and over (83% and 85% respectively); moderate or high levels of physical activity were highest among those aged 15–24 and 25–34 years (32% and 27% respectively) (Table 2.18.1).
- A higher proportion of Indigenous females than Indigenous males reported that their level of exercise was sedentary (51% compared with 42%).
- A higher proportion of males exercised at moderate or high levels than females across all age groups in both the Indigenous and non-Indigenous populations.

Table 2.18.1: Level of physical activity, by Indigenous status, sex and age group, non-remote areas, 2004–05

	15–24		25–34		35–44		45–54		55+		Total		Total (age-standardised)(a)		
Physical activity level	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Rate ratio
								Per cent							
								Males							
Sedentary	31*	23*	39*	26*	45*	34*	57*	36*	60*	39*	42*	32*	48*	32*	1.5
Low	25	30	24*	35*	30	35	20*	34*	24	30	25*	33*	24*	33*	0.7
Moderate	24	26	27	25	19	23	19(b)	24	14*	27*	22	25	20*	25*	0.8
High	19	20	9*	13*	6(b)	8	3(b)	5	n.p.	3	10	9	7*	9*	0.8
Total number(c)	**35,604**	**1,330,358**	**23,150**	**1,352,832**	**18,468**	**1,418,963**	**13,654**	**1,323,380**	**10,995**	**2,147,296**	**101,870**	**7,572,828**	**101,870**	**7,572,828**	**. .**
								Females							
Sedentary	46*	31*	50*	29*	51*	32*	55*	32*	60*	41*	51*	34*	53*	34*	1.6
Low	33	39	30*	42*	33*	42*	32*	42*	26	34	31*	39*	30*	39*	0.8
Moderate	15*	22*	16*	23*	14*	22*	10*	22*	12*	22*	14*	22*	13*	22*	0.6
High	5(c)	8	3*(b)	6*	2(d)	4	n.p.	3	n.p.	2	3*	4*	2*	4*	0.5
Total number(c)	**34,789**	**1,275,738**	**26,616**	**1,372,860**	**22,114**	**1,440,884**	**15,246**	**1,347,588**	**12,787**	**2,334,857**	**111,552**	**7,771,928**	**111,552**	**7,771,928**	**. .**
								Persons							
Sedentary	39*	27*	45*	28*	48*	33*	56*	34*	60*	40*	47*	33*	51*	33*	1.5
Low	29*	34*	27*	39*	31*	39*	27*	38*	25*	32*	28*	36*	27*	36*	0.8
Moderate	20*	24*	21	24	16*	22*	14*	23*	13*	25*	18*	24*	16*	24*	0.7
High	12	14	6*	10*	4*(b)	6*	3(b)	4	1(d)	3	7	7	5*	7*	0.7
Total number(c)	**70,393**	**2,606,096**	**49,766**	**2,725,692**	**40,582**	**2,859,847**	**28,900**	**2,670,968**	**23,781**	**4,482,153**	**213,422**	**15,344,756**	**213,422**	**15,344,756**	**. .**

(continued)

Table 2.18.1 (continued): Level of physical activity, by Indigenous status, sex and age group, non-remote areas, 2004–05

* Represents statistically significant differences at the $p<0.05$ level in the Indigenous and non-Indigenous comparisons.

(a) Directly age-standardised proportions.
(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.
(c) Includes physical activity level not stated.
(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Physical activity by state/territory

- Sedentary or low levels of physical activity among Indigenous Australians aged 15 years and over ranged from 70% in Tasmania to 78% in New South Wales (Table 2.18.2).
- A higher proportion of Indigenous Australians than non-Indigenous Australians reported their exercise level as sedentary in all states and territories. Data were not available for non-Indigenous Australians in the Northern Territory (Table 2.18.3).

Table 2.18.2: Level of physical activity, by state/territory, Indigenous persons aged 15 years and over, non-remote areas, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
					Per cent				
Sedentary	51	38	46	46	48	37	37	40	47
Low	27	33	27	25	25	33	34	34	28
Moderate	16	22	15	24	18	22	19	20	18
High	5	6(a)	9	5	6(a)	8	10	7(a)	7
Total(b)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number(b)	**81,264**	**18,399**	**57,337**	**21,965**	**12,473**	**10,929**	**2,596**	**6,264**	**211,226**

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Includes physical activity level not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 2.18.3: Level of physical activity, by state/territory and Indigenous status, persons aged 15 years and over, non-remote areas, 2004–05

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT (a)		Australia	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
	Per cent																	
Sedentary	54*	35*	42*	31*	51*	35*	52*	30*	52*	34*	38	33	37*	24*	51	n.a.	51*	33*
Low	27*	36*	32	37	27*	34*	23*	37*	25*	38*	35	36	34	40	29	n.a.	27*	36*
Moderate	15*	23*	22	24	14*	23*	22	26	17	22	21	25	23	27	16	n.a.	16*	24*
High	4*	7*	4(b)	7	6	7	3*	8*	4(b)	6	6	7	7	9	5(b)	n.a.	5*	7*
Total(c)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number(c)	**81,264**	**5,208,965**	**18,399**	**3,944,895**	**57,337**	**2,899,135**	**21,965**	**1,448,876**	**12,473**	**1,164,894**	**10,929**	**352,957**	**2,596**	**252,744**	**6,264**	**n.a.**	**211,226**	**15,344,756**

* Represents statistically significant differences at the p<0.05 level in the Indigenous and non-Indigenous comparisons.

(a) The National Health Survey sample does not support a non-Indigenous Northern Territory estimate.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Includes physical activity level not stated.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Physical activity by selected health characteristics

- Approximately 58% of Indigenous Australians in non-remote areas with fair/poor health status reported exercising at sedentary levels compared with 48% of Indigenous Australians with excellent/very good/good health status (Table 2.18.4). Over three-quarters (78%) of Indigenous people aged 15 years and over who were overweight or obese reported exercising at low or sedentary levels. Approximately 79% of Indigenous Australians with a long-term health condition reported sedentary or low levels of physical activity.
- Approximately 59% of Indigenous Australians aged 18 years and over in non-remote areas who were current smokers reported sedentary levels of physical activity, compared with 45% of Indigenous Australians who never smoked (Table 2.18.5).
- Approximately one third of Indigenous Australians aged 15 years and over who completed Year 12 reported to be physically inactive in 2004–05, compared with 61% of Indigenous Australians whose highest year of schooling was Year 9 or below (Table 2.18.6)

Table 2.18.4: Level of physical activity, summary health characteristics, by Indigenous status, persons aged 15 years and over, non-remote areas, 2004–05

	Self-assessed health status						Long-term conditions												Overweight/obesity		
	Excellent/very good			Fair/poor			Diabetes/high sugar levels			Heart & circulatory problems			High blood pressure			Total with long-term health condition			Overweight/obese		
	Indig.	Non-Indig.	Rate ratio(a)	Indig.	Non-Indig.	Rate ratio(a)	Indig.	Non-Indig.	Rate ratio(a)	Indig.	Non-Indig.	Rate ratio(a)	Indig.	Non-Indig.	Rate ratio(a)	Indig.	Non-Indig.	Rate ratio(a)	Indig.	Non-Indig.	Rate ratio(a)
	%	%		%	%		%	%		%	%		%	%		%	%		%	%	
Sedentary	48	30	1.6*	58	48	1.2*	50	35	1.4*	54	35	1.5*	59	34	1.7*	51	33	1.5*	50	32	1.5*
Low	28	37	0.8*	25	34	0.8*	26	35	0.7	29	37	0.8*	30	39	0.8	28	37	0.8*	28	37	0.8*
Moderate	18	25	0.7*	14	16	0.9	17(b)	23	0.7	14	23	0.6*	9(b)	23	0.4*	16	24	0.7*	15	24	0.6*
High	5	7	0.7*	2(b)	3	0.6	5(c)	6(b)	0.8	2(c)	5	0.4*	—(c)	4(b)	0.1*	4	7	0.7*	6	7	0.9
Total(d)	**100**	**100**	. .	**100**	**100**	. .	**100**	**100**	. .	**100**	**100**	. .	**100**	**100**	. .	**100**	**100**	. .	**100**	**100**	. .

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Indigenous rate divided by non-Indigenous rate.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Includes physical activity level not stated.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 2.18.5: Level of physical activity by smoker and Indigenous status, persons aged 18 years and over, non-remote areas, 2004–05

	Current smoker			**Ex-smoker**			**Never smoked**		
	Indigenous	**Non-Indigenous**	**Rate ratio**[(a)]	**Indigenous**	**Non-Indigenous**	**Rate ratio**[(a)]	**Indigenous**	**Non-Indigenous**	**Rate ratio**[(a)]
	%	**%**		**%**	**%**		**%**	**%**	
Sedentary	59	44	1.3	46	29	1.6	45	32	1.4
Low	24	32	0.7	30	38	0.8	32	38	0.9
Moderate	14	20	0.7	20	26	0.8	14	23	0.6
High	3	4	0.7	4	7	0.5	7	7	1.0
Total[(b)]	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**

(a) Indigenous rate divided by non-Indigenous rate.

(b) Includes physical activity level not stated.

Note: Data are age-standardised.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 2.18.6: Relationship between selected socio-economic factors and physical inactivity, Indigenous persons aged 15 years and over, 2004–05

	Physical inactivity
Household income	
1st quintile (lowest)	51.6
4th and 5th quintile (highest)	43.6
Ratio	1.2
Highest year of school completed	
Year 9 or below	60.8
Year 12	34.4
Ratio	1.8
Employment	
Employed	45.1
Unemployed	38.0
Not in the labour force	51.8
Ratio unemployed/employed	0.8
Housing	
Renter	49.0
Owner	45.0
Ratio	1.1

Note: Data are age-standardised.

Source: ABS & AIHW analysis of 2004–05 NATSIHS.

Time series analyses

- The level of sedentary physical activity for Indigenous Australians aged 15 years and over increased between 2001 and 2004–05 from 37% to 47%. The level of low and moderate physical activity declined over the period (from 57% in 2001 to 46% in 2004–05), and the level of high physical activity remained the same (7%) (Table 2.18.7).
- After adjusting for differences in age structure, the disparity between Indigenous and non-Indigenous Australians in the proportion reporting sedentary levels of exercise was larger in 2004–05 than in 2001 (Table 2.18.7).

Table 2.18.7: Level of physical activity, persons aged 15 years and over, by Indigenous status, non-remote areas, age standardised proportions, 2001 and 2004–05

	2001		2004–05	
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
	Per cent			
Sedentary	42	31	51	33
Low	29	38	27	36
Moderate	24	24	16	24
High	5	7	5	7
Total number	**197,086**	**14,744,464**	**213,422**	**15,344,756**

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement), 2004–05 NATSIHS and 2004–05 NHS.

Physical activity in Indigenous children

Data on the level of physical activity in Indigenous children aged 4–14 years are presented in Tables 2.18.8, 2.18.9 and 2.18.10 for 2008.

- During 2008, 74% of Indigenous children aged 4–14 years were physically active for at least 60 minutes every day in the week before the survey. Only 3% of Indigenous children aged 4–14 years were not active at all in the previous week (Table 2.18.8).
- Western Australia and Tasmania had the highest percentage of Indigenous children aged 4–14 years who participated in any level of physical activity everyday (80% for both) and the Australian Capital Territory had the lowest (59%) (Table 2.18.9).
- The proportion of Indigenous children aged 4–14 years who were active every day for at least 60 minutes increased with remoteness, with the highest proportion in very remote areas (88%) and the lowest in Major cities (66%) (Table 2.18.10).

Table 2.18.8: Number of days last week when child was physically active for at least 60 minutes, Indigenous children aged 4–14, 2008

	Number	Per cent
1 day	2,682	1.9
2 days	5,920	4.3
3 days	6,898	5.0
4 days	4,619	3.3
5 to 6 days	11,691	8.4
Everyday	103,279	74.3
No days	3,970	2.9
Total[a]	**139,060**	**. .**
Not known	308	. .

(a) Excludes not known responses.

Source: 2008 NATSISS.

Table 2.18.9: Number of days last week when child was physically active for at least 60 minutes, by state/territory, by state/territory, Indigenous children aged 4–14 years, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
1–3 days	14.5	16.2	8.7	9.2	8.4	10.0	18.8	9.1	11.1
3–6 days	13.2	12.4	12.0	8.0	13.6	8.8[a]	13.6[a]	11.1	11.7
Everyday	67.8	67.4	77.6	80.2	75.5	79.8	58.7	78.3	74.3
No days	4.5[a]	3.9[a]	1.6[a]	2.6[a]	2.6[a]	1.3[b]	9.0[a]	1.6[a]	2.9
Total participating	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: 2008 NATSISS.

Table 2.18.10: Number of days last week when child was physically active for at least 60 minutes, by remoteness, Indigenous children aged 4–14 years, 2008

	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
			Per cent			
1–3 days	12.0	11.5	14.1	11.7[a]	3.6	11.1
4–6 days	17.2	12.2	8.1	7.4[a]	6.9	11.7
Everyday	65.5	74.9	75.3	78.3	87.6	74.1
No days	4.9[b]	1.5[b]	2.5[a]	2.6[a]	1.1[a]	2.8
Total children[b]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number of children[b]	**44,600**	**31,634**	**29,812**	**13,603**	**19,719**	**139,369**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Total includes not known.

Source: 2008 NATSISS.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: User's guide 2008* (ABS 2010).

Physical activity data

The information is 'as reported' by respondents and reflects their perception of the activity undertaken, the intensity of their participation, their level of fitness, and so on. Information about physical activity that persons aged 15 to 17 years undertook was reported by an adult within the household, usually a parent. The child may or may not have been consulted. As a result, data for this age group should be interpreted with particular care.

In general, the use of a 2-week reference period was not considered to pose significant recall problems for respondents. For many people, participation in exercise is regular and/or for a set period each session. However, to the extent that persons undertook exercise in less formal circumstances or that the reference period was atypical of usual exercise patterns, the accuracy of the information provided may have been affected.

Recent developments in the area of statistics on exercise or physical activity have tended to move away from the use of metabolic equivalent level (MET) values in deriving exercise level, and have placed more emphasis on measures of time spent exercising. Retention of the exercise level approach as described above was mainly for the purpose of consistency and comparability with data from the 1995 and 2001 National Health Surveys. However, measures of time exercising are also available as outputs from this survey (ABS 2005).

Survey respondents are required to recall recent activity in minutes without being primed and without independent checks. Diary recording (as used in the ABS Time Use Survey) or independent observation would probably produce higher quality data; however, these are more resource-intensive.

Respondents are required to provide an estimate of time spent on certain types of activity. Many come up with a broad rounded estimate or guess. Others attempt to add together in their heads the time spent in each exercise session, possibly for several different activities.

The differences of intensity between different activities is not always clear for respondents, although explanatory instructions are included. Mutual exclusivity of concepts remains a problem.

A well-recognised reporting issue for self-report surveys is the tendency of respondents to report in a socially desirable way. For example, the less active may want to over-report activity to appear healthier.

Survey questions about duration of exercise differ slightly in the questionnaire for remote areas and may affect the comparability of results.

Despite the limitations of the survey data, users have generally considered the data produced to be of sufficient quality for the very broad measures of physical activity required (ABS 2005).

A reliable tool for measuring Aboriginal and Torres Strait Islander physical activity levels has not yet been developed. A study to determine the reliability of the Active Australian Survey in measuring Aboriginal and Torres Strait Islander populations revealed that it was not a reliable tool (not culturally appropriate)(Marshall & Miller 2004). The Active Australian Survey uses very similar questions to the National Health Survey to determine physical activity levels. For this reason the data should be interpreted cautiously.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined

n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2005. Physical activity: review of strategic statistical issues for future National Health Surveys. Discussion paper. Canberra: ABS.

ABS 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' Guide 2008. ABS Cat. no. 4720.0. Canberra: ABS.

Marshall A & Miller R 2004. Measuring physical activity in urban Indigenous Australians. Final report. Brisbane: University of Queensland.

List of tables

2.19 Dietary behaviour

The dietary behaviour of Aboriginal and Torres Strait Islander people, including fruit and vegetable consumption, type of milk consumed and salt intake

Data sources

Data for this measure comes from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), and the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS). The Australian Guide to Healthy Eating (Kellet et al. 1998) has been used to provide guidelines on recommended daily fruit and vegetable intake for children and adolescents.

The Australian Guide to Healthy Eating

This booklet has been developed for the Australian Government Department of Health and Ageing and is based on research on nutrition. The Guide contains advice about the amounts and kinds of food to be eaten each day to maintain good health and well-being.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including

family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Data analyses

Current guidelines according to the Australian Guide to Healthy Eating recommend daily intake of fruit and vegetables for children and adolescents as seen in Table 2.19.1. It is advised that children should eat a variety of fruit and vegetables daily: the quantities are dependent on their age, appetite, the composition of the remainder of their diet, and activity levels.

Table 2.19.1: Fruit and vegetable servings from the Australian Guide to Healthy Eating suggested for children and adolescents

	Fruit (serves)	Vegetable (serves)
4–7 years	1–2	2–4
8–11 years	1–2	3–5
12–18 years	3–4	4–9

Note: One serve of fruit is 150 grams; one serve of vegetables is 75 grams.

Source: Kellet et al. 1998.

Previous regulations stipulated that children should aim to consume a set number of serves of fruit or vegetables, the most widely quoted figures being two or more serves of fruit and five or more serves of vegetables daily regardless of their age and dietary composition.

Because of the variety of recommendations currently available, fruit and vegetable consumption as reported in this indicator is presented in terms of the number of serves consumed daily, allowing the reader to interpret the results according to whichever fruit and vegetable consumption guidelines they are familiar with.

Dietary habits

- In 2004–05, the majority of Indigenous people aged 12 years and over reported eating vegetables (95%) and/or fruit (87%) daily (Table 2.19.2).
- After adjusting for differences in age structure between the Indigenous and non-Indigenous populations, Indigenous persons aged 12 years and over were twice as likely to report no usual daily fruit consumption and seven times as likely to report no usual daily vegetable consumption as non-Indigenous persons of the same age (Table 2.19.2).
- Around 22% of Indigenous people aged 15 years and over in non-remote areas reported they sometimes added salt after cooking, and a further 44% reported they usually added salt after cooking (Table 2.19.3).
- Approximately 71% of Indigenous people aged 12 years and over in non-remote areas reported they usually drank whole (full-cream) milk and 17% reported drinking low or reduced fat milk (Table 2.19.3).
- After adjusting for differences in age structure, Indigenous Australians aged 12 years and over in non-remote areas were twice as likely to report no usual daily fruit intake, and 1.6 times as likely to report no usual daily vegetable intake. In addition, they were

more likely to consume whole milk and less likely to consume low or reduced fat milk (Table 2.19.3).

Dietary habits by age group

- In non-remote areas, Indigenous Australians aged 35–44 years were most likely to report a daily intake of five or more serves of vegetables (13%) and Indigenous Australians aged 55 years and over were most likely to report a daily fruit intake of two serves or more (Table 2.19.3).
- Indigenous and non-Indigenous people aged 12–14 years were more likely to report drinking whole milk (88% and 69%, respectively) than those in the older age groups (Table 2.19.3).
- The proportion of Indigenous people who reported usually adding salt after cooking increased with age (Table 2.19.3).

Table 2.19.2: Age standardised proportion[(a)] of usual daily vegetable consumption and usual daily fruit consumption status of persons aged 12 years and over, Australia 2004–05

	Indigenous	Non-Indigenous	Ratio
	Per cent		
Does eat vegetables on a daily basis	94.7	99.2	1.0
Does eat fruits on a daily basis	86.8	93.4	0.9
Does not eat vegetables daily	5.3	0.8	6.8
Does not eat fruit daily	13.2	6.6	2.0

(a) Proportions are directly age standardised to the 2001 Australian standard population.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 2.19.3: Selected dietary habits, by Indigenous status and age, persons aged 12 years and over in non-remote areas, 2004–05

	12–14		15–24		25–34		35–44		45–54		55 and over		Total non-age-standardised	Total age-standardised			
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Indig.	Non-Indig.	Ratio	Rate difference
Per cent																	
Usual daily intake of vegetables																	
Doesn't usually eat vegetables	1.7	1.2	2.3	1.5	1.3	0.9	1.3	0.7	1.8	0.5	1.7	0.4	1.7	1.7	0.8	2.0	0.8
1 or less serves	20.4	22.6	24.2	27.4	26.6	23.6	21.2	20.2	20.8	18.0	16.0	13.4	22.6	21.6	20.4	1.1	1.1
2 serves	18.6	21.5	20.5	23.7	18.7	23.6	16.6	20.8	13.9	18.0	15.1	15.2	17.9	17.0	20.2	0.8	–3.2
3 serves	29.0	27.9	28.3	24.7	29.0	25.0	30.8	27.5	35.7	28.1	37.0	28.6	30.7	32.1	26.9	1.2	5.2
4 serves	18.4	17.7	16.3	14.2	15.5	16.3	17.4	17.8	16.5	19.0	18.8	23.6	16.8	17.0	18.3	0.9	–1.3
5 serves	8.5	7.1	5.6	5.6	4.7	6.9	9.7	8.0	9.2	10.0	8.2	12.5	7.1	7.6	8.6	0.9	–1.0
6 serves or more	3.4	2.0	2.7	2.9	4.2	3.6	3.0	4.8	2.1	6.5	3.2	6.2	3.1	3.1	4.7	0.7	–1.6
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**. .**	**. .**
Usual daily intake of fruit																	
Doesn't usually eat fruit	5.4	4.7	14.2	9.6	12.6	8.4	12.0	7.8	12.0	6.2	6.5	3.4	11.5	11.0	6.9	1.6	4.2
1 or less serves	40.8	39.1	46.3	43.8	48.2	45.1	53.3	42.4	43.5	37.9	36.8	32.1	46.0	45.3	40.0	1.1	5.2
2 serves	30.0	29.8	23.6	24.1	23.7	25.6	22.8	26.6	19.0	28.9	27.9	30.3	24.0	23.9	27.3	0.9	–3.4
3 serves	15.9	15.3	10.3	14.0	9.3	12.6	6.3	14.6	13.8	16.8	17.9	19.9	11.2	11.8	15.6	0.8	–3.8
4 serves	5.6	6.3	2.9	4.6	3.9	5.3	3.2	4.9	8.0	6.0	6.9	8.2	4.5	5.0	5.9	0.9	–0.9
5 serves	1.8	2.6	1.7	2.2	1.7	1.7	1.3	2.0	2.8	2.6	3.0	3.6	1.9	2.1	2.4	0.8	–0.4
6 serves or more	0.6	2.2	1.0	1.8	0.7	1.4	1.1	1.6	1.0	1.7	1.1	2.4	0.9	1.0	1.8	0.5	–0.8
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**. .**	**. .**

(continued)

Table 2.19.3 (continued): Selected dietary habits, by Indigenous status and age, persons aged 12 years and over in non-remote areas, 2004–05

	12–14		15–24		25–34		35–44		45–54		55 and over		Total non-age-standardised	Total age-standardised			
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Indig.**	**Non-Indig.**	**Ratio**	**Rate difference**
									Per cent								
Usual type of milk																	
Whole	88	69	81	55	76	49	73	48	68	37	58	35	76	71	45	1.6	26.0
Low/reduced fat	8	22	11	25	12	28	17	29	16	38	24	35	14	17	31	0.5	–14.0
Skim	1(b)	4	4	11	6	13	7	13	6	13	11	17	5	7	13	0.5	–6.0
Soy	n.p.	n.p.	—(b)	3	2(a)	4	n.p.	4	2(b)	5	2(a)	5	1	1	4	0.3	–3.0
None of the above(c)	n.p.	n.p.	—(b)	1(a)	—(a)	1	n.p.	1	3(b)	1	1(b)	1	1	1	1	0.7	0.0
Total drinks milk	*98*	*98*	*97*	*95*	*96*	*96*	*98*	*95*	*96*	*94*	*95*	*94*	*97*	*96*	*95*	*1.0*	*1.0*
Does not drink milk	2*	2*	3	5	3	4	2(a)	5	4	6	5(a)	6	3	4	5	0.7	–1.0
Total(d)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**. .**	**. .**
Salt added after cooking																	
Never/rarely	. .	n.a.	38	n.a.	35	n.a.	32	n.a.	25	n.a.	27	n.a.	33	. .	n.a.	n.a.	n.a.
Sometimes	. .	n.a.	24	n.a.	23	n.a.	18	n.a.	24	n.a.	21	n.a.	22	. .	n.a.	n.a.	n.a.
Usually	. .	n.a.	38	n.a.	42	n.a.	50	n.a.	51	n.a.	52	n.a.	44	. .	n.a.	n.a.	n.a.
Total(c)	**. .**	**n.a.**	**100**	**n.a.**	**100**	**n.a.**	**100**	**n.a.**	**100**	**n.a.**	**100**	**n.a.**	**100**	**. .**	**n.a.**	**n.a.**	**n.a.**

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Includes evaporated or sweetened condensed milk.

(d) Includes usual type of milk not known.

Source: ABS and AIHW analysis 2004–05 NATSIHS and 2004–05 NHS.

Dietary habits by sex

- A higher proportion of Indigenous males aged 12 years and over reported not eating fruit daily than Indigenous females (16% compared with 12%) (Table 2.19.4).
- Indigenous females aged 15 years and over in non-remote areas were nearly twice as likely as Indigenous males to report drinking skim milk as the usual type of milk consumed (7% compared with 4%) (Table 2.19.5).
- There was little difference in the proportion of Indigenous males and females reporting eating vegetables daily or adding salt after cooking.

Table 2.19.4: Selected dietary habits, by sex, Indigenous persons aged 12 years and over, 2004–05

Dietary behaviours	Males	Females	Persons
		Per cent	
Vegetable intake			
Eats vegetables daily	93	95	95
Does not eat vegetables daily	6	5	5
Total[(a)]	**100**	**100**	**100**
Fruit intake			
Eats fruit daily	84	88	86
Does not eat fruit daily	16	12	14
Total[(a)]	**100**	**100**	**100**
Usual type of milk consumed			
Whole	81	76	79
Low/reduced fat	10	12	11
Skim	3	6	5
Soy	1	1	1
None of the above[(b)]	1	1	1
Total drinks milk	*96*	*96*	*96*
Does not drink milk	4	4	4
Total[(c)]	**100**	**100**	**100**
Salt added after cooking			
Never/rarely	27	32	30
Sometimes	25	24	25
Usually	47	44	46
Total[(d)]	**100**	**100**	**100**

(a) Includes whether eats fruit/vegetables not known.

(b) Includes evaporated or sweetened condensed milk.

(c) Includes usual type of milk not known.

(d) Includes frequency salt is added after cooking not known.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 2.19.5: Selected dietary habits, by Indigenous status and sex, persons aged 15 years and over in non-remote areas, 2004–05

	Males					Females					Persons				
	Non-age-standardised	Age-standardised				Non-age-standardised	Age-standardised				Non-age-standardised	Age-standardised			
	Indig.	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Indig.	Non-Indig.	Rate ratio	Rate difference
	%	%	%			%	%	%			%	%	%		
Usual daily intake of vegetables															
Does not eat vegetables	2	2	1	2.2	1.0	1	1	1	1.9	0.0	2	2	1	2.1	1.0
1 serve or less	25	25	24	1.0	1.0	21	19	17	1.1	2.0	23	22	20	1.1	2.0
2–4 serves	64	65	64	1.0	1.0	67	67	67	1.0	0.0	65	66	65	1.0	1.0
5 serves or more	9	9	12	0.7	–3.0	11	12	15	0.8	–3.0	10	11	14	0.8	–3.0
Total	**100**	**100**	**100**	**1.0**	**. .**	**100**	**100**	**100**	**1.0**	**. .**	**100**	**100**	**100**	**1.0**	**. .**
Usual daily intake of fruit															
Does not eat fruit	14	14	9	1.5	5.0	11	9	5	1.9	4.0	12	11	7	1.6	4.0
1 serve or less	47	47	44	1.1	3.0	46	44	36	1.2	8.0	47	46	40	1.1	6.0
2–4 serves	36	36	43	0.9	–7.0	41	43	54	0.8	–11.0	38	40	49	0.8	–9.0
5 serves or more	3	3	4	0.8	–1.0	3	3	5	0.7	–2.0	3	3	4	0.7	–1.0
Total	**100**	**100**	**100**	**1.0**	**. .**	**100**	**100**	**100**	**1.0**	**. .**	**100**	**100**	**100**	**1.0**	**. .**
Usual type of milk															
Whole	77	74	52	1.4	22.0	71	68	37	1.8	31.0	74	71	45	1.6	26.0
Low/reduced fat	13	15	28	0.5	–13.0	16	18	34	0.5	–16.0	15	16	31	0.5	–15.0
Skim	4	6	10	0.6	–4.0	7	8	17	0.5	–9.0	6	7	13	0.5	–6.0
Soy	1	1	4	0.4	–3.0	1	2	5	0.3	–3.0	1	2	4	0.3	–2.0

(continued)

Table 2.19.5 (continued): Selected dietary habits, by Indigenous status and sex, persons aged 15 years and over in non-remote areas, 2004–05

	Males					Females					Persons				
	Non-age-standardised	Age-standardised				Non-age-standardised	Age-standardised				Non-age-standardised	Age-standardised			
	Indig.	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Indig.	Non-Indig.	Rate ratio	Rate difference	Indig.	Indig.	Non-Indig.	Rate ratio	Rate difference
	%	%	%			%	%	%			%	%	%		
None of the above[(a)]	1	1	1	1.4	0.0	0	0	1	0.3	–1.0	1	1	1	0.7	0.0
Total drinks milk	*97*	*97*	*95*	*1.0*	*2.0*	*96*	*96*	*95*	*1.0*	*1.0*	*97*	*96*	*95*	*1.0*	*1.0*
Does not drink milk	3	3	5	0.6	–2.0	4	4	5	0.8	–1.0	3	4	5	0.7	–1.0
Total[(b)]	**100**	**100**	**100**	**1.0**	**. .**	**100**	**100**	**100**	**1.0**	**. .**	**100**	**100**	**100**	**1.0**	**. .**
Salt added after cooking															
Never/rarely	31	. .	n.a.	n.a.	n.a.	36	. .	n.a.	n.a.	n.a.	33	. .	n.a.	n.a.	n.a.
Sometimes	22	. .	n.a.	n.a.	n.a.	22	. .	n.a.	n.a.	n.a.	22	. .	n.a.	n.a.	n.a.
Usually	47	. .	n.a.	n.a.	n.a.	42	. .	n.a.	n.a.	n.a.	44	. .	n.a.	n.a.	n.a.
Total[(c)]	**100**	**. .**	**n.a.**	**n.a.**	**n.a.**	**100**	**. .**	**n.a.**	**n.a.**	**n.a.**	**100**	**. .**	**n.a.**	**n.a.**	**n.a.**

(a) Includes evaporated or sweetened condensed milk.

(b) Includes usual type of milk not known.

(c) Includes frequency salt added after cooking not known.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Dietary habits by state/territory

The dietary habits of Indigenous Australians aged 15 years and over in non-remote areas in 2004–05 are presented in Table 2.19.6 below, with non-Indigenous comparisons presented in Table2.19.7. Note that data on the number of daily serves of vegetables and fruit are presented for New South Wales, Victoria, Queensland and Western Australia only because of output restrictions for these data items.

- In 2004–05, the proportion of Indigenous Australians aged 15 years and over in non-remote areas who reported eating five serves or more of vegetables daily was 8% in New South Wales, 9% in Queensland, 12% in Victoria and 14% in Western Australia (Table 2.19.6).
- The proportion of Indigenous Australians aged 15 years and over reporting eating two or more serves of fruit a day was 41% in New South Wales and Queensland, 43% in Victoria and 45% in Western Australia.
- The proportion of Indigenous persons reporting drinking whole milk as the usual type of milk consumed was highest in Queensland (80%) and lowest in Victoria (62%).
- The proportion of Indigenous persons reporting usually adding salt after cooking was highest in Western Australia (57%) and lowest in Victoria (35%).
- Non-Indigenous Australians were more likely to report eating five or more serves of vegetables a day than Indigenous Australians in New South Wales, Queensland and Western Australia. Rates were similar for Indigenous and non-Indigenous Australians in Victoria (Table 2.19.7).
- Non-Indigenous Australians were more likely than Indigenous Australians to report eating five or more serves of fruit a day in three of the four jurisdictions for which data are presented (New South Wales, Victoria and Queensland) (Table 2.19.7).
- Indigenous Australians were more likely to report whole milk as the usual type of milk consumed in the four jurisdictions for which data are presented.

Table 2.19.6: Selected dietary habits, by state/territory, Indigenous persons aged 15 years and over, non-remote areas, 2004–05

Dietary behaviours	NSW	Vic	Qld	WA	SA	Tas/ACT	NT	Aust.
				Per cent				
Vegetable intake								
Does not eat vegetables	1	3	2	2	n.p.	n.p.	n.p.	2
1 serve or less	24	22	19	29	n.p.	n.p.	n.p.	23
2–4 serves	67	62	70	55	n.p.	n.p.	n.p.	66
5 serves or more	8	12	9	14	n.p.	n.p.	n.p.	10
Total[(a)]	**100**	**100**	**100**	**100**	**n.p.**	**n.p.**	**n.p.**	**100**
Fruit intake								
Does not eat fruit	13	11	13	9	n.p.	n.p.	n.p.	12
1 serve or less	46	45	46	46	n.p.	n.p.	n.p.	47
2–4 serves	39	40	38	39	n.p.	n.p.	n.p.	38
5 serves or more	2	3	3	6	n.p.	n.p.	n.p.	3
Total[(a)]	**100**	**100**	**100**	**100**	**n.p.**	**n.p.**	**n.p.**	**100**
Usual type of milk consumed								
Whole	75	62	80	68	69	64	75	74
Low/reduced fat	13	22	10	22	15	21	14	15
Skim	6	6	6	3	9	9	6	6
Other[(b)]	1	6	2	1	2	2	2	2
Total drinks milk	*95*	*89*	*96*	*94*	*92*	*94*	*95*	*94*
Does not drink milk	4	4	2	5	5	4	4	4
Total[(c)]	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Salt added after cooking								
Never/rarely	34	33	31	23	36	45	29	33
Sometimes	20	31	22	19	23	18	27	22
Usually	45	35	47	57	41	37	44	45
Total[(d)]	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

n.p. Not published because of output restrictions for non-remote data items for these states and territories.

(a) Includes whether eats fruit/vegetables not known.

(b) Includes soy milk and evaporated or sweetened condensed milk.

(c) Includes usual type of milk not known.

(d) Includes frequency salt is added after cooking not known.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 2.19.7: Selected dietary habits, by Indigenous status, persons aged 15 years and over, non-remote areas, NSW, Vic, Qld and WA, 2004–05

	NSW			Vic			Qld			WA		
Dietary behaviours	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**	**Indig.**	**Non-Indig.**	**Ratio**
	%	%		%	%		%	%		%	%	
Vegetable intake												
Does not eat vegetables	1	1	1.2	2	1	4.5	2	1	3.2	1	1	2.2
1 serve or less	22	22	1.0	22	21	1.0	18	19	1.0	28	16	1.8
2–4 serves	68	65	1.0	62	63	1.0	71	66	1.1	56	66	0.8
5 serves or more	9	11	0.8	14	15	0.9	9	14	0.7	15	18	0.8
Total[(a)]	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**
Fruit intake												
Does not eat fruit	12	7	1.6	10	7	1.5	13	8	1.6	9	6	1.5
1 serve or less	44	40	1.1	45	39	1.2	45	41	1.1	46	39	1.2
2–4 serves	42	49	0.9	42	50	0.8	39	47	0.8	38	50	0.8
5 serves or more	2	4	0.6	3	5	0.7	3	4	0.7	6	5	1.3
Total[(a)]	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**
Usual type of milk consumed												
Whole	74	47	1.6	59	41	1.4	76	48	1.6	64	41	1.6
Low/reduced fat	14	27	0.5	23	35	0.7	12	30	0.4	26	39	0.7
Skim	7	14	0.5	6	13	0.5	7	12	0.6	3	10	0.3
Other[(b)]	2	6	0.2	8	6	1.3	2	5	0.4	1	4	0.3
Total drinks milk	*95*	*88*	*3.0*	*88*	*89*	*3.0*	*95*	*90*	*3.0*	*94*	*90*	*3.0*
Does not drink milk	4	5	0.7	4	5	0.8	3	5	0.5	5	5	0.9
Total[(c)]	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**

(continued)

Table 2.19.7 (continued): Selected dietary habits, by Indigenous status, persons aged 15 years and over, non-remote areas, NSW, Vic, Qld and WA, 2004–05

(a) Includes whether eats fruit/vegetables not known.

(b) Includes soy milk and evaporated or sweetened condensed milk.

(c) Includes usual type of milk not known.

Note: Data for South Australia, Tasmania, the Australian Capital Territory and the Northern Territory are not presented because of output restrictions for non-remote data items for these states and territories.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Dietary habits by remoteness

- Fruit and vegetables may be less accessible to Indigenous people in remote areas. In remote areas in 2004–5, 20% of Indigenous Australians aged 12 years and over reported no usual daily fruit intake compared with 12% in non-remote areas. The disparity was even greater for vegetables, where 15% of Indigenous people in remote areas reported no usual daily intake compared with 2% in non-remote areas (Table 2.19.8).
- Indigenous people in remote areas were more likely to report drinking whole milk (87%) than those in non-remote areas (76%).
- Indigenous people in remote areas were more likely than those in non-remote areas to report sometimes or usually adding salt after cooking (83% compared with 66%) (Table 2.19.8).

Table 2.19.8: Selected dietary habits, by remoteness, Indigenous persons aged 12 years and over, 2004–05

Dietary behaviours	Remote	Non-remote	Total
		Per cent	
Vegetable intake			
Eats vegetables daily	84	98	95
Does not eat vegetables daily	15	2	5
Total[(a)]	**100**	**100**	**100**
Fruit intake			
Eats fruit daily	80	88	86
Does not eat fruit daily	20	12	14
Total[(a)]	**100**	**100**	**100**
Usual type of milk consumed			
Whole	87	76	79
Low/reduced fat	4	14	11
Skim	2	5	5
Soy	—[(b)]	1	1
None of the above[(c)]	1[(b)]	1[(b)]	1[(b)]
Total drinks milk	*95*	*97*	*96*
Does not drink milk	5	3	4
Total[(d)]	**100**	**100**	**100**
Salt added after cooking			
Never/rarely	16	35	30
Sometimes	30	23	25
Usually	53	43	46
Total[(e)]	**100**	**100**	**100**

(a) Includes whether eats fruit/vegetables not known.

(b) Estimate is subject to sampling variability too high for most practical purposes.

(c) Includes evaporated or sweetened condensed milk.

(d) Includes usual type of milk not known.

(e) Includes frequency salt is added after cooking not known.

Source: ABS 2006a.

Time series analyses

- In 2004–05, approximately 24% of Indigenous Australians aged 12 years and over in non-remote areas reported a low usual daily vegetable intake (one or less serves per day) compared with 18% in 2001 (ABS 2002). The proportion reporting a low usual daily fruit intake (one or less serves per day) was similar in 2001 and 2004–05 (56% and 58%, respectively) (Table 2.19.9).

Table 2.19.9: Proportion of Indigenous Australians aged 12 years and over reporting high and low usual daily intake of vegetables and fruit, non-remote areas, 2001 and 2004–05

	2001	2004–05
	Per cent	
Five or more serves of vegetables (high intake)	n.a.	10.2
Two or more serves of fruit (high intake)	43.8	42.3
One or less serves of vegetables (low intake)	18.2	24.2
One or less serves of fruit (low intake)	56.2	57.5

Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement) and 2004–05 NATSIHS.

Fruit and vegetable intake by selected health and population characteristics

- In 2004–05, a higher proportion of Indigenous Australians with fair/poor health reported no usual daily vegetable intake and/or no usual daily fruit intake than those with excellent/very good health status (Table 2.19.10).
- Indigenous Australians aged 15 years and over in the lowest (1st) quintile of household income were much more likely than those in the highest quintile to report no usual daily fruit and/or vegetable intake.
- Indigenous Australians who reported Year 9 or below as their highest year of school completed or did not have a non-school qualification were more likely to report no usual daily fruit and/or vegetable intake than those whose highest year of school completed was Year 12 or who had a non-school qualification.
- A higher proportion of Indigenous people who were renting reported no usual daily vegetable intake (7%) and no usual daily fruit intake (16%) than those who were home owners (1% and 11% respectively).

Table 2.19.10: Dietary risk behaviours, by selected health and population characteristics, Indigenous persons aged 15 years and over, 2004–05

	No usual daily vegetable intake	No usual daily fruit intake
	Per cent	
Self-assessed health status		
Excellent/very good	4.7	12.9
Good	6.3	16.6
Fair/poor	6.5	16.2
Household income		
1st quintile (lowest)	7.8	16.8
5th quintile (highest)	0.2	5.8
Financial stress—unable to raise $2,000 within a week for something important	2.6	10.4
Highest year of school completed		
Year 12	3.8	9.4
Year 9 or below	7.7	16.9
Whether has non-school qualification		
Has a non-school qualification	3.3	13.3
Does not have a non-school qualification	7.2	16.1
Employment		
Employed	5.0	14.3
Unemployed	4.0	14.4
Not in the labour force	6.8	15.6
Housing		
Owner	0.5	11.1
Renter	7.4	16.4
Stressors in last 12 months(a)		
Serious illness or disability	6.2	14.6
Other stressors	5.7	14.7
Total experienced stressors	*5.8*	*14.7*
No stressors	4.6	15.3
All persons aged 15 years and over	**5.7**	**14.9**
Total number persons aged 15 years and over	**16,681**	**43,610**

(a) Persons aged 18 years and over.

Source: AIHW analysis of 2004–05 NATSIHS.

Fruit and vegetable intake by selected chronic diseases and health risk factors

- In 2004–05, Indigenous Australians without diabetes were more likely to consume vegetables and fruit on a daily basis than Indigenous Australians with diabetes (Table 2.19.11).
- Indigenous Australians in non-remote areas who reported high levels of physical activity were most likely to consume vegetables on a daily basis, however Indigenous Australians who reported moderate levels of physical activity were most likely to consume fruit on a daily basis.
- Indigenous Australians aged 18 years and over with reported short-term risky/high-risk alcohol consumption were less likely to eat fruit (22% reporting no usual daily fruit intake compared with 13%) and vegetables (8% reporting no usual daily vegetable intake compared with 4%) on a daily basis than those not reporting risky alcohol consumption.
- Indigenous Australians aged 18 years and over who reported being current smokers were more likely to report no usual daily fruit intake and no usual daily vegetable intake than Indigenous persons who were ex-smokers or who had never smoked.

Table 2.19.11: Dietary risk behaviours, by selected chronic diseases and other risk factors, Indigenous persons aged 15 years and over, 2004–05

	No usual daily vegetable intake	No usual daily fruit intake
	Per cent	
Circulatory problems		
Yes	4.7	13.3
No	5.9	15.2
Has diabetes		
Yes	8.5	13.1
No	5.4	15.0
Has cancer		
Yes	1.7	10.3
No	5.7	14.9
Physical activity[(a)]		
Low/sedentary	1.7	13.4
Moderate	1.8	7.3
High	0.5	10.1
Overweight/obesity		
Yes	4.8	14.8
No	7.2	15.1
Long-term risky/high-risk alcohol consumption[(b)]		
Yes	5.9	19.6
No	5.5	13.9
Short-term risky/high-risk alcohol consumption[(b)]		
Yes	7.8	21.5
No	3.6	13.1
Smoking status[(b)]		
Current	6.4	19.3
Ex-smoker	4.9	10.0
Never smoked	4.6	9.9
All persons aged 15 years and over	**5.7**	**14.9**
Total number persons aged 15 years and over	**16,681**	**43,610**

(a) Non-remote areas only.

(b) Persons aged 18 years and over.

Source: AIHW analysis of 2004–05 NATSIHS.

Whether ran out of food in the 12 months before the survey

- In 2004–05, approximately 24% of Indigenous Australians aged 15 years and over reported they ran out of food in the 12 months before the survey compared with 5% of non-Indigenous Australians (Table 2.19.12).
- Approximately 8% of Indigenous people reported they went without food when they couldn't afford to buy more compared with 2% of non-Indigenous people.
- Indigenous Australians aged 15–24, 25–34 and 35–44 years were most likely to report they went without food when they couldn't afford to buy more.
- The proportion of Indigenous Australians who reported they ran out of food in the previous 12 months was much higher in the Northern Territory (45%) than the other states and territories (between 18% and 29%).
- Indigenous Australians aged 15 years and over living in remote areas were more likely to report having run out of food in the last 12 months (36%) than those in non-remote areas (20%).

Table 2.19.12: Proportion of persons aged 15 years and over who ran out of food and couldn't afford to buy more at some time over the previous 12 months,[(a)] by Indigenous status 2004–05

	Ran out of food when couldn't afford to buy any more									Did not run out of food		
	Went without food			Did not go without food			Total ran out of food					
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio
	Per cent									Per cent		
Sex												
Males	7	2	3.7	14	3	5.7	21	4	4.9	79	96	0.8
Females	8	2	4.1	18	3	5.7	27	5	5.1	73	95	0.8
Persons	8	2	4.0	17	3	5.7	24	5	5.0	76	95	0.8
Age												
15–24	8	4	2.1	17	5	3.2	24	9	2.7	76	91	0.8
25–34	8	3	3.0	19	4	4.5	27	7	4.0	73	93	0.8
35–44	9	2	4.4	17	4	4.6	26	6	4.5	74	94	0.8
45–54	7	2	3.3	14	2	6.3	21	4	4.9	79	96	0.8
55+	5	1	8.7	12	1	13.2	17	2	11.4	83	98	0.8
State/territory												
NSW	7	2	3.9	11	2	4.8	18	4	4.4	82	96	0.9
Victoria	10	2	5.1	12	3	3.9	21	5	4.4	79	95	0.8
Qld	7	2	3.3	13	4	3.8	21	6	3.6	79	94	0.8
WA	8	2	4.3	18	3	5.7	26	5	5.2	74	95	0.8
SA	9	2	4.4	20	3	6.7	29	5	5.7	71	95	0.8
Tas/ACT	9	2	4.1	10	4	2.7	19	6	3.2	81	94	0.9
NT	7	—	—	38	3	14.7	45	3	17.4	55	97	0.6
Australia	8	2	4.0	17	3	5.7	24	5	5.0	76	95	0.8
Remoteness area												
Remote	7	1	5.1	28	4	8.1	36	5	7.2	64	95	0.7
Non – remote	8	2	4.0	12	3	4.1	20	5	4.1	80	95	0.8
Total no.	**19,676**	**283,628**	. .	**42,674**	**425,252**	. .	**62,350**	**708,880**	. .	**195,913**	**1.4 mill**	. .

(a) Information for some persons aged 15–17 years was provided by a parent or guardian.

Source: AIHW analysis of 2004–05 NATSIHS.

Dietary behaviour of children aged 4 to 14 years

Fruit and vegetable consumption

- In 2008, approximately 5% of Indigenous children aged 4 to 14 years did not usually eat fruit and 4% did not usually eat vegetables (Table 2.19.13). Approximately 33% had one serve or less of fruit per day and 27% had one serve or less of vegetables per day.

Table 2.19.13: Number of serves of fruit and vegetables consumed daily, Indigenous children aged 4 to 14 years, by sex, non-remote areas, 2008

	Males	Females	Persons
		Per cent	
Number of serves of fruit child usually eats in a day			
1 serve or less	33.7	32.6	33.1
2 serves	36.7	42.1	39.4
3 serves	16.1	14.3	15.2
4 serves	4.6	4.4	4.5
5 serves or more	2.2	2.6	2.4
Does not usually eat fruit	6.8	4.0	5.4
Total	**100.0**	**100.0**	**100.0**
Total number[(a)]	**53,960**	**51,469**	**105,429**
Number of serves of vegetables child usually eats in a day			
1 serve or less	27.3	26.7	27.0
2 serves	29.7	28.8	29.3
3 serves	24.7	24.2	24.4
4 serves	9.9	10.2	10.0
5 serves or more	4.9	6.6	5.7
Does not usually eat vegetables	3.5	3.5	3.5
Total	**100.0**	**100.0**	**100.0**
Total number[(a)]	**54,041**	**51,738**	**105,779**

(a) Excludes not known responses.

Source: AIHW analyses of 2008 NATSISS.

Fruit and vegetable consumption by state/territory

- In 2008, data on the number of serves of fruit and vegetables consumed daily by Indigenous children aged 4 to 14 years was available from New South Wales, Victoria, Queensland and Western Australia. Of these, Victoria had the highest proportion of children with a high daily intake of fruit (65%) and vegetables (7%) and Western Australia had the lowest (58% and 4%, respectively) (Table 2.19.14).

Table 2.19.14: Number of serves of fruit and vegetables consumed daily, Indigenous children aged 4 to 14 years, by state/territory[(a)], non-remote areas, 2008

	NSW	Vic	Qld	WA	Australia
			Per cent		
Number of serves of fruit child usually eats in a day					
1 serve or less (low intake)[(b)]	38.7	34.7	38.2	42.1	38.6
2 or more serves (high intake)	61.3	65.3	61.8	57.9	61.4
Total number[(c)]	**40,109**	**8,997**	**30,337**	**10,672**	**105,429**
Number of serves of vegetables child usually eats in a day					
1 serve or less (low intake)[(b)]	30.2	28.9	31.1	27.7	30.5
5 serves or more (high intake)	5.4	7.1	6.4	3.8	5.7
Total number[(c)]	**40,298**	**8,997**	**30,362**	**10,745**	**105,779**

(a) Data not available for South Australia, Tasmania, the Australian Capital Territory and the Northern Territory due to survey output restrictions.

(b) Includes persons who reported they do not usually consume fruit or vegetables

(c) Excludes not known responses.

Source: AIHW analyses of 2008 NATSISS.

Fruit and vegetable consumption by household characteristics and functional facilities

- The 2008 NATSISS showed that Indigenous children aged 1–14 years in non-remote areas who consumed 1 or less serves of fruit per day were most likely to be in the most disadvantaged (socio-economic index for areas) (1st) quintile (44%), similar to the proportion of children who consumed 2 or more serves per day (45%) (Table 2.19.15).
- Forty-two per cent of Indigenous children who consumed 1 or less serves of vegetables per day were in the most disadvantaged quintile, compared with 34% who consumed 5 serves or more.
- The survey also showed that there was little difference in relation to housing utilisation between children who consumed 1 or less services of fruit per day and those who consumed 2 or more. However, in relation to vegetable consumption, Indigenous children who consumed 5 or more serves per day were less likely to be in a household requiring 1 or more bedrooms than those who consumed 1 or less serves per day (12% compared with 25% respectively) (former figure subject to a large relative standard error).
- Table 2.19.16 presents information on fruit and vegetable consumption in relation to functional facilities, including facilities for washing people and clothes, storing and preparing food, and adequate sewerage. There appears to be little association between the consumption of fruit and vegetables and functioning facilities, with the proportions of fruit and vegetable consumption varying minimally across the four categories of facilities.

Table 2.19.15: Dietary risk behaviours, by household characteristics, Indigenous children aged 1–14 in non-remote areas, 2008

	Number of serves of fruit child usually eats in a day[(a)]				Number of serves of vegetables child usually eats in a day[(a)]			
	1 serve or less (low intake)		2 or more serves (high intake)		1 serve or less (low intake)		5 serves or more (high intake)	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
SEIFA								
1st quintile (most disadvantaged)	20,519	43.7	37,390	45.4	17,374	42.1	2,348	33.9
2nd quintile	9,919	21.1	20,377	24.8	9,588	23.3	1345*	19.4*
3rd quintile	9,199	19.6	15,573	18.9	8,976	21.8	1355*	19.6*
4th/5th quintile (least disadvantaged)	7,277	15.5	8,936	10.9	5,287	12.8	1881*	27.1*
Total excluding not stated	*46,914*	*100.0*	*82,277*	*100.0*	*41,226*	*100.0*	*6,930*	*100.0*
Housing utilisation								
1 or more bedrooms required	9,701	20.5	19,447	23.7	10,313	24.9	830*	11.9*
None required/None spare	19,149	40.5	33,130	40.3	16,484	39.8	2664*	38.2
1 or more bedrooms spare	18,467	39.0	29,565	36.0	14,637	35.3	3,485	49.9
Total excluding not stated	*47,317*	*100.0*	*82,142*	*100.0*	*41,434*	*100.0*	*6,979*	*100.0*
Total children 1–14 in non-remote areas	**47,410**	**. .**	**82,580**	**. .**	**41,598**	**. .**	**6,979**	**. .**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Non remote areas only.

Source: AIHW analysis of 2008 NATSISS.

Table 2.19.16: Proportion of children aged 1–14 in non-remote areas: access to functional facilities required to support the first four Healthy Living Practices, by nutritional factors, 2008

	Washing people		Washing clothes / bedding		Storing / preparing food		Sewerage facilities		Total children aged 1–14 in non-remote areas[(a)]	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Number of serves of vegetables consumed daily										
Does not usually eat vegetables	4,833	3.6	4,783	3.7	4,697	3.6	4,833	3.6	4,841	3.5
1 serve or less	40,736	30.3	38,842	29.9	39,257	30.4	40,837	30.4	41,598	30.4
2 serves	38,700	28.8	37,321	28.7	36,854	28.5	38,637	28.8	39,476	28.8
3 serves	31,398	23.4	30,809	23.7	30,039	23.3	31,261	23.3	31,832	23.3
4 serves	11,881	8.8	11,424	8.8	11,562	9.0	11,832	8.8	12,131	8.9
5 serves or more	6,855	5.1	6,724	5.2	6,724	5.2	6,840	5.1	6,979	5.1
Total[(e)]	**134,669**	**100.0**	**130,065**	**100.0**	**129,419**	**100.0**	**134,508**	**100.0**	**137,123**	**100.0**
Number of serves of fruit consumed daily										
Does not usually eat fruit	6,451	4.8	6,237	4.8	6,309	4.9	6,495	4.9	6,511	4.8
1 serve or less	46,673	34.8	45,645	35.3	45,205	35.1	46,731	34.9	47,410	34.7
2 serves	51,268	38.2	49,105	37.9	48,668	37.8	51,162	38.2	52,678	38.6
3 serves	21,027	15.7	20,137	15.6	20,356	15.8	20,889	15.6	21,221	15.5
4 serves	5,521	4.1	5,409	4.2	5,415	4.2	5,521	4.1	5,556	4.1
5 serves or more	3,108	2.3	2,922	2.3	2,871	2.2	3,093	2.3	3,124	2.3
Total[(e)]	**134,669**	**100.0**	**130,065**	**100.0**	**129,419**	**100.0**	**134,508**	**100.0**	**137,123**	**100.0**

(a) Nutrition data represents non-remote participants only.

Source: AIHW analysis of 2008 NATSISS.

Additional information

Research on traditional and non-traditional diets of Aboriginal and Torres Strait Islander people

Poverty and food insecurity have been recognised as important factors in the poor-quality diet of many Indigenous people, especially those living in remote communities. Food prices are generally higher in remote areas for many types of food. The price of basic healthy foods is at least 50% higher in remote locations than in *Major cities* (NHMRC 2003). Foods of better nutritional choice, including fresh fruits and vegetables, are often expensive because of transport and overhead costs, or only minimally available (Shannon 2002). Remote stores, on average, sell half the fruit and one-quarter of the vegetable intake per capita of that of the Australian community overall (Lee et al. 1994). In comparison, takeaway and convenience food items, which are often energy dense and high in fat or sugar, are less affected by issues of cost and availability.

There is evidence to suggest that people living in poverty tend to maximise calories per dollar spent on food. Energy-dense foods rich in fats, refined starches and sugars represent the lowest cost options, whereas healthy diets based on lean meats, whole grains and fresh vegetables and fruits are more costly (Drewnowski & Spencer 2004). A study that analysed the store turnover of food supplies at six remote Indigenous communities in the Northern Territory found a very high consumption of fat and sugar, with fatty meats making the largest contribution to fat intake. In comparison to national consumption data, intake of sweetened carbonated beverages and sugar was much higher in these communities. The proportion of energy derived from refined sugars was approximately four times the recommended intake. The diets of people living in these communities had high levels of animal fat (mainly from poor-quality meat) and very low levels of fruit and vegetables (Lee et al. 1994).

A study that looked at the therapeutic potential of a traditional lifestyle and diet involved a trial of a group of 10 middle-aged Indigenous people with diabetes who were overweight or obese in the West Kimberly region of Western Australia. The group reverted to a traditional hunter-gatherer diet for 7 weeks. After this short time living off their traditional lands, the people involved in the study lost an average of 7 kg and the metabolic abnormalities of diabetes and risk factors for heart disease (blood pressure, blood cholesterol, triglycerides) all improved markedly (O’Dea 1984).

Data quality issues

National Aboriginal and Torres Strait Islander Health Survey

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It has therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities* and *Inner and outer regional* and *Remote and Very remote areas*, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006a).

Dietary behaviour data

The questions on dietary behaviour are complex as respondents needed to understand and apply the inclusions/exclusions, understand the concept of a serve and assess their consumption levels accordingly, and think about their total consumption in what would constitute an average day. Overall, it is considered that the indicators of vegetable and fruit intake in the non-remote component of the 2004–05 NATSIHS are of a lower quality than most other items from the survey, but are considered sufficiently reliable for the purposes of assessing broad intake levels for population groups, and for comparisons between population groups. Using the data for other purposes should be done with care. Data for all those aged 12–14 years, and 68% of those aged 15–17 years, were provided by a proxy, usually a parent. As a result, the data reflect the parent's knowledge of the child's consumption; this is likely to be less accurate for usual consumption of fruit items than for the type of milk and usual consumption of vegetables items collected in non-remote areas (ABS 2006b).

Picture prompt cards were used to help non-remote respondents understand the concept of a serve; one prompt card showed six examples of single serves of different vegetables and another card showed six single serves of fruit. If respondents had difficulty in reporting, interviewers were encouraged to prompt in terms of asking respondents about their usual consumption of vegetables and fruit at breakfast, lunch and dinner and for snacks. Remote respondents were asked whether they usually ate fruit and/or vegetables each day. In addition to products excluded in non-remote areas, fruit or vegetables considered to be bush tucker were also excluded.

In remote areas the questions on vegetable and fruit intake were amended to whether the respondents usually ate fruit and/or vegetables each day. Therefore it is not possible to produce indicators based on usual serves for remote areas from the 2004–05 NATSIHS.

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero

. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

2.20 Breastfeeding practices

The breastfeeding status of Aboriginal and Torres Strait islander infants, breastfeeding duration, breastfeeding and other sources of food and reasons mothers stopped breastfeeding

Data sources

Data for this measure come from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) and the 2010 Infant Feeding Survey.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Definitions of breastfeeding terms used in the NATSIHS

Breastfeeding. The child receives some breastmilk but can also receive any food or liquid including non-human milk.

Breastfeeding duration. The total length of time an infant received any breastmilk at all from initiation until weaning is complete.

Ever breastfed. An infant has been put to the breast, even if only once, and/or an infant has received expressed breastmilk but has never been put to the breast.

Exclusively breastfed. An infant has received only breastmilk from his/her mother or a wet nurse or expressed breastmilk and no other liquids or solids with the exception of drops or syrups consisting of vitamins, mineral supplements or medicines.

Predominantly breastfed. An infant's predominant source of nourishment has been breastmilk but the infant has also received water and water-based drinks (sweetened and flavoured water, teas, infusions, etc.); fruit juice; oral rehydration solution; drops and syrup forms of vitamins, minerals and medicines; and/or ritual foods (in limited quantities). All other food-based fluids are excluded, in particular non-human milk.

Fully breastfed. An infant is fully breastfed if he/she receives breastmilk as the main source of nourishment. This includes infants who are either (a) exclusively breastfed or (b) predominantly breastfed—that is, infants with no other liquids or solids (except vitamins, mineral supplements, or medicines) or infants who receive breastmilk and water, water-based drinks, fruit juice, oral rehydration solution, but do not receive breast milk substitutes or solids. The fully breastfed rate is the combined rate of exclusively breastfed and predominantly breastfed (Webb et al. 2001).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

2010 Australian National Infant Feeding Survey

The 2010 Australian National Infant Feeding Survey (ANIFS) is the first specialised national survey of infant feeding practices in Australia. The survey also collected information on attitudes towards, and enablers for and barriers against breastfeeding. This report provides baseline data on key infant feeding indicators, including: most babies (96%) were initially breastfed, but only 39% were exclusively breastfed for less than 4 months, and 15% for less than 6 months; overall 35% of infants were introduced to solid foods by 4 months of age and 92% by the recommended age of 6 months.

The initial methodology for the ANIFS was developed by the Australian Government Department of Health and Ageing in consultation with Medicare Australia and the Australian Bureau of Statistics (ABS). A pilot study to test the survey method and survey instrument was conducted from August 2010 to September 2010. The main survey was conducted between October 2010 and February 2011.

Data analyses

NATSIHS data

Breastfeeding status

- According to the 2004–05 NATSIHS and NHS surveys, approximately 79% of Indigenous infants aged 0–3 years in non-remote areas had ever been breastfed compared with 88% of non-Indigenous infants (Table 2.20.1).
- At the time of the surveys, approximately 13% of Indigenous infants were currently breastfeeding compared with 16% of non-Indigenous infants (Table 2.20.1).

- A similar proportion of Indigenous and non-Indigenous infants had been breastfed for 12 months or more (13% and 14%, respectively) (Table 2.20.1).
- The maximum duration of breastfeeding among fully breastfed children was 130 weeks for Indigenous children compared with 156 weeks for non-Indigenous children (Table 2.20.1).

Breastfeeding status by state/territory

- In Queensland, a significantly lower proportion of Indigenous infants had ever been breastfed (79%) compared with non-Indigenous infants (89%) (Table 2.20.1). In all other states and territories the difference between the proportion of infants breastfed was not statistically significant between the two population groups.

Breastfeeding status when first taken home from hospital

- In 2004–05, approximately 96% of Aboriginal and Torres Strait Islander infants aged 0–3 years in non-remote areas were breastfed when they were first taken home from hospital (Table 2.20.2). Proportions ranged from 89% in the Australian Capital Territory to 98% in the Northern Territory.

Table 2.20.1: Breastfeeding status, by state/territory and Indigenous status, infants aged 0–3 years in non-remote areas, 2004–05

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT(a)		Australia	
Breastfeeding measure	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
									Per cent									
Child has been breastfed																		
0 to less than 6 months	35	33	43	39	31	39	22	34	27	33	51	35	41	29	32	n.p.	33	36
For 6 to 12 months	21	25	22(c)	25	19(b)	20	14(b)	16	16(c)	19	15(b)	18	16(b)	24	15(b)	n.p.	19	22
For 12 months or more(d)	11	13	10(c)	14	18(b)	13	15(b)	16	10(c)	17	9(c)	15	17(b)	23(b)	13(b)	n.p.	13	14
Currently breastfeeding	8(b)	13	9(b)	15	12(b)	17	30(b)	24	18(c)	13	11(c)	17	17(b)	21(b)	29(b)	n.p.	13	16
Ever breastfed	*76*	*84*	*84*	*93*	*79**	*89**	*81*	*90*	*70*	*81*	*86*	*86*	*92*	*96*	*89*	*n.p.*	*79**	*88**
Never breastfed	24	16	15*(b)	7*	20	10	19(b)	10(b)	30(b)	19	14(b)	14(f)	5(c)	4(b)	11(b)	n.p.	21*	12*
Total(e)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**n.p.**	**100**	**100**
Total no. of infants	**13,418**	**310,805**	**2,373**	**240,930**	**10,325**	**182,712**	**3,552**	**85,191**	**2,019**	**69,745**	**1,762**	**22,526**	**433**	**16,702**	**1,082**	**4,402**	**34,964**	**933,013**
									Weeks									
Maximum duration of breastfeeding among fully breastfed children (weeks)(f)	78(g)	104(g)	56(g)	104(g)	117(g)	87(g)	83(g)	109(g)	52(g)	104(g)	65(g)	84(g)	78(g)	70(g)	78(g)	n.p.	130	156
Minimum duration of breastfeeding among fully breastfed children (weeks)(f)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	n.p.	1	1

* Represents results with statistically significant differences at the $p<0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Non-Indigenous results are not provided because the non-Indigenous sample for this area was insufficient for purposes of estimation of these characteristics.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and are considered too unreliable for general use.

(d) Includes length of time child has been breastfed not known.

(e) Includes breastfeeding status not known.

(f) Excludes children currently breastfed and children who had been fully breastfed for less than 1 week.

(g) Indicates that the maximum length of time breastfed in weeks is greater than this value, but for confidentiality reasons the maximum length of time cannot be released.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 2.20.2: Breastfeeding status when first taken home from hospital, by state/territory, Aboriginal and Torres Strait Islander infants aged 0–3 years who were breastfed, non-remote areas, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Breastfed when first taken home	97	96	95	96	92	95	89	98	96
Not breastfed when first taken home	2(a)	4(a)	—	3(a)	2(a)	4(a)	11(a)	—	2(b)
No hospital	—	—	—	1(a)	—	—(a)	—	2(a)	—(a)
Total ever breastfed	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number ever breastfed	**10,186**	**1,983**	**8,014**	**2,871**	**1,449**	**1,507**	**396**	**962**	**27,369**

(a) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Age at which first given solid food

- Over the period 2004–05, Indigenous infants aged 0–3 months in non-remote areas were almost twice as likely to be given solid food as non-Indigenous infants (18% compared with 10%) (Table 2.20.3).
- Over the same period, Indigenous infants aged 3–6 months and 6–9 months in non-remote areas were less likely to be given solid food than non-Indigenous infants of the same age (Table 2.20.3).

Table 2.20.3: Age at which first given solid food regularly, by Indigenous status, persons aged 0–3 years in non-remote areas, 2004–05

	Indigenous	Non-Indigenous	Rate ratio	Rate difference
	%	%	%	%
1–<3 months	18	10	1.8*	8
3–<6 months	34	40	0.9*	–6
6–<9months	28	34	0.8*	–6
9+months	8	6	1.3	2
Total given solid food[(a)]	*91*	*90*	*1.0*	*1*
Solid food not given regularly	8	10	0.8	–2
Total[(b)]	**100**	**100**	. .	. .
Total persons	**34,964**	**933,013**	. .	. .

* Represents results with statistically significant differences at the p<0.05 level in the Indigenous/non-Indigenous comparisons.

(a) Includes age first given solid food not known.

(b) Includes whether given solid food not known.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Reasons for stopping breastfeeding

- In 2004–05, the main reason mothers of Indigenous infants aged 0–3 years in non-remote areas stopped breastfeeding was that they were no longer producing any or adequate milk (32%).
- Approximately 21% of Indigenous infants were no longer breastfed because mothers felt it was time to stop, and for 6% the mother was pregnant again (Table 2.20.4).
- Approximately 16% of Indigenous infants were no longer breastfed because of other problems with breastfeeding (for example, cracked nipples).

Table 2.20.4: Aboriginal and Torres Strait Islander infants aged 0–3 years, by main reason stopped breastfeeding, non-remote areas, 2004–05

Main reason stopped breastfeeding	Per cent
Not producing any/adequate milk	32
Felt it was time to stop	21
Pregnant	6(a)
Teething	5(a)
Resumed work	4(a)
Child bored	1(b)
Other problems with breastfeeding (e.g. cracked nipples)	16
Not stated	2(b)
Total	**100**
Total no. of infants	**22,941**

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

NATSISS data

Breastfeeding status

- According to the 2008 NATSISS, approximately 77% of Indigenous infants aged 0–3 years had ever been breastfed and 21% of Indigenous infants were currently being breastfed in 2008.
- Approximately 34% of Indigenous infants had breastfeeding stopped at less than 6 months, and 22% had it stopped at 6 months or older (Table 2.20.5).

Breastfeeding status by state/territory

- In New South Wales/Australian Capital Territory a lower proportion of Indigenous infants had ever been breastfed (69%) than in any other jurisdiction (Table 2.20.5).
- In the Northern Territory, a lower proportion of Indigenous infants had breastfeeding stopped at less than 6 months (13%) than in any other jurisdiction (Table 2.20.5).

Breastfeeding status by remoteness

- Breastfeeding status varied by remoteness, with a higher proportion of Indigenous infants aged 0–3 years in remote areas being breastfed than those in non-remote areas. Around 48% of Indigenous infants in remote areas were currently being breastfed, 86% had previously been breastfed and 14% had never been breastfed. This compared with 20%, 75% and 25% respectively of Indigenous infants in non-remote areas.
- At all ages between 0 and 3 years, a higher proportion of Indigenous infants in remote areas had ever been breastfed than those in non-remote areas (Table 2.20.6).

Table 2.20.5: Breastfeeding status, by state/territory, Indigenous infants aged 0–3 years, 2008

Breastfeeding measure	NSW/ACT	Vic	Qld	WA	SA	Tas	NT	Australia
					Per cent			
Child breastfed								
Currently breastfeeding	12.7	14.4	17.8	30.6	16.0(a)	6.7(a)	51.0	20.7
Not currently breastfeeding	87.3	85.6	82.2	69.4	84.0	93.3	49.0	79.3
Age child stopped being completely breastfed								
Less than 6 months	38.6	39.4	36.0	28.3	37.4	35.2	13.1	33.7
Between 6 and 12 months	11.9(a)	11.0	10.7(a)	7.4(a)	9.9(a)	20.2	5.6(a)	10.4
12 months or older	4.5(a)	13.4	14.9	18.0	6.6(a)	11.4(a)	15.8	11.6
Total(b)	*55.8*	*65.9*	*62.4*	*54.1*	*54.2*	*66.8*	*36.9*	*56.6*
Total breastfed(c)	*68.5*	*80.3*	*80.3*	*84.7*	*70.1*	*73.5*	*88.2*	*77.3*
Never breastfed	31.5	19.7	19.7	15.3	29.9	26.5(a)	11.8(a)	22.7
Total(d)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number(d)	**16,133**	**3,322**	**16,385**	**6,623**	**2,759**	**1,818**	**5,608**	**52,648**
Median age at which child stopped being completely breastfed (weeks)	13	17	17	22	9	22	39	17
Mean age at which child stopped being completely breastfed (weeks)	18	25	29	36	19	31	45	27

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Includes age at which child stopped breastfeeding not stated.

(c) Includes not known if child currently breastfed.

(d) Excludes children for whom breastfeeding status was not known.

Source: 2008 NATSISS.

Table 2.20.6: Breastfeeding status, by remoteness and age of infant, Indigenous persons aged 0–3 years, 2008

	Less than 12 months			12 to < 24 months			24 to < 36 months			36 to < 48 months			Total aged 0–3 years		
Breastfeeding status	**Non-remote**	**Remote**	**Total**	**Non-remote**	**Remote**	**Total**	**Non-remote**	**Remote**	**Total**	**Non-remote**	**Remote**	**Total**	**Non-remote**	**Remote**	**Total**
								Per cent							
Currently breastfeeding	54.6	70.4	58.5	14.9	65.4	27.7	3.2	34.8	10.2	1.8	17.1	6.0	19.9	47.5	26.8
Child not currently breastfeeding	45.4	29.6	41.5	85.1	34.6	72.3	96.8	65.2	89.8	98.2	82.9	94.0	80.1	52.5	73.2
Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Whether child was ever breastfed															
Child was breastfed	77.7	87.9	80.0	77.6	88.5	80.1	72.4	78.6	73.7	71.2	88.3	75.2	74.8	86.0	77.3
Child was not breastfed	22.3	12.1	20.0	22.4	11.5	19.9	27.6	21.4	26.3	28.8	11.7	24.8	25.2	14.0	22.7
Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not known if child was ever breastfed	0.1	1.2	0.4	1.9	0.6	1.6	1.4	4.0	2.0	6.2	1.3	5.1	2.4	1.8	2.3
Total no. of infants	**10,822.0**	**3,172.0**	**13,994.0**	**9,984.0**	**2,931.0**	**12,915.0**	**10,203.0**	**2,765.0**	**12,968.0**	**10,890.0**	**3,113.0**	**14,003.0**	**41,899.0**	**11,981.0**	**53,880.0**

(a) Excludes not known responses.

Source: 2008 NATSISS.

Age at which first given solid food

- In 2008, the majority of Indigenous infants were first given solid food between the ages of 3 and 6 months (43%) and between 6 and 9 months (30%) (Table 2.20.7).
- In 2008, the age at which Aboriginal and Torres Strait Islander children aged 0–3 years were given solid food regularly varied between remoteness areas. In remote areas, the majority (39%) were first given solid food between 6 and 9 months of age. In non-remote areas the majority (50%) were first given solid food between 3 and 6 months of age (Table 2.20.8).

Table 2.20.7: Age at which first given solid food regularly, Indigenous children aged 0–3 years(a), 2008

	Indigenous
	Per cent
1 week to <3 months	4.8
3 to <6 months	43.0
6 to <9months	30.1
9+months	8.1
Age not known	4.9
Total given solid food[(a)]	*86.0*
Solid food not given[(b)]	9.1
Total[(c)]	**100.0**

(a) Children who have been given solid food regularly.

(b) Excludes whether given solid food 'unknown'.

(c) Includes age infant first given solid food not stated.

Source: 2008 NATSISS.

Table 2.20.8: Age at which first given solid food regularly, Aboriginal and Torres Strait Islander infants aged 0–3 years and remoteness, 2008

	Remote		**Non-remote**		**Total**	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
0–<3 months	381	3.3	2,163	5.4	2,544	5.0
3–<6 months	3,269	28.8	19,964	50.1	23,232	45.4
6–<9months	4,474	39.4	11,733	29.4	16,206	31.6
9+months	2,212	19.5	2,137	5.4	4,350	8.5
Total given solid food	*10,335*	*90.9*	*35,997*	*90.3*	*46,332*	*90.4*
Solid food not given regularly	1,031	9.1	3,865	9.7	4,897	9.6
Total[(a)]	**11,366**	**100.0**	**39,862**	**100.0**	**51,228**	**100.0**
Not stated	615	5.1	2,038	4.9	2,652	4.9

(a) Excludes not stated responses.

Source: 2008 NATSISS.

Breastfeeding and other sources of food

- In 2008, around 65% of Indigenous infants aged less than 6 months were never given solid food and around 35% were given solid food (Table 2.20.9).

Table 2.20.9: Whether infant ever given solid food, Indigenous infants aged less than 6 months, 2008

	Number	Proportion (per cent)
Infant given solid food	2,606	34.7
Infant never given solid food	4,897	65.3
Total	**7,503**	**100.0**

Source: 2008 NATSISS.

Breastfeeding by selected population characteristics and risk factors

Tables 2.20.10 and 2.20.11 present information on Indigenous infants aged 0–3 years by selected health and population characteristics. Proportions in Table 2.20.10 are calculated within a row using the column totals as a denominator; while proportions in Table 2.20.11 are calculated within a column using the total across the rows as a denominator.

- In 2008, 29% of Indigenous infants aged 0–3 years in the lowest (1st) income quintile were never breastfed, compared with 5% in the highest income quintile. Around one-quarter of Indigenous infants in the most disadvantaged (1st) socioeconomic (SEIFA) quintile were never breastfed, compared with only 1% of Indigenous infants in the least disadvantaged (5th) quintile (Table 2.20.10).
- The proportion of Indigenous infants ever breastfed was slightly higher among home owners than renters (82% compared with 76%) (Table 2.20.10).
- Approximately 73% of Indigenous infants who were never breastfed were living in a household with at least one regular smoker compared with 63% of Indigenous infants who were breastfed (Table 2.20.11).

Table 2.20.10: Selected household characteristics by breastfeeding status, Indigenous infants aged 0–3 years, 2008

	Breastfeeding measure: child has been breastfed(a)						
	0 to less than 6 months	**For 6 months to 12 months**	**12 months or more(b)**	**Currently breastfeeding**	***Ever breastfed(b)***	**Never breastfed**	**Total**
				Per cent			
Household income							
1st quintile (lowest)	31.3	10.3	8.0	20.5	*70.6*	*29.4*	100.0
5th quintile (highest)	39.7	12.2	27.4	15.9	*95.1*	*4.9*	100.0
SEIFA (Socio-economic index for areas)(c)							100.0
1st quintile (most disadvantaged)	31.4	9.1	11.0	22.5	*75.2*	*24.8*	100.0
5th quintile (least disadvantaged)	40.4	16.4	4.9	30.7	*99.0*	*1.0*	100.0
Housing							100.0
Owner	39.7	12.8	11.4	16.9	*81.7*	*18.3*	100.0
Renter	32.1	9.8	11.8	21.5	*76.2*	*23.8*	100.0
Regular smoker in households							100.0
Yes	32.3	8.7	12.1	20.7	*74.6*	*25.4*	100.0
No	38.4	14.4	10.8	19.2	*83.8*	*16.2*	100.0
All infants aged 0–3 years	**33.7**	**10.4**	**11.6**	**20.7**	***77.3***	***22.7***	**100.0**
Total no. of infants 0–3 years	**17,723**	**5,473**	**6,086**	**10,892**	***40,696***	***11,952***	**92,822**

(a) Based on age stopped breastfeeding.

(b) Includes length of time child has been breastfed not known.

(c) SEIFA refers to Socio-economic Indexes for Areas developed by the ABS. The SEIFA Indexes allow ranking of regions/areas which provide a method of determining the level of socioeconomic wellbeing in that region. The SIEFA index used is the Index of Relative Socio-Economic Advantage and Disadvantage.

Source: 2008 NATSISS.

Table 2.20.11: Breastfeeding status by selected household characteristics, Indigenous infants aged 0–3 years, 2008

	Breastfeeding measure: child has been breastfed[a]					
	0 to less than 6 months	For 6 months to less than 12 months	12 months or more[b]	Currently breastfeeding	*Ever breastfed*	Never breastfed
	Per cent					
Household income						
1st quintile (lowest)	46.4	49.4	34.3	49.4	45.6	64.5
5th quintile (highest)	4.9	4.8	9.8	3.2	5.1	0.9
SEIFA (Socio-economic index for areas)[c]						
1st quintile (lowest)	52.0	48.8	52.9	60.7	54.3	60.9
5th quintile (highest)	3.3	4.4	1.2	4.1	3.6	0.1
Housing						
Owner	22.9	23.9	19.1	15.8	20.5	15.6
Renter	75.3	74.3	80.7	82.0	77.8	82.6
Regular smoker in households						
Yes	62.3	54.0	67.9	65.0	62.7	72.6
No	36.9	44.8	30.3	30.0	35.1	23.1
All infants aged 0–3 years	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total no. of infants 0–3 years	**17,723**	**5,473**	**6,086**	**10,892**	**40,696**	**11,952**

(a) Based on age stopped breastfeeding.

(b) Includes length of time child has been breastfed not known.

(c) SEIFA refers to Socio-economic Indexes for Areas developed by the ABS. The SEIFA Indexes allow ranking of regions/areas which provide a method of determining the level of socioeconomic wellbeing in that region.

Source: 2008 NATSISS.

Australian National Infant Feeding Survey data

- In 2010, the Australian National Infant Feeding survey (ANIFS) found that just over two-thirds (69%) of Indigenous infants aged 1 month received any breastmilk, compared with around three-quarters (75%) of non-Indigenous infants of the same age. By 6 months of age, approximately 45% of Indigenous infants had received any breastmilk compared with 60% of non-Indigenous infants (Table 2.20.12).

Table 2.20.12: Proportion of children receiving any breastmilk, by Indigenous status and age, 2010

	Number		Per cent	
Age (completed months)	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
0[(a)] (less than 1 month)	0	29	0.0.	90.2
1	36	2177	69.2	74.7
2	51	3776	61.4	72.9
3	69	3924	67.3	70.3
4	48	3738	59.2	68.8
5	51	3531	57.3	62.9
6	37	3445	45.4	60.3
7–12	24	2560	21.9	42.4
13–18	18	1727	n.p.	18.5
19–24	22	1569	17.3	7.3

(a) An age of 0 completed months indicates an infant aged from birth to less than 1 month. There were only 33 respondents aged 0 months at the time of survey completion. This was an artefact of the delay between when the sample was drawn and when the survey was completed (for some respondents, this was more than 3 months).

Source: Australian National Infant Feeding Survey 2010.

- Approximately 59% of Aboriginal and Torres Islander infants and 61% of non-Indigenous infants less than one month of age were exclusively breast fed according to the 2010 ANIFS. At less than 3 months, 33% of Indigenous infants were exclusively breastfed compared with 48% of non-Indigenous infants. At less than 6 months, 7% of Indigenous infants were exclusively breastfed compared with 16% of non-Indigenous infants (Table 2.20.13).
- A similar proportion of Indigenous and non-Indigenous infants aged less than 1 month were predominantly breastfed (65%). For infants aged 1 month or more, Indigenous infants were less likely to be predominantly breastfed than non-Indigenous infants (Table 2.20.14).

Table 2.20.13: Duration of exclusively breastfeeding to each month of age by Indigenous status, 2010

		Number		To month	
To month[(a)]	Equivalent duration	Indig.	Non-Indig.	Indig.	Non-Indig.
0	Less than 1 month	344	25149	59.3	61.4
1	Less than 2 months	229	15965	46.2*	56.0*
2	Less than 3 months	177	13313	32.5*	48.1*
3	Less than 4 months	113	9671	18.6*	39.5*
4	Less than 5 months	57	6608	11.0*	27.2*
5	Less than 6 months	19	3552	7.3*	15.5*
6	Less than 7 months	9	1413	—	2.13

* Represents results with statistically significant differences between the Indigenous and non-Indigenous groups at the $p < 0.05$ level.

(a) 'To' indicates an infant's age the months before a fluid other than breastmilk was introduced. This is effectively the month before another fluid was introduced. For example, a child who was introduced to water when they were aged 4 months (in their fifth month of life) was exclusively breastfed to 4 months of age (that is, they had 4 completed months of exclusive breastfeeding). Similarly, a child who was introduced to water at age 1 month (in their second month of life) was exclusively breastfed to 1 month. Or, a child who was introduced to water at 0 months (in their first month of life) was exclusively breastfed to 0 months (or less than 1 month).

Source: Australian National Infant Feeding Survey 2010.

Table 2.20.14: Proportion of children predominately breastfed to each month of age by Indigenous status, 2010

		Number		To month	
To month[(a)]	Equivalent duration	Indig.	Non-Indig.	Indig.	Non-Indig.
0	Less than 1 month	345	25,266	64.9	64.7
1	Less than 2 months	249	17,113	54.3*	60.4*
2	Less than 3 months	200	14,566	40.6*	53.9*
3	Less than 4 months	138	10,881	30.4*	47.4*
4	Less than 5 months	80	7,767	16.6*	34.9*
5	Less than 6 months	28	4,372	10.0*	21.0*
6	Less than 7 months	12	1,864	0.1*	4.0*

* Represents results with statistically significant differences between the Indigenous and non-Indigenous groups at the $p < 0.05$ level.

(a) This indicates an infant's age the month before the event occurred. For example, a child who was introduced to the cow's milk when they were aged 4 months (in their fifth month of life) was predominately breastfed to 4 months of age (that is, they had 4 completed months of predominant breastfeeding).

Source: Australian National Infant Feeding Survey 2010.

- The 2010 ANIFS found that 31% of Indigenous infants aged three months had received soft, semi-solid or solid food in the last 24 hours compared with 9% of non-Indigenous infants. By the time infants reached 5 months, similar proportions of both groups had been given soft, semi-solid or solid food (70%) (Table 2.20.15).

Table 2.20.15: Proportion of children who had received soft/semi-solid/solid food in the last 24 hours, by Indigenous status and current age, 2010

	Number		Per cent	
Age (completed months)	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig,**
0 (less than 1 month)	0	33	n.a.	—
1 month	38	2292	—	0.7
2 months	59	3957	n.p.	2.2
3 months	76	4105	31.2*	9.3*
4 months	51	3907	52.3*	35.1*
5 months	55	3705	69.6	70.3
6 months	40	3596	93.1	91.5
7–12 months	29	2657	90.4	94.3
13–18 months	19	1826	94.4	95.2
19–24 months	24	1650	89.9	89.3

* Represents results with statistically significant differences between the Indigenous and non-Indigenous groups at the $p < 0.05$ level.

Note: The proportion for infants aged 0 months is based on 30 responses only.

Source: Australian National Infant Feeding Survey 2010.

- Around half (49%) of Indigenous infants aged 1 month received non-human milk or formula compared with 40% of non-Indigenous infants. By 6 months of age, 63% of Indigenous infants received non-human milk or formula compared with 55% of non-Indigenous infants (Table 2.20.16).

Table 2.20.16: Proportion of children receiving non-human milk or formula at each month of age, 0–12 months by Indigenous status, 2010

	Number		Per cent	
Age (completed months)	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig,**
0 (less than 1 month)	0	29	n.a.	26.5
1	36	2225	48.9	40.2
2	59	3853	45.2	43.1
3	77	3996	44.7	46.1
4	50	3837	47.0	48.3
5	55	3667	54.4	52.9
6	40	3583	62.9	55.0
7	13	970	76.6	61.6
8	5	409	67.1	68.4
9	3	344	n.p.	68.2
10	3	313	n.p.	75.0
11	3	321	n.p.	77.9

* Represents results with statistically significant differences between the Indigenous and non-Indigenous groups at the $p < 0.05$ level.

Note: The proportion for infants aged 0 months is based on 30 responses only.

Source: Australian National Infant Feeding Survey 2010.

Breastfeeding by selected demographic characteristics

- The 2010 ANIFS found that a higher proportion of Aboriginal and Torres Strait Islander children living in areas in the most advantaged quintile (5th quintile) had been breastfed at some point (99%) compared with children living in the most disadvantaged quintile (1st quintile) (94%) (Table 2.20.17).
- A similar proportion of Indigenous and non-Indigenous children had ever been breastfed in all states and territories except for Victoria where the proportion for Indigenous children was higher.
- Indigenous children living in major cities were slightly more likely to have ever been breastfed than Indigenous children living in regional or remote areas.

Table 2.20.17: Proportion of children ever breastfed, by Indigenous status and area-level characteristics, 2010

	Number		Per cent	
Socio-demographic characteristics	Indig.	Non-Indig.	Indig.	Non-Indig.
Socioeconomic status (SEIFA quintile)				
1st quintile (most disadvantaged)	95	3626	93.2	93.9
2nd quintile	98	4379	94.1	95.6
3rd quintile	104	5825	93.6	94.9
4th quintile	63	6428	97.8	96.1
5th quintile (most advantaged)	30	7447	99.1	97.8
State/territory				
NSW	126	9013	90.2	96.0
Vic	39	6815	98.6*	96.1*
Qld	125	5726	97.5	96.0
WA	42	2843	97.1	95.3
SA	12	2065	91.5	94.3
Tas	28	645	89.3	96.4
ACT	5	541	n.p.	99.6
NT	17	224	n.p.	99.4
Remoteness				
Major cities	166	20213	97.1	96.2
Inner Regional	105	4946	92.4	94.4
Outer regional	98	2169	93.6	97.1
Total non-remote	*369*	*27328*	*94.8*	*95.9*
Remote/very remote	24	461	95.9	97.9

* Represents results with statistically significant differences between the Indigenous and non-Indigenous groups at the $p < 0.05$ level.

Source: Australian National Infant Feeding Survey 2010.

Data quality issues

National Aboriginal and Torres Strait Islander Health Survey

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It has therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006a).

Breastfeeding data

The following points should be considered when interpreting data on breastfeeding from the NATSIHS:

- The sample size of infants less than 6 months of age will affect the reliability of estimates.
- Information is 'as reported' by respondents. No analysis has been undertaken regarding the accuracy of these reported data and whether the accuracy of recall by the adult respondent declines as the child gets older.
- In addition, the accuracy of the data may be reduced in cases where an adult other than the child's mother responded regarding the child; this occurred for around 27% of infants aged 0–3 years (21% non-remote, 33% remote).
- Issues relating to the benefits of breastfeeding have been widely promoted in the community and some respondents may have tended to report recommended practices rather than actual practices (ABS 2006b).
- In addition, respondents may not have interpreted the concept 'regularly' in relation to the solids question correctly, where they did not seek clarification from the interviewer. It should also be kept in mind that the inclusion both of infants who are still breastfeeding at the time of the survey and of infants who have ceased breastfeeding may produce estimates that are lower than expected.

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010).

2010 Australian National Infant Feeding Survey

The 2010 Australian National Infant Feeding Survey used two data collection modes: mail-out mail-in and 'online' options. The Australian Institute of Health and Welfare (AIHW) commissioned Educational Assessment Australia (EAA) to undertake formatting and scanning of the survey questionnaire. EAA also formatted and captured the 'online' survey forms. Medicare Australia extracted the sample and managed the mailing out of the survey communications and survey forms. The data collection period for the survey was from October 2010 to February 2011.

The sampling frame for the survey was the Medicare enrolment database. About 52,000 children aged up to 24 months were randomly selected nationwide. Medicare Australia applied an activity test when identifying children for inclusion in the sample. If there was at least one Medicare service or at least one episode recorded in the Australian Childhood

Immunisation Register in the previous 12 months (enrolment was considered an activity), the child was included in the sample (AIHW 2011).

The survey achieved a response rate of 56%, considered to be an exceptional result for a mail survey. Weights were applied to the survey data to adjust for differential probability of selection, differential response rates and also to adjust for non-coverage.

Limitations

As with all self-reported survey data, the major limitation of the survey was that the estimates are based on recall of infant feeding practices. Poor memory, misunderstanding of the question or intentional deception can all contribute to inaccuracies in the data. Further, although the sample size was reasonable for the national level, any estimates for subpopulations are based on a smaller sample size and are less precise.

Since the survey used the Medicare Australia enrolment database, children who were not enrolled at the time of sample selection date were excluded from the survey. Further, Medicare Australia performed an activity test, and only those children who had at least one Medicare service or Australian Childhood Immunisation Register episode in the previous 12 months (including enrolment) were included in the survey.

Only a small proportion of respondents were Indigenous (1.4%; 401 respondents).

Responses are based on mother's/carer's recall of infant feeding practices without reference to written records. As such, the prevalence estimates may overestimate or underestimate actual breastfeeding rates (AIHW 2011).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2006a. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat.no. 4715.0. Canberra: ABS.

ABS 2006b. National Aboriginal and Torres Strait Islander Health Survey 2004–05: user's guide. ABS cat.no. 4715.0.55.004. Canberra: ABS.

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AIHW (Australian Institute of Health and Welfare) 2011. 2010 Australian National Infant Feeding Survey: indicator results. Canberra: AIHW.

Webb K, Marks G, Lund-Adams M, Rutishauser IHE & Abraham B 2001. Towards a national system for monitoring breastfeeding in Australia. Canberra: Australian Food and Nutrition Monitoring Unit.

List of tables

2.21 Health behaviours during pregnancy

The use of tobacco, alcohol, illicit substances and other health issues during pregnancy

Data sources

Data for this measure mainly come from the AIHW National Perinatal Data Collection. Data from the National Aboriginal and Torres Strait Islander Social Survey and The Healthy for Life (HfL) program is also included.

National Perinatal Data Collection

Perinatal data included in this report come from the Australian Institute of Health and Welfare (AIHW) National Perinatal Epidemiology and Statistics Unit National Perinatal Data Collection (NPDC).

Each state and territory has a perinatal collection based on birth notifications completed by midwives and other staff, using information obtained from mothers and from hospital and other records. Perinatal notification forms are completed in Australia for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more.

The Perinatal National Minimum Data Set (NMDS) includes all births in Australia in hospitals, birth centres and the community. State-level data are based on place of mother's usual residence rather than place where birth occurred. Since 2005, all jurisdictions collect information on Indigenous status of the mother in accordance with the Perinatal NMDS. A data item on Indigenous status of the baby was added to the Perinatal National Minimum Data Set from 1 July 2012.

Data on Indigenous status are not reported for Tasmania prior to 2005 as the not stated category for Indigenous status was included with the non-Indigenous category. Data for Tasmania and the Australian Capital Territory are not deemed of sufficient stability to support trends analysis (AIHW: Leeds KL et al. 2007).

Data on mothers for whom Indigenous status was 'not stated' have been excluded from analysis.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including

family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Healthy for Life

The Healthy for Life (HfL) program is an ongoing program funded by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) of the Australian Government Department of Health and Ageing (DoHA). The program aims to improve the capacity and performance of primary health-care services to deliver high-quality maternal, children's and chronic disease care to Aboriginal and Torres Strait Islander people. This is carried out through population health approaches using best-practice and quality improvement principles.

Services participating in the HfL program are required to submit de-identified, aggregate service data for 11 essential indicators. These indicators cover maternal health, child health and chronic disease care on a regular basis (6 and 12 months), as well as information about the characteristics of their service and organisational infrastructure.

The Commonwealth and the AIHW are working with the States and Territories to develop a national Key Performance Indicator (KPI) framework for Indigenous primary health care services. The new National KPIs will replace the *Healthy for Life* program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services. The national KPI data collection will be implemented in three stages, with rollout in 2012 and 2013.

Data analyses

Proportions have been age-standardised using the direct age standardisation method to account for differences in the age structure of the Indigenous and non-Indigenous female populations who give birth.

Smoking during pregnancy

Information about smoking during pregnancy for is available for Indigenous and non-Indigenous mothers from the National Perinatal Data Collection. Additional data is available from the 2008 NATSISS, which collected data on selected health issues from Indigenous mothers with children aged 0–3 years.

- In 2009, 52% of Indigenous mothers and 13.2% of non-Indigenous mothers smoked during pregnancy. After adjusting for the different age structures of the two populations, Indigenous mothers smoked during pregnancy at 3.7 times the rate of non-Indigenous mothers (Table 2.21.1).
- The 2008 NATSISS found that 42% of the mothers of Indigenous children aged 0 to 3 years smoked or chewed tobacco during pregnancy. Approximately 18% used more or about the same amount of tobacco during pregnancy and 24% used less (Table 2.21.2).

Table 2.21.1: Tobacco smoking status of mothers during pregnancy, by Indigenous status and state/territory, 2009[(a)(b)]

Smoking status	NSW	Vic	Qld	WA	SA[(c)(d)]	Tas	ACT	NT[(d)(e)]	Total
Number									
Indigenous									
Smoked	1,517	308	1,756	897	352	147	42	576	5,595
Did not smoke	1,467	396	1,553	858	254	136	40	491	5,195
Not stated	8	64	23	4	18	0	0	371	488
Total	**2,992**	**768**	**3,332**	**1,759**	**624**	**283**	**82**	**1,438**	**11,278**
Non-Indigenous									
Smoked	10,169	7,679	9,717	3,571	3,478	1,392	475	311	36,792
Did not smoke	83,153	59,399	48,006	25,480	15,142	4,534	4,263	1,692	241,669
Not stated	44	1,723	226	4	309	36	52	391	2,785
Total	**93,366**	**68,801**	**57,949**	**29,055**	**18,929**	**5,962**	**4,790**	**2,394**	**281,246**
Crude proportion									
Indigenous									
Smoked	50.8	43.8	53.1	51.1	58.1	51.9	51.2	54.0	51.9
Did not smoke	49.2	56.3	46.9	48.9	41.9	48.1	48.8	46.0	48.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Non-Indigenous									
Smoked	10.9	11.4	16.8	12.3	18.7	23.5	10.0	15.5	13.2
Did not smoke	89.1	88.6	83.2	87.7	81.3	76.5	90.0	84.5	86.8
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Age standardised proportion[(f)]									
Indigenous									
Smoked	46.6	38.6	52.4	52.7	56.5	47.7	40.4	54.5	50.0
Did not smoke	53.4	61.4	47.6	47.3	43.5	52.3	59.6	45.5	50.0
Non-Indigenous									
Smoked	11.4	12.5	16.2	12.2	18.5	21.4	11.7	15.3	13.5
Did not smoke	88.6	87.5	83.8	87.8	81.5	78.6	88.3	84.7	86.5
Ratio[(g)]									
Smoked	4.1	3.1	3.2	4.3	3.0	2.2	3.4	3.6	3.7
Did not smoke	0.6	0.7	0.6	0.5	0.5	0.7	0.7	0.5	0.6
Rate difference									
Smoked	35.2	26.2	36.2	40.5	38.0	26.3	28.7	39.2	36.5
Did not smoke	–35.2	–26.2	–36.2	–40.5	–38.0	–26.3	–28.7	–39.2	–36.5

(continued)

Table 2.21.1 (continued): Tobacco smoking status of mothers during pregnancy, by Indigenous status and state/territory, 2009[(a)(b)]

(a) Excludes births where the mother's Indigenous status was not stated.

(b) Data are by place of usual residence of the mother. Table excludes non-residents, external territories and not stated state/territory of residence.

(c) For women who gave birth in SA, 'Smoked' includes women who quit before the first antenatal visit.

(d) For women who gave birth in SA and the NT, smoking status was recorded at the first antenatal visit.

(e) The proportion of Indigenous women smoked during pregnancy in NT is underestimated and will be increased when smoking status is assigned for the 'not stated' group. Caution should be used when interpreting these rates.

(f) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(g) Rate ratio is the age standardised rate for Indigenous mothers divided by the age standardised rate for non-Indigenous mothers.

Notes

1. Provisional data were provided by Victoria.
2. Because of differences in definitions and methods used for data collection, care must be taken when comparing across jurisdictions. Mother's tobacco smoking status during pregnancy is self-reported.
3. Percentages calculated after excluding records with missing or null values.

Source: AIHW (unpublished) National Perinatal Data Collection.

Table 2.21.2: Smoking during pregnancy, Indigenous mothers, children aged 0–3 years, by remoteness, 2008

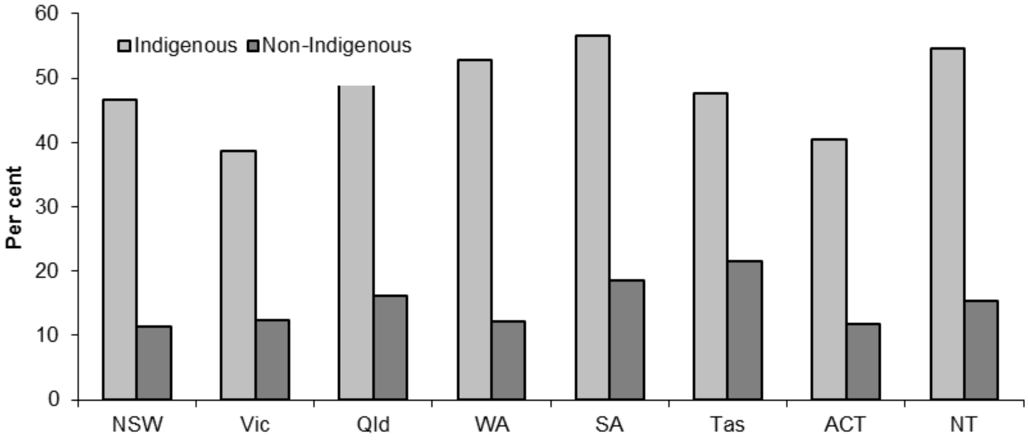
	No.	Per cent
Did not smoke/ chew tobacco during pregnancy	**24,781**	**57.9**
Did smoke/chew tobacco during pregnancy:	**17,990**	**42.1**
Used more or about the same during pregnancy	7,726	18.1
Used less during pregnancy	10,264	24.0
Total[(a)]	**42,771**	**100.0**

(a) Excludes not stated/not collected.

Source: ABS 2008 NATSISS.

Smoking during pregnancy by state/territory

- In 2009, South Australia had the highest proportion of Indigenous and non-Indigenous mothers who smoked during pregnancy (58% and 19% respectively). The largest rate ratio occurred in Western Australia, where Indigenous mothers smoked at 4.3 times the rate for non-Indigenous mothers (Table 2.21.1 and Figure 2.21.1).
- The 2008 NATSISS found the highest proportion of the mothers of Indigenous children aged 0 to 3 years who smoked or chewed tobacco during pregnancy was in South Australia, where 52% of mothers of Indigenous children aged 0 to 3 years smoked or chewed tobacco during pregnancy. The lowest proportion, which was 30%, was in the Australian Capital Territory (Table 2.21.3).



Source: AIHW analysis of National Perinatal Statistics Unit (NPSU) National Perinatal Data Collection.

Figure 2.21.1: Proportion of mothers who smoked during pregnancy, by Indigenous status and state/territory, 2009

Table 2.21.3: Smoking during pregnancy, Indigenous mothers, children aged 0–3 years, by state/territory 2008

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Aust	
Selected health issue	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Did not smoke/ chew tobacco during pregnancy	7,313	54.2	1,293	52.5	8,961	66.8	3,125	58.6	1,096	48.5	743	48.0	223	70.4	2,026	51.6	24,781	57.9
Did smoke/chew tobacco during pregnancy	6,189	45.8	1,172	47.5	4,459	33.2	2,212	41.4	1,162	51.5	805	52.0	94	29.6	1,898	48.4	17,990	42.1
Total[(a)]	**13,502**	**100.0**	**2,464**	**100.0**	**13,420**	**100.0**	**5,337**	**100.0**	**2,258**	**100.0**	**1,548**	**100.0**	**318**	**100.0**	**3,924**	**100.0**	**42,771**	**100.0**

(a) Excludes not stated/not collected.

Source: ABS 2008 NATSISS.

Smoking during pregnancy by remoteness

- In 2009, the proportion of Indigenous mothers who smoked during pregnancy increased with the increasing of remoteness, from 46.4% in major cities to 57.2% in very remote areas. For non-Indigenous mothers, the highest proportion (20%) occurred in outer regional areas. The highest rate ratio was in major cities, where Indigenous mothers were 3.7 times as likely as non-Indigenous mothers to smoke during pregnancy, followed by very remote areas where the rate ratio was 3.5. In inner regional, outer regional and remote areas Indigenous mothers were around three times as likely to smoke during pregnancy as non-Indigenous mothers (Table 2.21.4).
- The 2008 NATSISS found that 47% of mothers of Indigenous children aged 0 to 3 years in remote areas, and 41% in non-remote areas smoked or chewed tobacco during pregnancy (Table 2.21.5).

Smoking during pregnancy by maternal characteristics

- In 2009, a higher proportion of Indigenous mothers smoked during pregnancy than non-Indigenous mothers across all age groups. The rate of smoking by Indigenous and non-Indigenous mothers decreased with increasing age, however this decline was more pronounced for non-Indigenous mothers. Indigenous mothers aged 20–24 years were most likely to smoke during pregnancy (55%), followed by those aged 25–29 years (53%). The lowest percentage was for those aged 40 years and over (46%). For non-Indigenous mothers, the highest proportion occurred for mothers less than 20 years (35%), the lowest proportion (9%) was for mothers in 30–34 and 35–39 age groups (Table 2.21.4).
- In general, the rate of smoking by Indigenous or non-Indigenous mothers decreased with increasing of number of antenatal sessions attended. More than two thirds of Indigenous mothers who only attended one antenatal session smoked during pregnancy; the proportion for mothers having attended at least five sessions was 50.5%. For non-Indigenous mothers, 52% who only attended one antenatal session smoked during pregnancy and 16% who attended at least five sessions smoked during pregnancy (Table 2.21.4).

Table 2.21.4: Smoking during pregnancy by Indigenous status and maternal characteristics, 2009[(a)]

	Indigenous crude proportion (%)		Non-Indigenous crude proportion (%)		Indigenous age std. proportion (%)[(b)]				Non-Indigenous age std. proportion (%)[(b)]				Indigenous/non-Indigenous smoked	
	Smoked	Did not smoke	Smoked	Did not smoke	Smoked	Did not smoke	Rate ratio[(c)]	Rate difference	Smoked	Did not smoke	Rate ratio[(d)]	Rate difference	Rate ratio[(e)]	Rate difference
Remoteness														
Major cities	46.4	53.6	10.8	89.2	43.5	56.5	0.8	–13.0	11.6	88.4	0.1	–76.8	3.7	31.9
Inner regional	51.7	48.3	19.0	81.0	49.9	50.1	1.0	–0.1	17.9	82.1	0.2	–64.2	2.8	32.0
Outer regional	54.0	46.0	19.9	80.1	52.6	47.4	1.1	5.2	18.8	81.2	0.2	–62.3	2.8	33.8
Remote	54.5	45.5	18.5	81.5	54.1	45.9	1.2	8.2	17.7	82.3	0.2	–64.7	3.1	36.4
Very remote	57.2	42.8	16.5	83.5	56.8	43.2	1.3	13.7	16.2	83.8	0.2	–67.6	3.5	40.7
Total[(f)]	**51.8**	**48.2**	**13.2**	**86.8**	**50.0**	**50.0**	**1.0**	**0.0**	**13.5**	**86.5**	**0.2**	**–73.1**	**3.7**	**36.5**
Age of mother														
<20	51.3	48.7	34.8	65.2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
20–24	55.0	45.0	25.3	74.7	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
25–29	52.9	47.1	13.4	86.6	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
30–34	46.5	53.5	8.7	91.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
35–39	48.4	51.6	8.7	91.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
40+	45.7	54.3	10.0	90.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total[(g)]	**51.8**	**48.2**	**13.2**	**86.8**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**
Attended at least one antenatal session[(h)(i)]	53.6	46.4	17.2	82.8	53.3	46.7	1.1	6.7	17.6	82.4	0.2	–64.8	3.0	35.7
Attended no antenatal sessions[(h)(i)]	61.3	38.7	50.4	49.6	61.2	38.8	1.6	22.5	51.0	49.0	1.0	2.1	1.2	10.2

(continued)

Table 2.21.4 (continued): Smoking during pregnancy by Indigenous status and maternal characteristics, 2009[(a)]

	Indigenous crude proportion (%)		Non-Indigenous crude proportion (%)		Indigenous age std. proportion (%)[(b)]				Non-Indigenous age std. proportion (%)[(b)]				Indigenous/non-Indigenous smoked	
	Smoked	Did not smoke	Smoked	Did not smoke	Smoked	Did not smoke	Rate ratio[(c)]	Rate difference	Smoked	Did not smoke	Rate ratio[(d)]	Rate difference	Rate ratio[(e)]	Rate difference
Number of sessions attended[(h)(i)]														
0	61.3	38.7	50.4	49.6	61.2	38.8	1.6	22.5	51.0	49.0	1.0	2.1	1.2	10.2
1	67.6	32.4	51.8	48.2	70.2	29.8	2.4	40.5	50.7	49.3	1.0	1.3	1.4	19.6
2–4	66.1	33.9	36.5	63.5	68.0	32.0	2.1	36.1	34.4	65.6	0.5	–31.2	2.0	33.7
5+	50.5	49.5	16.2	83.8	49.7	50.3	1.0	–0.6	16.7	83.3	0.2	–66.6	3.0	33.0
Not stated	67.9	32.1	17.9	82.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Duration of pregnancy at first antenatal visit[(j)(k)]														
First trimester (<14 weeks)	47.5	52.5	10.9	89.1	44.1	55.9	0.8	–11.9	11.7	88.3	0.1	–76.6	3.8	32.3
Second trimester (14 to < 20 weeks)	54.3	45.7	16.4	83.6	51.0	49.0	1.0	2.1	16.1	83.9	0.2	–67.7	3.2	34.9
Third trimester (20 or more weeks)	60.3	39.7	23.7	76.3	63.5	36.5	1.7	26.9	22.4	77.6	0.3	–55.2	2.8	41.1
Gestation not stated	55.0	45.0	17.6	82.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

(continued)

Table 2.21.4 (continued): Smoking during pregnancy by Indigenous status and maternal characteristics, 2009[(a)]

(a) Women who gave birth in the period, whether resulting in a live or stillbirth, if the birthweight is at least 400 grams or the gestational age is 20 weeks or more.

(b) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(c) Rate ratio: proportion for Indigenous smoked divided by proportion for Indigenous did not smoke.

(d) Rate ratio: proportion for non-Indigenous smoked divided by proportion for non-Indigenous did not smoke.

(e) Rate ratio: proportion for Indigenous divided by proportion for non-Indigenous.

(f) Total includes non-resident mothers.

(g) Include mothers for whom maternal age was not stated.

(h) Data for Qld, SA and NT only. Women who gave birth in Queensland, SA or the NT but reside in another jurisdiction are not reported due to small numbers. Data not collected in NSW. These data are not generalisable to Australia.

(i) Number of antenatal visits is not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

(j) Data for NSW, Qld, SA and NT only. Women who gave birth in NSW, Qld, SA or the NT but reside in another jurisdiction are not reported due to small numbers. These data are not generalisable to Australia.

(k) Gestation at first antenatal visit is not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Notes

1. Because of differences in definitions and methods used for data collection, care must be taken when comparing across jurisdictions. Mother's tobacco smoking status during pregnancy is self-reported.
2. Percentages calculated after excluding records with missing or null values.

Source: AIHW (unpublished) National Perinatal Data Collection.

Table 2.21.5: Smoking during pregnancy, Indigenous mothers, children aged 0–3 years, by remoteness, 2008

	Major cities		**Inner regional**		**Outer regional**		***Total non-remote***		**Remote**		**Very remote**		***Total remote***		**Australia**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Did not smoke/ chew tobacco during pregnancy	8,891	62.8	5,522	53.4	5,736	60.1	20,148	59.2	2,061	55.8	2,572	51.1	4,633	53.1	24,781	57.9
Did smoke/chew tobacco during pregnancy:	5,266	37.2	4,826	46.6	3,806	39.9	13,899	40.8	1,630	44.2	2,462	48.9	4,092	46.9	17,990	42.1
Used more or about the same during pregnancy	2,526	17.8	1,551	15.0	1,720*	18.0	5,797	17.0	707*	19.2*	1,223	24.3	1,930	22.1	7,726	18.1
Used less during pregnancy	2,740	19.4	3,275	31.6	2,087	21.9	8,102	23.8	923*	25.0	1,239	24.6	2,162	24.8	10,264	24.0
Total[(a)]	**14,157**	**100.0**	**10,348**	**100.0**	**9,542**	**100.0**	**34,047**	**100.0**	**3,691**	**100.0**	**5,034**	**100.0**	**8,724**	**100.0**	**42,771**	**100.0**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Excludes not stated/not collected.

Source: ABS 2008 NATSISS.

Smoking during pregnancy by average number of cigarettes smoked per day

- In 2009, of Indigenous mothers who reported smoking during pregnancy in the six jurisdictions combined, over one third (36.5%) smoked an average of more than 10 cigarettes per day (Table 2.21.6).

Table 2.21.6: Indigenous mothers who smoked during pregnancy, by average number of cigarettes per day during second half of pregnancy, by state/territory, 2009[(a)]

Average number of cigarettes smoked per day	NSW	Vic	Qld[(b)]	SA[(c)]	Tas[(d)]	ACT	Total
				Number			
None	78	n.p.	n.p.	38	0	0	144
10 or less	677	94	519	189	87	22	1,588
More than 10	621	n.p.	n.p.	92	60	6	994
Total	**1,376**	**94**	**519**	**319**	**147**	**28**	**2,726**
				Proportion			
None	5.7	n.p.	n.p.	11.9	0.0	0.0	5.3
10 or less	49.2	100.0	100.0	59.2	59.2	78.6	58.3
More than 10	45.1	n.p.	n.p.	28.8	40.8	21.4	36.5
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Data are by place of usual residence of the mother. Women who gave birth in NSW, Victoria, Queensland, SA, Tasmania, or ACT but reside in another jurisdiction are not reported for this reason. Table excludes non-residents, external territories and not stated state/territory of residence.

(b) For Queensland, Average number of cigarettes smoked per day data were collected from 1 July 2009, therefore, these figures include the July-December period for Queensland only.

(c) For SA, 'Smoked' includes women who quit before the first antenatal visit.

(d) For Tas, smoking data includes all of pregnancy, not just the 2nd half of pregnancy.

Notes

1. Provisional data were provided by Victoria.
2. Because of differences in definitions and methods used for data collection, care must be taken when comparing across jurisdictions. Mother's tobacco smoking status during pregnancy is self-reported.
3. n.p. Data not published to maintain confidentiality of small number.

Source: AIHW (unpublished) National Perinatal Data Collection.

Smoking during pregnancy by baby outcomes

- In 2009, 15% of live-born babies born to Indigenous mothers who smoked during pregnancy were of low birthweight compared with 8% of babies born to Indigenous mothers who did not smoke during pregnancy. For non-Indigenous babies, 10% born to mothers who smoked during pregnancy were of low birthweight compared with 4.5% born to mothers who did not smoke during pregnancy (Table 2.21.7).
- The proportions of babies whose Apgar score was less than 7 at 5 minutes after birth were the same among babies born to Indigenous mothers who smoked during pregnancy and babies born to Indigenous mothers who did not smoke during pregnancy (2.7%) (Table 2.21.7).
- The perinatal death rate for babies born to Indigenous mothers who smoked during pregnancy was higher than the rate for babies born to Indigenous mothers who did not smoke during pregnancy (16 per 1,000 births compared with 14 per 1,000 births).
- During the period 2006–08, 33% of all low birthweight babies born to Indigenous mothers were attributable to smoking during pregnancy, compared with 13% for other Australian mothers. If the smoking rate during pregnancy among Indigenous mothers was the same as it was for other Australian mothers, the proportion of babies with low birthweight among the Indigenous population could be reduced by 24% (Table 2.21.8).
- After adjusting for age differences and all other factors, including pre-term delivery, socioeconomic status, remoteness areas and baby gender, 26% of all low birthweight babies born to Indigenous mothers were attributable to smoking during pregnancy, compared with 9% for other Australian mothers. If the smoking rate during pregnancy among Indigenous mothers was the same as it was for other Australian mothers, after accounting for other factors, the proportion of babies with low birthweight among the Indigenous population could be reduced by 19% (Table 2.21.9).

Table 2.21.7: Smoking during pregnancy by Indigenous status and baby outcomes, 2009

	Indigenous no.		Indigenous crude proportion		Indigenous age std. proportion(a)				Non-Indigenous no.		Non-Indigenous age std. proportion(a)				Indigenous/non-Indigenous smoked	
	Smoked	Did not smoke	Smoked	Did not smoke	Smoked	Did not smoke	Rate ratio(b)	Rate difference	Smoked	Did not smoke	Smoked	Did not smoke	Rate ratio(c)	Rate difference	Rate ratio(d)	Rate difference
Pre-term birth	755	527	13.5	10.1	14.3	10.7	1.3	3.6	3,711	16,191	10.2	6.7	1.5	3.5	1.4	4.1
Low birthweight(e)	779	393	14.1	7.6	14.9	7.8	1.9	7.0	3,457	10,725	9.7	4.5	2.2	5.2	1.5	5.2
Apgar score(e)																
0–3	45	26	0.8	0.5	0.8	0.5	1.6	0.3	135	665	0.4	0.3	1.4	0.1	2.1	0.4
4–6	79	100	1.4	1.9	1.6	1.6	1.0	0.0	521	2,644	1.4	1.1	1.3	0.3	1.1	0.2
7+	5,384	5,009	97.3	97.3	97.0	97.6	1.0	–0.6	35,713	236,921	97.9	98.5	1.0	–0.5	1.0	–0.9
Perinatal deaths per 1,000 births(f)	86	68	16.4	14.2	17.4	15.5	1.1	1.9	324	1,486	11.2	8.3	1.4	2.9	1.6	6.2

(a) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(b) Rate ratio: proportion for Indigenous smoked divided by proportion for Indigenous did not smoke.

(c) Rate ratio: proportion for non-Indigenous smoked divided by proportion for non-Indigenous did not smoke.

(d) Rate ratio: proportion for Indigenous divided by proportion for non-Indigenous.

(e) Data relate to live births only.

(f) 2009 Victorian data not received at the time of publication.

Note: Because of differences in definitions and methods used for data collection, care must be taken when comparing across jurisdictions. Mother's tobacco smoking status during pregnancy is self-reported.

Source: AIHW (unpublished) National Perinatal Data Collection.

Table 2.21.8: Unadjusted burden and gap analysis of low birthweight among live born babies by selected maternal characteristics and Indigenous status, 2006–2008

	Unadjusted RR (95% CI)		Unadjusted PAF[(a)]		Unadjusted PIF[(b)]
	Indigenous	Other[(c)]	Indigenous	Other[(c)]	
Age of mother					
<20	1.01(0.92,1.10)	1.29(1.24,1.34)*	1.2	5.7	n.a
20–24	0.96(0.88,1.05)	1.10(1.07,1.14)*			
25–29	REF	REF			
30–34	1.01(0.91,1.12)	0.99(0.96,1.01)			
35+	1.22(1.08,1.36)*	1.16(1.13,1.19)*			
Smoking during pregnancy[(d)]					
Yes	1.94(1.81,2.08)*	1.98(1.93,2.02)*	33.2	12.8	23.8
No	REF	REF			
Pre-term delivery					
Yes	13.56(12.70,14.48)*	29.99(29.42,30.58)*	61.5	68.3	25.5
No	REF	REF			
Parity					
Primiparas	0.99(0.93,1.06)	1.38(1.36,1.41)*	–0.2	13.8	0.1
Multiparas	REF	REF			
Multiple births					
Singletons	REF	REF	9.6	25.1	–2.7
Multiple births	5.21(4.73,5.73)*	11.47(11.24,11.69)*			
Socioeconomic status[(e)]					
Quintile 1 (least disadvantaged)	REF	REF	2.9	10.7	n.a
Quintile 2	0.92(0.75,1.14)	1.06(1.03,1.09)*			
Quintile 3	1.02(0.83,1.24)	1.11(1.08,1.15)*			
Quintile 4	1.01(0.83,1.22)	1.19(1.15,1.22)*			
Quintile 5 (most disadvantaged)	1.07(0.89,1.28)	1.23(1.20,1.27)*			
Remoteness					
Major cities and inner/outer regions	REF	REF	3.8	–0.2	n.a
Remote and very remote regions	1.14(1.07,1.22)*	0.88(0.82,0.94)*			

(continued)

Table 2.21.8 (continued): Unadjusted burden and gap analysis of low birthweight among live born babies by selected maternal characteristics and Indigenous status, 2006–2008

	Unadjusted RR (95% CI)		Unadjusted PAF[(a)]		Unadjusted PIF[(b)]
	Indigenous	Other[(c)]	Indigenous	Other[(c)]	
State[(f)]					
NSW	REF	REF	3.7	3.8	n.a
Vic	1.08(0.94,1.25)	1.09(1.06,1.11)*			
Qld	0.89(0.82,0.97)*	1.07(1.04,1.09)*			
WA	1.27(1.16,1.39)*	1.00(0.97,1.03)			
SA	1.17(1.02,1.34)*	1.04(1.00,1.08)*			
Tas	0.78(0.61,1.00)*	1.14(1.07,1.21)*			
ACT	1.03(0.70,1.51)	0.97(0.90,1.04)			
NT	1.15(1.04,1.28)*	0.99(0.90,1.09)			
Baby Gender					
Male	REF	REF	7.0	8.0	n.a
Female	1.15(1.08,1.23)*	1.18(1.16,1.20)*			

* significant at $p < 0.05$ level.

(a) Population Attributable Fraction (PAF) = Burden (%).

(b) Potential Impact Fraction (PIF) = Gap (%).

(c) Include non-Indigenous mothers and mothers for whom Indigenous status was not stated.

(d) Smoking during pregnancy data were not available in Victoria.

(e) Based on SEIFA Index of Relative Socioeconomic Advantage and Disadvantage 2006, population-based, using Australian cut-offs.

(f) Data are by place of usual residence of the mother. Table excludes Australian non-residents, residents of external territories and not stated State/Territory of residence.

Source: NPESU analysis of National Perinatal Data Collection.

Table 2.21.9: Adjusted burden and gap analysis of low birthweight among live born babies by selected maternal characteristics and Indigenous status, 2006–2008

	Adjusted(a) RR (95% CI)		Adjusted PAF(a)(b)		Adjusted PIF(a)(c)
	Indigenous	Other(d)	Indigenous	Other(d)	
Age of mother					
<20	0.98(0.89,1.08)	1.06(1.02,1.11)*	–0.8	2.3	n.a
20–24	0.98(0.89,1.07)	1.05(1.02,1.08)*			
25–29	REF	REF			
30–34	0.97(0.87,1.07)	0.99(0.97,1.02)			
35+	1.09(0.97,1.23)	1.07(1.05,1.10)*			
Smoking during pregnancy(e)					
Yes	1.66(1.54,1.78)*	1.67(1.63,1.71)*	25.9	9.1	18.5
No	REF	REF			
Pre-term delivery					
Yes	12.17(11.36,13.03)*	24.01(23.51,24.51)*	58.7	63.1	24.3
No	REF	REF			
Parity					
Primiparas	1.15(1.06,1.24)*	1.26(1.23,1.28)*	4.4	9.9	–1.6
Multiparas	REF	REF			
Multiple births					
Singletons	REF	REF	1.5	3.0	–0.4
Multiple births	1.62(1.46,1.79)*	1.97(1.93,2.01)*			
Socioeconomic status(f)					
Quintile 1 (least disadvantaged)	REF	REF	5.9	6.6	n.a
Quintile 2	1.03(0.83,1.27)	1.03(1.00,1.06)*			
Quintile 3	1.05(0.86,1.29)	1.07(1.04,1.11)*			
Quintile 4	1.07(0.88,1.30)	1.11(1.08,1.15)*			
Quintile 5 (most disadvantaged)	1.07(0.89,1.30)	1.13(1.10,1.17)*			
Remoteness					
Major cities and inner/outer regions	REF	REF	2.2	0.2	n.a
Remote and very remote regions	1.08(0.99,1.18)	1.09(1.02,1.17)*			

(continued)

Table 2.21.9 (continued): Adjusted burden and gap analysis of low birthweight among live born babies by selected maternal characteristics and Indigenous status, 2006–2008

	Adjusted[a] RR (95% CI)		Adjusted PAF[a][b]		Adjusted PIF[a][c]
	Indigenous	Other[d]	Indigenous	Other[d]	
State[g]					
NSW	REF	REF	–1.4	–6.2	n.a
Vic	1.06(0.87,1.30)	0.87(0.81,0.93)*			
Qld	0.91(0.83,0.99)*	0.93(0.91,0.96)*			
WA	1.10(1.00,1.22)	0.94(0.91,0.97)*			
SA	0.99(0.86,1.14)	0.93(0.90,0.97)*			
Tas	0.88(0.69,1.12)	0.94(0.88,1.00)*			
ACT	0.92(0.62,1.37)	1.02(0.94,1.10)			
NT	0.99(0.87,1.12)	0.95(0.86,1.06)			
Baby Gender					
Male	REF	REF	8.5	10.4	n.a
Female	1.19(1.12,1.27)*	1.24(1.22,1.26)*			

* significant at $p < 0.05$ level.

(a) Adjusted for age and all other factors in table.

(b) Population Attributable Fraction (PAF) = Burden (%).

(c) Potential Impact Fraction (PIF) = Gap (%).

(d) Include non-Indigenous mothers and mothers for whom Indigenous status was not stated.

(e) Smoking during pregnancy data were not available in Victoria.

(f) Based on SEIFA Index of Relative Socioeconomic Advantage and Disadvantage 2006, population-based, using Australian cut-offs.

(g) Data are by place of usual residence of the mother. Table excludes Australian non-residents, residents of external territories and not stated State/Territory of residence.

Source: NPESU analysis of National Perinatal Data Collection.

Alcohol consumption during pregnancy

- According to the NATSISS, in 2008, 3.3% of mothers of Indigenous children aged 0–3 years drank more or the same amount of alcohol during pregnancy, 16% drank less and 80% did not drink at all during their pregnancy (Table 2.21.10).
- The proportion of mothers who did not drink alcohol during pregnancy was greatest in the Northern Territory (85%), and lowest in Victoria and Queensland (77%). The proportion of mothers who drank more or the same amount of alcohol during pregnancy was greatest in Tasmania and the Australian Capital Territory combined (6%) and lowest in South Australia and Queensland (2%) (Table 2.21.10).

Table 2.21.10: Alcohol consumption by child's mother during pregnancy, Indigenous children aged 0–3 years, by state/territory, 2008

Alcohol consumption	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas/ ACT**	**NT**	**Aust.**
	%	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Drank more or the same amount of alcohol during pregnancy	3.4	5.4	2.3	5.0	1.8	6.0	3.0	3.3
Drank less alcohol during pregnancy	14.1	17.6	20.5	15.7	15.2	13.1	11.9	16.3
Did not drink alcohol during pregnancy	82.6	77.0	77.3	79.3	83.1	80.9	85.1	80.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**13,261**	**2,474**	**13,334**	**5,444**	**2,240**	**1,856**	**4,144**	**42,753**

Note: Excludes not stated & not collected.

Source: AIHW analysis of 2008 NATSISS.

Substance use during pregnancy

- According to NATSISS 2008, 5% of the mothers of Indigenous children aged 0–3 years used illicit drugs or substances during pregnancy (Tables 2.21.11, 2.21.12).
- The rate of use of illicit drugs or substances during pregnancy by the mothers of Indigenous children aged 0–3 years was highest in Victoria (9.3%), followed by Western Australia (8.5%). The lowest rate was in New South Wales and Queensland (3.9%) (Table 2.21.11).
- In 2008, the rate use of illicit drugs or substances during pregnancy by the mothers of Indigenous children aged 0–3 years was similar in remote (4.9%) and non-remote areas (5%) (Table 2.21.12).

Table 2.21.11: Illicit drug or substance use by child's mother during pregnancy, Indigenous children aged 0–3 years, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas/ACT	NT	Aust.
				Per cent				
Used illicit drugs/ substances during pregnancy	3.9	9.3	3.9	8.5	6.1	4.2	4.2	5.0
Did not use illicit drugs/ substances during pregnancy	96.1	90.7	96.1	91.5	93.9	95.8	95.8	95.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**16,132**	**3,336**	**16,523**	**6,767**	**2,730**	**2,444**	**5,948**	**53,880**

Source: AIHW analysis of 2008 NATSISS.

Table 2.21.12: Illicit drug or substance use, by child's mother during pregnancy, by remoteness, Indigenous children aged 0–3 years, 2008

	Remote		Non-Remote		Australia	
	Number	Per cent	Number	Per cent	Number	Per cent
Used illicit substances during pregnancy	429	4.9	1,693	5.0	2,122	5.0
Did not use illicit substances during pregnancy	8,295	95.1	32,354	95.0	40,649	95.0
Total	**8,724**	**100.0**	**34,047**	**100.0**	**42,771**	**100.0**
Not collected	3,256	27.2	7,853	18.7	11,109	20.6

Source: 2008 NATSISS.

Health issues of Indigenous mothers during pregnancy

Information about selected health issues of Indigenous mothers during pregnancy is available from the 2008 NATSISS.

- In 2008, 9% of Indigenous mothers in Australia had diabetes or sugar problem during pregnancy; 14% had high blood pressure and 44% took medications or supplements during pregnancy (Table 2.21.13)
- In 2008, the proportion of Indigenous mothers having high blood pressure and took medication or supplements during pregnancy was the highest in Western Australia (20% and 55% respectively) (Table 2.21.13).
- In 2008, about 55% of all Indigenous mothers did not seek advice/information about pregnancy or child birth. The proportion was the highest in the Northern Territory (67%) (Table 2.21.13).
- Indigenous mothers in non-remote areas were less likely to have high blood pressure during pregnancy (14%) in comparison to those in remote areas (16%) (Table 2.21.15). Indigenous mothers in non-remote areas were also less likely to take medications or supplements during pregnancy (41%) in comparison with Indigenous mothers who lived in remote area (54%) (Table 2.21.14).
- Indigenous mothers who sought advice during pregnancy were less likely to smoke during pregnancy than those who did not seek advice (64% compared with 53%), and were more likely to take folate than those who did not (Table 2.21.15).

Table 2.21.13: Selected health issues of Indigenous mothers, children aged 0–3 years, by state/territory, 2008

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Aust	
Selected health issue	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Whether child's mother had diabetes or sugar problems during pregnancy																		
Had diabetes or sugar problems	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	8.5
Did not have diabetes or sugar problems	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	91.5
Total(a)	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**100.0**
Whether child's mother had high blood pressure during pregnancy																		
Did have high blood pressure	2,702	17.4	486	14.8	1,337	8.4	1,268	20.1	425	16.0	302	16.7	88*	21*	688	13.5	7,295	14.3
Did not have high blood pressure	12,832	82.6	2,792	85.2	14,640	91.6	5,044	79.9	2,234	84.0	1,510	83.3	332	79.0	4,422	86.5	43,806	85.7
Total(a)	**15,534**	**100.0**	**3,278**	**100.0**	**15,977**	**100.0**	**6,312**	**100.0**	**2,658**	**100.0**	**1,811**	**100.0**	**420**	**100.0**	**5,111**	**100.0**	**51,102**	**100.0**
Whether child's mother took folate prior to or during pregnancy																		
Took folate prior to and/or during pregnancy	9,103	59.5	1,981	61.4	7,719	48.7	2,930	47.0	1,342	50.6	1,238	68.3	245	58.3	1,735	34.1	26,293	52.0
Did not take folate	6,197	40.5	1,245	38.6	8,140	51.3	3,300	53.0	1,310	49.4	574	31.7	176*	41.7*	3,357	65.9	24,298	48.0
Total(a)	**15,300**	**100.0**	**3,226**	**100.0**	**15,859**	**100.0**	**6,230**	**100.0**	**2,652**	**100.0**	**1,811**	**100.0**	**420**	**100.0**	**5,092**	**100.0**	**50,591**	**100.0**
Whether child's mother took other medications or supplements during pregnancy																		
Took medications or supplements during pregnancy	5,851	38.2	1,201	36.7	7,230	45.2	3,459	54.7	1,267	47.8	634	35.0	141*	35.4*	2,597	50.6	22,381	44.0
Did not take medications or supplements during pregnancy	9,449	61.8	2,072	63.3	8,767	54.8	2,864	45.3	1,386	52.2	1,178	65.0	258	64.6	2,536	49.4	28,509	56.0
Total(a)	**15,300**	**100.0**	**3,274**	**100.0**	**15,997**	**100.0**	**6,324**	**100.0**	**2,652**	**100.0**	**1,811**	**100.0**	**399**	**100.0**	**5,133**	**100.0**	**50,890**	**100.0**

(continued)

Table 2.21.13 (continued): Selected health issues of Indigenous mothers, children aged 0–3 years, by state/territory, 2008

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Aust	
Selected health issue	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Whether child's mother sought advice or information about pregnancy or child birth																		
Sought advice/ information about pregnancy or child birth	5,590	41.4	1,501	60.9	6,419	47.8	2,685	50.3	943	41.8	522	33.7	122*	38.3*	1,348	34.3	19,129	44.7
Did not seek advice/ information about pregnancy or child birth	7,912	58.6	964	39.1	7,000	52.2	2,652	49.7	1,315	58.2	1,026	66.3	196	61.7	2,577	65.7	23,642	55.3
Total[(a)]	**13,502**	**100.0**	**2,464**	**100.0**	**13,420**	**100.0**	**5,337**	**100.0**	**2,258**	**100.0**	**1,548**	**100.0**	**318**	**100.0**	**3,924**	**100.0**	**42,771**	**100.0**
Where child's mother sought advice or information about pregnancy or child birth																		
Discussion/ advice from family or friends	2,516	18.6	923	37.5	3,701	27.6	1,234	23.1	431	19.1	254*	16.4	72*	22.8	774	19.7	9,905	23.2
Other	5,053	37.4	1,450	58.9	5,433	40.5	2,424	45.4	863	38.2	465	30.1	107*	33.5*	978	24.9	16,773	39.2
No advice sought	7,912	58.6	964	39.1	7,000	52.2	2,652	49.7	1,315	58.2	1,026	66.3	196	61.7	2,577	65.7	23,642	55.3
Total[(a)(b)]	**13,502**	**100.0**	**2,464**	**100.0**	**13,420**	**100.0**	**5,337**	**100.0**	**2,258**	**100.0**	**1,548**	**100.0**	**318**	**100.0**	**3,924**	**100.0**	**42,771**	**100.0**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Excludes not stated/not collected.

(b) Total will not add as respondents may have sought advice from family or friends as well as from other sources of advice.

Source: ABS 2008 NATSISS.

Table 2.21.14: Selected health issues of Indigenous mothers, children aged 0–3 years, by remoteness, 2008

	Major cities		Inner regional		Outer regional		*Total non-remote*		Remote		Very remote		*Total remote*		Australia	
Selected health issue	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Whether child's mother had diabetes or sugar problems during pregnancy																
Had diabetes or sugar problems	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3,438	8.5	n.a.	n.a.	n.a.	n.a.	923	8.4	4,361	8.5
Did not have diabetes or sugar problems	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	37,082	91.5	n.a.	n.a.	n.a.	n.a.	10,066	91.6	47,149	91.5
Total[(a)]	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**40,520**	**100.0**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**10,990**	**100.0**	**51,510**	**100.0**
Whether child's mother had high blood pressure during pregnancy																
Did have high blood pressure	1,956	11.7	2,177	17.5	1,459	13.1	5,593	13.9	735	17.3	968	14.7	1,702	15.7	7,295	14.3
Did not have high blood pressure	14,733	88.3	10,242	82.5	9,709	86.9	34,684	86.1	3,520	82.7	5,602	85.3	9,122	84.3	43,806	85.7
Total[(a)]	**16,690**	**100.0**	**12,419**	**100.0**	**11,168**	**100.0**	**40,277**	**100.0**	**4,254**	**100.0**	**6,570**	**100.0**	**10,824**	**100.0**	**51,102**	**100.0**
Whether child's mother took folate prior to or during pregnancy																
Took folate prior to and/or during pregnancy	9,525	57.7	7,367	59.5	5,181	47.1	22,074	55.3	2,093	50.6	2,126	32.4	4,219	39.4	26,293	52.0
Did not take folate	6,978	42.3	5,014	40.5	5,819	52.9	17,811	44.7	2,043	49.4	4,444	67.6	6,487	60.6	24,298	48.0
Total[(a)]	**16,504**	**100.0**	**12,382**	**100.0**	**10,999**	**100.0**	**39,885**	**100.0**	**4,135**	**100.0**	**6,571**	**100.0**	**10,706**	**100.0**	**50,591**	**100.0**
Whether child's mother took other medications or supplements during pregnancy																
Took medications or supplements during pregnancy	7,092	43.0	4,767	38.4	4,662	41.9	16,521	41.3	2,081	49.4	3,779	56.9	5,860	54.0	22,381	44.0
Did not take medications or supplements during pregnancy	9,401	57.0	7,651	61.6	6,460	58.1	23,512	58.7	2,135	50.6	2,862	43.1	4,997	46.0	28,509	56.0
Total[(a)]	**16,493**	**100.0**	**12,419**	**100.0**	**11,122**	**100.0**	**40,033**	**100.0**	**4,217**	**100.0**	**6,640**	**100.0**	**10,857**	**100.0**	**50,890**	**100.0**

(continued)

Table 2.21.14 (continued): Selected health issues of Indigenous mothers, children aged 0–3 years, by remoteness, 2008

	Major cities		Inner regional		Outer regional		*Total non-remote*		Remote		Very remote		*Total remote*		Australia	
Selected health issue	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Whether child's mother sought advice or information about pregnancy or child birth																
Sought advice/ information about pregnancy or child birth	6,650	47.0	4,709	45.5	4,349	45.6	15,707	46.1	1,335	36.2	2,088	41.5	3,423	39.2	19,129	44.7
Did not seek advice/ information about pregnancy or child birth	7,507	53.0	5,639	54.5	5,194	54.4	18,340	53.9	2,356	63.8	2,946	58.5	5,302	60.8	23,642	55.3
Total[(a)]	**14,157**	**100.0**	**10,348**	**100.0**	**9,542**	**100.0**	**34,047**	**100.0**	**3,691**	**100.0**	**5,034**	**100.0**	**8,724**	**100.0**	**42,771**	**100.0**
Where child's mother sought advice or information about pregnancy or child birth																
Discussion/ advice from family or friends	3,738	26.4	2,295	22.2	2,730	28.6	8,763	25.7	381*	10.3*	761	15.1	1,142	13.1	9,905	23.2
Other	5,849	41.3	4,071	39.3	3,926	41.1	13,845	40.7	1,209	32.7	1,719	34.2	2,928	33.6	16,773	39.2
No advice sought	7,507	53.0	5,639	54.5	5,194	54.4	18,340	53.9	2,356	63.8	2,946	58.5	5,302	60.8	23,642	55.3
Total[(a)(b)]	**14,157**	**100.0**	**10,348**	**100.0**	**9,542**	**100.0**	**34,047**	**100.0**	**3,691**	**100.0**	**5,034**	**100.0**	**8,724**	**100.0**	**42,771**	**100.0**

* Relative standard error is between 25 and 50 and data should be used with caution.

(a) Excludes not stated/not collected.

(b) Total will not add as respondents may have sought advice from family or friends as well as from other sources of advice.

Source: ABS 2008 NATSISS.

Table 2.21.15: Selected pregnancy behavioural risk factors of Indigenous mothers, children aged 0–3 years, by advice sought, 2008

	Sought advice		Did not seek advice	
	No.	%	No.	%
Took folate prior to or during pregnancy	12,095	63.2	10,564	44.7
Did not smoke or chew tobacco during pregnancy	12,225	63.9	12,556	53.1

Source: 2008 NATSISS (ABS 2010b).

Healthy for Life data

Data from the period July 2009 to June 2010 on the risk factor status of pregnant women who were regular clients of a Healthy for Life Indigenous primary health-care service, gave birth to an Indigenous baby and attended an antenatal visit are presented below. Risk factor data was collected on smoking status, alcohol consumption and illicit drug use.

- Of mothers who were regular clients of a Healthy for Life Indigenous primary health-care service and attended antenatal care in the first trimester, 55% reported smoking, 30% reported low/high-risk alcohol consumption and 15% reported using illicit drugs in 2009–10 (Table 2.21.16).

Risk factor status by age

- The proportion of women who were regular clients of a Healthy for Life Indigenous primary health-care service, attended antenatal care in the first trimester and who reported smoking during pregnancy was similar across all age groups (Table 2.21.10). For those who attended antenatal care in the third trimester, the rate who reported smoking during pregnancy was lowest in the less than 20 years age group (53%) and highest in the 35 years and over age group (57%) (Table 2.21.17).
- The proportion of women who were regular clients of a Healthy for Life Indigenous primary health-care service, attended antenatal care in the first trimester and who reported low/high-risk alcohol consumption was lowest in the less than 20 years age group (23%) and similar across the other age groups (31%). (Table 2.21.10). For those who attended antenatal care in the third trimester, the proportion who reported low/high-risk alcohol consumption was lowest in the less than 20 years age group (11%) and highest in the 35 years and over age group (29%) (Table 2.21.17).
- The rate of illicit drug use during pregnancy among women who were regular clients of a Healthy for Life Indigenous primary health-care service, and attended antenatal care in the first trimester was highest for women aged 35 years and over (22%). The rates were around 15% for those aged less than 20 years and 20 to 34 years (Table 2.21.16). A similar pattern was observed for women who attended an antenatal visit in the third trimester of pregnancy (Table 2.21.17).

Table 2.21.16: Risk factors status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit before 13 weeks of pregnancy, by mother's age group, 1 July 2009–30 June 2010

Risk factors	<20 years %	20–34 years %	35 years and over %	Total
Smoking				
Smoker[(c)]	59.7	53.9	57.9	55.3
Other[(d)]	40.3	46.1	42.1	44.7
Total number	**134**	**512**	**57**	**703**
Alcohol consumption				
Low/high risk alcohol consumption[(e)]	22.8*	31.2*	31.4	29.6
No alcohol consumption[(f)]	77.2	68.8	68.6	70.4
Total number	**123**	**474**	**51**	**648**
Illicit drug use status				
Used illicit drugs[(g)]	15.7*	14.7*	22.0	15.4
Other[(h)]	84.3	85.3	78.0	84.6
Total number	**108**	**408**	**41**	**557**

(continued)

Table 2.21.16 (continued): Risk factors status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit before 13 weeks of pregnancy, by mother's age group, 1 July 2009–30 June 2010

* Represents results with statistically significant differences at the p<0.05 level between <20 years age group and other age groups percentages.

(a) Women who were regular clients of the HfL service.

(b) Women who gave birth to an Indigenous baby in the current reporting period.

(c) Smoker includes daily smokers, weekly smokers and irregular smokers (people who smoke tobacco less than weekly).

(d) Other includes ex-smokers and non-smokers.

(e) Low risk alcohol consumption: a person who over a week has less than 7 standard drinks, or on any one day, has no more than 2 standard drinks (spread over at least two hours). High-risk alcohol consumption: a person who over a week has more than 7 standard drinks, AND on any one day, more than 2 standard drinks.

(f) A person who does not drink at all during pregnancy.

(g) Used illicit drugs include daily, weekly and irregular users (a person who uses less than weekly).

(h) Other includes ex-users and non-users).

Notes

1. This table refers to data provided by a subset of 64 services that provided data by age group and sex.
2. Services used their own definition of regular client.
3. Women whose smoking status, alcohol consumption or illicit drug use status was not recorded were not included the corresponding parts of this table.
4. Numerator is the number of women by smoking status, alcohol consumption or illicit drug use before 13 weeks of pregnancy and Denominator is the total number of women who had an antenatal visit before 13 weeks of pregnancy whose smoking status, alcohol consumption or illicit drug was recorded.

Source: AIHW, Healthy for Life data collection.

Table 2.21.17: Risk factors status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit in the third trimester of pregnancy, by mother's age group, 1 July 2009–30 June 2010

Risk factors	<20 years %	20–34 years %	35 years and over %	Total %
Smoking				
Smoker[(c)]	53.2*	54.6*	57.4	54.6
Other[(d)]	46.8	45.4	42.6	45.4
Total	**252**	**796**	**94**	**1,142**
Alcohol consumption				
Low/high risk alcohol consumption[(e)]	11.1*	16.9*	29.2	16.7
No alcohol consumption[(f)]	88.9	83.1	70.8	83.3
Total	**226**	**732**	**89**	**1,047**
Illicit drug use status				
Used illicit drugs [(g)]	10.7*	12.1*	16.7	12.2
Other[(h)]	89.3	87.9	83.3	87.8
Total	**214**	**679**	**78**	**971**

(continued)

Table 2.21.17 (continued): Risk factors status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit in the third trimester of pregnancy, by mother's age group, 1 July 2009–30 June 2010

* Represents results with statistically significant differences at the $p<0.05$ level between <20 years age group and other age groups percentages.

(a) Women who were regular clients of the HfL service.

(b) Women who gave birth to an Indigenous baby in the current reporting period.

(c) Smoker includes daily smokers, weekly smokers and irregular smokers (people who smoke tobacco less than weekly).

(d) Other includes ex-smokers and non-smokers.

(e) Low risk alcohol consumption: a person who over a week has less than 7 standard drinks, AND on any one day, has no more than 2 standard drinks (spread over at least two hours). High-risk alcohol consumption: a person who over a week has more than 7 standard drinks, OR on any one day, more than 2 standard drinks.

(f) A person who does not drink at all during pregnancy.

(g) Used illicit drugs include daily, weekly and irregular users (a person who uses less than weekly).

(h) Other includes ex-users and non-users (a person who does not use now and has not used in the last 12 months).

Notes

1. This table refers to data provided by a subset of 63 services that provided data by age group and sex.
2. Services used their own definition of regular client.
3. Women whose smoking status, alcohol consumption or illicit drug use status was not recorded were not included in the corresponding parts of this table.
4. Numerator is the number of women by smoking status, alcohol consumption or illicit drug use in the third trimester of pregnancy and Denominator is the total number of women who had an antenatal visit in the third trimester of pregnancy whose smoking status, alcohol consumption or illicit drug was recorded.

Source: AIHW, Healthy for Life data collection.

Risk factor status by state/territory

- In July 2009 to June 2010, the proportion of women who were regular clients of a Healthy for Life Indigenous primary health-care service, attended antenatal care in the first trimester and reported smoking during pregnancy was similar across all jurisdictions (Table 2.21.18). For women who attended antenatal care in the third trimester, South Australia had the highest proportion who reported smoking during pregnancy (68%) (Table 2.21.19).
- The proportion of women who were regular clients of a Healthy for Life Indigenous primary health-care service, attended an antenatal visit in the first trimester and reported consuming alcohol at low/high levels of risk during pregnancy was not significantly different between jurisdictions (Table 2.21.18). For women who attended antenatal care in the third trimester, Victoria/Tasmania had the highest proportion who reported consuming alcohol at low/high levels of risk during pregnancy (21%), and the Northern Territory had the lowest proportion (12%) (Table 2.21.19).
- In July 2009 to June 2010, South Australia had the highest rate (48%) of reported illicit drug use during pregnancy by women who were regular clients of a Healthy for Life Indigenous primary health-care service and attended an antenatal visit in the first trimester; the lowest reported rate was in the Northern Territory (7%) (Table 2.21.18).

Table 2.21.18: Risk factors status of women[a] who gave birth to an Indigenous baby[b] who attended an antenatal visit before 13 weeks of pregnancy, by state/territory, 1 July 2009–30 June 2010

Risk factors	NSW/ACT %	Vic/Tas %	Qld %	WA %	SA %	NT %	Total %
Smoking status							
Smoker[c]	48.5	56.5	58.3	50.0	69.1	62.4	56.0
Other[d]	51.5	43.5	41.7	50.0	30.9	37.6	44.0
Total Number	**165**	**62**	**127**	**148**	**55**	**170**	**727**
Alcohol consumption							
Low/high risk alcohol consumption[e]	22.0	35.0	20.2	43.9	46.2	20.1	28.6
No alcohol consumption[f]	78.0	65.0	79.8	56.1	53.8	79.9	71.4
Total Number	**132**	**60**	**124**	**148**	**39**	**169**	**672**
Illicit drug use status							
Used drugs[g]	17.9*	14.8	12.3	15.1	48.4	7.1*	14.8
Other[h]	82.1	85.2	87.7	84.9	51.6	92.9	85.2
Total Number	**117**	**61**	**57**	**146**	**31**	**169**	**581**

* Represents results with statistically significant differences at the p<0.05 level between NSW/ACT and VIC/TAS, QLD, WA, SA, NT percentages.

(a) Women who were regular clients of the HfL service.

(b) Women who gave birth to an Indigenous baby in the current reporting period.

(c) Smoker includes daily smokers, weekly smokers and irregular smokers (people who smoke tobacco less than weekly).

(d) Other includes ex-smokers and non-smokers.

(e) Low risk alcohol consumption: a person who over a week has less than 7 standard drinks, AND on any one day, has no more than 2 standard drinks (spread over at least two hours). High-risk alcohol consumption: a person who over a week has more than 7 standard drinks, OR on any one day, more than 2 standard drinks.

(f) A person who does not drink at all during pregnancy.

(g) Used illicit drugs include daily, weekly and irregular users (a person who uses less than weekly).

(h) Other includes ex-users and non-users.

Notes

1. Valid data for this indicator were provided by 65 services (NSW/ACT 12, Vic/Tas 14, Qld 9, WA 8, SA 12 and NT 10).
2. Services used their own definition of regular client.
3. Numerator is the number of women by smoking status, alcohol consumption or illicit drug use before 13 weeks of pregnancy and Denominator is the total number of women who had an antenatal visit before 13 weeks of pregnancy whose smoking status, alcohol consumption or illicit drug was recorded.

Source: AIHW, Healthy for Life data collection.

Table 2.21.19: Risk factors status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit in the third trimester of pregnancy, by state/territory, 1 July 2009–30 June 2010

Risk factors	NSW/ACT %	Vic/Tas %	Qld %	WA %	SA %	NT %	Total %
Smoking status							
Smoker[(c)]	52.4*	64.6	52.9	49.1*	67.6	55.5*	54.5
Other[(d)]	47.6	35.4	47.1	50.9	32.4	44.5	45.5
Total	**231**	**99**	**187**	**275**	**74**	**310**	**1,176**
Alcohol consumption							
Low/high risk alcohol consumption[(e)]	15.3*	21.3	15.8*	19.6*	15.9	12.4*	16.2
No alcohol consumption[(f)]	84.7	78.7	84.2	80.4	84.1	87.6	83.8
Total	**209**	**89**	**152**	**270**	**63**	**298**	**1,081**
Illicit drug use status							
Used drugs[(g)]	15.1*	20.5	5.1*	15*	16.7	5.1*	11.7
Other[(h)]	84.9	79.5	94.9	85.0	83.3	94.9	88.3
Total	**205**	**88**	**98**	**266**	**54**	**294**	**1,005**

* Represents results with statistically significant differences p<0.05 level between NSW/ACT and VIC/TAS, QLD, WA, SA, NT percentages.

(a) Women who were regular clients of the HfL service.

(b) Women who gave birth to an Indigenous baby in the current reporting period.

(c) Smoker includes daily smokers, weekly smokers and irregular smokers (people who smoke tobacco less than weekly).

(d) Other includes ex-smokers and non-smokers.

(e) Low risk alcohol consumption: a person who over a week has less than 7 standard drinks, AND on any one day, has no more than 2 standard drinks (spread over at least two hours). High-risk alcohol consumption: a person who over a week has more than 7 standard drinks, OR on any one day, more than 2 standard drinks.

(f) A person who does not drink at all during pregnancy.

(g) Used illicit drugs include daily, weekly and irregular users (a person who uses less than weekly).

(h) Other includes ex-users and non-users.

Notes

1. Valid data for this indicator were provided by 64 services (NSW/ACT 12, Vic/Tas 14, Qld 8, WA 8, SA 12 and NT 10).
2. Services used their own definition of regular client.
3. Numerator is the number of women by smoking status, alcohol consumption or illicit drug use in the third trimester of pregnancy and Denominator is the total number of women who had an antenatal visit in the third trimester of pregnancy whose smoking status, alcohol consumption or illicit drug was recorded.

Source: AIHW, Healthy for Life data collection.

Risk factor status by remoteness

- From July 2009 to June 2010, the proportion of women who were regular clients of a Healthy for Life Indigenous primary health-care service, attended an antenatal visit in the first trimester and reported smoking during pregnancy was similar across all remoteness areas (Table 2.21.20). A similar pattern was observed for women who attended antenatal care in the third trimester (Table 2.21.21).
- The rate of reported low/high risk alcohol consumption of women who were regular clients of a Healthy for Life Indigenous primary health-care service and attended an antenatal visit in the first trimester was similar across all remoteness areas (Table 2.21.20). For women who attended antenatal care in the third trimester, the rate reported low/high risk alcohol consumption was highest in *Remote* areas (21%) and lowest in *Major cities* (10%) (Table 2.21.21).
- The proportion of women who were regular clients of a Healthy for Life Indigenous primary health-care service, attended an antenatal visit in the first trimester and who reported using illicit drugs during pregnancy was not significantly different across all remoteness areas (Table 2.21.20). For women who attended antenatal care in the third trimester, the rate of reported illicit drug use during pregnancy was highest in *Major cities* (17%) and lowest in *Remote* areas (7%) (Table 2.21.21).

Table 2.21.20: Risk factor status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit before 13 weeks of pregnancy, by remoteness, 1 July 2009–30 June 2010

Risk factors	Major cities %	Inner regional %	Outer regional %	Remote %	Very remote %	Total
Smoking						
Smoker[(c)]	63.6	50.3	53.1	56.6	63.5	56.0
Other[(d)]	36.4	49.7	46.9	43.4	36.5	44.0
Total number	**77**	**165**	**211**	**159**	**115**	**727**
Alcohol consumption						
Low/high risk alcohol consumption[(e)]	33.3	21.2	24.6	35.3	31.6	28.6
No alcohol consumption[(f)]	66.7	78.8	75.4	64.7	68.4	71.4
Total number	**75**	**132**	**195**	**156**	**114**	**672**
Illicit drug use status						
Used illicit drugs[(g)]	33.3	15.4	13.1	8.0	13.2	14.8
Other[(h)]	66.7	84.6	86.9	92.0	86.8	85.2
Total number	**69**	**123**	**137**	**138**	**114**	**581**

(continued)

Table 2.21.20 (continued): Risk factor status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit before 13 weeks of pregnancy, by remoteness, 1 July 2009–30 June 2010

* Represents results with statistically significant differences at the $p<0.05$ level between major cities and other remoteness categories percentages.

(a) Women who were regular clients of the HfL service.

(b) Women who gave birth to an Indigenous baby in the current reporting period.

(c) Smoker includes daily smokers, weekly smokers and irregular smokers (people who smoke tobacco less than weekly).

(d) Other includes ex-smokers and non-smokers.

(e) Low risk alcohol consumption: a person who over a week has less than 7 standard drinks, and on any one day, has no more than 2 standard drinks (spread over at least two hours). High-risk alcohol consumption: a person who over a week has more than 7 standard drinks, or on any one day, more than 2 standard drinks.

(f) A person who does not drink at all during pregnancy.

(g) Used illicit drugs include daily, weekly and irregular users (a person who uses less than weekly).

(h) Other includes ex-users and non-users.

Notes

1. Valid data for this indicator were provided by 65 services (7 in major cities of Australia, 13 in inner regional Australia, 22 in outer regional Australia, 12 in remote Australia and 11 in very remote Australia).
2. Services used their own definition of regular client.
3. Women whose smoking status, alcohol consumption or illicit drug use status was not recorded were not included in the corresponding parts of this table.
4. Numerator is the number of women by smoking status, alcohol consumption or illicit drug use before 13 weeks of pregnancy and Denominator is the total number of women who had an antenatal visit before 13 weeks of pregnancy whose smoking status, alcohol consumption or illicit drug was recorded.

Source: AIHW, Healthy for Life data collection.

Table 2.21.21: Risk factors status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit in the third trimester of pregnancy, by remoteness, 1 July 2009–30 June 2010

Risk factors	Major cities %	Inner regional %	Outer regional %	Remote %	Very remote %	Total %
Smoking						
Smoker[(c)]	53.7	55.5	54.1	52.3	57.3	54.5
Other[(d)]	46.3	44.5	45.9	47.7	42.7	45.5
Total number	**147**	**218**	**342**	**258**	**211**	**1,176**
Alcohol consumption						
Low/high risk alcohol consumption[(e)]	9.5*	17.6*	14.9*	20.7*	15.4*	16.2
No alcohol consumption[(f)]	90.5	82.4	85.1	79.3	84.6	83.8
Total number	**116**	**193**	**322**	**242**	**208**	**1,081**
Illicit drug use status						
Used illicit drugs [(g)]	16.5*	16.6	14.3*	6.5*	6.8*	11.7
Other[(h)]	83.5	83.4	85.7	93.5	93.2	88.3
Total Number	**97**	**187**	**301**	**214**	**206**	**1,005**

(continued)

Table 2.21.21 (continued): Risk factors status of women[(a)] who gave birth to an Indigenous baby[(b)] who attended an antenatal visit in the third trimester of pregnancy, by remoteness, 1 July 2009–30 June 2010

* Represents results with statistically significant differences at the p<0.05 level between major cities and other remoteness categories percentages.

(a) Women who were regular clients of the HfL service.

(b) Women who gave birth to an Indigenous baby in the current reporting period.

(c) Smoker includes daily smokers, weekly smokers and irregular smokers (people who smoke tobacco less than weekly).

(d) Other includes ex-smokers and non-smokers.

(e) Low risk alcohol consumption: a person who over a week has less than 7 standard drinks, AND on any one day, has no more than 2 standard drinks (spread over at least two hours). High-risk alcohol consumption: a person who over a week has more than 7 standard drinks, OR on any one day, more than 2 standard drinks.

(f) A person who does not drink at all during pregnancy.

(g) Used illicit drugs include daily, weekly and irregular users (a person who uses less than weekly).

(h) Other includes ex-users and non-users.

Notes

1. Valid data for this indicator were provided by 64 services (6 in major cities of Australia, 13 in inner regional Australia, 22 in outer regional Australia, 12 in remote Australia and 11 in very remote Australia).
2. Services used their own definition of regular client.
3. Women whose smoking status, alcohol consumption or illicit drug use status was not recorded were not included in the corresponding parts of this table
4. Numerator is the number of women by smoking status, alcohol consumption or illicit drug use in the third trimester of pregnancy and Denominator is the total number of women who had an antenatal visit in the third trimester of pregnancy whose smoking status, alcohol consumption or illicit drug was recorded.

Source: AIHW, Healthy for Life data collection.

Data quality issues

National Perinatal Data Collection

Births

Birth notification forms are completed for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more. The Perinatal National Minimum Data Set includes all births in Australia in hospitals, birth centres and the community.

Indigenous status question

A standard data item for Indigenous status is specified in the Perinatal National Minimum Data Set. While each jurisdiction has a unique perinatal form for collecting data on which the format of the Indigenous status question and recording categories varies slightly, all systems include the NMDS item on Indigenous status.

Since 2005, all jurisdictions collect information on Indigenous status of the mother in accordance with the NMDS. A data item on Indigenous status of the baby was added to the Perinatal National Minimum Data Set from 1 July 2012.

Under-identification

Data presented by Indigenous status are influenced by the quality and completeness of Indigenous identification of mothers which is likely to differ among jurisdictions and comparisons between states and territories should be interpreted with caution. No formal national assessment has been undertaken to determine completeness of the coverage of Indigenous mothers in the Perinatal NMDS. However, the proportion of Indigenous mothers for the period 2001–2010 has been consistent, at 3.6–3.9% of women who gave birth. Approximately 0.3% of mothers who gave birth in 2009 had missing Indigenous status information. Mothers for whom Indigenous status was not stated have been excluded from analyses. No adjustments have been made for under-identification or missing information.

In 2007, the NPESU, in collaboration with the AIHW's Aboriginal and Torres Strait Islander Health and Welfare Unit, released a report on Indigenous mothers and their babies in each state and territory. This report was based on a survey which was sent to the midwifery managers across Australia to determine how many hospitals in each jurisdiction obtain Indigenous status information of mothers giving birth from admission records and how many collect this information independently. The assessment also involved analysis of the variability in the number and proportion of mothers recorded as Indigenous in the perinatal data collection over time and across jurisdictions for the period 1991–2004. The outcomes of this assessment showed that Indigenous status data from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are suitable for trends analysis. Perinatal data from the Australian Capital Territory and Tasmania, although improving, were deemed to be of insufficient quality. This project included an assessment of Indigenous status data quality (Leeds et al. 2007).

All jurisdictions are working towards improving the quality of Indigenous status data in their perinatal data collections.

State/territory data

Analysis by state/territory is based on the usual residence of the mother unless otherwise stated. Data excludes Australian non-residents of external territories and where the state/territory of residence was not stated.

Data on Indigenous status are not reported for Tasmania before 2005 because the 'not stated' category for Indigenous status was included with the non-Indigenous category.

Smoking during pregnancy data

There is currently no data element in the Perinatal National Minimum Data Set for smoking during pregnancy, however some information is obtained as part of the NPDC. A program for national data development was completed in 2009 to add nationally agreed data items on smoking during pregnancy to the Perinatal NMDS from July 2010.

For 2009, data on smoking during pregnancy was available from all states and territories.

Definitions used for smoking during pregnancy differ among the jurisdictions. All states and territories currently collect at least one smoking question as part of their routine perinatal data collections. Data for the Northern Territory and South Australia relate to smoking status at the first antenatal visit. For South Australia, smoked includes women who quit before the first antenatal visit. This may result in higher rates of smoking being reported for these jurisdictions because often the first antenatal visit will precede pregnancy-related harm minimisation interventions designed to stop smoking during pregnancy. Given the different timing of data collection on smoking during pregnancy in the different jurisdictions, comparisons between states and territories should be interpreted with caution.

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors

Care has been taken to ensure that the results of this survey are as accurate as possible. All interviews were conducted by trained ABS officers. However, some factor may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010a).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User's guide (ABS 2010a).

Healthy for Life data

For the July 2009 to June 2010 reporting period, 79 services submitted data as part of the Healthy for Life (HfL) Program.

Services started submitting their data through an electronic interface (OSCAR) for the February 2008 reporting period. This has improved the quality of data submitted.

Not all of the services were able to provide data for all of the essential indicators and service profile questions included in the HfL data collection. The number of services that were able to provide data varies across the qualitative and quantitative indicators.

There has been an upward trend in the proportion of services that reported on each of the indicators over time, particularly compared with the first reporting period ending June 2007. All of the services reporting provided data for all of the EIs in the period ending December 2009. This proportion decreased slightly in the current reporting period ending June 2010. This may be because services need to report against fewer Essential Indicators (EI) and do not need to provide most qualitative data in periods ending in December, unlike in annual reporting periods ending in June. The current period had higher proportions of services that reported against most EIs than the previous annual collection period ending June 2009.

In general, the data quality improved noticeably between the period ending June 2008 and the period ending June 2009. The overall level of data quality remained similar in the current period, though there was a different pattern of data quality issues.

The current period ending June 2010 had a different distribution of data quality issues than the previous period. No services had inconsistencies between related indicators, however the number of services with missing data and data out of the expected range increased. The latter might be due to more stringent data checking procedures employed by the AIHW during the current period.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined

n.p. not available for publication but included in totals where applicable, unless otherwise indicated

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2.22 Overweight and obesity

The prevalence of overweight and obesity among Aboriginal and Torres Strait Islander adults and children

Data sources

Data on the prevalence of overweight and obesity among Aboriginal and Torres Strait Islander adults come from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Data for this measure are based on information collected on self-reported height and weight. These measures were used to calculate body mass index (BMI) and categorise respondents into categories of underweight, acceptable weight, overweight and obese. Note that, for approximately 16% of Indigenous Australians and 8% of non-Indigenous Australians, self-reported height and weight were not known or not stated.

Based on the *National health data dictionary*, BMI cut-offs for adults are as follows:

- overweight is a BMI of at least 25 kg/m^2 and less than 30 kg/m^2
- obese is a BMI of at least 30 kg/m^2.

For children, overweight and obesity are defined using the same BMI cut-offs as for adults after adjusting for age and sex.

Data analyses

No data are currently available on the prevalence of overweight and obesity among Aboriginal and Torres Strait Islander children. The Australian Aboriginal and Torres Strait Islander Health Survey, to be conducted as part of the Australian Health Survey 2012–13, will collect information on the physical measures of height and weight that will be used to calculate the body mass of children.

Prevalence of overweight and obesity

- In 2004–05, of those with a known body mass index, approximately 4% of Indigenous Australians aged 18 years and over were underweight, 36% were of acceptable weight, 29% were overweight and 31% were obese (Table 2.22.1).
- After adjusting for differences in age structure, in 2004–05, Indigenous adults were slightly more likely than non-Indigenous adults to be underweight (4% compared with 3%); less likely to be of acceptable weight (32% compared with 44%); less likely to be overweight (31% compared with 36%) and much more likely to be obese (34% compared with 18%) (Table 2.22.1).

Prevalence of overweight and obesity by age and sex

- Both Indigenous and non-Indigenous adults were most likely to be overweight or obese at ages 45–54 years and 55 years and over. In these age groups, between 69% and 74% of Indigenous people, and between 61% and 59% of non-Indigenous people, were overweight or obese.
- A higher proportion of Indigenous males were overweight (34%) compared with Indigenous females (24%). However, Indigenous females were more likely to be obese than Indigenous males (34% compared with 28%), and also more likely to be underweight than Indigenous males (6% compared with 3%) (Table 2.22.1).

Table 2.22.1: Proportion of adults who are underweight, of acceptable weight, overweight or obese, by Indigenous status, sex and age group, 2004–05

	Age group (years)										Totals			
	18–24		25–34		35–44		45–54		55+		Non age-standardised	Age-standardised(a)		
BMI groupings	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Indig.**	**Non-Indig.**	**Ratio**
								Per cent						
								Males						
Underweight	4.9(b)	3.1	2.8(b)	0.6(c)	1.3(b)	0.6(b)	3.0(b)	0.3(c)	1.5(b)	1.1	2.8*	2.4*	1.0*	2.4
Normal weight	47.9*	61.5*	36.7	39.4	32.1	29.3	26.7	29.0	24.2*	35.0*	35.0*	31.7*	36.9*	0.9
Overweight	30.0	28.3	36.9	42.6	30.9*	47.3*	37.9*	45.9*	38.6*	44.9*	34.4*	35.5*	43.0*	0.8
Obese	17.2*	7.1*	23.6	17.5	35.7*	22.9*	32.4	24.7	35.6*	19.1*	27.8*	30.4*	19.1*	1.6
Grand total (%)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**. .**
Total number ('000)	**23.7**	**872.9**	**30.3**	**1,319.7**	**24.8**	**1,349.3**	**17.1**	**1,263.6**	**13.0**	**2,065.0**	**108.8**	**108.8**	**6,870.5**	**. .**
								Females						
Underweight	10.0	10.2	5.0(b)	4.9	6.8(b)	3.5	3.5(b)	2.0	3.1(b)	3.3	6.0	5.2	4.3	1.2
Normal weight	51.0*	62.4*	38.4*	56.8*	30.0*	54.1*	29.2*	47.6*	24.0*	43.1*	35.9*	32.4*	51.3*	0.6
Overweight	20.0	19.4	22.0	24.5	25.3	26.1	26.4	30.2	30	33.2	24.0*	25.6*	27.8*	0.9
Obese	18.9*	8.0*	34.7*	13.9*	37.8*	16.3*	40.9*	20.2*	42.9*	20.4*	34.1*	36.8*	16.7*	2.2
Grand total (%)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**. .**
Total number ('000)	**23.2**	**821.5**	**30.5**	**1,274.6**	**25.2**	**1,321.9**	**17.2**	**1,216.9**	**13.8**	**2,072.7**	**109.9**	**109.9**	**6,707.6**	**. .**

(continued)

Table 2.22.1 (continued): Proportion of adults who are underweight, of acceptable weight, overweight or obese, by Indigenous status, sex and age group, 2004–05

	Age group (years)										Totals			
	18–24		25–34		35–44		45–54		55+		Non age-standardised	Age-standardised(a)		
BMI groupings	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Indig.**	**Non-Indig.**	**Ratio**
								Per cent						
								Persons						
Underweight	7.4	6.5	3.9	2.7	4.1(b)	2.0	3.2(b)*	1.2*	2.3	2.2	4.4*	3.8*	2.6*	1.5
Normal weight	49.4*	61.9*	37.6*	47.9*	31.0*	41.6*	28.0*	38.1*	24.1*	39.0*	35.5*	32.1*	44.0*	0.7
Overweight	25.1	24.0	29.4*	33.7*	28.1*	36.8*	32.1*	38.2*	34.2*	39.1*	29.2*	30.5*	35.5*	0.9
Obese	18.0*	7.5*	29.1*	15.7*	36.8*	19.6*	36.7*	22.5*	39.4*	19.8*	30.9*	33.6*	17.9*	1.9
Grand total (%)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**. .**
Total number ('000)	**46.9**	**1,694.4**	**60.8**	**2,594.3**	**50.0**	**2,671.1**	**34.3**	**2,480.5**	**26.7**	**4,137.7**	**218.7**	**218.7**	**13,578.1**	**. .**
% not known	*17.3*	*8.8*	*12.9*	*6.1*	*15.3*	*7.9*	*13.4*	*8.3*	*19.4*	*8.7*	*15.3*	*15.9*	*7.9*	*. .*

* Represents results with statistically significant differences at the $p<0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Directly age-standardised proportions to the Australian 2001 standard population.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Note: Proportions exclude those for whom BMI was unknown (39,583 or 15% for Indigenous and 1,175,132 or 8% for non-Indigenous).

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Prevalence by selected population and health characteristics

- In 2004–05, Indigenous Australians aged 18 years and over were more likely to be overweight/obese if they had a self-assessed health status of fair/poor rather than excellent/very good (68% compared with 55%); reported three or more long-term health conditions rather than no long term-health conditions (65% compared with 56%); reported circulatory problems (72% compared with 57% with no circulatory problems); had diabetes (83% compared with 57%); or did not have cancer (60% compared with 42%) (Table 2.22.2).
- A higher proportion of Indigenous adults in the highest (5th) household income quintile were overweight/obese compared with the lowest (1st) (61% compared with 59%). Those in the lowest income quintile were more likely to be underweight (7%) than those in the highest (3%).
- There was little difference between the proportions of overweight/obese Indigenous adults in the lowest (1st) socioeconomic (SEIFA) quintile (61%) and those in the highest (5th) (60%).
- Indigenous adults whose highest year of school completed was Year 12 were more likely to be overweight/obese than those whose highest year of school completed was Year 9 or below (64% compared with 57%).
- In 2004–05, Indigenous adults who were employed were slightly more likely to be overweight/obese (61%) than those who were unemployed (59%) or not in the labour force (60%).
- Indigenous adults who reported being current smokers were more likely to be underweight (6%) and less likely to be overweight/obese (54%) than those who reported never smoking (3% and 65%, respectively) or being an ex-smoker (2% and 69% respectively).
- Indigenous adults who reported no daily vegetable intake were more likely to be underweight (8%) and less likely to be overweight/obese (49%) than those who reported eating vegetables daily (4% and 61%, respectively).

Table 2.22.2: Proportion of Indigenous adults aged 18 years and over who are underweight, of acceptable weight, overweight or obese, by selected health outcomes, population characteristics and risk factors, 2004–05

	Underweight	Acceptable weight	Overweight	Obese	*Overweight or obese*	Total
			Per cent			
Self-assessed health status						
Excellent/very good	4.9	40.6	29.9	24.6	*54.5*	100.0
Good	4.0	34.4	28.1	33.4	*61.6*	100.0
Fair/poor	4.1	27.9	29.7	38.3	*68.0*	100.0
Number of long-term health conditions						
None	6.1	38.1	31.4	24.3	*55.7*	100.0
One	4.3	38.6	30.9	26.1	*57.0*	100.0
Two	5.7	39.2	30.4	24.7	*55.1*	100.0
Three or more	3.2	31.6	27.1	38.0	*65.2*	100.0
Circulatory problems						
Yes	3.4	25.0	27.7	43.9	*71.6*	100.0
No	4.7	38.5	29.6	27.1	*56.8*	100.0
Has Diabetes						
Yes	0.8	16.0	35.1	48.1	*83.2*	100.0
No	4.8	37.9	28.5	28.8	*57.3*	100.0
Has Cancer						
Yes	0.6	57.9	18.5	23.1	*41.6*	100.0
No	4.4	35.2	29.3	31.0	*60.3*	100.0
Household income						
1st quintile	6.6	34.3	28.3	30.8	*59.1*	100.0
5th quintile	3.3	35.3	29.5	31.9	*61.4*	100.0
SEIFA[(a)]						
1st quintile	5.2	33.4	30.3	31.1	*61.3*	100.0
5th quintile	3.7	36.0	28.2	32.1	*60.3*	100.0
Highest year of school completed						
Year 12	5.0	31.3	29.7	34.1	*63.7*	100.0
Year 9 or below	3.4	39.9	28.9	27.8	*56.8*	100.0
Has non-school qualification						
Yes	2.1	34.9	30.4	32.6	*63.0*	100.0
No	5.7	35.6	28.6	30.1	*58.7*	100.0
Employment						
Employed	3.3	36.1	30.6	30.0	*60.6*	100.0
Unemployed	4.9	35.8	24.2	35.1	*59.3*	100.0
Not in the labour force	6.0	34.4	28.0	31.6	*59.6*	100.0

(continued)

Table 2.22.2 (continued): Proportion of Indigenous adults aged 18 years and over who are underweight, of acceptable weight, overweight or obese, by selected health outcomes, population characteristics and risk factors, 2004–05

	Underweight	Acceptable weight	Overweight	Obese	*Overweight or obese*	Total
			Per cent			
Long term risky/high risk alcohol consumption						
Yes	3.3	39.0	33.2	24.5	*57.7*	100.0
No	4.6	34.8	28.4	32.2	*60.6*	100.0
Short term risky/high risk alcohol consumption						
Yes	3.1	37.4	31.6	27.9	*59.5*	100.0
No	4.1	36.7	30.1	29.1	*59.3*	100.0
Smoking Status						
Current smoker	6.0	39.8	28.3	26.0	*54.2*	100.0
Ex-smoker	1.9	29.2	33.2	35.7	*68.9*	100.0
Never smoked	3.2	32.1	28.1	36.6	*64.7*	100.0
Physical activity[(b)]						
Low/sedentary	3.2	36.0	28.6	32.3	*60.8*	100.0
Moderate	3.4	42.5	28.3	25.9	*54.1*	100.0
High	0.7	31.2	36.5	31.7	*68.1*	100.0
Eats fruit daily						
Yes	4.1	35.6	29.1	31.2	*60.4*	100.0
No	6.2	35.0	29.6	29.3	*58.8*	100.0
Eats vegetables daily						
Yes	4.1	35.0	29.5	31.3	*60.8*	100.0
No	8.3	42.3	24.9	24.5	*49.4*	100.0
Total	**4.4**	**35.5**	**29.2**	**30.9**	***60.1***	**100.0**
Total number	**9,618**	**77,568**	**63,872**	**67,655**	***131,527***	**218,714**

(a) SEIFA refers to Socio-Economic Indexes for Areas developed by the ABS. The SEIFA Indexes allow ranking of regions/areas which provide a method of determining the level of socioeconomic wellbeing in that region.

(b) Non-remote areas only.

Note: Excludes those with an unknown BMI (39,583 or 15%).

Source: AIHW analysis of 2004–05 NATSIHS.

Time series analyses

- There has been no significant change in the prevalence of overweight and obesity among Indigenous Australians between 2001 and 2004–05 (59% and 60%, respectively, among those with a known BMI).
- In non-remote areas of Australia, approximately 51% of Indigenous Australians were overweight or obese in 1995, which was lower than the proportions reported in 2001 (56%) and 2004–05 (60%) (Table 2.22.3).
- For non-Indigenous Australians aged 18 years and over, there was a slight increase in the proportion who were overweight or obese between 2001 and 2004–05 (48% and 53%, respectively, among those with a known BMI) (ABS 2006b).

Table 2.22.3: Proportion of Indigenous Australians aged 18 years and over who are overweight/obese, by remoteness, 1995, 2001 and 2004–05

	1995	2001	2004–05
		Per cent	
Remote	n.a.	61	60
Non-remote	51	56	60
Total	**n.a.**	**59**	**60**
Total number who reported a BMI	**116,340**	**195,191**	**218,714**

Note: Excludes those with a BMI not known or not stated.

Source: ABS and AIHW analysis of the 1995 and 2001 NHS (Indigenous supplement) and 2004–05 NATSIHS.

Additional information

Studies of the links between obesity, poverty and nutrition in the Indigenous population

A number of studies have investigated the links between obesity and factors such as poverty and diet in the Indigenous population.

Available data show that when Aboriginal and Torres Strait Islander people lived a traditional lifestyle, they generally had a low body mass index compared with what is considered normal for European Australians, and their weight did not tend to increase with age (O'Dea 2008; MIMS Consumer Health Group 2003). Poverty and food insecurity have been recognised as important factors in the poor-quality diet of many Indigenous people, especially those living in remote communities. Food prices are generally higher in remote areas for many types of food. The price of basic healthy foods is at least 50% higher in remote locations than in *Major cities* (NHMRC 2003). Foods of better nutritional choice, including fresh fruits and vegetables, are often expensive because of transport and overhead costs, or only minimally available (Shannon 2002). Remote stores on average sell half the fruit and one-quarter of the vegetable intake per capita of that of the overall Australian community overall (Lee et al. 1994). In comparison, takeaway and convenience food items, which are often energy-dense and high in fat or sugar, are less affected by issues of cost and availability.

There is evidence to suggest that people living in poverty tend to maximise calories per dollar spent on food. Energy-dense foods rich in fats, refined starches and sugars represent the lowest cost options, whereas healthy diets based on lean meats, whole grains and fresh vegetables and fruits are more costly (Drewnowski & Spencer 2004). A study that analysed the store turnover of food supplies at six remote Indigenous communities in the Northern Territory found a very high consumption of energy, fat and sugar, with fatty meats making the largest contribution to fat intake. In comparison to national consumption data, intake of sweetened carbonated beverages and sugar was much higher in these communities. The proportion of energy derived from refined sugars was approximately four times the recommended intake. The diets of people living in these communities had high levels of animal fat (mainly from poor-quality meat) and very low levels of fruit and vegetables (Lee et al. 1994).

Several studies have looked at the effect of traditional and non-traditional diets on BMI and weight gain in the Indigenous population. A study which looked at the therapeutic potential of a traditional lifestyle and diet involved a trial of a group of 10 middle-aged Indigenous people with diabetes who were overweight or obese in the West Kimberly region of Western Australia. The group reverted to a traditional hunter-gatherer diet for 7 weeks. After this short time living off their traditional lands, the people involved in the study lost an average of 7 kg. In addition, the metabolic abnormalities of diabetes and risk factors for heart disease (blood pressure, blood cholesterol, triglycerides) all improved markedly (O'Dea 1984). The Indigenous people involved in the trial also became more confident and assertive while they were in the bush and became proud of their local knowledge and skills. These were deemed important factors in improving the BMI and physical health of Indigenous people (O'Dea 1984). Successful prevention of obesity in some Indigenous outstations has been associated with greater physical activity, consumption of bush foods and ownership of, and access to, traditional homelands (Rowley et al. 2000, cited in O'Dea et al. 2007).

Data quality issues

National Aboriginal and Torres Strait Islander Health Survey

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It has therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006a).

Overweight and obesity data

The quality of BMI as a measure of overweight and obesity has a number of issues: the reliability of self-reported height and weight; under-reporting; mixed methods of collection of weight and height; and interpretation of BMI cut-offs in children.

Self-reported height and weight has been found to over-estimate height and under-estimate weight, thus under-estimating the resultant BMI. An analysis of the 1995 National Health Survey and 1995 National Nutrition Survey (ABS 1998), in which both self-reported and measured height and weight data were collected, found that 27% of males and 28% of females would have been classified to a different, predominately heavier, BMI category. This analysis did not explore data from the Aboriginal and Torres Strait Islander respondents; however, there was little difference between different ethnic and socioeconomic groups. The report concludes:

Based on the findings from this study, there may be grounds for questioning the reliability, and hence the use and interpretation, of BMI results based on self-reported height and weight.

In the 2004–05 NATSIHS and 2004–05 National Health Survey, height and weight information could not be obtained for approximately 16% of Indigenous Australians and 8% of non-Indigenous Australians. With a large non-response rate there may be issues with bias. In the 1994 NATSIHS an assessment of potential bias due to non-measurement concluded that there would have been only small differences if the whole population was measured; however, this assessment was based on an imputation method that assumed that people with similar characteristics had similar weight and height (Cunningham & Mackerras 1998).

Height and weight were self-reported in the 2004–05 National Health Survey except in remote areas where respondents to the Indigenous survey were offered the opportunity to be weighed or measured if they were unsure of their weight or height (ABS 2006a). Given the known problems with self-reporting of height and weight, care needs to be exercised in interpretation of results given the mixed methods used, especially when the analysis is split by remoteness.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

Tier 3 Health System Performance

3.01 Antenatal care

Number, rate and percentage of Indigenous women who used antenatal care provided by skilled birth attendants for reasons related to pregnancy at least once during pregnancy among all women who gave birth, whether resulting in a live or stillbirth, if the birthweight was at least 400 grams or the gestational age was 20 weeks or more

Data sources

Data for this measure come from the National Perinatal Data Collection, the 2008 National Aboriginal and Torres Strait Islander Social Survey and the Healthy for Life data collection.

National Perinatal Data Collection

Perinatal data included in this report come from the Australian Institute of Health and Welfare (AIHW) National Perinatal Epidemiology and Statistics Unit National Perinatal Data Collection (NPDC).

Each state and territory has a perinatal collection based on birth notifications completed by midwives and other staff, using information obtained from mothers and from hospital and other records. Perinatal notification forms are completed in Australia for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more.

The Perinatal National Minimum Data Set (NMDS) includes all births in Australia in hospitals, birth centres and the community. State-level data are based on place of mother's usual residence rather than place where birth occurred. Since 2005, all jurisdictions collect information on Indigenous status of the mother in accordance with the Perinatal NMDS. A data item on Indigenous status of the baby was added to the Perinatal National Minimum Data Set from 1 July 2012.

Data on Indigenous status are not reported for Tasmania prior to 2005 as the not stated category for Indigenous status was included with the non-Indigenous category. Data for Tasmania and the ACT are not deemed of sufficient stability to support trends analysis (AIHW: Leeds et al. 2007).

Data on mothers for whom Indigenous status was 'not stated' have been excluded from analysis.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Healthy for Life

The Healthy for Life (HfL) program is an ongoing program funded by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) of the Australian Government Department of Health and Ageing (DoHA). The program aims to improve the capacity and performance of primary health-care services to deliver high-quality maternal, children's and chronic disease care to Aboriginal and Torres Strait Islander people. This is carried out through population health approaches using best-practice and quality improvement principles.

Services participating in the HfL program are required to submit de-identified, aggregate service data for 11 essential indicators. These indicators cover maternal health, child health and chronic disease care on a regular basis (6 and 12 months), as well as information about the characteristics of their service and organisational infrastructure.

The Commonwealth and the AIHW are working with the States and Territories to develop a national Key Performance Indicator (KPI) framework for Indigenous primary health care services. The new National KPIs will replace the *Healthy for Life* program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services. The national KPI data collection will be implemented in three stages, with rollout in 2012 and 2013.

Analyses

National Perinatal Data Collection

Data on the use of antenatal care services are available for New South Wales, Queensland, South Australia, the Australian Capital Territory and the Northern Territory. Data for the year 2009 are presented for all of these states and territories except for the Australian Capital Territory, which reported that the quality of antenatal care data in the Territory for the year 2009 was poor and was not reliable enough to publish.

Use of antenatal care services by state/territory

- In 2009, in New South Wales, Queensland, South Australia and the Northern Territory combined, 97% of Indigenous mothers and 99% of non-Indigenous mothers attended at least one antenatal care session (Table 3.01.1).
- The proportions of Indigenous mothers who attended at least one antenatal care session was 89% in South Australia, 95% in the Northern Territory and 98% in New South Wales and Queensland.
- In New South Wales and Queensland, the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy was similar to non-Indigenous mothers, whilst in South Australia and the Northern Territory, the rate of attendance at antenatal care was lower for Indigenous than non-Indigenous mothers (Table 3.01.1).

Use of antenatal care services by remoteness

- In 2009, there was little difference in the proportion of Indigenous mothers who attended at least one antenatal care session by remoteness (97% in non-remote areas and 96% in remote areas) (Table 3.01.2).

Use of antenatal care services by age

- Across all age groups in 2009, for New South Wales, Queensland, South Australia and the Northern Territory combined, the percentage of Indigenous mothers who attended at least one antenatal care session during pregnancy was similar to non-Indigenous mothers (Table 3.01.3).
- The largest difference between the proportion of Indigenous and non-Indigenous mothers attending at least one antenatal session can be observed for mothers aged 40 years and over. In this age group 96% of Indigenous mothers attended one session compared with 99% of non-Indigenous mothers.

Table 3.01.1: Use of antenatal services by mothers, by Indigenous status, NSW, Qld, SA and NT, 2009(a)

	NSW			Qld(b)			SA			NT			Total		
	No.	**Crude rate(c)**	**Age std. rate(d)**	**No.**	**Crude rate(c)**	**Age std. rate(d)**	**No.**	**Crude rate(c)**	**Age std. rate(d)**	**No.**	**Crude rate(c)**	**Age std. rate(d)**	**No.**	**Crude rate(c)**	**Age std. rate(d)**
Total attended at least one antenatal session															
Indigenous	2,842	98.1	98.1	3,268	98.1	98.2	557	89.4	89.8	1,364	95.0	94.7	8,031	96.9	97.0
Non-Indigenous	90,354	99.1	99.1	57,758	99.8	99.8	17,738	93.8	93.8	2,377	99.6	99.6	168,227	98.7	98.7
Rate ratio(e)	. .	1.0	1.0	. .	1.0	1.0	. .	1.0	1.0	. .	1.0	1.0	. .	1.0	1.0
Rate difference	. .	–1.0	–1.0	. .	–1.7	–1.5	. .	–4.4	–4.0	. .	–4.6	–4.9	. .	–1.8	–1.7

(a) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.

(b) For Queensland, duration of pregnancy at first antenatal visit were collected from 1 July 2009.

(c) Number per 100 women who gave birth in the period, whether resulting in a live or still birth, if the birthweight is at least 400 grams or the gestational age is 20 weeks or more.

(d) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(e) Rate ratio—Indigenous rate divided by the non-Indigenous rate.

Note: Number of antenatal visits and Gestation at first antenatal visit are not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Source: AIHW (unpublished) National Perinatal Data Collection.

Table 3.01.2: Use of antenatal services by mothers, by remoteness and Indigenous status, NSW, Qld, SA and NT combined, 2009[a][b]

	Major cities		Inner regional		Outer regional		*Sub-total non-remote*		Remote		Very remote		*Sub-total remote*		Total[c]	
	Crude rate	Age std. rate[d]	Crude rate	Age std. rate[d]	Crude rate	Age std. rate[d]	Crude rate	Age std. rate[d]	Crude rate	Age std. rate[d]	Crude rate	Age std. rate[d]	Crude rate	Age std. rate[d]	Crude rate	Age std. rate[d]
									Per cent							
Total attended at least one antenatal session[e]																
Indigenous.	97.0	97.4	98.1	97.9	96.6	96.8	97.2	97.3	96.3	96.4	96.1	95.7	96.2	96.0	96.9	97.0
Non-Indigenous.	98.7	98.7	99.1	99.1	98.9	98.9	98.8	98.8	95.9	95.9	98.2	98.3	96.5	96.5	98.7	98.7
Rate ratio	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Rate difference	–1.7	–1.3	–1.1	–1.2	–2.2	–2.2	–1.6	–1.5	0.4	0.5	–2.1	–2.6	–0.3	–0.5	–1.8	–1.7

(a) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.

(b) Data not available from the Victoria, Western Australia and Tasmania. Data are available in the ACT but are not of sufficient quality to publish.

(c) Total women who gave birth in the period, whether resulting in a live or still birth, if the birthweight is at least 400 grams or the gestational age is 20 weeks or more.

(d) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(e) Data for NSW Qld, SA and NT only. Women who gave birth in NSW, Queensland, SA or the NT but reside in another jurisdiction are not reported due to small numbers. These data are not generalisable to Australia.

Note: Number of antenatal visits and Gestation at first antenatal visit are not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Source: AIHW (unpublished) National Perinatal Data Collection.

Table 3.01.3: Use of antenatal services by mothers, by age of mother and Indigenous status, NSW, Qld, SA and NT combined, 2009[(a)(b)]

	<20		20–24		25–29		30–34		35–39		40+		Total[(c)(d)]	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
							Per cent							
Total attended at least one antenatal session[(e)]	**96.8**	**98.0**	**96.8**	**98.5**	**96.9**	**96.9**	**97.3**	**98.8**	**97.1**	**98.8**	**95.7**	**98.7**	**97.0**	**98.7**

(a) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.

(b) Data not available from the Victoria, Western Australia and Tasmania. Data are available in the ACT but are not of sufficient quality to publish.

(c) Total women who gave birth in the period, whether resulting in a live or still birth, if the birthweight is at least 400 grams or the gestational age is 20 weeks or more.

(d) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(e) Data for Qld, SA and NT only. Women who gave birth in Queensland, SA or the NT but reside in another jurisdiction are not reported due to small numbers. Data not collected in NSW. These data are not generalisable to Australia.

Note: Number of antenatal visits and Gestation at first antenatal visit are not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Source: AIHW (unpublished) National Perinatal Data Collection.

Use of antenatal care services by smoking status

- Smoking status made little difference to the likelihood of attendance at antenatal sessions for Indigenous mothers.
- In 2009, in New South Wales, Queensland, South Australia and the Northern Territory combined, 97% of Indigenous mothers who smoked attended at least one antenatal session during pregnancy, compared with 98% of Indigenous mothers who did not smoke. A similar pattern can be observed for non-Indigenous mothers (Table 3.01.4).

Table 3.01.4: Use of antenatal services by mothers, by smoking status and Indigenous status, NSW, Qld, SA and NT, 2009[a][b]

		Smoked			Did not smoke			Smoked/Did not smoke		
		Number	**Crude rate**	**Age std. rate[c]**	**Number**	**Crude rate**	**Age std. rate[c]**	**Rate ratio**	**Rate difference**	**Total[d]**
			Per cent			**Per cent**				**No.**
Total attended at least one antenatal session[e]										
	Indigenous	4,024	97.1	96.9	3,664	98.3	98.4	1.0	–1.5	8,031
	Non-Indigenous	22,869	98.0	98.0	144,578	99.0	98.9	1.0	–0.9	168,227
	Rate ratio	. .	1.0	1.0	. .	1.0	1.0	. .	. .	. .
	Rate difference	. .	–1.0	–1.1	. .	–0.7	–0.5	. .	. .	. .

(a) Indigenous and non-Indigenous data exclude births where the mother’s Indigenous status is not stated.

(b) Data not available from the Victoria, Western Australia and Tasmania. Data are available in the ACT but are not of sufficient quality to publish.

(c) Includes women for whom the smoking status is not stated.

(d) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(e) Data for NSW, Qld, SA and NT only. Women who gave birth in Queensland, SA or the NT but reside in another jurisdiction are not reported due to small numbers. These data are not generalisable to Australia.

Note: Number of antenatal visits and Gestation at first antenatal visit are not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Source: AIHW (unpublished) National Perinatal Data Collection.

Use of antenatal care services and birth outcomes

Tables 3.01.5, 3.01.6 and 3.01.7 present information on mothers who attended antenatal sessions and specific birth outcomes. Table 3.01.5 presents information on birthweight, Table 3.01.6 presents information on pre-term babies (less than 37 weeks gestation) and Table 3.01.7 presents information on perinatal deaths.

In 2009, in New South Wales, Queensland, South Australia and the Northern Territory combined, among Indigenous mothers who gave birth to a live baby and attended at least one antenatal session:

- 10% gave birth to a baby of low birthweight. This compared with 5% of non-Indigenous mothers (Table 3.01.5).
- The proportion who give birth to pre-term babies was 1.6 times that for non-Indigenous mothers (Table 3.01.6).
- 1.6% had babies that died in the perinatal period (the perinatal period commences at 20 completed weeks, or 140 days, of gestation and ends 28 completed days after birth) , compared with 0.8% of non-Indigenous mothers (Table 3.01.7).

Table 3.01.5: Low birthweight outcomes by use of antenatal services by mothers, and Indigenous status, NSW, Qld, SA and NT combined, 2009(a)(b)(c)

		Low birthweight			Non-low birthweight			Low birthweight/ non-low birthweight		Total women gave birth to live birth
		Number	Crude rate	Age std. rate(d)	Number	Crude rate	Age std. rate(d)	Rate ratio	Rate difference	
			Per cent			Per cent				No.
Total attended at least one antenatal session(e)										
	Indigenous	810	10.2	10.3	7,137	89.8	89.7	0.1	–79.3	7,948
	Non-Indigenous	8,358	5.0	5.0	158,859	95.0	95.0	0.1	–90.0	167,235
	Rate ratio	. .	2.0	2.1	. .	0.9	0.9	. .	. .	. .
	Rate difference	. .	5.2	5.3	. .	–5.2	–5.3	. .	. .	. .

(a) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.

(b) Data not available from Victoria, Western Australia and Tasmania. Data are available in the ACT but are not of sufficient quality to publish.

(c) Birth outcomes were assigned the value of the first born baby.

(d) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(e) Data for NSW Qld, SA and NT only. Women who gave birth in NSW, Queensland, SA or the NT but reside in another jurisdiction are not reported due to small numbers. These data are not generalisable to Australia.

Note: Number of antenatal visits and Gestation at first antenatal visit are not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Source: AIHW (unpublished) National Perinatal Data Collection.

Table 3.01.6: Pre-term babies outcomes by use of antenatal services by mothers, and Indigenous status, NSW, Qld, SA and NT combined, 2009[(a)(b)(c)]

	Pre-term			Non-pre-term			Pre-term/ non-pre-term		
	Number	Crude rate	Age std. rate [(d)]	Number	Crude rate	Age std. rate [(d)]	Rate ratio	Rate difference	Total women
		Per cent			Per cent				No.
Total attended at least one antenatal session [(e)]									
Indigenous	877	10.9	11.8	7,153	89.1	88.2	0.1	–76.4	8,031
Non-Indigenous	11,583	6.9	6.9	156,640	93.1	93.1	0.1	–86.2	168,227
Rate ratio	. .	1.6	1.7	. .	1.0	0.9	. .	. .	. .
Rate difference	. .	4.0	4.9	. .	–4.0	–4.9	. .	. .	. .

(a) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.

(b) Data not available from the Victoria, Western Australia and Tasmania. Data are available in the ACT but are not of sufficient quality to publish.

(c) Birth outcomes were assigned the value of the first born baby.

(d) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(e) Data for NSW Qld, SA and NT only. Women who gave birth in NSW, Queensland, SA or the NT but reside in another jurisdiction are not reported due to small numbers. These data are not generalisable to Australia.

Note: Number of antenatal visits and Gestation at first antenatal visit are not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Source: AIHW (unpublished) National Perinatal Data Collection.

Table 3.01.7: Perinatal deaths, by use of antenatal services by mothers and Indigenous status, NSW, Qld, SA and NT combined, 2009[(a)(b)(c)]

	Perinatal deaths			Non-perinatal deaths			Perinatal deaths/non-perinatal deaths		
	Number	Crude rate	Age std. rate[(d)]	Number	Crude rate	Age std. rate[(d)]	Rate ratio	Rate difference	Total women
		Per cent			Per cent				No.
Total attended at least one antenatal session[(e)]									
Indigenous	129	1.6	1.9	7,902	98.4	98.1	0.0	–96.2	8,031
Non-Indigenous	1,384	0.8	0.8	166,837	99.2	99.2	0.0	–98.3	168,227
Rate ratio		2.0	2.3		1.0	1.0	. .	. .	. .
Rate difference		0.8	1.1		–0.8	–1.1	. .	. .	. .

(a) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.

(b) Data not available from the Victoria, Western Australia and Tasmania. Data are available in the ACT but are not of sufficient quality to publish.

(c) Birth outcomes were assigned the value of the first born baby.

(d) Data are directly age-standardised using the Australian female population who gave birth in 2009.

(e) Data for NSW Qld, SA and NT only. Women who gave birth in NSW, Queensland, SA or the NT but reside in another jurisdiction are not reported due to small numbers. These data are not generalisable to Australia.

Note: Number of antenatal visits and Gestation at first antenatal visit are not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Source: AIHW (unpublished) National Perinatal Data Collection.

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Time series analyses

Data on the antenatal care used by Indigenous mothers are available for 1998–2009 for New South Wales, South Australia and Queensland, and 2000–2009 for the Northern Territory.

- Over the period 1998–2009, in New South Wales, Queensland and South Australia combined, there was a significant increase in the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy. The fitted trend implies an average annual increase in the rate of around 3.4 per 1,000 women who gave birth, which is equivalent to a 4.0% increase in the rate over the period. Over the same period, there was also a significant increase in the rate at which non-Indigenous mothers attended at least one antenatal care session during pregnancy (1.7% increase) (Table 3.01.8; Figure 3.01.1).
- In New South Wales, over the period 1998–2009, there was a significant increase in the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy (average annual increase of 3.7 per 1,000; 4.4% increase over the period). Over the same period, there was a slight decrease in the rate at which non-Indigenous mothers attended at least one antenatal care session during pregnancy (0.1% decrease) (Table 3.01.8).
- In Queensland, over the period 1998–2009, there was a significant increase in the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy (average annual increase of 0.7 per 1,000; 0.8% increase). For non-Indigenous mothers there was a significant decrease (0.3%) in the rate of antenatal care attendance during pregnancy.
- In South Australia, over the period 1998–2009, there was a significant increase in the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy (average annual increase of 21 per 1,000; 33% increase). Over the same period, there was also a significant increase in the rate at which non-Indigenous mothers attended at least one antenatal care session during pregnancy (16% increase).
- In the Northern Territory, over the period 2000–2009, there were no significant changes in the rates at which Indigenous mothers or non-Indigenous mothers attended at least one antenatal care session during pregnancy. The data show that the Northern Territory had the highest rate of mothers attending antenatal visits (reaching 1,000 per 1,000 for non-Indigenous women and 999 per 1,000 for Indigenous women in 2005 and 2006) and also the least difference between Indigenous and non-Indigenous women. Northern Territory data are not presented for 1998, 1999 and 2002 because of a technical error.

Table 3.01.8: Mothers who attended at least one antenatal care session (age-standardised rats per 1,000 women), by Indigenous status, NSW, Qld, SA, ACT and NT, 1998–2009[(a)(b)]

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Annual change[(c)]	Per cent change[(d)]
NSW[(e)]														
Indigenous	934.4	945.6	934.9	938.4	931.8	959.3	949.3	976.2	958.3	954.6	966.2	981.7	3.7*	4.4*
Non-Indigenous	984.9	990.5	990.9	991.9	991.5	995.3	994.4	994.9	988.2	979.9	990.2	990.4	–0.1*	–0.1*
Rate ratio	0.9	1.0	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0*	4.5*
Rate difference	–50.5	–44.9	–56.0	–53.5	–59.7	–36.0	–45.1	–18.7	–29.9	–25.3	–23.9	–8.7	3.8*	–83.4*
Qld														
Indigenous	972.9	976.8	976.4	978.8	971.7	981.8	974.3	973.0	986.4	982.6	979.8	981.4	0.7*	0.8*
Non-Indigenous	996.6	995.7	994.1	995.0	996.9	996.6	996.3	996.4	998.0	997.4	990.2	990.4	–0.3*	–0.3*
Rate ratio	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0*	1.1*
Rate difference	–23.7	–18.9	–17.7	–16.2	–25.2	–14.8	–22.0	–23.4	–11.6	–14.8	–10.3	–9.0	1.0*	–45.5*
SA[(f)]														
Indigenous	694.7	727.1	688.3	741.9	748.3	758.5	795.5	831.6	843.1	904.8	895.7	885.2	20.7*	32.8*
Non-Indigenous	800.8	852.4	851.5	876.2	882.1	899.4	922.5	903.2	932.4	937.7	942.1	937.1	11.5*	15.7*
Rate ratio	0.9	0.9	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.01*	14.8*
Rate difference	–106.1	–125.3	–163.2	–134.3	–133.8	–140.9	–127.0	–71.6	–89.3	–32.9	–46.4	–51.9	9.2*	–95.8*
NSW, Qld and SA combined														
Indigenous	935.5	944	936.1	944.3	936.9	953.9	948.4	962.9	961.5	963.7	966.8	973.4	3.4*	4.0*
Non-Indigenous	965.7	975.4	975.7	979.4	980.4	984.5	986.8	985.1	985.1	981.0	987.3	986.9	1.5*	1.7*
Rate ratio	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0*	2.3*
Rate difference	–30.2	–31.4	–39.6	–35.1	–43.5	–30.6	–38.4	–22.2	–23.6	–17.3	–20.5	–13.5	1.9*	–70.2*

(continued)

Table 3.01.8 (Continued): Mothers who attended at least one antenatal care session (age-standardised rats per 1,000 women), by Indigenous status, NSW, Qld, SA, ACT and NT, 1998–2009[(a)(b)]

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Annual change[(c)]	Per cent change[(d)]
NT[(g)(h)]														
Indigenous	n.p.	n.p.	968.3	960.3	n.p.	996.4	988.0	999.3	999.3	971.1	976.6	950.8	–0.4	–0.5
Non-Indigenous	n.p.	n.p.	973.1	984.4	n.p.	998.2	999.0	1,000.0	1,000.0	991.6	987.7	996.6	1.6	1.8
Rate ratio	n.p.	n.p.	1.0	1.0	n.p.	1.0	1.0	1.0	1.0	1.0	1.0	1.0	–0.0	–2.2
Rate difference	n.p.	n.p.	–4.8	–24.1	n.p.	–1.8	–11.0	–0.7	–0.7	–20.5	–11.1	–45.8	–2.0	455.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–2009.

(a) Indigenous and non-Indigenous data exclude births where the mother’s Indigenous status is not stated.

(b) Jurisdiction-level data are based on place where birth occurred, not place of usual residence. Data not available from Victoria, Western Australia and Tasmania. Data are available in the ACT but are not of sufficient quality to publish.

(c) Average annual change in rates and rate ratios determined using linear regression analysis.

(d) Per cent change between 1998 and 2007 based on the average annual change over the period.

(e) In 2007 NSW collected data for a new variable "was antenatal care received", which provides a more accurate picture of the use of antenatal sessions. Prior to 2007 data for the number of women attending antenatal sessions in NSW was restricted to those whose 'duration of pregnancy at first antenatal session was recorded". In order to maintain consistency in the time series data using the pre-2007 definition is used.

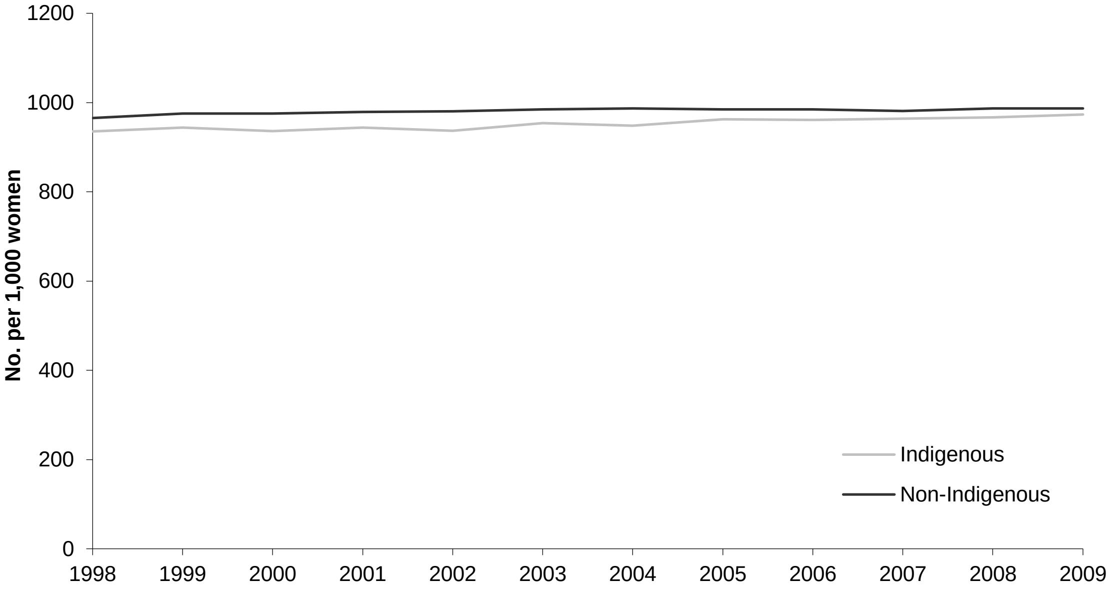
(f) SA data excludes women where number of antenatal care sessions attended is unknown.

(g) In the NT in 1998, 1999 and 2002, a system error occurred where a large number of women had birthing records created with no antenatal data attached. NT average annual change in rates and rate ratios and per cent change based on the period 2003 to 2007.

(h) NT average annual change in rates and rate ratios and per cent change based on the period 2003 to 2007.

Note: Number of antenatal visits and Gestation at first antenatal visit are not part of the Perinatal NMDS. The current question is not consistent across jurisdictions, therefore, caution should be used when interpreting these numbers.

Source: AIHW analysis of State/territory perinatal collections.



Source: AIHW analysis of state/territory perinatal collections.

Figure 3.01.1: Proportion of mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld and SA combined, 1998–2009

Pregnancy check-up and type of health professional consulted

Information on check-ups while pregnant along with the type of health professional consulted was collected in 2008 NATSISS.

- A total of 96% of women with children aged 0–3 years reported that they had check-ups during pregnancy: 92% reported having regular check-ups, while about 4.7% reported having check-ups but not regularly (Table 3.01.9).
- More than half of Indigenous mothers (61%) reported consulting a doctor or GP for pregnancy check-ups and almost half (48%) consulted a midwife or nurse. An obstetrician was consulted by 17%, while 8.8% consulted an Aboriginal or Torres Strait Islander Health Worker.

Table 3.01.9: Use of antenatal service by Indigenous mothers, by type of service, children aged 0–3 years, 2008

	Number	Per cent
Whether child's mother had regular pregnancy check-ups		
Had regular check-ups while pregnant	47,014	91.5
Had check-ups while pregnant but not regular	2,390	4.7
Total had check-ups while pregnant[(a)]	*49,404*	*96.2*
Did not have check-ups while pregnant	1,952	3.8
Total	**51,356**	**100.0**
Not known if had check-ups while pregnant	157	0.3
Type of health professional child's mother consulted for pregnancy check-ups		
Doctor or GP	30,185	61.1
Obstetrician	8,355	16.9
Midwife or nurse	23,684	47.9
Aboriginal or Torres Strait Islander health worker	4,363	8.8
Other	775	1.6
Total had check-up while pregnant[(a)(b)]	*49,404*	*100.0*

(a) Includes had check-ups while pregnant but not known if regular.

(b) Sum of components may be more than total because respondent was able to provide more than one response.

Source: 2008 NATSISS.

Distance to hospital or clinic where child was born

- Approximately 47% of the Indigenous children aged 0–3 years in 2008 were born in a hospital or clinic less than 10 kilometres from where the child's birth mother lived when the child was born (Table 3.01.10).
- About 19% of Indigenous children aged 0–3 years in 2008 were born in a hospital or clinic 10–24 kilometres away.
- Around one in ten (11%) children were born in a hospital or clinic 250 kilometres or more away.
- Only a small proportion (1%) of Indigenous children were not born in a hospital or clinic.

Table 3.01.10: Distance to hospital or clinic where child was born, Indigenous children aged 0–3 years, 2008

	Number	Per cent
Less than 10 kilometres	24,331	46.9
10–24 kilometres	9,816	18.9
25–49 kilometres	4,526	8.7
50–99 kilometres	3,351	6.5
100–249 kilometres	3,641	7.0
250 kilometres or more	5,640	10.9
Child not born in a hospital or clinic	567	1.1
Not known	5	0.0
Not collected	2,005	.
Total	**53,880**	**100.0**

Source: AIHW analysis of 2008 NATSISS.

Use of antenatal services by health issues

Data from the 2008 NATSISS were cross-tabulated to examine whether women with a health issue had used an antenatal service during pregnancy.

- Of women who reported that they had diabetes or sugar problems while pregnant, 96% had used an antenatal service during pregnancy, and of those with high blood pressure 95% had used an antenatal service (Table 3.01.11). These proportions were similar to those who did not have diabetes or sugar problems (96%) or who did not have high blood pressure (97%).
- Almost all Indigenous women who took folate during pregnancy also sought antenatal services (99%), and about 93% who did not take folate had check-ups while pregnant.

Table 3.01.11: Use of antenatal service by Indigenous mothers, by selected health issues, children aged 0–3 years, 2008

Selected health issue	Had check-ups while pregnant		Did not have check-ups while pregnant	
	Number	**Per cent**	**Number**	**Per cent**
Whether child's mother had diabetes or sugar problems during pregnancy				
Had diabetes or sugar problems	4,118	95.7	187	4.3
Did not have diabetes or sugar problems	45,389	96.4	1,703	3.6
Total	**49,507**	**96.3**	**1,890**	**3.7**
Whether child's mother had high blood pressure during pregnancy				
Did have high blood pressure	6,944	95.2	352	4.8
Did not have high blood pressure	42,174	96.5	1,520	3.5
Total	**49,118**	**96.3**	**1,872**	**3.7**
Whether child's mother took folate prior to or during pregnancy				
Took folate prior to and during pregnancy	8,226	99.6	31	0.4
Took folate prior to pregnancy only	517	100.0	0	0.0
Took folate during pregnancy only	17,407	99.4	112	0.6
Did not take folate	22,627	93.3	1,614	6.7
Total	**48,777**	**96.5**	**1,757**	**3.5**
Whether child's mother took other medications or supplements during pregnancy				
Took medications or supplements during pregnancy	22,181	99.1	200	0.9
Did not take medications or supplements during pregnancy	26,844	94.5	1,553	5.5
Total	**49,025**	**96.5**	**1,753**	**3.5**

(continued)

Table 3.01.11 (continued): Use of antenatal service by Indigenous mothers, by selected health issues, children aged 0–3 years, 2008

Selected health issue	**Had check-ups while pregnant**		**Did not have check-ups while pregnant**	
	Number	**Per cent**	**Number**	**Per cent**
Whether child's mother sought advice or information about pregnancy or child birth				
Sought advice/ information about pregnancy or child birth	18,923	98.9	207	1.1
Did not seek advice/ information about pregnancy or child birth	22,536	95.3	1,106	4.7
Total	**41,459**	**96.9**	**1,313**	**3.1**
Where child's mother sought advice or information about pregnancy or child birth				
Discussion/ advice from family or friends	9,862	99.6	43	0.4
Discussion/ advice from community elders/ traditional/ medicine women	1,276	100.0	0	0.0
Other	986	93.1	73	6.9
No advice sought	22,536	95.3	1,106	4.7
Total	**34,660**	**96.6**	**1,222**	**3.4**

Source: 2008 NATSISS.

Use of antenatal care services funded by the Healthy for Life program

Information on the antenatal care of mothers who attended services funded through the Healthy for Life (HfL) Program is available from the AIHW HfL data collection.

- In the reporting period ending June 2010, 66 Indigenous primary health-care services which were part of the HfL program provided valid data on antenatal care. Of the 2,057 women who gave birth to an Indigenous baby who were regular clients of these services, 49% attended their first antenatal visit in the first trimester of pregnancy (before 13 weeks) and 68% undertook their first visit before 20 weeks of pregnancy (Table 3.01.12).
- Of the women who gave birth to an Indigenous baby in the reporting period, a higher proportion of mothers from regional or remote areas attended their first antenatal visit in their first trimester of pregnancy than mothers in urban areas (ranging from 48% to 56% in regional and remote areas, compared with 38% in major cities) (Table 3.01.12).
- The proportion of mothers who attended their first antenatal visit before 20 weeks of pregnancy was 57% in major cities, 74% in inner regional areas, 65% in outer regional areas and 71% in both remote and very remote areas.
- Women aged under 20 years were less likely than those aged 20 and over to undertake their first antenatal visit before 13 weeks of pregnancy (41% of those aged under 20, and 51% and 48% of those aged 20–34 and 35 years and over respectively) (Table 3.01.13).
- In relation to states and territories, the proportion of women who attended their first antenatal visit before 13 weeks of pregnancy ranged from 43% in South Australia to 55% in New South Wales and the Australian Capital Territory combined (Table 3.01.14).

Table 3.01.12: Number and proportion[(a)] of women[(b)] who gave birth to an Indigenous baby[(c)], by timing of the first antenatal visit, by remoteness, 1 July 2009–30 June 2010

Timing of first antenatal visit	**Major cities**	**Inner regional**	**Outer regional**	**Remote**	**Very remote**	**Total**
			Per cent			
Before 13 weeks of pregnancy	38.1*	55.9*	47.7*	49.6*	49.3*	48.5
At 13 weeks or after, but before 20 weeks of pregnancy	19.3*	18.5*	16.9*	21.2*	21.6*	19.0
Before 20 weeks of pregnancy	*57.4**	*74.4**	*64.6**	*70.8**	*70.9**	*67.5*
At 20 weeks of pregnancy or after	23.3*	16.9*	20.2*	22.8*	19.4*	20.5
Did not attend/Not recorded antenatal visit	19.3*	8.6*	15.2*	6.4*	9.7	12.0
Total	**223**	**313**	**791**	**452**	**278**	**2,057**

* Represents results with statistically significant differences at the $p < 0.05$ level between major cities and other remoteness categories percentages.

(a) Numerator is the number of women who attended an antenatal visit and denominator is the total number of women who gave birth to an Indigenous baby.

(b) Women who were regular clients of the HfL service.

(c) Women who gave birth to an Indigenous baby in the current reporting period.

Notes

1. Valid data for this indicator were provided by 66 services (6 in major cities of Australia, 13 in inner regional Australia, 23 in outer regional Australia, 13 in remote Australia and 11 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Table 3.01.13: Number and proportion[(a)] of women[(b)] who gave birth to an Indigenous baby[(c)], by timing of the first antenatal visit and mother's age group, 1 July 2009–30 June 2010

Timing of first antenatal visit	<20 years	20–34 years	35 years and over	Total
		Per cent		
Before 13 weeks of pregnancy	40.8*	51.1*	47.5*	48.5
At 13 weeks or after, but before 20 weeks of pregnancy	20.9*	19.4*	15.1*	19.3
Before 20 weeks of pregnancy	*61.7**	*70.4**	*62.6**	*67.8*
At 20 weeks of pregnancy of after	22.2*	19.7*	24.0*	20.7
Did not attend/Not recorded antenatal visit	16.1*	9.8*	13.4*	11.5
Total	**446**	**1,384**	**179**	**2,009**

* Represents results with statistically significant differences at the $p < 0.05$ level between <20 years age group and other age groups percentages.

(a) Numerator is the number of women who attended an antenatal visit and denominator is the total number of women who gave birth to an Indigenous baby for whom an age was recorded.

(b) Women who were regular clients of the HfL service.

(c) Women who gave birth to an Indigenous baby in the current reporting period.

Notes

1. This table refers to data provided by a subset of 65 services that provided data by age group and sex. More complete overall totals from 66 services are shown in Table 3.01.9.
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Table 3.01.14: Number and proportion[(a)] of women[(b)] who gave birth to an Indigenous baby[(c)], by timing of the first antenatal visit and state/territory, 1 July 2009–30 June 2010

Timing of first antenatal visit	NSW/ACT	Vic/Tas	Qld	WA	SA	NT	Total
				Per cent			
Before 13 weeks of pregnancy	55.4*	50.4	49.4*	46.0*	43.2	46.7*	48.5
At 13 weeks or after, but before 20 weeks of pregnancy	23.2*	19.3*	14.5*	20.1*	20.4*	19.6*	19.0
Before 20 weeks of pregnancy	*78.7**	*69.7*	*63.9**	*66.1**	*63.6**	*66.3**	*67.5*
Total number	**314**	**119**	**512**	**413**	**162**	**537**	**2,057**

* Represents results with statistically significant differences at the $p < 0.05$ level between NSW/ACT and Vic/Tas, Qld, WA, SA, NT percentages.

(a) Numerator is the number of women who attended an antenatal visit and denominator is the total number of women who gave birth to an Indigenous baby.

(b) Women who were regular clients of the HfL service.

(c) Women who gave birth to an Indigenous baby in the current reporting period.

Notes

1. Valid data for this indicator were provided by 66 services (NSW/ACT 12, Vic/Tas 13, Qld 10, WA 8, SA 13 and NT 10).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Data quality issues

National Perinatal Data Collection

Births

Birth notification forms are completed for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more. The Perinatal National Minimum Data Set includes all births in Australia in hospitals, birth centres and the community.

Indigenous status question

A standard data item for Indigenous status is specified in the Perinatal National Minimum Data Set. While each jurisdiction has a unique perinatal form for collecting data on which the format of the Indigenous status question and recording categories varies slightly, all systems include the NMDS item on Indigenous status.

Since 2005, all jurisdictions collect information on Indigenous status of the mother in accordance with the NMDS. A data item on Indigenous status of the baby was added to the Perinatal National Minimum Data Set from 1 July 2012.

Under-identification

Data presented by Indigenous status are influenced by the quality and completeness of Indigenous identification of mothers which is likely to differ among jurisdictions and comparisons between states and territories should be interpreted with caution. No formal national assessment has been undertaken to determine completeness of the coverage of Indigenous mothers in the Perinatal NMDS. However, the proportion of Indigenous mothers for the period 2001–2010 has been consistent, at 3.6–3.9% of women who gave birth. Approximately 0.3% of mothers who gave birth in 2009 had missing Indigenous status information. Mothers for whom Indigenous status was not stated have been excluded from analyses. No adjustments have been made for under-identification or missing information.

In 2007, the NPESU, in collaboration with the AIHW’s Aboriginal and Torres Strait Islander Health and Welfare Unit, released a report on Indigenous mothers and their babies in each state and territory. This report was based on a survey which was sent to the midwifery managers across Australia to determine how many hospitals in each jurisdiction obtain Indigenous status information of mothers giving birth from admission records and how many collect this information independently. The assessment also involved analysis of the variability in the number and proportion of mothers recorded as Indigenous in the perinatal data collection over time and across jurisdictions for the period 1991–2004. The outcomes of this assessment showed that Indigenous status data from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are suitable for trends analysis. Perinatal data from the ACT and Tasmania, although improving, were deemed to be of insufficient quality. This project included an assessment of Indigenous status data quality (AIHW: Leeds et al. 2007).

All jurisdictions are working towards improving the quality of Indigenous status data in their perinatal data collections.

State/territory data

Analysis by state/territory is based on the usual residence of the mother unless otherwise stated. Data excludes Australian non-residents of external territories and where the state/territory of residence was not stated.

Data on Indigenous status are not reported for Tasmania before 2005 because the ‘not stated’ category for Indigenous status was included with the non-Indigenous category.

Antenatal care data

Currently, data on antenatal care is not available from all jurisdictions. Data reported for 2009 on number of women who gave birth who attended at least one antenatal visit in the first trimester are for New South Wales, South Australia and the Northern Territory for the whole year and in Queensland for the second half of the year only. Data reported for 2009 on number of antenatal visits are for Queensland, South Australia and the Northern Territory only. Residents of these jurisdictions who gave birth in a different jurisdiction would not have data on antenatal care.

Proportions of records missing antenatal care information on whether the first visit was in the first trimester are very different for women who resided in New South Wales (1.1%), Queensland (3.5%), and the Northern Territory (1.8%) compared with South Australia (10.9%). Improvements in data validation in the Northern Territory, including validation against date of first of ultrasound examinations attended, has led to improved data quality and a decrease in the proportion of records missing antenatal care information, since 2007. The timing of the first visits for women missing data may be distributed differently to those whose data have been reported. There are also differences in how the jurisdictions define antenatal visits.

Healthy for Life data

For the July 2009 to June 2010 reporting period, 79 services submitted data as part of the Healthy for Life (HfL) Program.

Services started submitting their data through an electronic interface (OSCAR) for the February 2008 reporting period. This has improved the quality of data submitted.

Not all of the services were able to provide data for all of the essential indicators (EIs) and service profile questions included in the HfL data collection. The number of services that were able to provide data varies across the qualitative and quantitative indicators.

There has been an upward trend in the proportion of services that reported on each of the indicators over time, particularly compared with the first reporting period ending June 2007. All of the services reporting provided data for all of the EIs in the period ending December 2009. This proportion decreased slightly in the current reporting period ending June 2010. This may be because services need to report against fewer EIs and do not need to provide most qualitative data in periods ending in December, unlike in annual reporting periods ending in June. The current period had higher proportions of services that reported against most EIs than the previous annual collection period ending June 2009.

In general, the data quality improved noticeably between the period ending June 2008 and the period ending June 2009. The overall level of data quality remained similar in the current period, though there was a different pattern of data quality issues.

The current period ending June 2010 had a different distribution of data quality issues than the previous period. No services had inconsistencies between related indicators, however the number of services with missing data and data out of the expected range increased. The latter might be due to more stringent data checking procedures employed by the AIHW during the current period.

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6,900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010–11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: User's guide 2008* (ABS 2010).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2010. National Aboriginal and Torres Strait Islander Social Survey: Users' Guide. ABS Cat. no. 4720.0. Canberra: ABS.

AIHW (Australian Institute of Health and Welfare): Leeds K, Gourley M, Laws P, Zhang J, Al-Yaman F & Sullivan EA. 2007. Indigenous mothers and their babies, Australia 2001–2004. Cat. no. PER 38. Perinatal statistics series no.19. Canberra: AIHW.

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3.02 Immunisation

Vaccination coverage rates among Indigenous Australian children and adults

Data sources

Data for this measure come mainly from the Australian Childhood Immunisation Register (ACIR), and the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

The Australian Childhood Immunisation Register (ACIR)

The ACIR is a national register that records details of vaccinations given to children under seven years of age who live in Australia. Immunisation coverage is produced at the national, state/territory and local level on a quarterly basis using the data recorded on the ACIR.

Coverage estimates for Aboriginal and Torres Strait Islander children include only those who identify as such and are registered on the ACIR. Children identified as Indigenous on the ACIR may not be representative of all Aboriginal and Torres Strait Islander children, and thus coverage estimates should be interpreted with caution.

Vaccination coverage is a measure of the proportion of people in a target population who have received the recommended course of vaccinations at a particular age.

In this report, children for whom Indigenous status was not stated are included with 'non-Indigenous' under the 'other' category.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS).

Analyses

Childhood immunisation

In May 2005, the National Immunisation Program (NIP) schedule replaced the Australian Vaccination Schedule, and funds all recommended vaccines. From November 2005, the NIP schedule for children included vaccines for hepatitis B, diphtheria-tetanus-pertussis (DTP), haemophilus influenza type B (HIB), measles, mumps, rubella (MMR) and polio (NCIRS 2007, 2008). In more recent years vaccines have been included for pneumococcal disease, meningococcal C, Varicella (chickenpox), rotavirus, human papillomavirus (HPV) and influenza.

Vaccination coverage rates for children aged 1 year, 2 years and 5 years as at 31 December 2011 are presented below.

- Aboriginal and Torres Strait Islander children had slightly lower coverage for all vaccines at 1 year of age than other Australian children (85% of Indigenous children fully immunised compared with 92% of other Australian children), and had similar coverage at 2 years of age (92.3% vs 92.6%) and 5 years of age (87% and 90% respectively) (Table 3.02.1).
- For states and territories, vaccination coverage for all vaccines for Indigenous children aged 1 year ranged from 77% in South Australia to 93% in Tasmania. Indigenous children had lower coverage for all vaccines in all jurisdictions except Tasmania (Table 3.02.2).
- Vaccination coverage for all vaccines for Indigenous children aged 2 years ranged from 86% in South Australia and the Australian Capital Territory to 96% in the Northern Territory. Vaccination coverage rates were lower for Indigenous children compared with other Australian children aged 2 years in Western Australia, South Australia and the Australian Capital Territory, slightly higher in the Northern Territory, and similar in all other states and territories (Table 3.02.3).
- Vaccination coverage rates for all vaccines for Indigenous children aged 5 years ranged from 80% in South Australia to 91% in the Northern Territory. Coverage rates for Indigenous children aged 5 years were higher than non-Indigenous children in the Northern Territory, but lower or similar in all other states and territories (Table 3.02.4).

Table 3.02.1: Vaccination coverage estimates for children at age 1, 2 and 5 years, by Indigenous status, as at 31 December 2011[(a)]

	1 year				2 years				5 years			
Vaccine	Indigenous	Other	Ratio(b)	Rate difference(c)	Indigenous	Other	Ratio(b)	Rate difference(c)	Indigenous	Other	Ratio(b)	Rate difference(c)
	Per cent				Per cent				Per cent			
Hepatitis B	85.2	92.3	0.9*	–7.1*	94.2	94.3	1.0	–0.1	n.a.(d)	n.a.(d)	. .	. .
DTP	85.2	92.7	0.9*	–7.5*	94.2	94.7	1.0	–0.5	86.9	90.6	1.0*	–3.7*
Polio	85.2	92.6	0.9*	–7.5*	94.2	94.7	1.0	–0.5	86.9	90.6	1.0*	–3.7*
HIB	85.2	92.5	0.9*	–7.3*	94.9	95.0	1.0	0.0	n.a.(d)	n.a.(d)	. .	. .
MMR	n.a.(e)	n.a.(e)	. .	. .	94.4	93.9	1.0	0.5	87.2	90.4	1.0*	–3.2*
All vaccines	**85.1**	**92.1**	**0.9***	**–7.0***	**92.3**	**92.6**	**1.0**	**–0.3**	**86.5**	**90.1**	**1.0***	**–3.6***

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/other comparisons.

(a) Three-month cohorts, for cohorts born between 1 July and 30 September 2010, 1 July and 30 September 2009, and 1 July and 30 September 2006, respectively.

(b) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

(c) Rate difference - coverage estimate for Indigenous children minus the coverage estimate for other children.

(d) Data are not collected for children aged 5 years who receive a HIB or hepatitis B vaccine.

(e) Data are not collected for children aged 1 year who receive a MMR vaccine.

Note: From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, owing to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Table 3.02.2: Vaccination coverage estimates for selected diseases for children 'fully vaccinated' at 1 year of age, by Indigenous status and state/territory, as at 31 December 2011[(a)]

	Vaccines					
	Hepatitis B	DTP	Polio	HIB	MMR[(b)]	All vaccines
	Per cent					
New South Wales						
Indigenous	87.2	87.2	87.2	87.2	n.a.	87.2
Other	91.9	92.3	92.2	92.1	n.a.	91.8
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	1.0
Rate difference[(d)]	–4.7	–5.1	–5.0	–4.8	. .	–4.6
Victoria						
Indigenous	84.2	84.2	84.2	84.7	n.a.	84.2
Other	93.2	93.6	93.6	93.4	n.a.	93.0
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	0.9
Rate difference[(d)]	–9.0	–9.4	–9.4	–8.7	. .	–8.8
Queensland						
Indigenous	85.8	85.8	85.8	85.8	n.a.	85.8
Other	92.1	92.5	92.4	92.4	n.a.	92.0
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	0.9
Rate difference[(d)]	–6.3*	–6.6*	–6.6*	–6.6*	. .	–6.2*
Western Australia						
Indigenous	81.6	81.6	81.6	81.6	n.a.	81.6
Other	91.2	91.9	91.9	91.7	n.a.	91.1
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	0.9
Rate difference[(d)]	–9.6*	–10.3*	–10.3*	–10.1*	. .	–9.5*
South Australia						
Indigenous	77.0	77.0	77.0	77.0	n.a.	77.0
Other	92.4	92.7	92.6	92.5	n.a.	92.3
Ratio[(c)]	0.8	0.8	0.8	0.8	. .	0.8
Rate difference[(d)]	–15.5*	–15.7*	–15.6*	–15.5*	. .	–15.3*
Tasmania						
Indigenous	93.2	93.2	93.2	93.2	n.a.	93.2
Other	92.8	92.9	92.9	92.9	n.a.	92.8
Ratio[(c)]	1.0	1.0	1.0	1.0	. .	1.0
Rate difference[(d)]	0.4	0.3	0.3	0.3	. .	0.4
Australian Capital Territory						
Indigenous	85.2	88.9	88.9	85.2	n.a.	85.2
Other	93.6	94.3	94.2	93.9	n.a.	93.5
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	0.9
Rate difference[(d)]	–8.5	–5.4	–5.3	–8.7	. .	–8.3

(continued)

Table 3.02.2 (continued): Vaccination coverage estimates for selected diseases for children 'fully vaccinated' at 1 year of age, by Indigenous status and state/territory, as at 31 December 2011[(a)]

	Vaccines					
	Hepatitis B	**DTP**	**Polio**	**HIB**	**MMR[(b)]**	**All vaccines**
	Per cent					
Northern Territory						
Indigenous	84.0	83.8	83.8	83.8	n.a.	83.8
Other	90.0	90.4	90.4	90.4	n.a.	90.0
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	0.9
Rate difference[(d)]	–6.0	–6.6	–6.6	–6.6	. .	–6.2
Australia						
Indigenous	85.2	88.9	88.9	85.2	n.a.	85.2
Other	93.6	94.3	94.2	93.9	n.a.	93.5
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	0.9
Rate difference[(d)]	–8.5*	–5.4*	–5.3*	–8.7*	. .	–8.3*

* Represents results with statistically significant differences at the p < 0.05 level in the Indigenous/other comparisons.

(a) Three-month cohort, for cohort born between 1 July and 30 September 20010.

(b) Children aged 1 year do not receive a MMR vaccine.

(c) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

(d) Rate difference - coverage estimate for Indigenous children minus the coverage estimate for other children.

Source: AIHW analysis of ACIR Medicare Australia data.

Table 3.02.3: Vaccination coverage estimates for selected diseases for children 'fully vaccinated' at 2 years of age, by Indigenous status and state/territory, as at 31 December 2011[(a)]

	Vaccines					
	Hepatitis B	DTP	Polio	HIB	MMR	All vaccines
	Per cent					
New South Wales						
Indigenous	94.4	94.4	94.4	95.4	94.5	92.9
Other	94.4	94.7	94.7	95.2	93.9	92.6
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	1.0
Rate difference[(c)]	0.1	–0.3	–0.2	0.2	0.6	0.3
Victoria						
Indigenous	97.3	97.3	97.3	97.3	94.2	94.2
Other	94.7	95.2	95.2	95.4	94.5	93.1
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	1.0
Rate difference[(c)]	2.7	2.1	2.1	2.0	–0.3	1.0
Queensland						
Indigenous	94.4	94.4	94.4	94.9	95.2	93.0
Other	94.0	94.5	94.4	94.5	93.6	92.5
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	1.0
Rate difference[(c)]	0.4	–0.1	–0.1	0.4	1.5	0.5
Western Australia						
Indigenous	91.7	91.7	91.7	93.4	92.3	88.0
Other	92.9	93.6	93.5	93.7	92.4	91.0
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	1.0
Rate difference[(c)]	–1.3	–1.9	–1.9	–0.3	–0.1	–3.0
South Australia						
Indigenous	89.1	89.1	89.7	89.7	89.7	86.2
Other	94.5	94.9	94.9	95.0	94.0	92.9
Ratio[(b)]	0.9	0.9	0.9	0.9	1.0	0.9
Rate difference[(c)]	–5.4	–5.8	–5.2	–5.3	–4.3	–6.6
Tasmania						
Indigenous	94.1	94.1	94.1	95.1	95.1	93.1
Other	94.9	95.3	95.3	95.5	94.4	93.4
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	1.0
Rate difference[(c)]	–0.8	–1.2	–1.2	–0.4	0.7	–0.4
Australian Capital Territory						
Indigenous	85.7	85.7	85.7	85.7	85.7	85.7
Other	95.4	96.4	96.3	96.7	95.4	93.8
Ratio[(b)]	0.9	0.9	0.9	0.9	0.9	0.9
Rate difference[(c)]	–9.7	–10.7	–10.6	–11.0	–9.7	–8.1

(continued)

Table 3.02.3 (continued): Vaccination coverage estimates for selected diseases for children 'fully vaccinated' at 2 years of age, by Indigenous status and state/territory, as at 31 December 2011[(a)]

	Vaccines					
	Hepatitis B	DTP	Polio	HIB	MMR	All vaccines
	Per cent					
Northern Territory						
Indigenous	97.3	97.3	97.3	97.6	97.1	96.3
Other	94.2	94.2	94.4	94.9	94.6	93.4
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	1.0
Rate difference[(c)]	3.1	3.1	3.0	2.7	2.5	2.8
Australia						
Indigenous	94.2	94.2	94.2	94.9	94.4	92.3
Other	94.3	94.7	94.7	95.0	93.9	92.6
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	1.0
Rate difference[(c)]	–0.1	–0.5	–0.5	0.0	0.5	–0.3

* Represents results with statistically significant differences at the $p < 0.05$ level in the Indigenous/other comparisons.

(a) Three-month cohort, for cohort born between 1 July and 30 September 2009.

(b) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

(c) Rate difference - coverage estimate for Indigenous children minus the coverage estimate for other children.

Source: AIHW analysis of ACIR Medicare Australia data.

Table 3.02.4: Vaccination coverage estimates for selected diseases for children 'fully vaccinated' at 5 years of age, by Indigenous status and state/territory, as at 31 December 2011[(a)]

	Vaccines					
	Hepatitis B[(b)]	DTP	Polio	HIB[(b)]	MMR	All vaccines
	Per cent					
New South Wales						
Indigenous	n.a.	85.6	85.5	n.a.	85.6	84.9
Other	n.a.	90.3	90.3	n.a.	90.2	89.8
Ratio[(c)]	. .	0.9	0.9	. .	0.9	0.9
Rate difference[(d)]	. .	–4.7	–4.8	. .	–4.7	–4.9
Victoria						
Indigenous	n.a.	90.1	90.1	n.a.	90.1	89.5
Other	n.a.	92.1	92.1	n.a.	91.9	91.6
Ratio[(c)]	. .	1.0	1.0	. .	1.0	1.0
Rate difference[(d)]	. .	–2.0	–2.0	. .	–1.8	–2.1
Queensland						
Indigenous	n.a.	89.9	89.9	n.a.	89.9	89.6
Other	n.a.	91.0	91.0	n.a.	90.7	90.4
Ratio[(c)]	. .	1.0	1.0	. .	1.0	1.0
Rate difference[(d)]	. .	–1.1	–1.1	. .	–0.8	–0.8
Western Australia						
Indigenous	n.a.	80.3	80.3	n.a.	81.6	80.1
Other	n.a.	87.9	87.8	n.a.	87.7	87.2
Ratio[(c)]	. .	0.9	0.9	. .	0.9	0.9
Rate difference[(d)]	. .	–7.6	–7.5	. .	–6.1	–7.1
South Australia						
Indigenous	n.a.	80.3	80.3	n.a.	82.2	79.6
Other	n.a.	88.9	88.9	n.a.	88.6	88.4
Ratio[(c)]	. .	0.9	0.9	. .	0.9	0.9
Rate difference[(d)]	. .	–8.7	–8.6	. .	–6.3	–8.8
Tasmania						
Indigenous	n.a.	90.2	90.2	n.a.	90.2	90.2
Other	n.a.	91.8	91.7	n.a.	91.5	91.2
Ratio[(c)]	. .	1.0	1.0	. .	1.0	1.0
Rate difference[(d)]	. .	–1.6	–1.5	. .	–1.3	–0.9
Australian Capital Territory						
Indigenous	n.a.	88.9	88.9	n.a.	88.9	88.9
Other	n.a.	93.4	93.4	n.a.	92.8	92.6
Ratio[(c)]	. .	1.0	1.0	. .	1.0	1.0
Rate difference[(d)]	. .	–4.5	–4.5	. .	–3.9	–3.7

(continued)

Table 3.02.4 (continued): Vaccination coverage estimates for selected diseases for children 'fully vaccinated' at 5 years of age, by Indigenous status and state/territory, as at 31 December 2011[(a)]

	Vaccines					
	Hepatitis B[(b)]	DTP	Polio	HIB[(b)]	MMR	All vaccines
	Per cent					
Northern Territory						
Indigenous	n.a.	91.3	91.3	n.a.	91.0	90.7
Other	n.a.	85.8	85.8	n.a.	85.4	85.4
Ratio[(c)]	. .	1.1	1.1	. .	1.1	1.1
Rate difference[(d)]	. .	5.5	5.5	. .	5.6	5.3
Australia						
Indigenous	n.a.	86.9	86.9	n.a.	87.2	86.5
Other	n.a.	90.6	90.6	n.a.	90.4	90.1
Ratio[(c)]	. .	1.0	1.0	. .	1.0	1.0
Rate difference[(d)]	. .	–3.7*	–3.7*	. .	–3.2*	–3.6*

* Represents results with statistically significant differences at the p < 0.05 level in the Indigenous/other comparisons.

(a) Three-month cohort, for cohort born between 1 July and 30 September 2006.

(b) Children aged 5 years do not receive a HIB or Hepatitis B vaccine.

(c) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

(d) Rate difference - coverage estimate for Indigenous children minus the coverage estimate for other children.

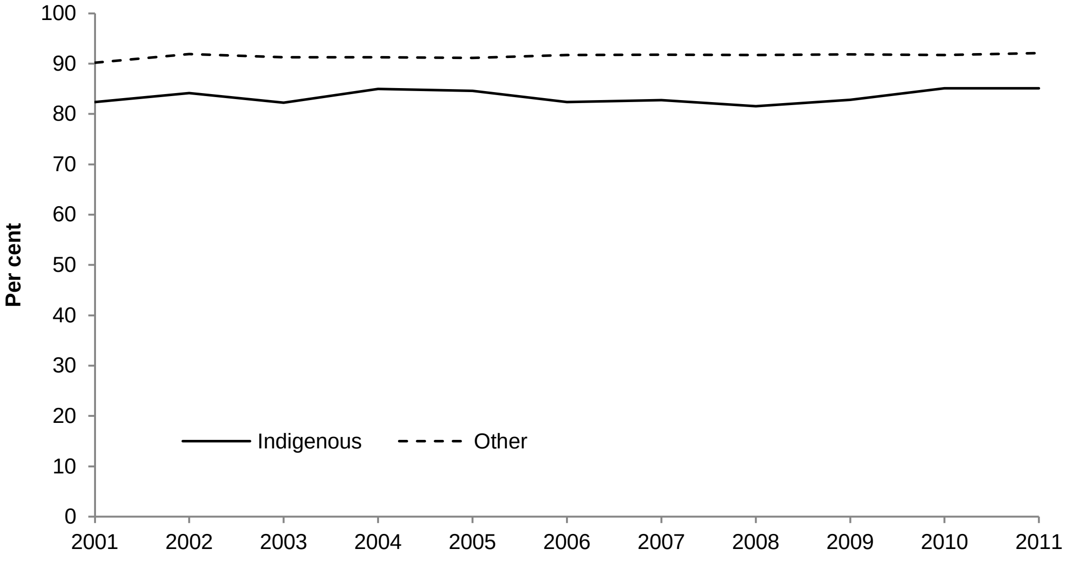
Note: From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, owing to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Time series analyses

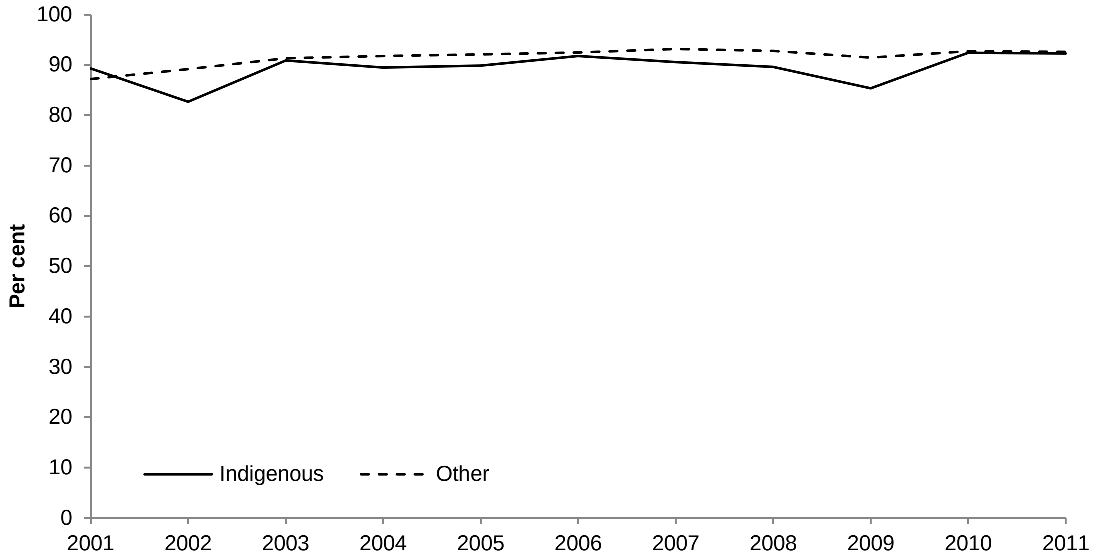
Longer term trend data are limited to five jurisdictions—New South Wales, Victoria, Western Australia, South Australia and the Northern Territory. Data from the Australian Capital Territory, Queensland and Tasmania have not been included because information on Indigenous status from these jurisdictions has not been routinely reported or transferred to the ACIR in previous years.

- Between 2001 and 2011, in New South Wales, Victoria, Western Australia, South Australia and the Northern Territory combined, there was little change in the proportion of Indigenous children and other children who were fully vaccinated at one year of age (82% to 85% for Indigenous children and 90% to 92% for other children), however, the increase for other children was statistically significant (Table 3.02.5; Figure 3.02.1).
- Between 2001 and 2011, there was no significant change in the proportion of Indigenous children who were fully immunised at 2 years of age (89% to 92%), while there was a significant increase of 5% over the period for non-Indigenous children (from 87% to 93%) (Table 3.02.5; Figure 3.02.2).
- Between 2008 and 2011, there was a statistically significant increase in the proportion of Indigenous children who were fully vaccinated at 5 years of age (from 76% to 87%) as well as in the proportion of non-Indigenous children (from 79% to 90%) (Table 3.02.5; Figure 3.02.3).
- Between 2002 and 2007, there was a statistically significant increase in the proportion of children who were fully vaccinated at 6 years of age (from 83% to 85%), as well as in the proportion of non-Indigenous children (from 82% to 89%) (Table 3.02.5; Figure 3.02.4).



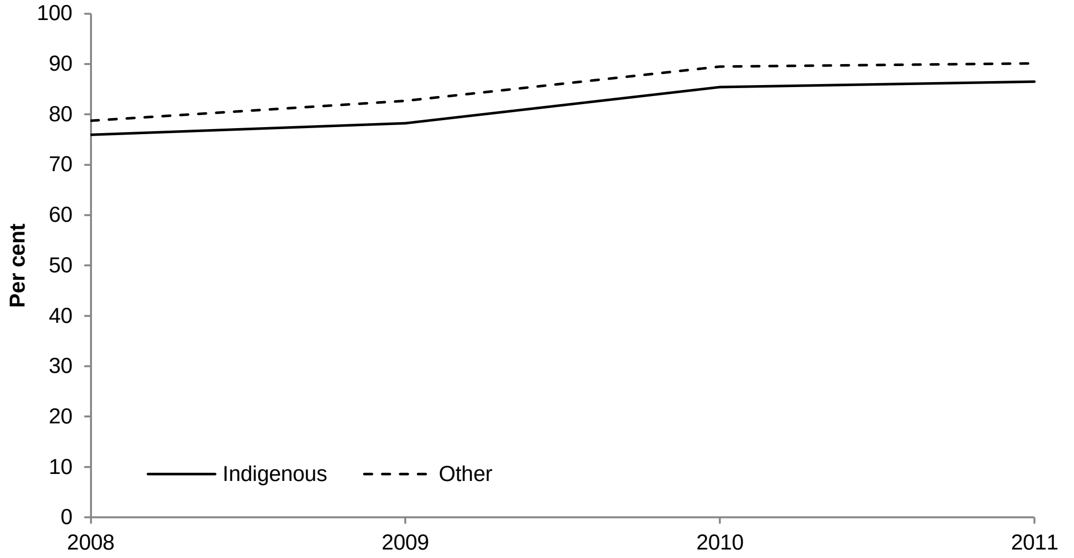
Source: AIHW analysis of ACIR Medicare Australia data.

Figure 3.02.1: Coverage rates for children fully vaccinated at age 1 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001–2011



Source: AIHW analysis of ACIR Medicare Australia data.

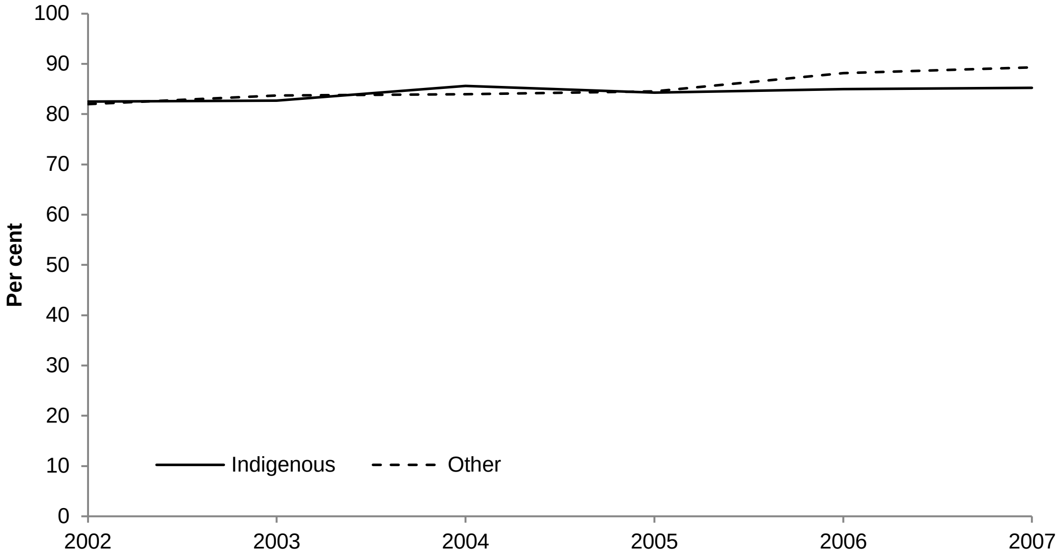
Figure 3.02.2: Coverage rates for children fully vaccinated at age 2 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001–2011



Note: From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, due to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Figure 3.02.3: Coverage rates for children fully vaccinated at age 5 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2008–2011



Note: From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, due to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Figure 3.02.4: Coverage rates for children fully vaccinated at age 6 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2002–2007

Table 3.02.5: Coverage rates (per cent) for children fully vaccinated at age 1 years, 2 years, 5 years and 6 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001–2011

	Age 1 years			Age 2 years			Age 5 years			Age 6 years		
	Indigenous	Other	Rate difference	Indigenous	Other	Rate difference	Indigenous	Other	Rate difference	Indigenous	Other	Rate difference
2001	82.4	90.2	–7.8	89.3	87.2	2.1	n.a.	n.a.	. .	n.a.	n.a.	. .
2002	84.1	91.9	–7.8	82.7	89.2	–6.5	n.a.	n.a.	. .	82.5	82.0	0.5
2003	82.2	91.2	–9.0	90.9	91.3	–0.5	n.a.	n.a.	. .	82.7	83.7	–1.0
2004	85.0	91.3	–6.3	89.5	91.8	–2.2	n.a.	n.a.	. .	85.6	83.9	1.7
2005	84.6	91.1	–6.5	89.9	92.1	–2.2	n.a.	n.a.	. .	84.3	84.6	–0.3
2006	82.3	91.7	–9.3	91.8	92.5	–0.7	n.a.	n.a.	. .	84.9	88.1	–3.2
2007	82.7	91.8	–9.0	90.6	93.2	–2.6	n.a.	n.a.	. .	85.2	89.3	–4.0
2008	81.5	91.7	–10.2	89.6	92.8	–3.2	75.9	78.8	–2.8	n.a.	n.a.	. .
2009	82.8	91.9	–9.0	85.3	91.5	–6.1	78.2	82.7	–4.5	n.a.	n.a.	. .
2010	85.1	91.7	–6.6	92.4	92.7	–0.3	85.4	89.5	–4.1	n.a.	n.a.	. .
2011	85.1	92.1	–7.0	92.3	92.6	–0.3	86.5	90.1	–3.6	n.a.	n.a.	. .
Annual change	**0.1**	**0.1***	**. .**	**0.3**	**0.4***	**. .**	**. .**	**. .**	**. .**	**. .**	**. .**	**. .**
Per cent change over time	**1.2**	**1.2***	**. .**	**3.9**	**4.7***	**. .**	**. .**	**. .**	**. .**	**. .**	**. .**	**. .**

* Indicates significant increase at the $p < 0.05$ level.

Notes

1. From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, due to changes to NCIR reporting practices.
2. Average annual change in rates and rate differences determined using linear regression analysis over the period.
3. Per cent change between 2001 and 2011 based on the average annual change over the period (excluding 2007–2009).

Source: AIHW analysis of ACIR Medicare Australia data.

Table 3.02.5 (supplemental information): Vaccination schedule 2010 for selected cohorts

Age cohort	Vaccine
12– <15 month age cohort	
DTP	Diphtheria 3 + Pertussis 3 + Tetanus 3
Polio	Polio 3
HIB	HBOC3 or PRPOMP2 or PRPOMP3 or PRPT3 or PRPD3 or HBX3 or CMX2 or CMX3 or IFHX3 or PDCL3 or PLCL3 or GNHIB2 or GNHIB3
HepB	IFXB3 or ENGP2 or ENGP3 or CMX2 or CMX3 or HBVP2 or HBVP3 or HBV3 or IFPA3 or IFHX3 or GNHEP3
MMR	not assessed
Fully vaccinated	DTP + Polio + HIB + HepB (All previous doses are presumed as given)
Only those immunisation services a child has received up to 12 months of age are included in the report.	
24– <27 month age cohort	
DTP	Diphtheria 3 + Pertussis 3 + Tetanus 3 or Diphtheria 4 + Pertussis 4 + Tetanus 4
Polio	Polio 3
HIB	HBOC4 or PRPOMP3 or PRPOMP4 or PRPT4 or PRPD4 or HBX4 or CMX3 or CMX4 or IFHX3 or IFHX4 or PDCL4 or PLCL4 or GNHIB3 or GNHIB4
HepB	IFXB3 or ENGP3 or CMX3 or HBVP3 or HBV3 or IFPA3 or IFHX3 or GNHEP3
MMR	Measles 1 + Mumps 1 + Rubella 1
Fully vaccinated	DTP + OPV + HIB + HepB + MMR (All previous doses are presumed as given)
Only those immunisation services a child has received up to 24 months of age are included in the report.	
60– <63 month age cohort	
DTP	Diphtheria 4 + Pertussis 4 + Tetanus 4 or Diphtheria 5 + Pertussis 5 + Tetanus 5
Polio	Polio 4
HIB	not assessed
MMR	Measles 2 + Mumps 2 + Rubella 2
Fully vaccinated	DTP + OPV + MMR (All previous doses are presumed as given)
Only those immunisation services a child has received up to 60 months of age are included in the report.	

Source: ACIR unpublished.

Adolescent immunisation

From September 2003, the National Immunisation Program Schedule recommended catch-up hepatitis B vaccination for adolescents of one cohort within the age range of 10–13 years who had no prior history of disease or vaccination (NCIRS 2008).

The 2004–05 NATSIHS and NHS provide data on coverage for the hepatitis B vaccine for adolescents aged 10–17 years living in non-remote areas, which is not covered by the ACIR.

- In 2004–05, the proportions of Indigenous and non-Indigenous adolescents who had completed hepatitis B vaccination were comparable (51% and 50%, respectively).
- There were some variations across the states and territories, although the differences between Indigenous and non-Indigenous were not statistically significant (NCIRS 2008).

Adult immunisation

Aboriginal and Torres Strait Islander adults aged 50 years or over, and those aged 15 to 49 years with medical conditions putting them at high risk of disease or complications, are recommended for vaccination against influenza and pneumococcal disease. These two vaccines have been provided through the National Indigenous Pneumococcal and Influenza Immunisation (NIPII) Program since 1999. For non-Indigenous adult Australians, the recommended age to receive these two vaccines is 65 years or over, and has been funded through the Influenza Vaccine Program for Older Australians since 1999 and the Pneumococcal Vaccination Program for Older Australians since January 2005 (NCIRS 2008).

The 2004–05 NATSIHS and NHS provide data on coverage for the influenza and pneumococcal vaccines in adults, as well as the presence of high-risk medical conditions that are indicators for vaccination in younger adults.

Risk factors

Influenza

The risk factors for which the influenza vaccine is recommended include at least one of many chronic medical conditions including severe asthma, diabetes mellitus, and chronic cardiovascular, respiratory and kidney conditions (NCIRS 2008).

- In 2004–05, approximately 17% of Indigenous Australians aged 18–49 years reported at least one of the chronic medical conditions that were considered risk factors of influenza for which vaccination was recommended. The proportion with at least one risk factor rose to 29% when current asthma was included (Table 3.02.6).
- Influenza vaccination coverage varied across jurisdictions. The highest influenza vaccination coverage was reported in the Northern Territory, where 55% of those who reported at least one risk factor, and 48% of the total Indigenous population aged 18–49 years, reported having the influenza vaccination in the last 12 months (Table 3.02.6).
- Of the 23% of the Indigenous population aged 18–49 who reported having the influenza vaccination in the last 12 months, 8% had at least one risk factor and 15% had no risk factors (NCIRS 2008).

Pneumococcal

The risk factors for which the pneumococcal vaccine is recommended include at least one of many chronic medical conditions (but not including asthma), heavy alcohol use and tobacco smoking (NCIRS 2008).

- In 2004–05, the proportion of Indigenous Australians aged 18–49 years who reported at least one of the chronic medical conditions and heavy alcohol use was 32%, which then rose to 66% when tobacco smoking was added (Table 3.02.7).
- Pneumococcal vaccination coverage varied across jurisdictions. The highest pneumococcal vaccination coverage was reported in the Northern Territory, where 25% of those who reported at least one risk factor, and 26% of the total Indigenous population aged 18–49 years, reported having the influenza vaccination in the last 5 years (Table 3.02.7).
- Of the 12% of the Indigenous population aged 18–49 who reported having the pneumococcal vaccination in the last 5 years, 9% had at least one risk factor and 3% had no risk factors (NCIRS 2008).

Table 3.02.6: Prevalence of self-reported risk factors and proportion of Indigenous population who had influenza vaccination in 12 months prior to survey, Indigenous adults aged 18 to 49 years, by state/territory, 2004–05

	NSW/ACT	Vic	Qld	WA	SA	Tas	NT	Aust.
				Per cent				
Prevalence of risk factor(s)								
Chronic conditions	15.0	16.0	17.0	20.0	16.0	15.0	22.0	17.0
Chronic conditions and asthma	28.0	29.0	31.0	29.0	25.0	30.0	26.0	29.0
Proportion who had influenza vaccination in the last 12 months								
Of those who reported at least one risk factor	14.0	23.0	35.0	31.0	33.0	17.0	55.0	29.0
Of total population	10.0	16.0	29.0	20.0	21.0	11.0	48.0	23.0

Source: NCIRS 2008.

Table 3.02.7: Prevalence of self-reported risk factors and proportion of Indigenous population who had pneumococcal vaccination in 5 years prior to survey, Indigenous adults aged 18 to 49 years, by state/territory, 2004–05

	NSW/ACT	Vic	Qld	WA	SA	Tas	NT	Aust.
				Per cent				
Prevalence of risk factor(s)								
Chronic conditions	15	16	17	20	16	15	22	17
Chronic conditions and heavy alcohol	31	30	34	38	30	26	28	32
Chronic conditions, heavy alcohol and tobacco	67	62	65	67	67	62	69	66
Proportion who had pneumococcal vaccination in the last 5 years								
Of those who reported at least one risk factor	4	10	20	9	10	3	25	13
Of total population	4	8	17	7	12	3	26	12

Source: NCIRS 2008.

Immunisation for adults aged 50 years and over

Data on immunisation of Indigenous persons aged 50 years and over come from the 2004–05 NATSIHS and are presented below.

Immunisation status by sex and Indigenous status

- In 2004–05, 60% of Indigenous persons aged 50 years and over had been vaccinated against influenza in the last 12 months and 15% had been vaccinated against influenza but not in the last 12 months. These proportions were higher than those reported in 2001 (51% and 10%, respectively) (Table 3.02.8).
- A slightly higher proportion of Indigenous females aged 50 years and over had been vaccinated against influenza in the last 12 months (61%) than Indigenous males (58%).
- A substantially higher proportion of Indigenous persons aged 50 years and over in remote areas had been vaccinated against influenza in the last 12 months (80%) than in non-remote areas (52%).
- In 2004–05, approximately 34% of Indigenous persons aged 50 years and over had been vaccinated against pneumonia in the last 5 years, which was substantially higher than the proportion recorded in 2001 (25%).
- A higher proportion of Indigenous females aged 50 years and over had been vaccinated against pneumonia in the last 5 years (37%) than Indigenous males (31%).
- Indigenous persons aged 50 years and over in remote areas were more than twice as likely to have been vaccinated against pneumonia in the last 5 years as Indigenous persons in non-remote areas (56% compared with 26%).
- In 2004–05, a higher proportion of Indigenous persons aged 65 years and over had been vaccinated against influenza and pneumonia (84% and 48%, respectively) than non-Indigenous persons of the same age (73% and 43%, respectively) (Table 3.02.9).
- However, comparisons of vaccination coverage among Indigenous and non-Indigenous Australians for pneumococcal and influenza need to take into account differences in the age at which vaccinations are funded and provided free of charge for the different population groups. In 2004–05, a lower proportion of Indigenous persons aged 50 years and over had been vaccinated against influenza in the last 12 months and pneumonia in the last 5 years (60% and 34%, respectively) than non-Indigenous persons aged 65 years and over (73% and 43%, respectively) (Figure 3.02.5).

Table 3.02.8: Immunisation status, by sex and remoteness, Indigenous persons aged 50 years and over, 2001 and 2004–05

	2001			2004–05		
Immunisation status	Remote	Non-remote	Total	Remote	Non-remote	Total
			Per cent			
			Males			
Had vaccination for influenza in last 12 months	75	39	46	81	49	58
Had vaccination for influenza but not in last 12 months	5[(a)]	14[(b)]	12[(b)]	8[(b)]	18	15
Never had vaccination for influenza	19[(b)]	46	40	10	32	26
Total[(c)]	**100**	**100**	**100**	**100**	**100**	**100**
Had vaccination for pneumonia in last 5 years	58	16[(b)]	24	53	23	31
Had vaccination for pneumonia but not in last 5 years	n.p.	8[(a)]	6[(a)]	—	n.p.	n.p.
Never had vaccination for pneumonia	34[(b)]	74	66	38	70	61
Total[(d)]	**100**	**100**	**100**	**100**	**100**	**100**
			Females			
Had vaccination for influenza in last 12 months	74	51	56	80	54	61
Had vaccination for influenza but not in last 12 months	6[(b)]	9[(b)]	8[(b)]	8[(b)]	17	15
Never had vaccination for influenza	13[(b)]	40	34	12	28	24
Total[(c)]	**100**	**100**	**100**	**100**	**100**	**100**
Had vaccination for pneumonia in last 5 years	39	22	26	59	28	37
Had vaccination for pneumonia but not in last 5 years	—	n.p.	n.p.	—	1[(a)]	1[(a)]
Never had vaccination for pneumonia	41	76	68	36	65	56
Total[(d)]	**100**	**100**	**100**	**100**	**100**	**100**
			Persons			
Had vaccination for influenza in last 12 months	75	45	51	80	52	60
Had vaccination for influenza but not in last 12 months	6[(a)]	11	10	8	18	15
Never had vaccination for influenza	16[(b)]	43	37	11	30	25
Total[(c)]	**100**	**100**	**100**	**100**	**100**	**100**

(continued)

Table 3.02.8 (continued): Immunisation status, by sex and remoteness, Indigenous persons aged 50 years and over, 2001 and 2004–05

	2001			2004–05		
Immunisation status	**Remote**	**Non-remote**	**Total**	**Remote**	**Non-remote**	**Total**
Had vaccination for pneumonia in last 5 years	48	19	25	56	26	34
Had vaccination for pneumonia but not in last 5 years	n.p.	4(a)	3(a)	—	1(b)	1(b)
Never had vaccination for pneumonia	38	75	67	37	67	58
Total(d)	**100**	**100**	**100**	**100**	**100**	**100**

(a) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) Includes 'influenza vaccination status' not known and not applicable.

(d) Includes 'pneumonia vaccination status' not known and not applicable.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 3.02.9: Immunisation status, Indigenous persons aged 50 years and over and non-Indigenous persons aged 65 years and over, 2004–05

	Indigenous		Non-Indigenous
Immunisation status	**50–64 years**	**65+ years**	**65+ years**
		Per cent	
Had vaccination for influenza in last 12 months	52	84	73
Had vaccination for influenza but not in last 12 months	18	7(a)	11
Had influenza vaccination but not known if in last 12 months(b)	0(a)	1(c)	1(a)
Never had vaccination for influenza	30	9(a)	15
Total	**100**	**100**	**100**
Had vaccination for pneumonia in last 5 years	30	48	43
Had vaccination for pneumonia but not in last 5 years	1(a)	n.p.	1
Had vaccination for pneumonia but not known if in last 5 years(d)	7	n.p.	3
Never had vaccination for pneumonia	63	45	53
Total	**100**	**100**	**100**
Total number	**36,917**	**12,237**	**2,430,253**

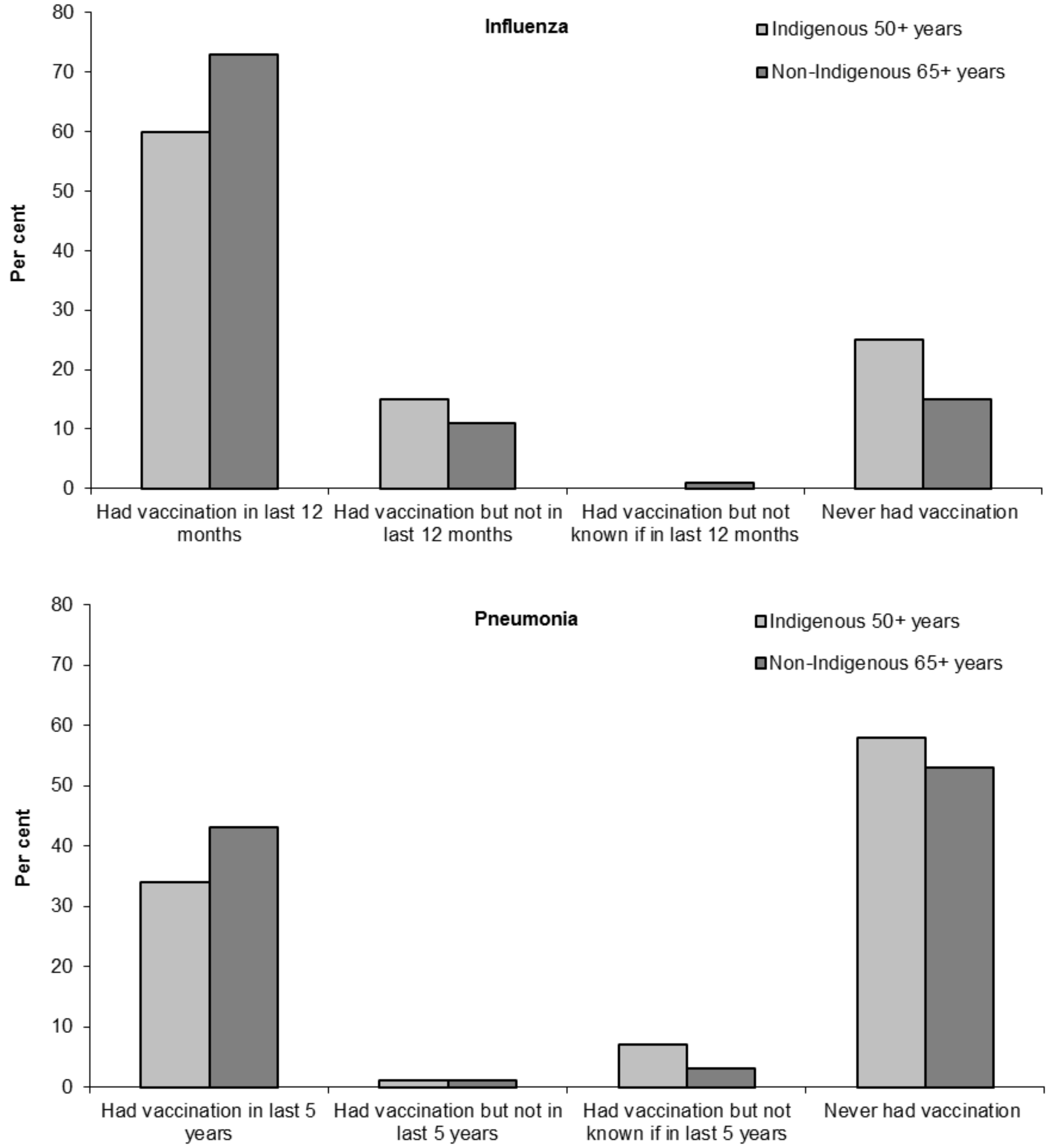
(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) Includes not known if ever had influenza vaccination.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Includes not known if ever had pneumonia vaccination.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.



Source: AIHW analysis of ABS 2004–05 NATSIHS and 2004–05 NHS.

Figure 3.02.5: Immunisation status, Indigenous persons aged 50 years and over and non-Indigenous persons aged 65 years and over, 2004–05

Immunisation status by access to health care and selected population characteristics

- In 2004–05, over half of all Indigenous Australians (aged 50 years and over in non-remote areas) who had never been vaccinated against influenza or pneumonia had accessed health care in the last 2 weeks (53% and 58%, respectively). Approximately 25% of Indigenous Australians who had never been vaccinated against influenza had been admitted to hospital in the last 12 months and 26% had consulted with other health professionals in the last 2 weeks. Approximately 26% of Indigenous people aged 50 years and over who had never been vaccinated against pneumonia had been admitted to hospital in the last 12 months, 34% had consulted with a doctor in the last 2 weeks and 22% had consulted with other health professionals (Table 3.02.10).
- Indigenous people who have been vaccinated against influenza or pneumonia were more likely than those who have not been vaccinated to have accessed health care in the last two weeks (Table 3.02.10).
- A higher proportion of Indigenous Australians aged 50 years and over who spoke a language other than English at home had had an influenza vaccination in the last 12 months and a pneumonia vaccination in the last 5 years than Indigenous Australians who spoke English as their main language at home (Table 3.02.11).
- Indigenous Australians aged 50 years and over who were in the lowest household income quintile were more likely than those in the highest income quintiles to have had influenza and pneumonia vaccinations, as were those in the 1st quintile of the index of disparity (most disadvantaged) compared with the 5th quintile (least disadvantaged). Indigenous Australians who were renters were more likely than home owners to have received the vaccinations.

Table 3.02.10: Immunisation status, by access to health care, Indigenous persons aged 50 years and over, non-remote areas, 2004–05(a)

	Influenza				Pneumonia			
Accessing health care(b)	**Had vaccination in last 12 months**	**Had vaccination but not in last 12 months**	**Never had vaccination**	**Total**	**Had vaccination in last 5 years**	**Had vaccination but not in last 5 years**	**Never had vaccination**	**Total**
				Per cent				
Admitted to hospital	30	28(c)	25(c)	28	33	56(d)	26	28
Visited casualty	3(c)	1(d)	0(d)	2(c)	2(c)	0	2(c)	2(c)
Visited outpatients	8	8(d)	3(c)	7	9(c)	0	5(c)	7
Visited day clinic	6(c)	3(d)	3(d)	4	8(c)	7(d)	3(c)	4
Doctor consultation (GP)	45	30	29	37	43	61(d)	34	37
Specialist consultation	12(c)	14(c)	4(c)	10	12(c)	8(d)	9(c)	10
Dental consultation	6(c)	1(d)	5(d)	5(c)	4(c)	0	6(c)	5(c)
Consultation with other health professional	20	17(c)	26(c)	21	20	13(d)	22	21
Total accessing health care(e)	**67**	**55**	**53**	**61**	**67**	**71(d)**	**58**	**61**
Not accessing /not stated	33	45	47	39	33	29(d)	42	39
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**18,119**	**6,224**	**10,599**	**35,128**	**8,963**	**304**	**23,498**	**35,128**

(a) Self-reported data from the 2004–05 NATSIHS.

(b) Health-related actions in last 2 weeks, except hospital admissions (in last 12 months).

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(e) Components may not add to total because persons may have reported more than one type of action.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 3.02.11: Immunisation status, by selected population characteristics, Indigenous persons aged 50 years and over, 2004–05

	Influenza				Pneumonia			
Accessing health care[a]	**Had vaccination in last 12 months**	**Had vaccination but not in last 12 months[b]**	**Never had vaccination**	**Total[c]**	**Had vaccination in last 5 years**	**Had vaccination but not in last 5 years[d]**	**Never had vaccination**	**Total[e]**
				Per cent				
Main language spoken at home								
English	55	17	28	100	29	1[f]	63	100
Language other than English	84	5[f]	11[f]	100	60	—	33	100
Household income								
1st quintile (lowest income)	66	13	20	100	39	n.p.	54	100
4th and 5th quintile (highest income)	41	23[f]	36	100	19[f]	n.p.	76	100
Index of disparity								
1st quintile (most disadvantaged)	63	16	20	100	38	n.p.	54	100
5th quintile (least disadvantaged)	46[g]	3[g]	51[g]	100	10[g]	n.p.	90[f]	100
Location								
Remote	80	8	11	100	56	—[f]	37	100
Non-remote	52	18	30	100	26	1[f]	67	100
Private health insurance								
With private cover	38[f]	19[f]	43[f]	100	16[f]	n.p.	80	100
Without private cover	54	18	28	100	27	1[f]	65	100

(continued)

Table 3.02.11 (continued): Immunisation status, by selected population characteristics, Indigenous persons aged 50 years and over, 2004–05

	Influenza				Pneumonia			
Accessing health care(a)	**Had vaccination in last 12 months**	**Had vaccination but not in last 12 months(b)**	**Never had vaccination**	**Total(c)**	**Had vaccination in last 5 years**	**Had vaccination but not in last 5 years(d)**	**Never had vaccination**	**Total(e)**
				Per cent				
Employment								
Employed CDEP	71	14(g)	14(f)	100	52	—	41	100
Employed non-CDEP	41	21	38	100	18	1(g)	75	100
Subtotal employed	*47*	*19*	*33*	*100*	*25*	*1(g)*	*68*	*100*
Unemployed	75(g)	8(g)	17(g)	100	25(g)	—	75(f)	100
Not in the labour force	65	13	21	100	39	—	53	100
Housing tenure type								
Owner	42	14	43	100	18	n.p.	77	100
Renter	67	15	17	100	42	1(f)	50	100
Other(h)	68(f)	16(g)	15(g)	100	40(f)	n.p.	56(f)	100
Treatment when seeking health care in last 12 months compared with non-Indigenous people								
Worse	55(f)	26(f)	19(f)	100	46(f)	n.p.	46(f)	100
The same or better	62	13	25	100	36	1(g)	58	100
Other(a)	42	28(f)	28(f)	100	18	n.p.	68	100
Total	**60**	**15**	**25**	**100**	**34**	**1(f)**	**58**	**100**
Total number	**29,394**	**7,397**	**12,173**	**49,154**	**16,880**	**28,695**	**304**	**49,154**

(continued)

Table 3.02.11 (continued): Immunisation status, by selected population characteristics, Indigenous persons aged 50 years and over, 2004–05

(a) Includes 'don't know' responses.

(b) Includes 'Had influenza vaccination but not known if in the last 12 months'.

(c) Includes ‘not known if ever had influenza vaccination’ and ‘not applicable’ responses.

(d) Includes 'Had pneumonia vaccination but not known if in the last 12 months'.

(e) Includes ‘not known if ever had pneumonia vaccination’ and ‘not applicable’ responses.

(f) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(g) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(h) Includes life tenure scheme, participant or rent/buy scheme, boarder, rent free, other and not stated.

Source: AIHW analysis of 2004–05 NATSIHS.

How influenza vaccination was obtained

- In 2004–05, for approximately 43% of Indigenous Australians aged 50 years and over in non-remote areas, influenza vaccinations were provided free of charge (Table 3.02.12). In 2001, approximately 30% of Indigenous Australians aged 50 years and over in non-remote areas received influenza vaccinations free of charge, compared with 67% of non-Indigenous Australians.

Table 3.02.12: How influenza vaccination was obtained, persons aged 50 years and over, by Indigenous status, 2001 and 2004–05

	2001				2004–05
Whether influenza vaccination free	**Indigenous remote**	**Indigenous (non-remote)**	**Non-Indigenous (non-remote)**	**Rate ratio[(a)] (non-remote)**	**Indigenous non-remote**
			Per cent		
Not applicable	68	55	25	2.2*	48
Influenza and vaccination free of charge	27[(b)]	30	67	0.5*	43
Influenza vaccination not free	n.p.	15	7	2.0*	6
Not stated	n.a.	n.a.	n.a.	n.a.	n.p.
Not known	n.p.	—	1[(b)]	n.a.	n.p.
Total	**100**	**100**	**100**	**. .**	**100**
Total number	**10,219**	**378,78**	**2,223,805**	**. .**	**35,128**

* Represents statistically significant differences at the $p < 0.05$ level in the Indigenous/non-Indigenous comparisons.

(a) Ratio Indigenous: non-Indigenous.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

Source: AIHW analysis of 2001 NHS (Indigenous supplement) and 2004–05 NATSIHS.

Self-reported data

Childhood immunisation

The 2004–05 NATSIHS provided information on the immunisation status of Indigenous children aged 0–6 years in non-remote areas of Australia. Data from this survey, and the 2001 NHS, which collected information on the immunisation status of Indigenous and non-Indigenous children, are presented below.

- Of Indigenous children aged 0–6 years in non-remote areas who had immunisation records available, approximately 94% were fully immunised in 2001 and 93% were fully immunised in 2004–05. Around 4% of Indigenous children aged 0–6 years were partially immunised in 2001 and 7% were partially immunised in 2004–05 (Table 3.02.13).
- In 2004–05, 78% of Indigenous children aged 0–6 years in non-remote areas were fully immunised against diphtheria/tetanus, 74% against whooping cough, 82% against hepatitis B, 78% against polio, 72% against HIB and 84% against measles, mumps and rubella.
- The proportion of Indigenous children fully immunised in 2001 was similar to 2004–05 for all diseases, with the exception of polio, for which coverage was higher in 2001 (88%), and HIB, for which coverage was lower in 2001 (67%).

- In 2001, in non-remote areas, the proportion of Indigenous and non-Indigenous children who were fully immunised was similar (88% and 92% respectively), but Indigenous children were around twice as likely to be partially immunised (6% compared with 3%).
- The most common factors influencing the decision to immunise children aged 0–6 years for Indigenous people in non-remote areas in 2004–05 were 'for the child's health' (88%), 'it was believed to be the right thing to do' (51%) and 'the child must be immunised to go to child care/school' (29%) (Table 3.02.14). Similar proportions of Indigenous and non-Indigenous people in non-remote areas reported these factors as influencing their decision to immunise children in 2001.

Table 3.02.13: Immunisation status of children aged 0–6 years in non-remote areas, by Indigenous status, 2001 and 2004–05

Immunisation status	2001 Indigenous	2001 Non-Indigenous	2001 Ratio[(a)]	2004–05 Indigenous
	Per cent			Per cent
Self-reported status				
Immunisation records not available				
Fully immunised	88	92	1	89
Partially immunised	6[(b)]	3	2.1	7[(b)]
Not immunised	3[(c)]	5[(b)]	0.7	2[(c)]
Not known if immunised	2[(c)]	1[(b)]	2.7	2[(b)]
Total	**100**	**100**	. .	**100**
Immunisation records available				
Fully immunised	94	97	1	93
Partially immunised	4[(b)]	2	1.9	7[(b)]
Not immunised	n.p.	1[(b)]	—	—
Not known if immunised	n.p.	—[(b)]	—	—
Total[(e)]	**100**	**100**	. .	**100**
Status for selected vaccinations[(f)(g)]				
Diphtheria, tetanus				
Fully immunised	79	85	0.9	78
Partially immunised	19	14	1.4	16
Not immunised	1[(c)]	1[(b)]	1.4	—[(c)]
Total[(e)]	**100**	**100**	. .	**100**
Whooping cough				
Fully immunised	74	79	0.9	74
Partially immunised	24	19	1.3	23
Not immunised	1[(c)]	1	1.3	1[(b)]
Total[(e)]	**100**	**100**	. .	**100**
Hepatitis B[(d)]				
Fully immunised	78	78	1	82
Partially immunised	18[(b)]	16	1.1	12
Not immunised	n.p.	3[(b)]	n.p.	1[(c)]
Total[(e)]	**100**	**100**	. .	**100**
Polio				
Fully immunised	88	90	1	78
Partially immunised	9[(b)]	8	1.2	18
Not immunised	2[(c)]	1	1.3	2[(b)]
Total[(e)]	**100**	**100**	. .	**100**

(continued)

Table 3.02.13 (continued): Immunisation status of children aged 0–6 years in non-remote areas, by Indigenous status, 2001 and 2004–05

	2001			2004–05
Immunisation status	**Indigenous**	**Non-Indigenous**	**Ratio[(a)]**	**Indigenous**
	Per cent			**Per cent**
HIB				
Fully immunised	67	82	0.8	72
Partially immunised	16	9	1.8	15
Not immunised	13[(b)]	5	2.7	8
Total[(e)]	**100**	**100**	. .	**100**
Measles, mumps, rubella				
Fully immunised	88	90	1	84
Partially immunised	5[(b)]	7	0.7	10[(b)]
Not immunised	6[(b)]	2	2.4	4[(b)]
Total[(e)]	**100**	**100**	. .	**100**

(a) Ratio—immunisation rate for Indigenous children divided by immunisation rate for non-Indigenous children.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Introduced in the recommended immunisation schedule from 1 May 2000 and therefore only applies to children born from that date.

(e) Includes immunisation status not known.

(f) Children who had immunisation records available.

(g) Status derived based on vaccination schedule started.

Source: ABS 2006 (2001 NHS and 2004–05 NATSIHS).

Table 3.02.14: Factors influencing decision to immunise children aged 0–6 years in non-remote areas, by Indigenous status, 2001 and 2004–05

	2001			2004–05
Factors influencing decision to immunise	**Indigenous (non-remote)**	**Non-Indigenous**	**Rate ratio[(a)]**	**Indigenous (non-remote)**
	Per cent			**Per cent**
For child's health	88	91	1.0	88
The right thing to do	45	49	0.9	51
Child must be immunised to go to child care/school	23	25	0.9	29
More awareness of immunisation schedule	6(b)	8	0.7	11
Reminder notification	5(b)	3	2.0	8
Local access to clinic or doctor	4(b)	3	1.2	6(b)
Promotion through TV/radio/other media/clinic	3(b)	4	0.9	5(b)
Payment	0(c)	1	0.3	3(b)
Other	3(b)	3	0.9	3(b)
Total	**100**	**100**	**. .**	**100**
Total number	**46,344**	**1,402,291**	**. .**	**48,903**

(a) Ratio—Indigenous: non-Indigenous.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Note: The sum of components will add to more than 100% as more than one factor can be reported.

Source: AIHW analysis of ABS 2001 NHS (Indigenous supplement) and 2004–05 NATSIHS.

Data quality issues

The Australian Childhood Immunisation Register (ACIR)

Registrations

The ACIR was established in 1996. The data used are from an administrative data collection, for which there is an incentive payment for notification, and further incentives for parents to have their child's vaccination status up to date. The Register is linked to the Medicare enrolment register and approximately 99% of children are registered with Medicare by 12 months of age.

Data have been reported using the ACIR definition of fully-immunised children; that is, children who have received all age appropriate immunisations for diphtheria, tetanus, pertussis, hepatitis B, polio, haemophilus influenza type B, measles, mumps and rubella. The varicella (chickenpox) vaccine was added to the NIPS for children born from 1 May 2004; the pneumococcal vaccine was added to the NIPS for children born from 1 January 2005; and the rotavirus vaccine was added to the NIPS for children born from 1 May 2007.

Although there are now more vaccines (including meningococcal C, human papillomavirus (HPV), and influenza (for at-risk groups)) on the National Immunisation Program Schedule for children than reported here, these are not in scope for those children aged five years at the time of reporting.

A minimum 3-month lag period is allowed for late notification of immunisations to the Register.

Indigenous status question

Indigenous identification is collected via a 'yes/no' flag on immunisation encounter forms, and through Medicare offices when any changes are made to personal details. Medicare uses the standard definition of Indigenous status; however, these details are converted to a 'yes' or 'no' when reports on vaccination coverage are produced from the ACIR. The immunisation encounter form method of Indigenous identification is voluntary and relies on the immunisation provider seeking the information.

Vaccination coverage

General limitations of data available from the ACIR must be considered when used to estimate vaccination coverage. ACIR coverage estimates could overestimate or under-estimates coverage, depending on whether those children not identified as Indigenous Australian have higher or lower than average vaccination coverage.

Vaccination coverage for children is measured by the ACIR. The Register records vaccinations for each child when they are reported by doctors and other service providers. Coverage figures for the total child population from the ACIR under-estimate true coverage by about 2–3% because of unreported vaccinations. Coverage for Aboriginal and Torres Strait Islander children is probably less accurate than that, because not all Indigenous children are recorded as Indigenous on the ACIR. Some Indigenous children are recorded as "unknown" Indigenous status (DoHA 2006).

Vaccination coverage data from the ACIR and the NATSIHS are not directly comparable because of the differences in the cohort used, population coverage, data collection method, method of calculating 'fully immunised' and vaccines included.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys

with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in Major cities, Inner and outer regional areas and Remote and very remote areas, but Very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In Remote and very remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat. no. 4715.0. Canberra: ABS.

DoHA (Australian Government Department of Health and Ageing) 2006. Vaccination for our mob 2006. Commonwealth of Australia.

NCIRS (National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases) 2008. Vaccine preventable diseases and vaccination coverage in Aboriginal and Torres Strait Islander people, Australia, 2003–2006. Canberra: NCIRS.

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3.03 Health promotion

Interventions provided by clinicians and health promotion initiatives funded by governments and provided by a range of health professionals in the wider community for the Aboriginal and Torres Strait Islander population

Data sources

Data for this indicator come from the AIHW Health expenditure database, the Bettering the Evaluation and Care of Health (BEACH) survey data, Healthy for life data, the Community Housing and Infrastructure Needs Survey data (CHINS) and OATSIH Services Reporting data collection (OSR).

Health expenditure data

Data on health expenditure comes from the AIHW health expenditure database. The AIHW reports biennially on expenditure on health for Aboriginal and Torres Strait Islander people. The latest report in the series, *Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09,* was released in 2011.

In some areas of expenditure, surveys have been used to estimate service use by Indigenous people, which, in turn, have been used in the estimates of expenditure. In other areas of expenditure, administrative data such as hospital admissions and Medicare Voluntary indigenous identifier data has been used in expenditure estimates. Other (non-health) agency contributions to health expenditure, such as health expenditures incurred within education departments and prisons, are not included

Estimates of the level of Indigenous under-identification were used to adjust some reported expenditure reported in this indicator. In some states and territories, a single state wide average under-identification adjustment factor was applied. In others, differential under-identification factors were used, depending on the region in which the particular service(s) were located. In some jurisdictions, no Indigenous under-identification adjustment was considered necessary.

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program. The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

Healthy for Life

The Healthy for Life (HfL) program is an ongoing program funded by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) of the Australian Government Department of Health and Ageing (DoHA). The program aims to improve the capacity and performance of primary health-care services to deliver high-quality maternal, children's and chronic disease care to Aboriginal and Torres Strait Islander people. This is carried out through population health approaches using best-practice and quality improvement principles.

Services participating in the HfL program are required to submit de-identified, aggregate service data for 11 essential indicators. These indicators cover maternal health, child health and chronic disease care on a regular basis (6 and 12 months), as well as information about the characteristics of their service and organisational infrastructure.

The Commonwealth and the AIHW are working with the States and Territories to develop a national Key Performance Indicator (KPI) framework for Indigenous primary health care services. The new National KPIs will replace the Healthy for Life program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services. The national KPI data collection will be implemented in three stages, with rollout in 2012 and 2013.

Community Housing and Infrastructure Needs Survey (CHINS)

The Community Housing and Infrastructure Needs Survey (CHINS) collects data from all Aboriginal and Torres Strait Islander housing organisations and discrete Aboriginal and Torres Strait Islander communities in Australia. The latest CHINS was enumerated from 1 March to 30 June 2006. The data were collected through personal interviews with key community and Indigenous Housing Organisation (IHO) representatives knowledgeable about housing and infrastructure issues. The survey collected information on all Aboriginal and Torres Strait Islander communities throughout Australia. The Australian Bureau of Statistics (ABS) conducted the 2006 CHINS on behalf of, and with full funding from, the Department of Families, Community Services and Indigenous Affairs (FaCSIA). Information collected includes:

- details of current housing stock, dwelling management practices and selected income and expenditure arrangements of Indigenous organisations that provide housing to Aboriginal and Torres Strait Islander people
- details of housing and related infrastructure, such as water, electricity, sewerage, drainage, rubbish collection and disposal, as well as other facilities such as transport, communication, education, sport and health services, available in discrete Aboriginal and Torres Strait Islander communities.

The 2006 information was collected on 496 Indigenous housing organisations which managed a total of 21,854 permanent dwellings. Information was also collected on 1,187 discrete Indigenous communities with a combined population of 92,960. Most of these communities were in *Very remote* regions of Australia, with 73% (865) having a population fewer than 50 people.

OATSIH Services Reporting data collection (OSR)

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Analyses

Government expenditure

Government expenditure on selected public health activities for Indigenous and non-Indigenous Australians in 2008–09 is presented in Table 3.03.1 and Figure 3.03.1 below.

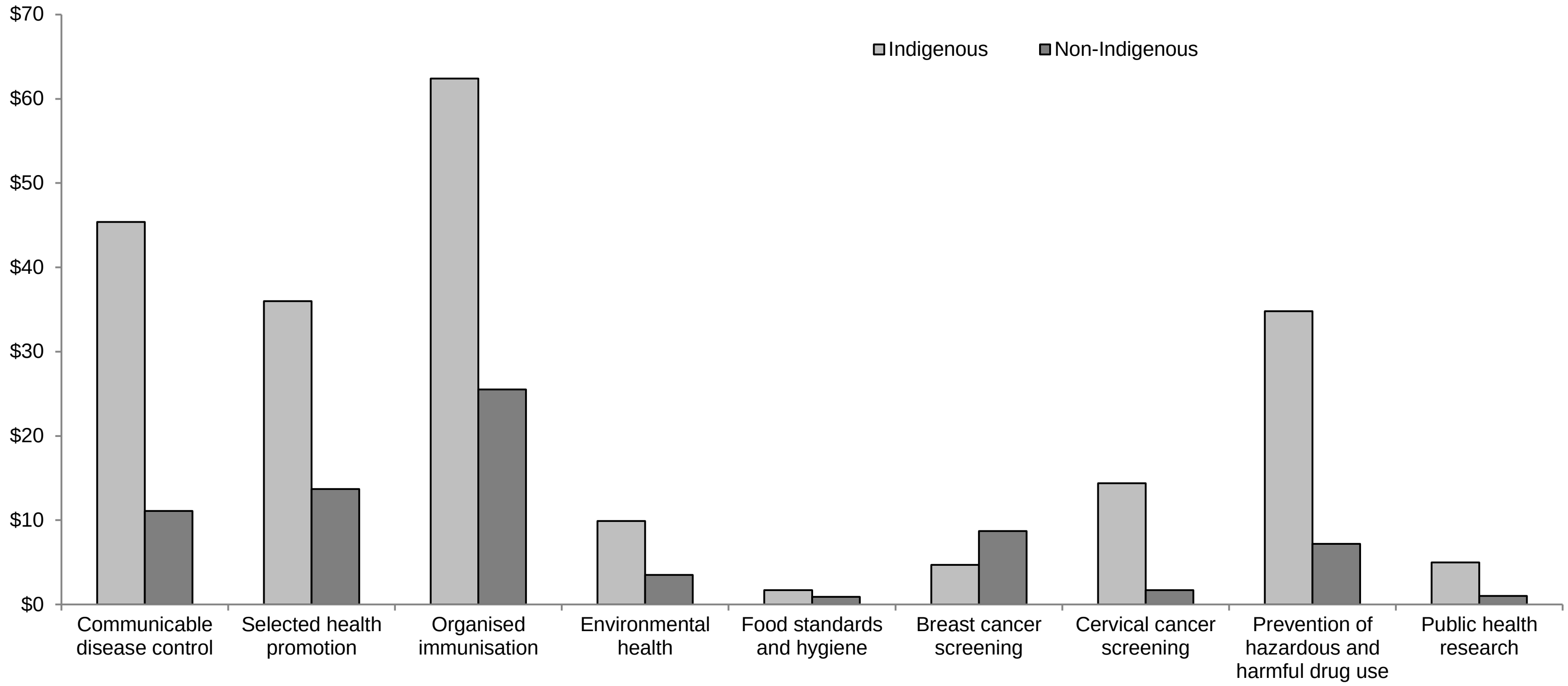
- In 2008–09, state/territory government expenditure on core public health activities was $116.9 million for Indigenous Australians and $1,554.9 million for non-Indigenous Australians.
- State/territory government expenditure per person on core public health activities was higher for Indigenous persons than non-Indigenous persons ($214 compared with $73).
- The Indigenous share of state/territory government expenditure was 18% for cervical cancer screening, 11% for prevention of hazardous and harmful drug use, 11% for public health research and 10% for communicable disease control.
- Of the core public health activities, organised immunisation received the most state/territory government expenditure per person for Indigenous Australians ($62).

- State/territory government expenditure per person was higher for Indigenous Australians than for non-Indigenous Australians for all core public health activities, except breast cancer screening.
- The ratio of Indigenous to non-Indigenous per person expenditure was highest for cervical cancer screening (8.3) and lowest for breast cancer screening (0.5).

Table 3.03.1: State and territory government health expenditure, for Indigenous Australian and non-Indigenous people on core public health services, 2008–09

	Expenditure ($ million)			Expenditure per person ($)		
Selected public health activities	**Indigenous**	**Non-Indigenous**	**Indigenous share %**	**Indigenous**	**Non-Indigenous**	**Ratio**
State/territory government expenditure						
Communicable disease control	24.8	235.4	9.5	45.4	11.1	4.1
Selected health promotion	19.6	289.2	6.4	36.0	13.7	2.6
Organised immunisation	34.0	541.0	5.9	62.4	25.5	2.4
Environmental health	5.4	74.3	6.8	9.9	3.5	2.8
Food standards and hygiene	1.0	18.0	5.0	1.7	0.9	2.1
Breast cancer screening	2.5	184.3	1.4	4.7	8.7	0.5
Cervical cancer screening	7.9	37.0	17.5	14.4	1.7	8.3
Prevention of hazardous and harmful drug use	19.0	153.5	11.0	34.8	7.2	4.8
Public health research	2.7	22.2	10.9	5.0	1.0	4.8
Public health expenditure	**116.9**	**1554.9**	**7.0**	**214.4**	**73.4**	**2.9**

Source: AIHW 2011.



Source: AIHW health expenditure database.

Figure 3.03.1: Total expenditure per person for core public health activities, by Indigenous status, 2008–09

GP prevention and early intervention programs

The Annual Survey of Divisions collects data on prevention and early intervention programs run by Divisions of General Practice. Divisions reported a total number of 7 035 practices in Australia at 30 June 2011 (Carne et al. 2012). The number and proportion of Divisions targeting specific population groups in their prevention and early intervention programs or activities for 2010–11 is presented in Table 3.03.2.

- In 2010–11, 99% of general practice divisions ran programs for immunisation and Type II diabetes; 96% for mental health; over 80% ran programs for health promotion, physical activity, healthy weight/obesity and nutrition; 69% for cervical screening, 65% for alcohol and other drugs; 55% for smoking; 26% for breast cancer screening; 17% for skin cancer screening; 14% for bowel cancer screening and 20% for injury prevention.
- In 2010–11, 90% of Divisions had at least one prevention/early intervention program aimed at Indigenous Australians. Seventy-three per cent of divisions focused on Indigenous Australians in their immunisation programs, 67% in their Type II diabetes programs, 63% in their health promotion programs, 58% in mental health programs, 56% in programs for smoking, 52% in healthy weight and obesity programs, 51% in their alcohol and other drug programs, 48% in their physical activity programs, 46% in their nutrition programs, 41% for breast cancer screening, 40% for cervical screening, 25% for bowel cancer screening and 11% for skin cancer screening.

Table 3.03.2: Number and proportion of Divisions of General Practice with selected prevention/early intervention programs and number and proportion of Divisions aiming at Indigenous Australians in their prevention and early intervention programs, 2010–11

	Divisions with program/activity		Indigenous Australians	
Selected prevention programs	**Number**	**Per cent[(a)]**	**Number**	**Per cent[(a)]**
Immunisation	110	99	80	73
Type II diabetes	110	99	74	67
Mental health	107	96	62	58
Health Promotion	98	88	62	63
Healthy weight/obesity	97	87	50	52
Physical activity	93	84	45	48
Nutrition	91	82	42	46
Cervical screening	77	69	31	40
Alcohol and other drugs	72	65	37	51
Smoking	61	55	34	56
Breast cancer screening	29	26	12	41
Injury prevention	22	20	6	27
Skin cancer screeni9ng	19	17	2	11
Bowel cancer screening	16	14	4	25
Other activities	13	12	7	54
At least one program/activity	111	100	100	90

(a) Proportions are calculated using the number of Divisions with the specified program or activity as the denominator.

Source: Carne et al. 2012.

- Between 2004–05 and 2010–11 there has been a continual increase in the number of Divisions with Type II diabetes and health promotion (Table 3.03.3).
- Over the same period, there has been an increase in the proportion of Divisions that focused on Indigenous Australians in their immunisation, Type II diabetes, health promotion, physical activity, alcohol and other drugs, cervical screening and breast cancer screening programs (Table 3.03.3).
- Between 2004–05 and 2010–11 there was an increase in the proportion of Divisions that focused on Indigenous Australians in their alcohol and other drugs, and smoking programs (Table 3.03.3).
- In 2010–11, almost all divisions provided immunisation or diabetes programs (99% respectively), as well as mental health programs (96%). Divisions reported activity increases for immunisation, diabetes, health promotion, nutrition, breast cancer screening, and injury prevention, with a 5% increase in alcohol and other drugs activities or programs on the previous year.

Table 3.03.3: Proportion of Divisions of General Practice with selected prevention/early intervention programs, and proportion of Divisions focusing on Indigenous Australians in their selected prevention/early intervention programs, 2004–05 to 2010–11

	Immunisation	Type II diabetes	Health promotion	Physical activity	Nutrition	Alcohol and other drugs	Smoking	Cervical screening	Injury prevention	Breast cancer screening	Skin cancer screening	Bowel cancer screening
2004-05												
% with program	99	73	68	66	61	64	45	62	32	31	21	16
% focusing on Indigenous Australians	23	21	17	8	22	13	9	4	0	3	0	5
2005-06												
% with program	97	77	73	68	60	57	46	46	24	17	14	8
% focusing on Indigenous Australians	40	26	28	19	31	18	24	9	7	5	0	11
2006-07												
% with program	100	88	75	55	46	54	40	53	25	13	10	40
% focusing on Indigenous Australians	44	40	34	19	29	20	21	19	20	20	17	8
2008-09												
% with program	100	99	77	66	65	58	48	61	22	16	11	22
% focusing on Indigenous Australians	61	49	40	23	28	24	37	29	20	11	0	12
2009-10												
% with program	98	98	88	85	79	60	55	73	19	24	22	23
% focusing on Indigenous Australians	74	58	52	33	38	36	39	27	19	22	16	15
2010-11												
% with program	99	99	88	84	82	65	55	69	20	26	17	14
% focusing on Indigenous Australians	73	67	63	48	46	51	56	40	27	41	11	25

(continued)

Table 3.03.3 (continued): Proportion of Divisions of General Practice with selected prevention/early intervention programs, and proportion of Divisions focusing on Indigenous Australians in their selected prevention/early intervention programs, 2004–05 to 2010–11

Notes

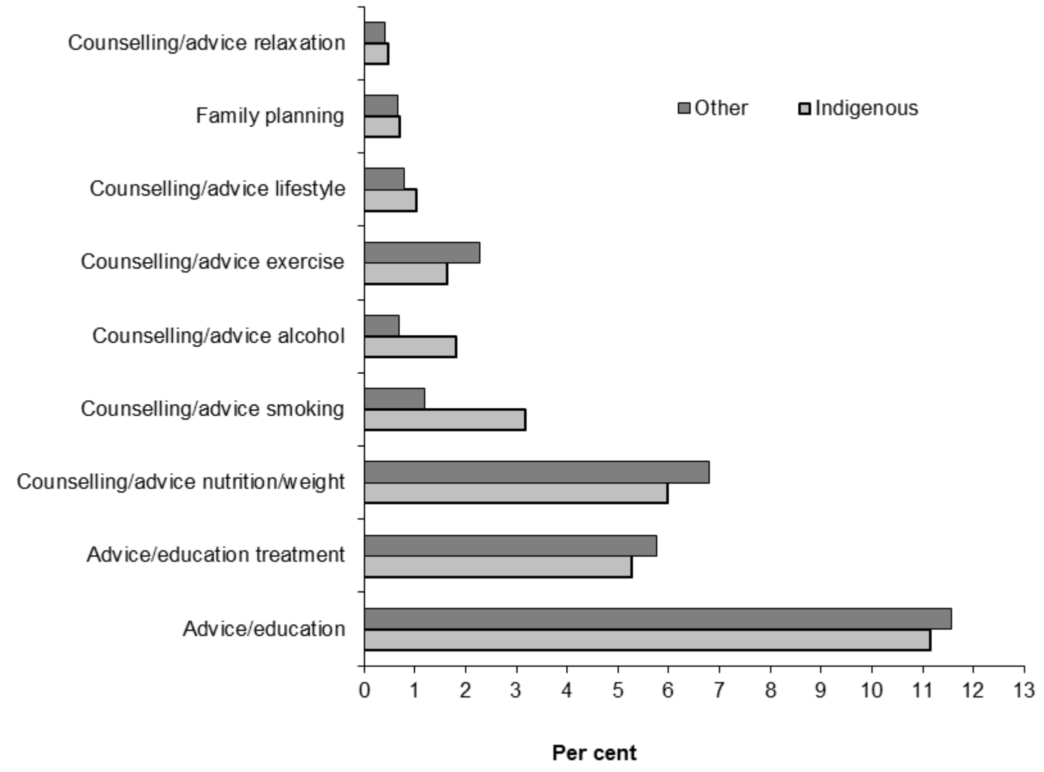
1. Per cent focusing on Indigenous Australians calculated using the number of Divisions with the specified program as the denominator.
2. Prior to 2004–05 Type II diabetes prevention was not assessed and alcohol and other drugs were included as separate program areas (these data are not shown). Life scripts were first included in 2005–06 and reported in Programs for 2008–09. (B) Healthy weight/obesity was first included in 2006–07. (C) Mental health activity is new to 2008–09. No program specific

Source: Hordacre *et al.* 2007; Moretti *et al.* 2010; Carne *et al.* 2011; Carne *et al.* 2012.

Clinical treatments provided by general practitioners

Information on clinical treatments provided by general practitioners such as advice, education and counselling for smoking, alcohol, nutrition, weight, exercise and lifestyle are available from the BEACH survey. Data for the 5-year BEACH reporting periods April 2006–March 2007 to April 2010–March 2011 are provided below.

- Over the period April 2006–March 2011, of the 3,648 clinical treatments provided to Indigenous patients surveyed in the BEACH, 11.2% were for general advice/education, 5.3% were for counselling/advice related to treatment, 6.0% were for advice/education related to nutrition and weight, 3.2% were for counselling/advice related to smoking, 1.8% were for counselling/advice related to alcohol and 1.6% were for counselling/advice related to exercise (Table 3.03.4; Figure 3.03.2).
- The selected clinical treatments related to health promotion outlined above were provided at a rate of 191 per 1,000 encounters for Indigenous patients. Of these, general advice/education (68 per 1,000 encounters) and counselling/advice related to nutrition and weight were the most common treatments provided (37 per 1,000 encounters) (Table 3.03.4).
- After adjusting for differences in the age structure of the two populations, 'Counselling/advice related to smoking' was provided to Indigenous patients at 2.6 times the rate for non-Indigenous patients. 'Counselling/advice related to alcohol' was provided in 2% of all the clinical treatment among Indigenous patients which was over 2.5 times the rate for non-Indigenous patients (Table 3.03.4).
- The rate of total clinical treatments provided to Indigenous and to other patients fluctuated over the 13 year period April 1998–March 1999 to April 2010–March 2011 (Table 3.03.5). The fluctuation may be due to an influence of the introduction of practice nurses and Aboriginal Health Workers which were introduced in 2005–06 (Britt et al. 2012).
- At encounters with Indigenous patients, general advice and education; counselling and advice for smoking; counselling and advice for alcohol; counselling and advice for lifestyle; and family planning were provided more often in the BEACH survey year April 2010–March 2011 than in April 1998–March 1999. Although these differences were not statistically significant (Table 3.03.6).
- Over the period April 2006–March 2007 to April 2010–March 2011, clinical treatments related to health promotion were more commonly provided by GPs to Indigenous patients than other patients in the management of cardio-vascular problems (Table 3.03.7). For other problems, the rate of clinical treatments provided to Indigenous and other patients were similar.



Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Figure 3.03.2: Proportion of selected clinical treatments provided by general practitioners, by Indigenous status, BEACH years March 2007 to April 2010 – March 2011

Table 3.03.4: Selected clinical treatments provided by general practitioners, by Indigenous status, BEACH years April 2006 –March 2007 to April 2010–March 2011(a)

	Number		Per cent of total clinical and therapeutic treatments		Crude rate (no. per 1,000 encounters)			Age-standardised rate (no. per 1,000 encounters)(b)							
	Indig.	Other(c)	Indig.	Other(c)	Indig.	95% LCL(d)	95% UCL(e)	Indig.	95% LCL(d)	95% UCL(e)	Other(c)	95% LCL(d)	95% UCL(e)	Rate ratio(f)	Rate difference(g)
Advice/education(h)	407	31,517	11.2	11.6	68.2	44.5	91.8	66.1	45.0	87.2	66.0	62.7	69.3	1.0	0.1
Advice/education treatment(i)	192	15,710	5.3	5.8	32.2	25.0	39.3	31.7	23.8	39.6	32.9	31.4	34.4	1.0	–1.2
Counselling/advice nutrition/weight(j)	218	18,554	6.0	6.8	36.5	29.7	43.3	35.6	28.4	42.8	38.8	37.2	40.4	0.9	–3.2
Counselling/advice smoking(k)	116	3,286	3.2	1.2	19.4	15.0	23.9	18.2	13.9	22.5	6.9	6.5	7.2	2.6*	11.3*
Counselling/advice alcohol(l)	66	1,853	1.8	0.7	11.1	7.5	14.6	9.6	6.4	12.8	3.9	3.6	4.1	2.5*	5.7*
Counselling/advice exercise(m)	60	6,231	1.6	2.3	10.0	7.0	13.1	10.3	7.1	13.5	13.0	12.2	13.8	0.8	–2.7
Counselling/advice lifestyle(n)	38	2,158	1.0	0.8	6.4	3.3	9.5	6.3	3.4	9.2	4.5	4.1	5.0	1.4	1.8
Family planning(o)	26	1,834	0.7	0.7	4.4	2.6	6.1	3.1	1.9	4.3	3.9	3.6	4.1	0.8	–0.8
Counselling/advice relaxation(p)	17	1,110	0.5	0.4	2.8	1.2	4.5	2.4	0.9	3.8	2.3	2.1	2.5	1.0	0.1
Total selected clinical treatments	*1,140*	*82,253*	*31.3*	*30.2*	*190.9*	*157.3*	*224.5*	*183.3*	*151.9*	*214.7*	*172.2*	*166.8*	*177.6*	*1.1*	*11.1*
All other clinical and therapeutic treatments	2,508	190,426	68.8	69.8	420.0	372.6	467.5	440.6	377.2	504.0	398.2	391.6	404.9	1.1	42.4
Total clinical and therapeutic treatments	**3,648**	**272,679**	**100.0**	**100.0**	**611.0**	**549.1**	**672.8**	**623.9**	**550.8**	**696.9**	**570.4**	**560.4**	**580.4**	**1.1**	**53.4**

(continued)

Table 3.03.4 (continued): Selected clinical treatments provided by general practitioners, by Indigenous status, BEACH years April 2006 – March 2007 to April 2010 – March 2011[(a)]

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.
(b) Directly age-standardised rate (no. per 1,000 encounters) using total BEACH encounters in the period as the standard.
(c) Other includes non-Indigenous patients and patients for whom Indigenous status was not stated.
(d) LCL = Lower confidence limit.
(e) UCL = Upper confidence limit.
(f) Rate ratio Indigenous: Other.
(g) Rate difference Indigenous rate minus Other (non-Indigenous) rate.
(h) IPCP-2 Plus codes defining Advice/education codes A45002, B45002, D45002, F45002, H45002, K45002, L45002, N45002, P45001, R45002, S45002, T45002, U45002, W45004, X45002, Y45002, Z45002.
(i) IPCP-2 Plus codes defining Counselling/advice treatment A45016, A45019, A45020, A45021, A45030, A45034, A45035, A48004, L45004, R45004, S45004, T45004, T45009.
(j) IPCP-2 Plus codes defining Counselling/advice nutrition/weight A45006, T45005, T45007, T45010, T58002.
(k) IPCP-2 Plus codes defining Counselling/advice smoking P45004, P58008.
(l) IPCP-2 Plus codes defining Counselling/ advice alcohol P45005, P58009.
(m) IPCP-2 Plus codes defining Counselling/ advice exercise A45004, A58005.
(n) IPCP-2 Plus codes defining Counselling/ advice lifestyle P45008, P58012.
(o) IPCP-2 Plus codes defining Family planning A98002, A98003, W45006, W45007, W45008, W58001, W58005, W58007, W58012, W58013, Y45006, Y45007, Y58005 and Y58006.
(p) IPCP-2 Plus codes defining Counselling/ advice relaxation P45007, P58011, P58017.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Table 3.03.5: Selected clinical treatments provided by general practitioners, by Indigenous status, April 1998 –March 1999 to April 2010–March 2011

Total selected clinical treatments(a)	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	Annual change	% change over period
Indigenous Crude rate (no. per 1,000 encounters)	**160.6**	**217.2**	**214.2**	**260.4**	**234.2**	**217.2**	**218.8**	**98.0**	**172.9**	**200.2**	**173.9**	**200.2**	**156.5**	**–3.8**	**–28.5**
95% LCL(b)	122.1	152.5	148.2	181.3	168.6	172.7	170.1	62.3	107.9	143.4	125.1	143.4	105.2	–3.2	–31.6
95%UCL (c)	199.0	281.9	280.2	339.6	299.7	261.7	267.5	133.6	238.0	256.9	222.6	256.9	207.9	–4.4	–26.5
Indigenous age-standardised rate (no. per 1,000 encounters)(d)	**171.0**	**196.8**	**216.9**	**259.6**	**234.5**	**222.8**	**198.9**	**104.2**	**168.5**	**203.0**	**163.8**	**204.2**	**149.9**	**–4.0**	**–27.8**
95% LCL(b)	115.8	143.1	142.8	185.3	172.3	174.9	156.3	71.5	97.4	139.2	116.0	141.7	100.8	–3.3	–33.9
95%UCL(c)	226.3	250.4	291.1	333.9	296.6	270.6	241.5	136.9	239.6	266.7	211.7	266.7	199.1	–4.7	–24.7
Other age standardised rate (no. per 1,000 encounters)(d)(e)	**172.2**	**190.4**	**212.5**	**215.5**	**201.0**	**191.0**	**214.3**	**153.0**	**157.7**	**185.3**	**168.8**	**185.3**	**168.7**	**–2.4**	**–16.7**
95% LCL(b)	161.7	179.6	200.2	202.7	188.0	179.4	200.7	142.0	145.6	172.8	157.1	172.9	157.0	–2.5	–18.2
95%UCL(c)	182.6	201.3	224.8	228.4	213.9	202.5	227.9	164.0	169.8	197.7	180.5	197.8	180.4	–2.3	–15.4
Rate ratio(f)	**1.0**	**1.0**	**1.0**	**1.2**	**1.2**	**1.2**	**0.9**	**0.7**	**1.1**	**1.1**	**1.0**	**1.1**	**0.9**	**0.0**	**–9.9**
Rate difference(g)	**–1.1**	**6.3**	**4.4**	**44.1**	**33.5**	**31.8**	**–15.4**	**–48.8**	**10.8**	**17.7**	**–5.0**	**18.9**	**–18.7**	**–1.6**	**1648.8**

(continued)

Table 3.03.5 (continued): Selected clinical treatments provided by general practitioners, by Indigenous status, April 1998–March 1999 to April 2010–March 2011

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) IPCP-2 codes defining Advice/education codes A45002, B45002, D45002, F45002, H45002, K45002, L45002, N45002, P45001, R45002, S45002, T45002, U45002, W45004, X45002, Y45002, Z45002; Counselling/advice treatment A45016, A45019, A45020, A45021, A45030, A45034, A45035, A48004, L45004, R45004, S45004, T45004, T45009; .Counselling/advice nutrition/weight A45006, T45005, T45007, T45010, T58002; Counselling/advice smoking P45004, P58008; Counselling/ advice alcohol P45005, P58009; Counselling/ advice exercise A45004, A58005; Counselling/ advice lifestyle P45008, P58012; Family planning A98002, A98003, W45006, W45007, W45008,W58001, W58005, W58007, W58012, W58013, Y45006, Y45007, Y58005, Y58006 and Counselling/ advice relaxation P45007, P58011, P58017.

(b) LCL = Lower confidence limit.

(c) UCL = Upper confidence limit.

(d) Directly age-standardised rate using the total number of encounters for the period as the standard.

(e) Other includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(f) Rate for Indigenous divided by rate for other Australians.

(g) Rate for Indigenous minus rate for other Australians.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Table 3.03.6: Selected clinical treatments provided by general practitioners, by Indigenous status April 1998–March 1999, April 2004–March 2005 and April 2010–March 2011(a)

	Crude rate (no. per 1,000 encounters)			Age-standardised rate (no. per 1,000 encounters)(b)							
Selected clinical treatments	Indigenous	95% LCL(c)	95% UCL(d)	Indigenous	95% LCL(c)	95% UCL(d)	Other(e)	95% LCL(c)	95% UCL(d)	Rate ratio(f)	Rate difference(g)
				April 1998 – March 1999							
Advice/education(h)	23.6	10.9	36.2	19.8	9.1	30.6	37.1	32.3	41.8	0.5	–17.2
Advice/education treatment(i)	62.0	39.1	84.8	57.6	33.1	82.0	64.1	59.0	69.1	0.9	–6.5
Counselling/advice nutrition/weight(j)	34.9	22.3	47.5	39.0	19.2	58.9	36.8	33.7	40.0	1.1	2.2
Counselling/advice smoking(k)	12.2	5.1	19.3	16.2	3.1	29.4	6.2	5.5	6.9	2.6	10.0
Counselling/advice alcohol(l)	7.9	3.0	12.7	9.3	1.9	16.7	3.6	3.1	4.2	2.6	5.7
Counselling/advice exercise(m)	11.3	4.1	18.5	21.4	3.7	39.0	14.5	12.1	17.0	1.5	6.8
Counselling/advice lifestyle(n)	1.7	0.0	4.2	1.3	–0.5	3.2	3.2	2.6	3.9	0.4	–1.9
Family planning(o)	2.6	0.0	5.6	2.0	–0.3	4.2	2.7	2.3	3.2	0.7	–0.8
Counselling/advice relaxation(p)	4.4	0.7	8.0	4.4	0.7	8.1	3.7	3.1	4.2	1.2	0.7
Total selected clinical treatments	*160.6*	*122.1*	*199.0*	*171.0*	*115.8*	*226.3*	*172.0*	*161.6*	*182.5*	*1.0*	*–1.0*
All other clinical and therapeutic treatments	230.4	190.2	270.5	224.0	182.7	265.3	276.6	265.8	287.3	0.8	–52.5
Total clinical and therapeutic treatments	**390.9**	**328.9**	**453.0**	**395.1**	**313.7**	**476.5**	**448.6**	**431.1**	**466.1**	**0.9**	**–53.5**
				April 2004 – March 2005							
Advice/education(h)	52.6	36.3	68.9	49.3	32.5	66.2	76.0	68.9	83.0	0.6	–26.6
Advice/education treatment(i)	53.6	31.1	76.1	47.3	27.1	67.5	44.6	40.8	48.4	1.1	2.7
Counselling/advice nutrition/weight(j)	35.6	25.1	46.1	33.5	23.3	43.6	49.9	45.8	54.0	0.7	–16.5
Counselling/advice smoking(k)	24.4	12.4	36.5	21.7	11.1	32.2	8.0	7.0	8.9	2.7	13.7
Counselling/advice alcohol(l)	18.6	11.4	25.8	15.3	9.2	21.4	4.8	4.1	5.6	3.2	10.5

(continued)

Table 3.03.6 (continued): Selected clinical treatments provided by general practitioners, by Indigenous status April 1998–March 1999, April 2004–March 2005 and April 2010–March 2011(a)

	Crude rate (no. per 1,000 encounters)			Age-standardised rate (no. per 1,000 encounters)(b)							
Selected clinical treatments	**Indigenous**	**95% LCL(c)**	**95% UCL(d)**	**Indigenous**	**95% LCL(c)**	**95% UCL(d)**	**Other(e)**	**95% LCL(c)**	**95% UCL(d)**	**Rate ratio(f)**	**Rate difference(g)**
Counselling/advice exercise(m)	17.5	8.6	26.4	16.8	8.3	25.2	18.7	16.5	21.0	0.9	–2.0
Counselling/advice lifestyle(n)	10.1	3.2	17.0	9.6	2.6	16.6	4.8	3.7	6.0	2.0	4.8
Family planning(o)	4.2	1.2	7.3	3.0	0.9	5.2	4.6	3.9	5.3	0.7	–1.6
Counselling/advice relaxation(p)	2.1	0.0	4.3	2.4	–0.5	5.2	2.8	2.4	3.3	0.8	–0.4
Total selected clinical treatments	*218.8*	*170.1*	*267.5*	*198.9*	*156.3*	*241.5*	*214.3*	*200.7*	*227.9*	*0.9*	*–15.4*
All other clinical and therapeutic treatments	355.8	287.9	423.8	357.8	289.5	426.2	378.2	363.4	393.0	0.9	–20.3
Total clinical and therapeutic treatments	**574.6**	**483.3**	**666.0**	**556.7**	**467.8**	**645.6**	**592.5**	**568.9**	**616.0**	**0.9**	**–35.8**
					April 2010 – March 2011						
Advice/education(h)	42.9	19.7	66.0	43.7	20.6	66.7	62.3	55.7	68.8	0.7	–18.6
Advice/education treatment(i)	32.2	16.3	48.1	29.7	12.6	46.7	31.8	28.6	35.0	0.9	–2.2
Counselling/advice nutrition/weight(j)	30.0	19.1	40.9	28.9	17.3	40.5	38.7	35.2	42.2	0.7	–9.8
Counselling/advice smoking(k)	20.0	10.7	29.3	18.8	10.1	27.5	8.3	7.5	9.1	2.3	10.5
Counselling/advice alcohol(l)	10.0	3.7	16.3	8.8	3.2	14.4	4.0	3.5	4.5	2.2	4.8
Counselling/advice exercise(m)	8.6	1.9	15.2	8.5	2.1	14.9	12.9	11.0	14.7	0.7	–4.4
Counselling/advice lifestyle(n)	8.6	2.8	14.3	8.6	3.0	14.3	5.0	4.1	6.0	1.7	3.6
Family planning(o)	3.6	0.5	6.6	2.5	0.3	4.6	3.5	3.0	4.0	0.7	–1.0
Counselling/advice relaxation(p)	0.7	0.0	2.1	0.5	–0.5	1.6	2.2	1.8	2.6	0.2	–1.6
Total selected clinical treatments	*156.5*	*105.2*	*207.9*	*149.9*	*100.8*	*199.1*	*168.7*	*157.0*	*180.4*	*0.9*	*–18.7*
All other clinical and therapeutic treatments	421.0	320.8	521.2	478.5	306.2	650.7	417.3	401.8	432.9	1.1	61.1
Total clinical and therapeutic treatments	**577.6**	**447.0**	**708.2**	**628.4**	**441.4**	**815.5**	**586.0**	**563.3**	**608.7**	**1.1**	**42.4**

(continued)

Table 3.03.6 (continued): Selected clinical treatments provided by general practitioners, by Indigenous status April 1998–March 1999, April 2004–March 2005 and April 2010–March 2011[(a)]

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data from three individual BEACH years April 1998–March 1999, April 2004–March 2005 and April 2010–March 2011.

(b) Directly age-standardised rate (no. per 1,000 encounters) using total BEACH encounters in the period as the standard.

(c) LCL = Lower confidence limit.

(d) UCL = Upper confidence limit.

(e) Other includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(f) Rate for Indigenous divided by rate for other Australians.

(g) Rate difference Indigenous rate minus Other (non-Indigenous) rate.

(h) IPCP-2 Plus codes defining Advice/education codes A45002, B45002, D45002, F45002, H45002, K45002, L45002, N45002, P45001, R45002, S45002, T45002, U45002, W45004, X45002, Y45002, Z45002.

(i) IPCP-2 Plus codes defining Counselling/advice treatment A45016, A45019, A45020, A45021, A45030, A45034, A45035, A48004, L45004, R45004, S45004, T45004, T45009.

(j) IPCP-2 Plus codes defining Counselling/advice nutrition/weight A45006, T45005, T45007, T45010, T58002.

(k) IPCP-2 Plus codes defining Counselling/advice smoking P45004, P58008.

(l) IPCP-2 Plus codes defining counselling/ advice alcohol P45005, P58009.

(m) IPCP-2 Plus codes defining counselling/ advice exercise A45004, A58005.

(n) IPCP-2 Plus codes defining counselling/ advice lifestyle P45008, P58012.

(o) IPCP-2 Plus codes defining family planning A98002, A98003, W45006, W45007, W45008, W58001, W58005, W58007, W58012, W58013, Y45006, Y45007, Y58005 and Y58006.

(p) IPCP-2 Plus codes defining counselling/ advice relaxation P45007, P58011, P58017.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Table 3.03.7: Selected clinical treatments provided by general practitioners, presented as a rate ratio Indigenous: Other, holding 'other' as 1, and a rate difference(d), BEACH years April 2006 – March 2007 to April 2010 – March 2011(a)(b)

	Rate ratio(c)							Rate difference(d)						
Selected clinical treatments	**Respiratory**	**Musculo-skeletal**	**Cardio-vascular**	**Endocrine/ metabolic**	**Psycho-logical**	**Other(e)**	**Total**	**Respiratory**	**Musculo-skeletal**	**Cardio-vascular**	**Endocrine/ metabolic**	**Psycho-logical**	**Other(e)**	**Total**
Advice/education(f)	1.1	1.1	1.5	0.7	0.5	1.0	1.0	3.8	5.7	13.2	–8.4	–15.8	–1.4	–2.0
Advice/education treatment(g)	0.4	1.9	0.5	0.7	0.9	0.8	0.9	–1.0	6.1	–14.1	–38.5	–0.4	–3.6	–3.2
Counselling/advice nutrition/weight(h)	0.9	0.5	1.1	2.3	1.8	0.7	0.9	–8.2	–13.1	0.4	26.6	4.4	–5.8	–1.8
Counselling/advice smoking(i)	0.9	1.2	0.8	0.5	0.3	0.5	0.8	–0.1	3.6	–2.2	–21.2	–2.0	–1.2	–2.1
Counselling/advice alcohol(j)	3.9	0.0	0.9	1.4	1.6	4.4	2.5	20.8	–0.2	–0.1	0.4	19.4	2.8	6.7
Counselling/advice exercise(k)	2.8	1.3	1.0	1.2	1.6	1.1	1.3	0.4	0.3	–0.1	2.5	1.3	0.2	0.9
Counselling/advice lifestyle(l)	13.5	4.4	2.4	2.1	1.7	2.3	2.3	2.8	0.6	1.7	1.6	12.9	1.7	3.4
Family planning(m)	0.0	0.0	0.0	0.0	0.0	0.8	0.8	–0.1	0.0	0.0	–0.2	–0.1	–0.8	–0.6
Counselling/advice relaxation(n)	0.0	5.9	0.0	0.0	0.8	0.7	1.0	–0.1	1.0	–0.5	0.0	–3.2	–0.1	0.0
Total selected clinical treatments	*1.2*	*1.0*	*1.0*	*0.9*	*1.1*	*0.9*	*1.0*	*18.5*	*4.0*	*–1.7*	*–37.3*	*16.5*	*–8.2*	*1.3*
All other clinical and therapeutic treatments	1.0	0.8	2.1	1.7	0.8	1.0	1.1	4.6	–53.2	148.7	88.6	–83.4	3.4	13.3
Total clinical and therapeutic treatments	**1.1**	**0.9**	**1.7**	**1.1**	**0.9**	**1.0**	**1.0**	**23.0**	**–49.3**	**146.9**	**51.3**	**–66.9**	**–4.8**	**14.6**

(continued)

Table 3.03.7 (continued): Selected clinical treatments provided by general practitioners, presented as a rate ratio Indigenous: Other, holding 'other' as 1, and a rate difference[(d)], BEACH years April 2006 – March 2007 to April 2010 – March 2011[(a)(b)]

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) These survey results are likely to undercount the number of visits to GPs by Indigenous Australians.

(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

(c) Rate ratio Indigenous: Other. Rate per 1,000 problems managed directly age standardised using total BEACH encounters in the period as the standard.

(d) Rate difference - Indigenous rate minus Other (non-Indigenous) rate. Rate per 1,000 problems managed directly age standardised using total BEACH encounters in the period as a standard.

(e) 'Other clinical treatments' include: skin, general and unspecified, digestive, female genital system, ear, pregnancy and family planning, neurological, urology, eye, male genital system, blood and social.

(f) IPCP-2 Plus codes defining Advice/education codes A45002, B45002, D45002, F45002, H45002, K45002, L45002, N45002, P45001, R45002, S45002, T45002, U45002, W45004, X45002, Y45002, Z45002.

(g) IPCP-2 Plus codes defining Counselling/advice treatment A45016, A45019, A45020, A45021, A45030, A45034, A45035, A48004, L45004, R45004, S45004, T45004, T45009.

(h) IPCP-2 Plus codes defining Counselling/advice nutrition/weight A45006, T45005, T45007, T45010, T58002.

(i) IPCP-2 Plus codes defining Counselling/advice smoking P45004, P58008.

(j) IPCP-2 Plus codes defining counselling/ advice alcohol P45005, P58009.

(k) IPCP-2 Plus codes defining counselling/ advice exercise A45004, A58005.

(l) IPCP-2 Plus codes defining counselling/ advice lifestyle P45008, P58012.

(m) IPCP-2 Plus codes defining family planning A98002, A98003, W45006, W45007, W45008, W58001, W58005, W58007, W58012, W58013, Y45006, Y45007, Y58005 and Y58006.

(n) IPCP-2 Plus codes defining counselling/ advice relaxation P45007, P58011, P58017.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Indigenous communities

Health promotion programs

Health promotion programs are defined in the CHINS as 'a series of planned group activities conducted by a health professional within the community'. They are designed to change knowledge, attitudes, beliefs, behaviours or susceptibility to disease through a combination of educational and environmental measures, screening or immunisation (ABS 2007).

For the 2006 CHINS, data on health promotion programs were only collected from communities that completed the long community questionnaire. The health promotion questions in the CHINS do not collect information on the extent or quality of these activities —only that they have occurred. Therefore, these data are limited in providing information about the health promotion activities occurring in these discrete Indigenous communities.

- In 2006, most discrete Indigenous communities reported that one or more selected health promotion programs (67%) had been conducted, with women's health programs reported by 58%, well babies programs by 54%, immunisation programs by 54% and men's health programs by 52% of communities (Table 3.03.8; Figure 3.03.3).
- The proportion of discrete Indigenous communities reporting at least one health promotion program varied across jurisdictions. Queensland had the highest proportion (89%) and New South Wales the lowest proportion (50%) (Table 3.03.9).
- The proportion of discrete Indigenous communities reported conducting at least one health promotion program decreased from 82% in 2001 to 75% in 2006 (Table 3.03.10; Figure 3.03.4).
- In 2001 and 2006 the three most commonly run health promotion programs for discrete Indigenous communities were women's health, well babies and immunisation (Table 3.03.10; Figure 3.03.4).

Table 3.03.8: Discrete Indigenous communities[(a)] located 10 kilometres or more from a hospital: selected health promotion programs conducted in community, 2006

	Health promotion program conducted		Health promotion program not conducted	
	Communities (number)	Communities (per cent)	Communities (number)	Communities (per cent)
Well babies	155	53.8	132	45.8
Women's health	168	58.3	119	41.3
Men's health	149	51.7	138	47.9
Youth's health	88	30.6	199	69.1
Sexual health	119	41.3	168	58.3
Substance misuse	89	30.9	198	68.8
Immunisation	154	53.5	133	46.2
Trachoma control	69	24.0	218	75.7
Eye health	91	31.6	196	68.1
Ear health	107	37.2	180	62.5
Nutrition	129	44.8	158	54.9
Stop smoking	74	25.7	213	74.0
Domestic and personal hygiene	92	31.9	195	67.7
Emotional and social wellbeing or mental health	84	29.2	203	70.5
Sub-total	*194*(b)	*67.4*	*93*(c)	*32.3*
Not stated	1	0.3	1	0.3
Total no. communities(d)	**288**	**100.0.**	**288**	**100.0.**

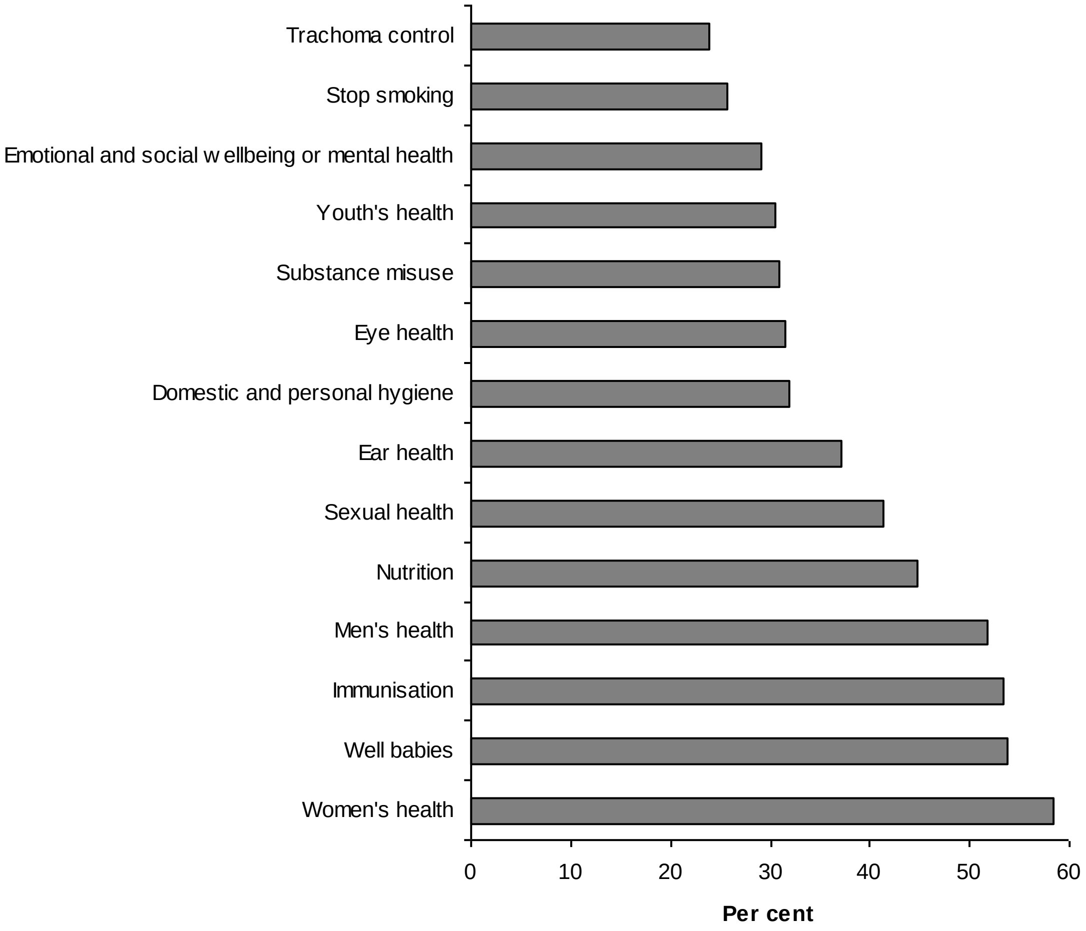
(a) With a population of 50 or more, or a reported usual population of fewer than 50 but which were not linked to a parent community or resource agency.

(b) Number of communities where at least one health promotion program was conducted.

(c) Number of communities where no health promotion programs were conducted.

(d) Excludes communities where distance to nearest hospital was not stated.

Source: AIHW analysis of 2006 CHINS.



Source: AIHW analysis of 2006 CHINS.

Figure 3.03.3: Proportion of discrete Indigenous communities located 10 kilometres or more with each type of health promotion program conducted, 2006

Table 3.03.9: Discrete Indigenous communities[(a)] located 10 kilometres or more from a hospital: selected health promotion programs conducted in community, by state/territory, 2006

	NSW		Qld		WA		SA		NT		Australia[(b)]	
	No.	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**
Well babies	10	33.3	19	70.4	29	40.8	14	42.4	80	64.5	155	53.8
Women's health	14	46.7	23	85.2	34	47.9	17	51.5	77	62.1	168	58.3
Men's health	10	33.3	17	63.0	28	39.4	16	48.5	75	60.5	149	51.7
Youth's health	9	30.0	10	37.0	19	26.8	9	27.3	39	31.5	88	30.6
Sexual health	10	33.3	19	70.4	27	38.0	4	12.1	57	46.0	119	41.3
Substance misuse	10	33.3	13	48.1	20	28.2	5	15.2	39	31.5	89	30.9
Immunisation	13	43.3	20	74.1	37	52.1	15	45.5	67	54.0	154	53.5
Trachoma control	2	6.7	4	14.8	25	35.2	1	3.0	36	29.0	69	24.0
Eye health	4	13.3	12	44.4	21	29.6	5	15.2	46	37.1	91	31.6
Ear health	9	30.0	12	44.4	31	43.7	4	12.1	48	38.7	107	37.2
Nutrition	10	33.3	14	51.9	28	39.4	4	12.1	70	56.5	129	44.8
Stop smoking	2	6.7	11	40.7	23	32.4	3	9.1	33	26.6	74	25.7
Domestic and personal hygiene	4	13.3	9	33.3	23	32.4	4	12.1	50	40.3	92	31.9
Emotional and social wellbeing or mental health	7	23.3	13	48.1	24	33.8	6	18.2	31	25.0	84	29.2
Total with at least one health promotion program	*15*	*50.0*	*24*	*88.9*	*43*	*60.6*	*18*	*54.5*	*91*	*73.4*	*194*	*67.4*
Total with no health promotion programs	*15*	*50.0*	*2*	*7.4*	*28*	*39.4*	*15*	*45.5*	*33*	*26.6*	*93*	*32.3*
Not stated	—	—	1	3.7	—	—	—	—	—	—	1	0.3
Total[(c)]	**30**	**100.0**	**27**	**100.0**	**71**	**100.0**	**33**	**100.0**	**124**	**100.0**	**288**	**100.0**

(a) With a population of 50 or more, or a reported usual population of fewer than 50 but which were not linked to a parent community or resource agency

(b) Victoria and Tasmania not included separately for confidentiality reasons, but in Australia total.

(c) Excludes communities where distance to nearest hospital was not stated.

Source: AIHW analysis of 2006 CHINS.

Table 3.03.10: Discrete Indigenous communities[(a)] located 10 kilometres or more from a hospital: selected health promotion programs conducted in community, 2001 and 2006

	Health promotion program conducted				Health promotion program not conducted			
	2001		2006		2001		2006	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
Well babies	159	66	145	61	81	33	92	39
Women's health	175	72	153	65	65	27	84	35
Men's health	151	62	137	58	88	36	100	42
Youth's health	126	52	80	34	113	47	157	66
Sexual health	158	65	110	46	81	33	127	54
Substance misuse	126	52	80	34	114	47	157	66
Immunisation	178	74	144	61	62	26	93	39
Eye health inc. trachoma(b)	146	60	105	44	94	39	132	37
Ear health	156	64	100	42	84	35	137	58
Nutrition(c)	n.a.	n.a.	115	49	n.a.	n.a.	122	51
Stop smoking(c)	n.a.	n.a.	69	29	n.a.	n.a.	168	71
Domestic and personal hygiene(c)	n.a.	n.a.	83	35	n.a.	n.a.	154	65
Emotional and social wellbeing or mental health	121	50	77	32	118	49	160	68
Sub-total	*199(d)*	*82(d)*	*177(d)*	*75(d)*	*41(e)*	*17(e)*	*60(e)*	*25(e)*
Not stated	2	1	—	—	2	1	—	—
Total no. communities(f)	**242**	**—**	**237**	**—**	**242**	**—**	**237**	**—**

(a) With a population of 50 or more, or a reported usual population of less than 50 but which were not linked to a parent community or resource agency.

(b) 2006 data is the sum of communities with health promotion programs for eye health and/or trachoma. In 2001 data was not collected separately for Eye health and Trachoma control programs.

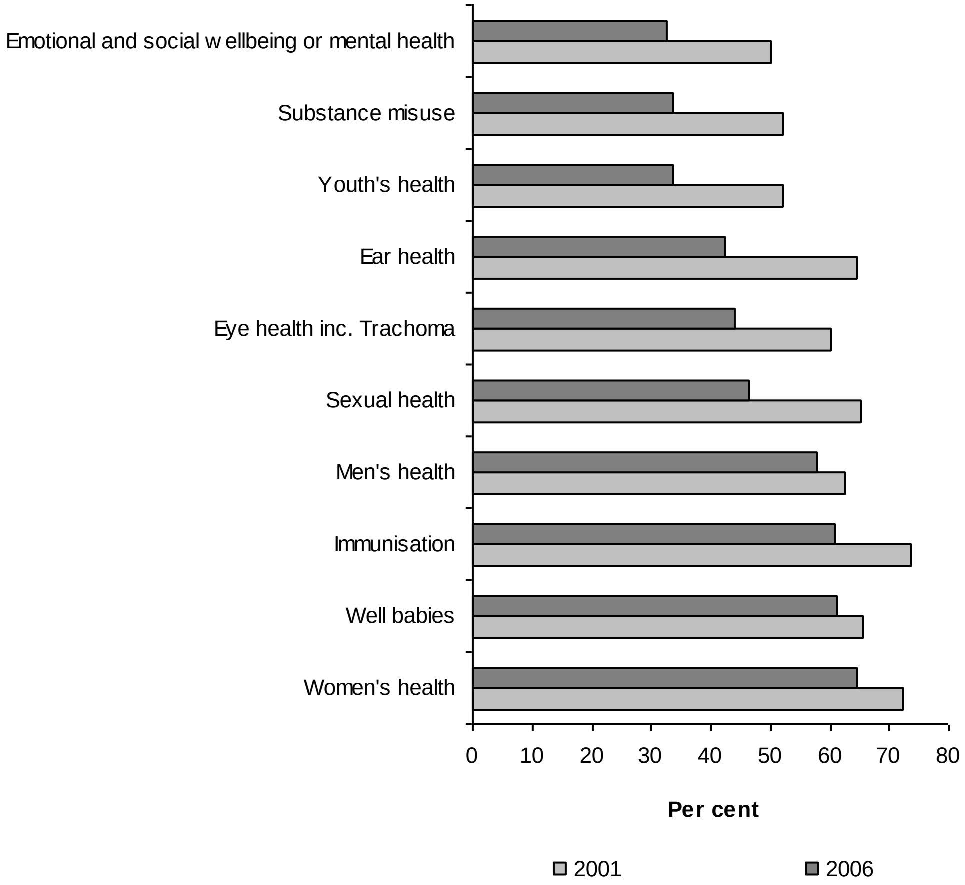
(c) Data on nutrition, stop smoking and domestic and personal hygiene programs were not collected in 2001.

(d) Number of communities where at least one health promotion program was conducted.

(e) Number of communities where no health promotion programs were conducted.

(f) Excludes communities where distance to nearest hospital was not stated.

Source: ABS 2002; AIHW analysis of 2006 CHINS.



Source: AIHW analysis of 2001 and 2006 CHINS.

Figure 3.03.4: Proportion of communities with each type of health promotion program conducted, 2001 and 2006

Frequency of health promotion programs

- The frequency with which health promotion programs were conducted in discrete Indigenous communities varied by program. The majority of programs were most likely to be conducted weekly or monthly, except for trachoma control and eye health, both of which were most likely to be conducted less than 3-monthly (Table 3.03.11).

Table 3.03.11: Discrete Indigenous communities[(a)] located 10 kilometres or more from a hospital: frequency of selected health promotion programs conducted in community, 2006

	Frequency of program						
Health promotion programs	**Weekly**	**Fortnightly**	**Monthly**	**Three-monthly**	**Less than 3-monthly**	**Not conducted**	**All communities[(b)(c)]**
				Number			
Well babies	66	7	39	28	15	132	288
Women's health	49	10	44	39	26	119	288
Men's health	42	5	35	34	33	138	288
Youth's health	32	1	23	13	19	199	288
Sexual health	36	6	26	16	35	168	288
Substance misuse	30	5	19	12	23	198	288
Immunisation	59	8	42	26	19	133	288
Trachoma control	11	4	8	8	38	218	288
Eye health	15	4	11	27	34	196	288
Ear health	32	6	24	15	30	180	288
Nutrition	36	11	27	27	28	158	288
Stop smoking	29	4	15	13	13	213	288
Domestic and personal hygiene	34	6	17	9	26	195	288
Emotional and social wellbeing or mental health	26	5	21	12	20	203	288

(a) With a population of 50 or more, or a reported usual population of fewer than 50 but which were not linked to a parent community or resource agency.

(b) Includes ‘whether selected health promotion program conducted’ not stated.

(c) Excludes communities where distance to nearest hospital not stated.

Source: AIHW analysis of 2006 CHINS.

OATSIH Services Reporting (OSR) data

Programs/activities provided

All Indigenous primary health-care services undertake a number of extended care roles to support their communities. The data in this section refer to the proportion of Indigenous primary health-care services included in the OSR data collection that undertake these roles through the provision of programs and activities, but not the extent to which they are undertaken or the amount of resources used to carry out these activities.

In 2010–11, there were 236 Indigenous primary health-care services included in the OSR of which 235 (99.6%) responded to the OSR questionnaire (AIHW 2012).

Preventative health care and screening

- In 2010–11, 92% of Indigenous primary health care services offered health promotion/education programs, 78% routinely organised influenza immunisation and offered women's health programs and 77% offered child immunisations (Figure 3.03.5).

Health related and community services

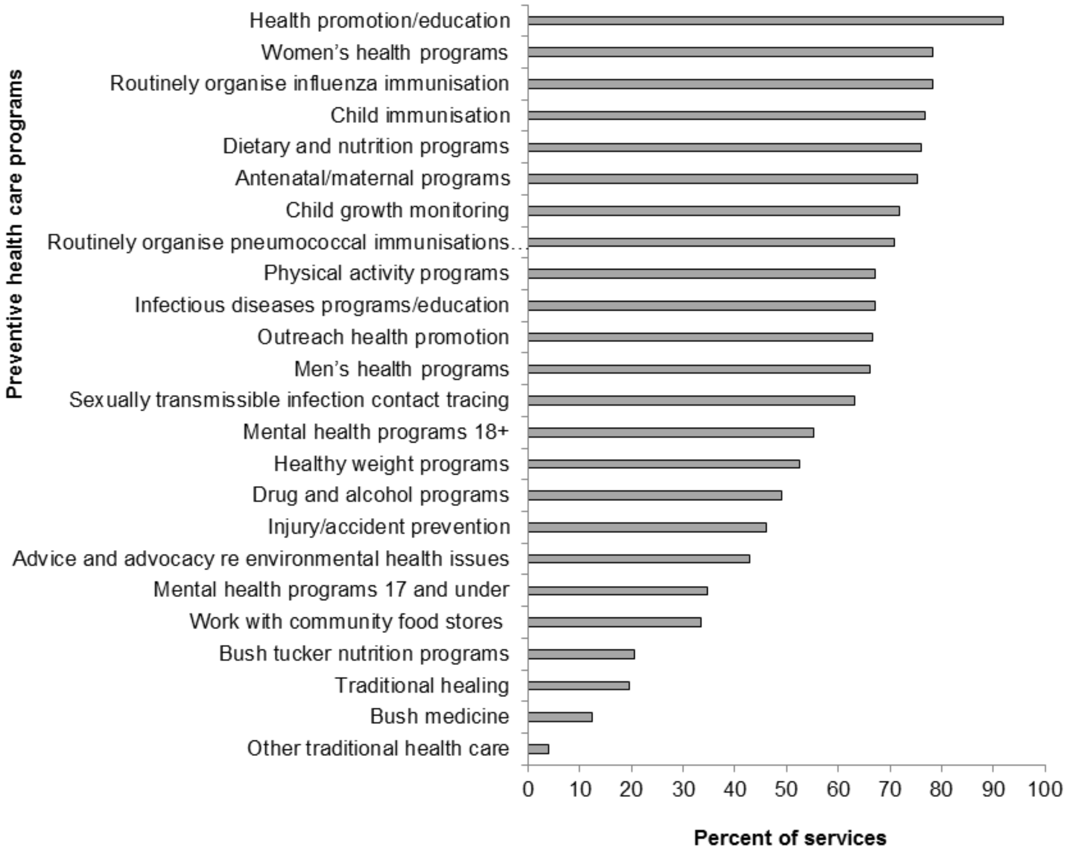
- In 2010–11, around 90% of Indigenous primary health care services provided transport services, offered to attend medical appointments with patients or were involved with committees on health (Figure 3.03.6). Around half of services provided homelessness support and aged care services.

Screening programs

- In 2010–11 most services offered screening programs. Between 70% and 80% offered services in diabetic screening, PAP smear/cervical screening, regular well persons checks, hearing screening, sexually transmissible infection screening and eye screening. Sixty-eight per cent provided cardiovascular screening and 56% offered renal screening. (Figure 3.03.7).

Traditional health care

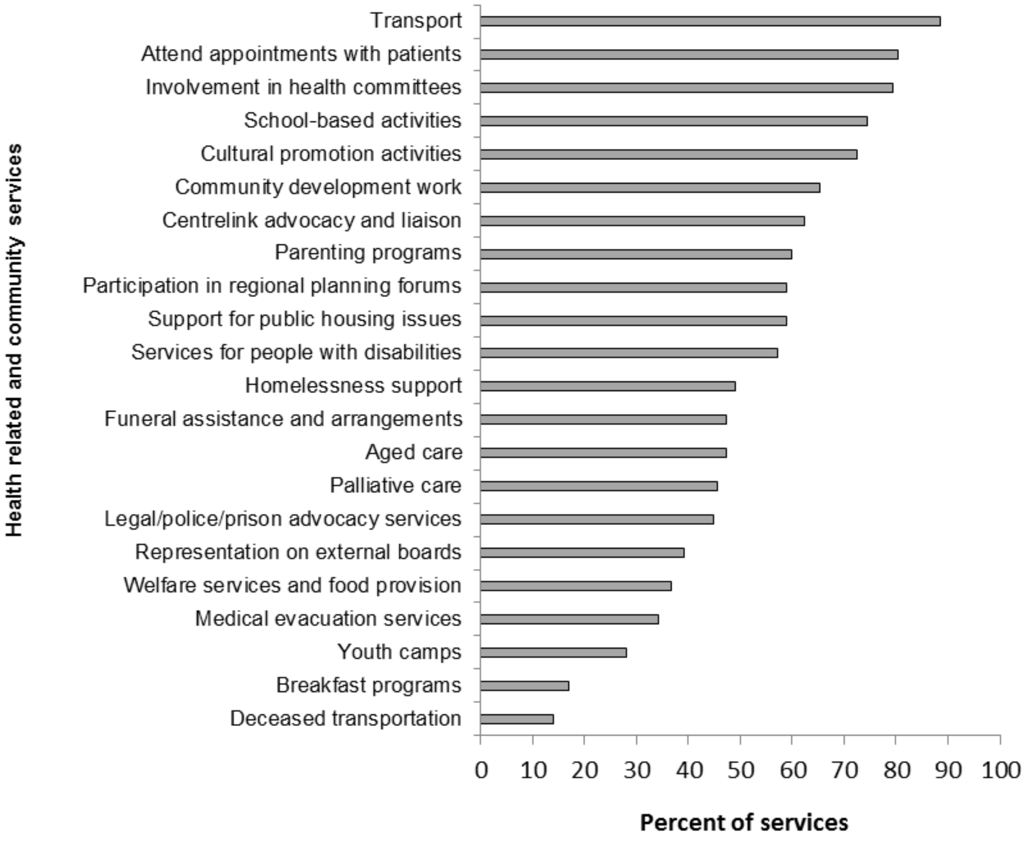
- In 2010–11, around 20% of Indigenous primary health-care services offered bush tucker nutrition programs or traditional healing, 12% provided bush medicine programs and 4% offered other traditional health care programs (Figure 3.03.8).



(a) Two hundred and one of the 205 respondent Aboriginal and Torres Strait Islander primary health-care services provided valid data about health-related activities provided by the service. The percentages in this figure are calculated as a proportion of these 201 services

Source: AIHW OSR analysis of OATSIH Services reporting 2010–11.

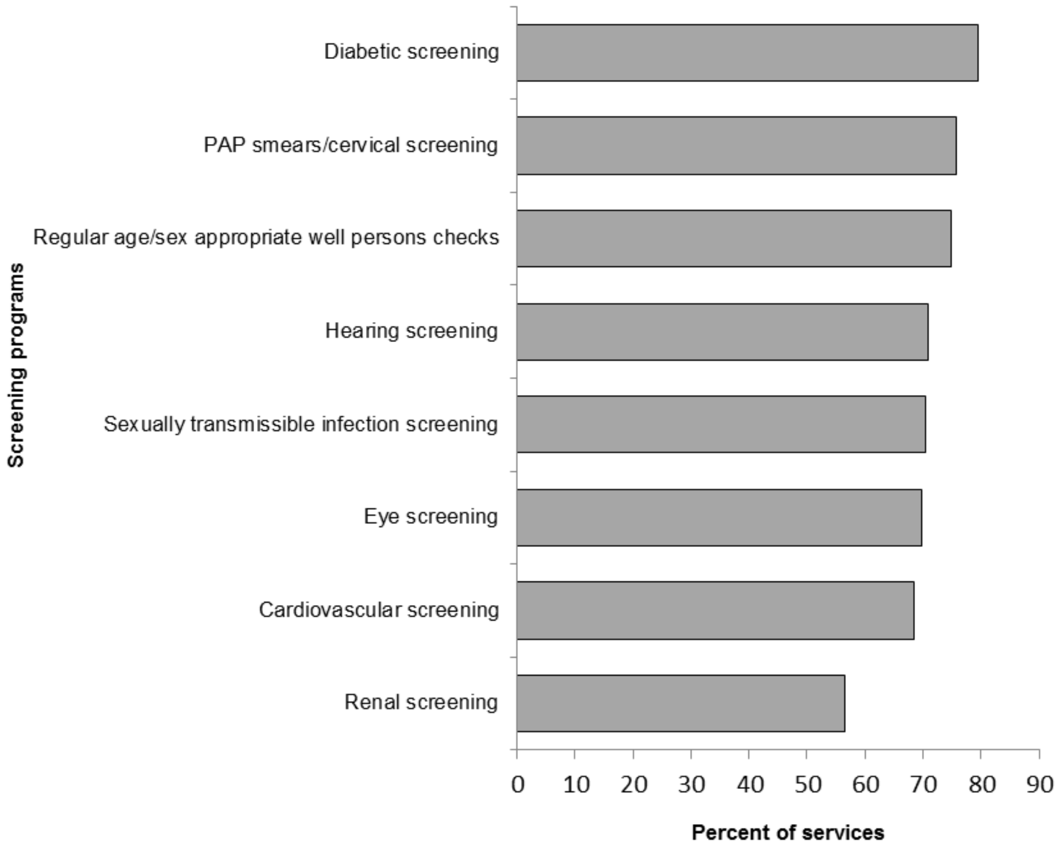
Figure 3.03.5: Proportion[(a)] of Aboriginal and Torres Strait Islander primary health-care services that undertake selected preventative health care and screening activities, (preventative health care programs), 2010–11



(a) Two hundred and one of the 205 respondent Aboriginal and Torres Strait Islander primary health-care services provided valid data about health related activities provided by the service. The percentages in this figure are calculated as a proportion of these 201 services

Source: AIHW OSR data collection.

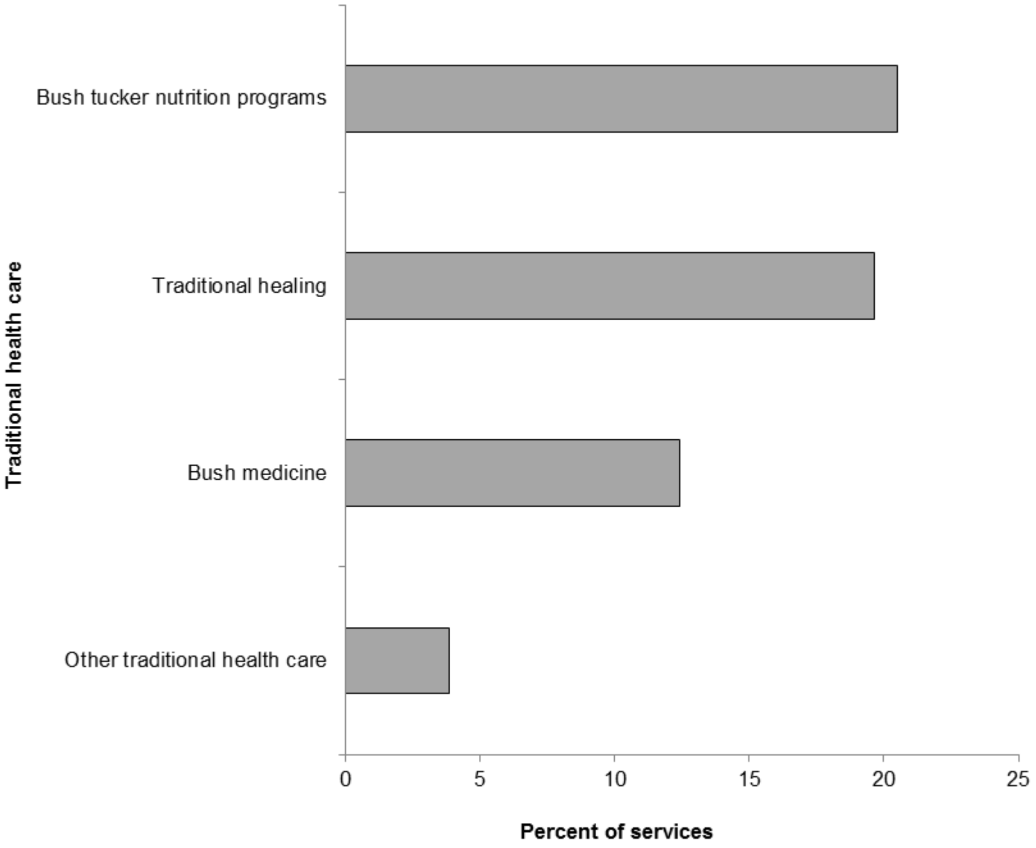
Figure 3.03.6: Proportion(a) of Aboriginal and Torres Strait Islander primary health-care services that undertake selected health care and screening activities (health related and community services), 2010–11



(a) Two hundred and one of the 205 respondent Aboriginal and Torres Strait Islander primary health-care services provided valid data about health-related activities provided by the service. The percentages in this figure are calculated as a proportion of these 201 services

Source: AIHW OSR data collection.

Figure 3.03.7: Proportion[(a)] of Aboriginal and Torres Strait Islander primary health-care services that undertake selected preventative health care and screening activities (screening programs), 2010–11



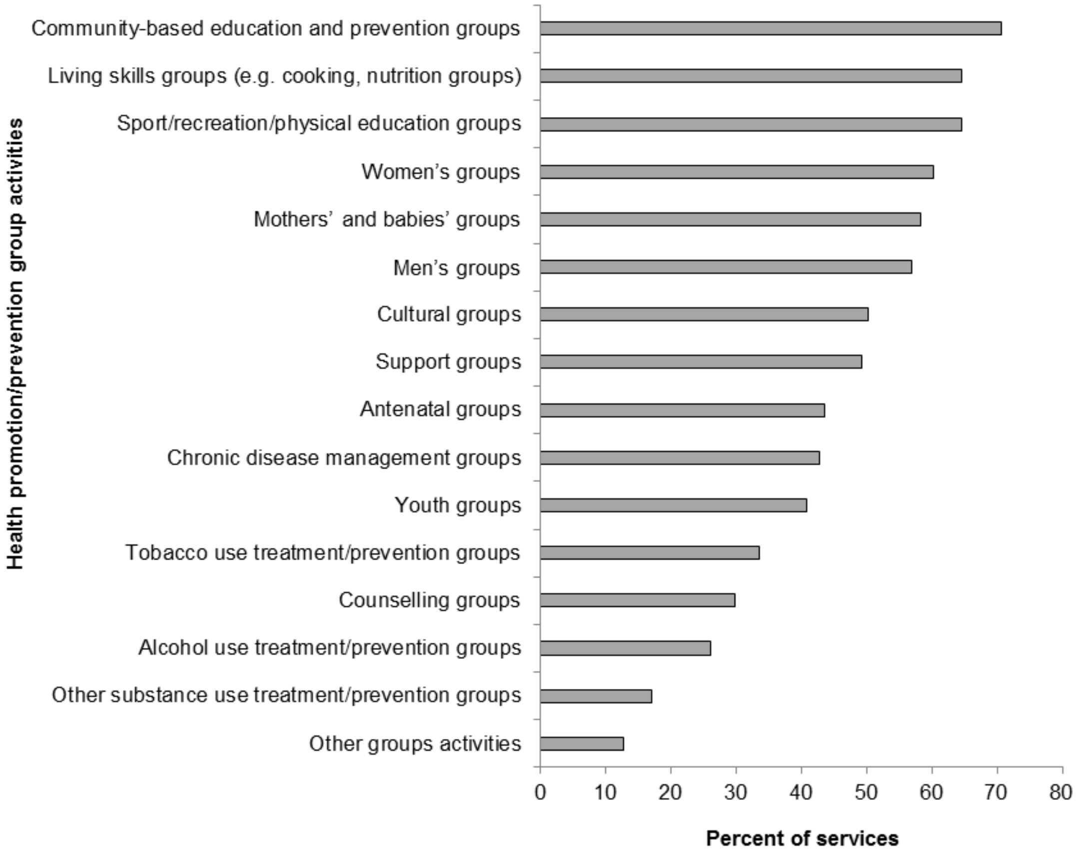
(a) Two hundred and one of the 205 respondent Aboriginal and Torres Strait Islander primary health-care services provided valid data about health-related activities provided by the service. The percentages in this figure are calculated as a proportion of these 201 services.

Source: AIHW OSR data collection.

Figure 3.03.8: Proportion(a) of Aboriginal and Torres Strait Islander primary health-care services that undertake selected preventative health care and screening activities (traditional health care), 2010–11

Health promotion/prevention group activities

- In 2010–11, the most common health promotion/prevention group activity run by Aboriginal and Torres Strait Islander primary health-care services was community based education and prevention groups (71%), followed by living skills groups (e.g. cooking and nutrition groups) and sport/recreation/physical education groups (each 65%) and women's groups (60%) (Figure 3.03.9).
- The least common health promotion/prevention group activities were alcohol use groups (26%) and other substance use groups (17%).



(a) One hundred and eighty of the 205 respondent Aboriginal and Torres Strait Islander primary health-care services provided information on group activities offered by the service. The percentages in the table above are calculated as a proportion of these 180 services.

Source: AIHW OSR data collection.

Figure 3.03.9: Proportion(a) of Aboriginal and Torres Strait Islander primary health-care services that ran health promotion/prevention group activities during 2010–11

Substance use services

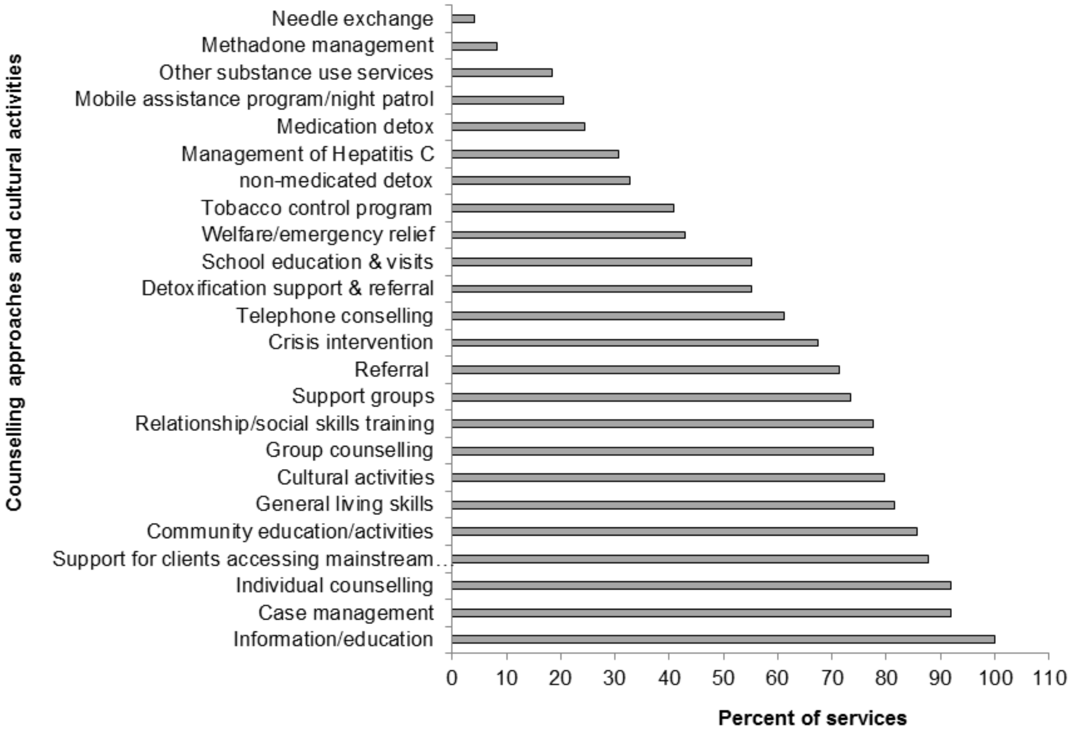
In 2010–11, there were 51 stand-alone Indigenous-specific substance use services that received OATSIH funding, of which 49 (96%) responded to the OSR questionnaire.

Counselling approaches and cultural activities

- In 2010–11, information/education programs were the most common program offered by substance use services (100%), followed by individual counselling and case management programs (each 91%) (Figure 3.03.10; Table 3.03.12).
- Methadone management (8.2%) and needle exchange programs (4.1%) were the least offered programs.

Other selected group programs

- In 2010–11, the most commonly run group programs by substance use services were cultural groups (85%), community-based education and prevention groups and living skills groups (each 83%) and alcohol use treatment/prevention groups (81%) (Figure 3.03.11; Table 3.03.13).
- Less than half of substance use services ran youth groups (34%).



(a) All of the 45 respondent Aboriginal and Torres Strait Islander substance use services provided valid data about activities the service provided to tackle substance use.

Source: AIHW OSR data collection.

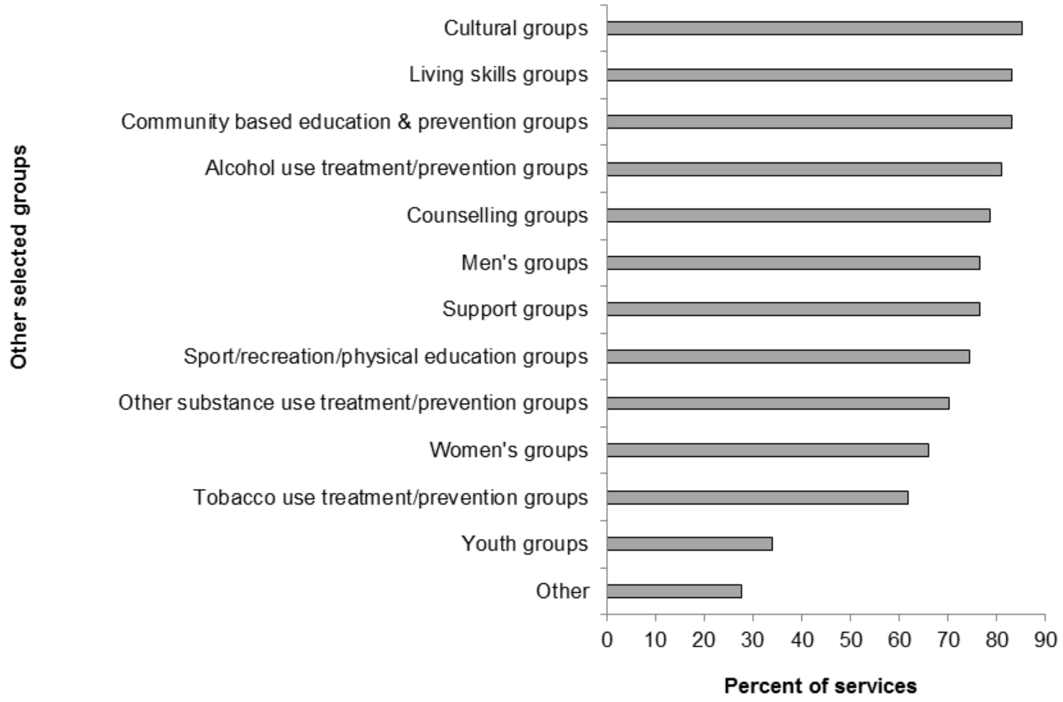
Figure 3.03.10: Proportion[(a)] of services conducting selected drug and alcohol service counselling approaches and cultural activities, 2010–11

Table 3.03.12: Proportion[(a)] of services conducting selected drug and alcohol service counselling approaches and cultural activities, 2010–11

Service	Percentage
Information/education	100.0
Case management	91.8
Individual counselling	91.8
Support for clients accessing mainstream services	87.8
Community education/activities	85.7
General living skills	81.6
Cultural activities	79.6
Group counselling	77.6
Relationship/social skills training	77.6
Support groups	73.5
Referral	71.4
Crisis intervention	67.3
Telephone counselling	61.2
Detoxification support & referral	55.1
School education & visits	55.1
Welfare/emergency relief	42.9
Tobacco control program	40.8
Non-medicated detox	32.7
Management of Hepatitis C	30.6
Medication detox	24.5
Mobile assistance program/night patrol	20.4
Other substance use services	18.4
Methadone management	8.2
Needle exchange	4.1

(a) All of the 45 respondent Aboriginal and Torres Strait Islander substance use services provided valid data about activities the service provided to tackle substance use.

Source: AIHW OSR data collection.



(a) Forty-four of the 45 respondent Aboriginal and Torres Strait Islander substance use services provided information on group activities. The percentages in the table above are calculated as a proportion of these 44 services.

Source: AIHW OSR data collection.

Figure 3.03.11: Proportion(a) of Aboriginal and Torres Strait Islander substance-use-specific services that ran selected groups during 2010–11

Table 3.03.13: Proportion(a) of Aboriginal and Torres Strait Islander substance-use-specific services that ran other selected groups during 2010–11

Group	Percentage
Counselling groups	78.7
Support groups	76.6
Community based education & prevention groups	83.0
Cultural groups	85.1
Sport/recreation/physical education groups	74.5
Living skills groups	83.0
Alcohol use treatment/prevention groups	80.9
Tobacco use treatment/prevention groups	61.7
Other substance use treatment/prevention groups	70.2
Men's groups	76.6
Women's groups	66.0
Youth groups	34.0
Other	27.7
Total number of services that ran selected group	**47**

(a) Forty-four of the 45 respondent Aboriginal and Torres Strait Islander substance use services provided information on group activities. The percentages in the table above are calculated as a proportion of these 44 services.

Source: AIHW OSR data collection.

Additional information

Information on Indigenous primary health care services funded through the Health for Life (HfL) program that had health promotion programs for behavioural risk reduction is available from the AIHW's Healthy for Life data collection.

- In 2009–10, 81% of HfL funded services had community health promotion or development activities aimed at preschools or schools, and between 60% and 70% had programs involving men's groups, women's groups, community councils, or child care services or play groups (Table 3.03.14).
- Most HfL funded services provided strategies for chronic disease prevention, including brief intervention smoking and alcohol reduction strategies, nutrition and physical activity strategies and strategies aimed at emotional well-being (each offered by around 90% of services) (Table 3.03.15).
- Between 80% and 90% of HfL funded services offered chronic disease management strategies, including strategies relating to smoking and alcohol use, nutrition, physical activity and emotional well-being in 2009–10 (Table 3.03.16).

Table 3.03.14: Proportion of services funded through the Healthy for Life program that had community health promotion/development activities(a), reporting periods ending 30 June 2008, 30 June 2009 and 30 June 2010

	Jun–08				Jun–09				Jun–10			
	Yes	No	No response	Not app(b)	Yes	No	No response	Not app(b)	Yes	No	No response	Not app(b)
	Per cent											
Engagement with child care centres and/or play groups	67.2	25.4	6.0	0.0	65.3	23.6	11.1	2.8	63.3	22.8	10.1	3.8
Engagement with preschools and/or schools	83.6	10.4	6.0	0.0	82.2	6.8	11.0	1.4	81.0	7.6	10.1	1.3
Engagement with community groups												
Community council	64.2	23.9	7.5	4.6	69.0	14.1	16.9	4.2	64.6	13.9	17.7	3.8
Women's group(s)	82.1	10.4	6.0	1.5	75.0	6.9	18.1	2.8	67.1	13.9	13.9	5.1
Men's group(s)	70.1	22.4	6.0	1.5	66.2	10.8	23.0	0.0	65.8	12.7	17.7	3.8
Youth group(s)	59.7	28.4	9.0	3.1	51.4	23.6	25.0	2.8	51.9	27.8	17.7	2.5
Sports club(s)	52.2	28.4	13.4	6.2	46.5	33.8	19.7	4.2	53.2	21.5	20.3	5.1
Art/cultural centre(s)	37.3	44.8	9.0	9.2	26.8	50.7	22.5	4.2	26.6	38.0	26.6	8.9
Other	24.2	28.8	40.9	6.2	16.4	34.2	49.3	1.4	22.8	26.6	44.3	6.3
Other community engagement	46.3	11.9	35.8	6.2	42.3	19.7	38.0	4.2	39.2	20.3	35.4	5.1

(a) Relating to maternal, child health, chronic disease prevention, and care, including risk reduction for smoking, alcohol, nutrition, physical activity and emotional wellbeing.

(b) Percentage not applicable.

Note: Data for the reporting period ending June 2009 were re-analysed since the previous report to include the category 'not applicable'.

Source: AIHW, Healthy for Life data collection.

Table 3.03.15: Proportion of services funded through the Healthy for Life program that had strategies for chronic disease preventative care for their service population, reporting periods ending 30 June 2008, 30 June 2009 and 30 June 2010

	Jun–08			Jun–09			Jun–10		
	Yes	No	No response	Yes	No	No response	Yes	No	No response
					Per cent				
Behavioural risk reduction									
Smoking									
Brief intervention	91.0	1.5	7.5	85.1	2.7	12.2	91.1	1.3	7.6
Other advice	89.6	1.5	9.0	85.1	2.7	12.2	87.3	3.8	8.9
Nutrition	92.5	0.0	7.5	86.5	1.4	12.2	91.1	1.3	7.6
Alcohol									
Brief intervention	89.6	3.0	7.5	85.1	2.7	12.2	91.1	1.3	7.6
Other advice	77.6	13.4	9.0	81.1	6.8	12.2	84.8	7.6	7.6
Physical activity	92.5	0.0	7.5	85.1	2.7	12.2	89.9	2.5	7.6
Emotional wellbeing	91.0	0.0	9.0	86.5	0.0	13.5	89.9	1.3	8.9
Other	14.9	40.3	44.8	13.5	36.5	50.0	17.7	43.0	39.2

Source: AIHW, Healthy for Life data collection.

Table 3.03.16: Proportion of services funded through the Healthy for Life program that had strategies for chronic disease management[(a)] for their clients with chronic disease, reporting periods ending 30 June 2008, 30 June 2009, 30 June 2010

	Jun–08			Jun–09			Jun–10		
	Yes	No	No response	Yes	No	No response	Yes	No	No response
					Per cent				
Behavioural risk reduction									
Smoking									
Brief intervention	88.1	3.0	9.0	85.1	4.1	10.8	88.6	2.5	8.9
Other advice	86.6	6.0	7.5	83.8	5.4	10.8	87.3	3.8	8.9
Nutrition	91.0	1.5	7.5	83.8	4.1	12.2	89.9	1.3	8.9
Alcohol									
Brief intervention	88.1	4.5	7.5	85.1	4.1	10.8	88.6	2.5	8.9
Other advice	83.6	9.0	7.5	81.1	8.1	10.8	83.5	6.3	10.1
Physical activity	91.0	1.5	7.5	87.8	1.4	10.8	89.9	1.3	8.9
Emotional wellbeing	91.0	1.5	7.5	89.2	0.0	10.8	87.3	1.3	11.4
Other	14.9	46.3	38.8	21.6	44.6	33.8	22.8	41.8	35.4

(a) ‘Management’ includes health promotion, prevention of complications, clinical care and advocacy.

Source: AIHW, Healthy for Life data collection.

Data quality issues

Health Expenditure Data

Health expenditure data is affected by most of the reservations about data relating to Aboriginal and Torres Strait Islander people. The issue of poor Indigenous identification means that the attribution of expenditure to Indigenous people either on a population or per capita basis must be treated with caution. This single factor is arguably the most important data quality issue, affecting as it does nearly all health and population based measures. Reliable Indigenous status data is a major requirement to produce reliable, consistent and valid information on most aspects of Indigenous health. The “completeness of identification of Indigenous Australians varies significantly across states and territories” and in administrative health data collections (SCRGSP 2006).

For many publicly funded health services, there is incomplete information available about service users and, in particular, about their Indigenous status. For privately funded services, this information is frequently unavailable. For those services that do collect this information, recording Indigenous status accurately for all people does not always occur. The result is that there is some margin of error in the estimations of health expenditure for Indigenous people and their corresponding service use.

Expenditure estimates

There may be some limitations associated with the scope and definition of health expenditures included in this measure. Other (non-health) agency contributions to health expenditure, such as ‘health’ expenditures incurred within education departments and prisons, are not included.

In some areas of expenditure, surveys have been used to estimate service use by Indigenous people, which, in turn, have been used in the estimates of expenditure. Consequently, the reliability of the expenditure estimates is affected by sampling error.

Furthermore, although every effort has been made to ensure consistent reporting and categorisation of expenditure on health goods and services, in some cases there may be inconsistencies across data providers. These may result from limitations of financial reporting systems, and/or different reporting mechanisms (AIHW 2009).

Under-identification

Estimates of the level of Indigenous under-identification were used to adjust some reported expenditure. In some states and territories, a single state wide average under-identification adjustment factor was applied. In others, differential under-identification factors were used, depending on the region in which the particular service(s) were located. In some jurisdictions, no Indigenous under-identification adjustment was considered necessary.

Comparison with estimates for 2004–05

The definition of health expenditure changed in 2007, when high care residential aged care services were reclassified as welfare services. Prior to this point, residential aged care expenditure was divided with high care residential aged care expenditure being classified as health and low care residential aged care expenditure classified as welfare services.

This indicator provides separate estimates of expenditure for health, and for health and high care residential aged care services. This allows comparison with estimates with health and high care residential aged care expenditure in the 2004–05 report as well as presentation of estimates that relate more directly to estimates in the AIHW’s Health expenditure Australia 2007–08 (AIHW 2009). There has also been a change in the method for estimating MBS and PBS expenditure. For the first time in 2006–07, Medicare Voluntary Indigenous Identifier (VII) data was used to estimate expenditure on Indigenous people for

Medicare services. Services include general practitioner (GP), specialist, pathologist and imaging services, and prescription pharmaceuticals provided to Aboriginal and Torres Strait Islander people (see Appendix B for more details). Prior to this, data from the Bettering the Evaluation and Care of Health (BEACH) survey data were used in these estimates. This change may have contributed to the increase in estimated MBS and PBS expenditure reported in 2006–07 compared with 2004–05.

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998 to 2008, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

Healthy for Life data

For the July 2008 to June 2009 reporting period, 72 services submitted data as part of the Healthy for Life Program.

Services started submitting their data through an electronic interface (OSCAR) for the February 2008 reporting period. This has improved the quality of data submitted.
Not all of the services were able to provide data for all of the essential indicators and service profile questions. The number of services that were able to provide data varies across the qualitative and quantitative indicators.

Community Housing and Infrastructure Needs Survey (CHINS)

The 2006 CHINS collected information on a variety of topics from discrete Aboriginal and Torres Strait Islander communities throughout Australia and on Indigenous organisations that provide rental housing to Indigenous people. In 2006, CHINS information was collected on 496 Indigenous organisations, which managed a total of 21,854 permanent dwellings. The majority of those dwellings were located in the Northern Territory (6,448), Queensland (6,230), New South Wales (4,176) and Western Australia (3,462) (ABS 2007).

The CHINS survey covers only discrete Indigenous communities. In 2006, the CHINS collected information from 1,187 discrete indigenous communities. This included approximately 92,960 Aboriginal and Torres Strait Islanders or 18% of the total Indigenous population. CHINS data is collected every 5 years. The data are collected from key personnel in Indigenous communities and housing organisations that are knowledgeable about housing and infrastructure issues.

The estimates are not subject to sampling error because the CHINS was designed as a complete enumeration of discrete Indigenous communities. However, data could not be obtained from a small number of communities. In addition, the community population was often estimated by community representatives without reference to records. Therefore, the data is subject non-sampling error.

Further information on the CHINS can be found in the publication Housing and infrastructure in Aboriginal and Torres Strait Islander communities (ABS 2007).

OATSIH Service Reporting (OSR) data collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.04 Early detection and early treatment

The early detection and early treatment of disease among the Indigenous population measured by the health assessment and disease screening of Aboriginal and Torres Strait Islander people

Data sources

Data for this measure come from the Medicare database, the AIHW BreastScreen Australia database, the National Bowel Cancer Screening Register, the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the AIHW's National Mortality Database, and the OATSIH Services Reporting Data Collection which replaces the Service Activity Reporting (SAR) database.

Medicare database

Medicare enrolment application forms are lodged by persons wishing to enrol with Medicare at Medicare offices in each state/territory or by mail. Information from these forms is entered directly into the Medicare database, which is held by the Department of Health and Ageing (DoHA).

In November 2002, the ABS standard question on Indigenous identification was included on this form. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete.

As at 1 May 2012, 339,310 Indigenous Australians were enrolled on the VII database. This represents 59% of the estimated total Indigenous population (AHMAC 2012).

Medicare data presented in this report have been adjusted for under-identification. There are a number of caveats to the VII adjustment methodology, including that as the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could therefore be biases in the data that are not addressed by the adjustment methodology.

BreastScreen Australia

BreastScreen Australia is a comprehensive population-based screening program for breast cancer. It consists of a network of dedicated screening and assessment services throughout urban, rural and remote areas of all states and territories. The program provides free biennial mammographic screening and follow-up of any suspicious lesions identified at screening to the point of diagnosis. It is aimed specifically at asymptomatic women aged 50–69 years, with a participation target of 70%. However, women aged 40–49 years and 70 years and older are able to attend for screening (AIHW 2010a).

The national program was established in 1991. It is a joint program of the Australian Government and state and territory governments. BreastScreen Australia is monitored annually and reported at the national level by the AIHW in the "BreastScreen Australia monitoring report".

National Bowel Cancer Screening Register

The National Bowel Cancer Screening Program (NBCSP) was implemented in August 2006 by the Australian Government, in partnership with state and territory governments, as part of its Strengthening Cancer Care initiative. The goals of the NBCSP are to reduce the incidence of and mortality due to bowel cancer through screening to detect abnormalities of the colon and rectum at an early stage. Furthermore, where bowel cancer has developed, to detect cancers at an early stage in order to maximise the effectiveness of treatment (AIHW & DoHA 2009).

Phase 1 of the NBCSP began in August 2006, where people across Australia turning 55 or 65 years of age between 1 May 2006 and 30 June 2008 were invited to screen for bowel cancer. Phase 2 was introduced in July 2008 and expanded the program so that people turning 50, 55 or 65 years of age between 1 January 2008 and 31 December 2010 were invited to screen. Invitation packs, including a faecal occult blood test (FOBT), were sent directly to participants by Medicare Australia. Data are collected about participants and their screening outcomes from a variety of sources and stored in the National Bowel Cancer Screening Register, which is maintained by Medicare Australia. The data are collected on questionnaires completed by participants, general practitioners, colonoscopists, pathologists and other specialists. The AIHW produces annual monitoring reports for DoHA to assist in management of the NBCSP.

Data in this indicator are based on data recorded in the Register for the eligible Phase 2 population invited between 1 July 2008 and 30 June 2011, and include participation and PHCP follow-up activity until 30 June 2011.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

OATSIH Services Reporting data collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Analyses

Medicare Benefits Schedule health assessments/checks

Over the last few years, the Australian Government has introduced a number of new Indigenous health checks and health assessments within the Medicare Benefits Schedule (MBS) to help improve early intervention and diagnosis for treatable conditions. The MBS now provides items specifically for regular health checks or assessments for Aboriginal and Torres Strait Islander people of all ages.

A health assessment includes an assessment of a patient's health and physical, psychological and social function and whether preventative health care and education should be offered to the patient. The assessment also includes keeping a record of the health assessment and offering the patient a written report about the health assessment, with recommendations about matters covered.

Data on child and adult health assessments come from the Medicare Database. The Medicare database includes information on the number of health assessments for Indigenous and non-Indigenous Australians of different ages. From May 2010, the previous Aboriginal and Torres Strait Islander Health Check MBS items 704, 706, 708 and 710 were reclassified as MBS item 715.

- For the period July 2010 to June 2011, there were 22,415 health assessments of Indigenous children in Australia (a rate of 113 per 1,000 Indigenous children) (Table 3.04.1). The rate at which Indigenous children aged 0–14 years received health assessments under the MBS ranged from 16 per 1,000 in Tasmania to 169 per 1,000 in the Northern Territory.
- Between July 2010 and June 2011, there were 38,331 health assessments of Indigenous Australians aged 15–54 years, which was a rate of 120 per 1,000 population. The rate at which Indigenous Australians aged 15–54 years received health assessments under the

MBS ranged from 28 per 1,000 in Tasmania to 159 per 1,000 in the Northern Territory (Table 3.04.1).

- Between July 2010 and June 2011, there were 10,623 health assessments of Indigenous Australians aged 55 years and over (a rate of 209 per 1,000 population). The rate of MBS health assessments for Indigenous Australians aged 55 years and over ranged from 55 per 1,000 in Tasmania to 265 per 1,000 in the Northern Territory (Table 3.04.1).
- Between July 2010 and June 2011, Indigenous Australians aged 55 years and over received MBS health assessments at a rate of 209 per 1,000 (Medicare Item no. 715). This was lower than the rate at which all Australians aged 75 years and over received assessments during this period (271 per 1,000) (Medicare Item numbers 700/701/702/703/705/707) (Table 3.04.2).
- The rate of MBS health checks and health assessments for Aboriginal and Torres Strait Islander people have significantly increased since their introduction in 2006. Between the first quarter of 2006 and the fourth quarter of 2011, the rate of MBS health checks for Indigenous Australians aged 0–14 years increased from 9 per 1,000 to 134 per 1,000; the rate of MBS health assessments for Indigenous Australians aged 15–54 years increased from 29 per 1,000 to 146 per 1,000; and the rate of MBS health assessments for Indigenous Australians aged 55 years and over increased from 67 per 1,000 to 246 per 1,000 (Table 3.04.3 and Figure 3.04.1).
- There has also been a significant increase in health assessments for Indigenous Australians since the introduction of the National Partnership Agreement on Closing the Gap in Indigenous Health Outcomes in July 2008. Over the period July 2008 to December 2011, the rate of MBS health checks for Indigenous Australians aged 0–14 years increased by 101%; the rate of MBS health assessments for Indigenous Australians aged 15–54 years increased by 178%; and the rate of MBS health assessments for Indigenous Australians aged 55 years and over increased by 145% (Table 3.04.3 and Figure 3.04.1).

Table 3.04.1: Medicare Benefits Schedule health assessments and health checks for Indigenous Australians (MBS item 715) aged 0–14 years, 15–54 years and 55 years and over, by state/territory, 2010–11

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Aboriginal and Torres Strait Islander child health checks aged 0–14 years[(a)]									
Number	6,107	832	8,496	2,432	473	109	67	3,899	22,415
No. per 1,000	103.2	65.6	143.4	93.3	44.9	15.9	41.7	169.1	112.5
Aboriginal and Torres Strait Islander health checks aged 15–54 years[(b)]									
Number	11,186	1,629	12,142	5,149	1,332	317	151	6,425	38,331
No. per 1,000	121.8	78.2	134.9	116.3	76.1	27.5	53.6	159.1	120.0
Aboriginal and Torres Strait Islander Health Assessments aged 55 years and older[(c)]									
Number	3,259	423	3,222	1,574	456	109	38	1,542	10,623
No. per 1,000	203.0	114.8	238.4	236.8	170.8	55.1	111.4	265.0	209.3

(a) Data provided are for the period 1 July 2010 to 30 June 2011. Rates are calculated using the average of 2010 and 2011 Indigenous population projections for those aged 0–14 years.

(b) Data provided are for the period 1 July 2010 to 30 June 2011. Rates are calculated using the average of 2010 and 2011 Indigenous population projections for those aged 15–54 years.

(c) Data provided are for the period 1 July 2010 to 30 June 2011. Rates are calculated using the average of 2010 and 2011 Indigenous population projections for those aged 55 years and over.

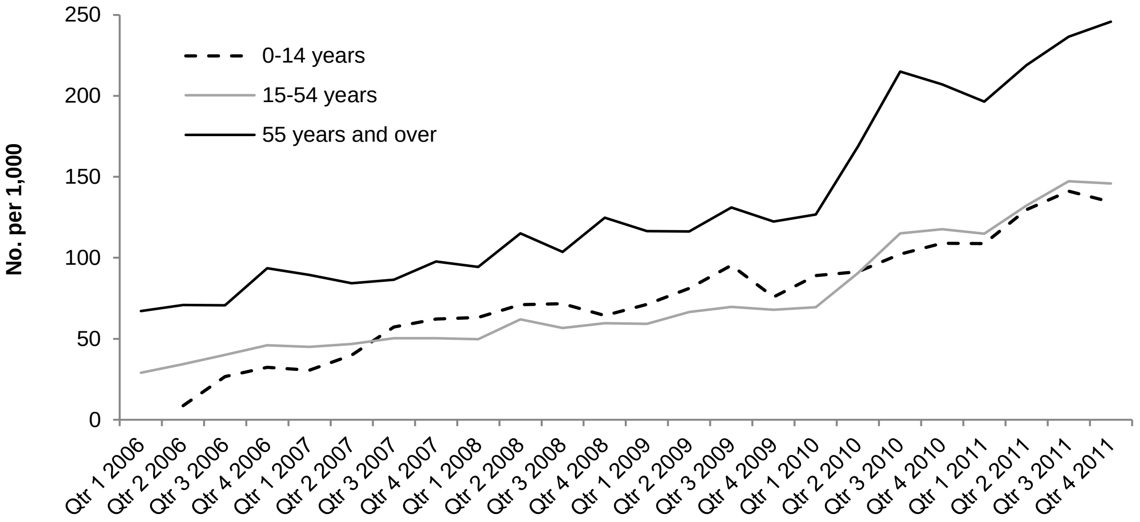
Source: AIHW analysis of Medicare data.

Table 3.04.2: Health assessments for older patients: Indigenous persons 55 years and older and all Australians aged 75 years and older, 2010–11

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Aboriginal and Torres Strait Islander health assessments aged 55 years and older (MBS Item 715)									
Number	3,259	423	3,222	1,574	456	109	38	1,542	10,623
No. per 1,000(a)	203.0	114.8	238.4	236.8	170.8	55.1	111.4	265.0	209.3
All Australian health assessments aged 75 years and older (MBS Item 700/701/702/703/705/707)									
Number	133,669	92,784	76,455	30,606	32,174	11,191	3,279	318	380,476
No. per 1,000(a)	276.8	256.3	303.4	245.6	255.2	312.4	200.0	84.1	271.1

(a) Data provided are for the period 1 July 2010 to 30 June 2011. Rates are calculated using the average of 2010 and 2011 Indigenous population projections for those aged 55 years and over and the total Australian population estimates for those aged 75 years and over.

Source: AIHW analysis of Medicare data.



Notes

1. Rates were calculated using the Indigenous population estimates for 2006–2011, divided by four to obtain quarterly rates for each year.
2. Item 715 commenced in May 2010, MBS codes 704, 706, 708 and 710 were reclassified as 715 for prior years.
3. Data 0–14 year olds for quarter 1, 2006 was not available.

Source: AIHW analysis of Medicare data.

Figure 3.04.1: Rate of MBS health checks/assessments for Indigenous Australians (MBS Item 715) aged 0–14 years, Indigenous Australians aged 15–54 years and Indigenous Australians aged 55 years and over, January–March 2006 to October–December 2011

Table 3.04.3: Rate(a) of MBS health checks/assessments for Indigenous Australians (MBS item 715) aged 0–14 years, Indigenous Australians aged 15–54 years and Indigenous Australians aged 55 years and over, January–March 2006 to October–December 2011

	0–14 years		15–54 years		55 years and older	
	Number	Rate	Number	Rate	Number	Rate
Qtr 1 2006	n.a.	n.a.	2,055	29.1	672	67.2
Qtr 2 2006	423	8.7	2,432	34.4	709	70.9
Qtr 3 2006	1,298	26.7	2,834	40.1	707	70.7
Qtr 4 2006	1,574	32.4	3,253	46.0	937	93.6
Qtr 1 2007	1,496	30.7	3,279	45.1	941	89.4
Qtr 2 2007	1,947	39.9	3,409	46.9	888	84.4
Qtr 3 2007	2,786	57.2	3,667	50.4	909	86.4
Qtr 4 2007	3,035	62.3	3,662	50.3	1,029	97.8
Qtr 1 2008	3,095	63.3	3,721	49.7	1,047	94.4
Qtr 2 2008	3,481	71.2	4,634	61.9	1,277	115.2
Qtr 3 2008	3,510	71.7	4,243	56.7	1,149	103.6
Qtr 4 2008	3,152	64.4	4,459	59.6	1,384	124.8
Qtr 1 2009	3,508	71.3	4,548	59.2	1,362	116.6
Qtr 2 2009	3,990	81.1	5,119	66.6	1,359	116.3
Qtr 3 2009	4,688	95.3	5,353	69.6	1,532	131.1
Qtr 4 2009	3,731	75.8	5,213	67.8	1,431	122.5
Qtr 1 2010	4,415	89.1	5,479	69.5	1,560	126.6
Qtr 2 2010	4,529	91.4	7,152	90.7	2,079	168.8
Qtr 3 2010	5,073	102.3	9,083	115.1	2,648	215.0
Qtr 4 2010	5,406	109.0	9,283	117.7	2,552	207.2
Qtr 1 2011	5,447	108.8	9,278	114.9	2,565	196.5
Qtr 2 2011	6,489	129.6	10,687	132.3	2,858	218.9
Qtr 3 2011	7,069	141.2	11,892	147.2	3,087	236.5
Qtr 4 2011	6,726	134.4	11,786	145.9	3,209	245.8
Quarterly Change(b)	254*	5.0*	395*	4.7*	107*	7.4*
% change over period(c)	1,323*	1,275*	443*	370*	366*	254*
Quarterly Change(b) since July 2008	285*	5.6*	653*	7.7*	169*	12*
% change over period(c) since July 2008	106*	101*	200*	178*	191*	145*

(continued)

Table 3.04.3 (continued): Rate[(a)] of MBS health checks/assessments for Indigenous Australians (MBS item 715) aged 0–14 years, Indigenous Australians aged 15–54 years and Indigenous Australians aged 55 years and over, January–March 2006 to October–December 2011

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period January–March 2006 to October–December 2011.

(a) Number per 1,000 population.
(b) Average quarterly change determined using linear regression analysis.
(c) Per cent change between January–March 2006 and October–December 2011 based on the average quarterly change over the period.

Notes

1. Rates were calculated using the Indigenous population estimates for 2006–2011, divided by four to obtain quarterly rates for each year.
2. Item 715 commenced in May 2010, MBS codes 704, 706, 708 and 710 were reclassified as 715 for prior years.
3. Data 0–14 year olds for quarter 1, 2006 was not available.

Source: AIHW analysis of Medicare data.

Breast cancer screening

BreastScreen Australia—which is jointly funded by the Australian, state and territory governments—undertakes nationwide breast cancer screening. It targets women aged 50–69 years for screening once every 2 years. The program aims to have 70% or more of women aged 50–69 years participating in screening over a 24-month period. All recruitment activities undertaken by BreastScreen Australia specifically focus on women in this age group, although women aged 40–49 years and those over 70 years may also use the service. When making direct comparisons between the eight states and territories it is important to consider the substantial differences that exist between the jurisdictions, including population, area and geographic structure.

- Of the 1,319,771 women aged 50–69 years who participated in screening through BreastScreen Australia in 2008–09, 10,902 (0.8%) identified as Aboriginal or Torres Strait Islander (AIHW 2011).
- During 2008–2009, the participation rate for BreastScreen Australia was highest among those aged 60–64 years for Indigenous women (39%). The participation rate measures the proportion of the eligible population attending the screening program within a 24-month period (Table 3.04.4).
- The age-standardised participation rate for Indigenous women aged 50–69 years was 37%, which was markedly lower than the national rate for other women in that age group (56%). The participation rate for Indigenous women aged 40 years and over was also lower than for other women in that age group (25% compared with 33% for all women) (Table 3.04.4).
- The breast screening participation rates for Indigenous women (excluding those in Tasmania and the Australian Capital Territory) aged 50–69 years ranged from 28% in Victoria to 49% in Queensland (Table 3.04.4). Age standardised rates for women aged 50–69 are not available for Tasmania and the Australian Capital Territory as Indigenous population estimates are not available for this age group.
- The participation rate for Indigenous women aged 50–69 years ranged between 35% to 37% for all years between 1999–2000 and 2008–2009. Over the same period, the participation rate for other women ranged between 55% and 57% (Table 3.04.5; Figure 3.04.2).

Care needs to be taken when comparing Indigenous and non-Indigenous participation rates owing to under-identification of Indigenous women in the BreastScreen Australia program.

Caution also needs to be taken in comparing data across jurisdictions, given differences in the collection of data by Indigenous status across jurisdictions and small numbers.

Breast cancer mortality

Data have been combined for the 5 year period 2006–2010 due to the small number of Indigenous deaths from breast cancer each year.

- In 2006–2010, the age-standardised breast cancer mortality rate for Indigenous women of all ages in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined was 26.3 per 100,000 women. This was 1.2 times the age-standardised breast cancer mortality rate for non-Indigenous women (see Table 1.08.4 of Indicator *1.08 Cancer* of this report).

Table 3.04.4: Age-specific participation rates[(a)] in BreastScreen Australia programs of Indigenous and other women, by state/territory, 2008–2009

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Indigenous women									
40–49 years	7.2	3.9	24.6	11.6	10.1	15.3	6.8	3.7	12.4
50–59 years	34.3	24.5	47.1	26.1	32.0	34.8	25.3	22.8	34.4
60–64 years	40.2	32.7	49.7	29.3	36.5	46.9	46.4	26.9	39.2
65+ years	22.6	19.1	36.3	20.2	22.2	22.8	34.1	12.3	24.3
40+ (age-standardised rate)[(b)]	**22.3**	**16.8**	**36.7**	**19.9**	**22.3**	**25.9**	**23.7**	**13.8**	**24.5**
50–69 years (age-standardised rate)[(b)(c)]	**37.0**	**27.8**	**48.5**	**28.1**	**32.9**	**n.p.**	**n.p.**	**24.0**	**36.5**
Other women									
40–49 years	9.0	7.4	31.6	16.4	15.1	30.1	8.7	9.0	14.8
50–59 years	52.1	50.8	56.9	55.3	56.8	54.8	50.3	42.7	53.4
60–64 years	58.3	58.2	61.7	60.6	63.0	63.3	61.0	50.8	59.7
65+ years	20.4	22.6	34.7	24.9	24.6	24.7	25.3	24.2	24.5
40+ (age-standardised rate)[(b)]	**28.8**	**28.6**	**42.2**	**33.8**	**33.9**	**38.2**	**29.9**	**26.6**	**32.5**
50–69 years (age-standardised rate)[(b)]	**54.2**	**53.3**	**58.5**	**57.2**	**58.9**	**n.p.**	**n.p.**	**46.3**	**55.5**
					Rate ratios[(c)]				
40+	**0.8***	**0.6***	**0.9***	**0.6***	**0.7***	**0.7***	**0.8**	**0.5***	**0.8***
50–69 years	**0.7***	**0.5***	**0.8***	**0.5***	**0.6***	**n.p.**	**n.p.**	**0.5***	**0.7***
					Rate difference[(d)]				
40+	**–6.5***	**–11.8***	**–5.5***	**–13.9***	**–11.6***	**–12.3***	**–6.2**	**–12.8***	**–7.9***
50–69 years	**–17.2***	**–25.4***	**–10.0***	**–29.1***	**–26.0***	**n.p.**	**n.p.**	**–22.3***	**–19.0***

(continued)

Table 3.04.4 (continued): Age-specific participation rates[(a)] in BreastScreen Australia programs of Indigenous and other women, by state/territory, 2008–2009

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1999–2000 to 2008–2009.

(a) Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the 2007 and 2008 ABS estimated resident population.
(b) Rates are directly age-standardised to the Australian 2001 standard population.
(c) Rate ratio Indigenous: other women.
(d) Rate difference is age-standardised rate for Indigenous women divided by age standardised rate for other women.

Note: Other women includes women in the 'not stated' category for Aboriginal and Torres Strait Islander status.

Source: AIHW analysis of BreastScreen Australia data.

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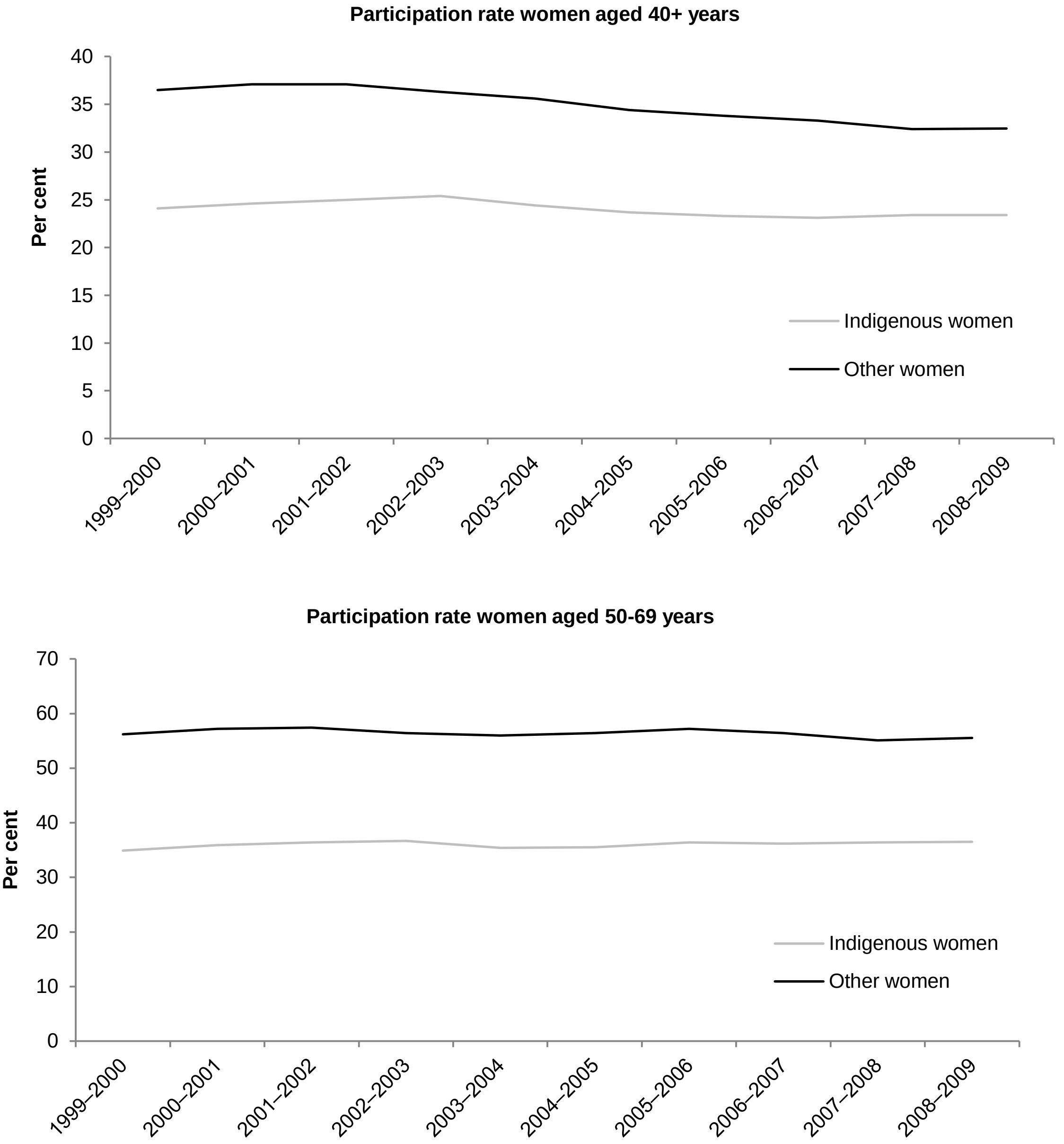


Source: AIHW analysis of BreastScreen Australia data.

Figure 3.04.2: Participation rates BreastScreen Australia programs of women 40+ years and women 50–69 years, Indigenous and other women, 1999–2000 to 2008–2009

Table 3.04.5: Participation rates (per cent) BreastScreen Australia programs of women 40+ years and women 50–69 years, Indigenous and other women, 1999–2000 to 2008–2009

	Indigenous women	LCL 95%[(a)]	UCL 95%[(b)]	Other women	LCL 95%[(a)]	UCL 95%[(b)]
Women 40+ years						
1999–2000	24.1	23.6	24.6	36.5	36.4	36.6
2000–2001	24.6	24.1	25.1	37.1	37.0	37.2
2001–2002	25.0	24.5	25.5	37.1	37.0	37.1
2002–2003	25.4	25.0	25.9	36.3	36.2	36.3
2003–2004	24.4	24.0	24.9	35.6	35.5	35.6
2004–2005	23.7	23.3	24.1	34.4	34.4	34.5
2005–2006	23.3	22.9	23.7	33.8	33.7	33.8
2006–2007	23.1	22.7	23.5	33.3	33.2	33.3
2007–2008	23.4	23.0	23.8	32.4	32.4	32.5
2008–2009	23.4	23.0	23.8	32.5	32.4	32.5
Annual Change (c)	**–0.2**	. .	. .	**–0.6**	. .	. .
% change	**–7.1***	. .	. .	**–14.5***	. .	. .
Women 50–69 years						
1999–2000	34.9	34.0	35.8	56.2	56.1	56.3
2000–2001	35.9	35.1	36.8	57.2	57.1	57.3
2001–2002	36.4	35.6	37.2	57.4	57.3	57.5
2002–2003	36.7	35.9	37.5	56.4	56.3	56.5
2003–2004	35.4	34.6	36.2	56.0	55.9	56.1
2004–2005	35.5	34.8	36.3	56.4	56.3	56.5
2005–2006	36.4	35.7	37.2	57.2	57.1	57.3
2006–2007	36.2	35.5	36.9	56.4	56.3	56.5
2007–2008	36.4	35.7	37.1	55.1	55.0	55.2
2008–2009	36.5	35.8	37.2	55.5	55.4	55.6
Annual Change (c)	**0.1**	. .	. .	**–0.1**	. .	. .
% change[(d)]	**2.5**	. .	. .	**–2.2**	. .	. .

* Represents results with statistically significant increases or declines at the p < 0.05 level over the period 1999–2000 to 2008–2009.

(a) LCL = lower confidence limit.

(b) UCL = upper confidence limit.

(c) Average annual change in participation rate for Indigenous and other women determined using linear regression analysis.

(d) Per cent change between 1999–2000 and 2008–2009 based on the average annual change over the period.

Note: Other women include women in the 'not stated' category for Aboriginal and Torres Strait Islander status.

Source: AIHW analysis of BreastScreen Australia data.

Bowel cancer screening

The National Bowel Cancer Screening Program (NBCSP) aims to reduce the incidence of illness and mortality related to bowel cancer in Australia through screening to detect cancers and pre-cancerous lesions in their early stages in order to maximise the effectiveness of treatment. Data in this indicator are based on data recorded in Phase 2 of the NBCSP Register (ran between 1 July 2008 and 30 June 2011) for people turning 50, 55 or 65 between 1 January 2008 and 31 December 2010 who were invited to screen for bowel cancer. During Phase 2, the program was suspended for about six months after the screening test was found to be returning a higher rate of negative results than expected. Remediation actions to retest those who may have been affected were undertaken and the apparent effects are also presented in the NBCSP monitoring report (AIHW 2012).

Participation in screening

- Between 1 July 2008 and 30 June 2011, 2,097,520 eligible Australians were invited to screen for bowel cancer and 806,480 (38%) had participated by 30 June 2011.
- There were 4,825 people (0.6%) who identified as Indigenous who responded to the invitation to screen. This is lower than the eligible population who reported as Indigenous at the time of the 2006 Census (1.3%) (Table 3.04.6).
- Of Indigenous people who participated in the program, 2,109 were aged 50 years, 1,693 were aged 55 years and 1,023 were aged 65 years (Table 3.04.6).

Table 3.04.6: People responding to the National Bowel Cancer screening invitations, by age, sex and Indigenous status, 2010

	NBCSP participants					2006 Census	
	Indigenous		Non-Indigenous			Indigenous	Non-Indigenous
	Number	Per cent	Number	Per cent	Total number	Per cent	
Males							
50 years	956	0.7	135,962	99.3	136,918	1.6	98.4
55 years	755	0.7	113,199	99.3	113,954	1.2	98.8
65 years	497	0.5	104,432	99.5	104,929	0.9	99.1
Total	**2,208**	**0.6**	**353,593**	**99.4**	**355,801**	**1.3**	**98.7**
Females							
50 years	1,153	0.7	159,173	99.3	160,326	1.6	98.4
55 years	938	0.7	138,972	99.3	139,910	1.3	98.7
65 years	526	0.5	114,435	99.5	114,961	1.1	98.9
Total	**2,617**	**0.6**	**412,580**	**99.4**	**415,197**	**1.4**	**98.6**
Persons							
50 years	2,109	0.7	295,135	99.3	297,244	1.6	98.4
55 years	1,693	0.7	252,171	99.3	253,864	1.3	98.7
65 years	1,023	0.5	218,867	99.5	219,890	1.0	99.0
Total	**4,825**	**0.6**	**766,173**	**99.4**	**770,998**	**1.3**	**98.7**

Notes

1. NBCSP percentages equal the number of people identifying as either Indigenous or non-Indigenous as a proportion of all participants who indicated their Aboriginal and Torres Strait Islander status.
2. Participants who did not indicate Aboriginal and Torres Strait Islander status were recorded as 'Not stated', these participants have been excluded from this analysis.
3. The total number of not stated were 18,343 male, 17,139 female, 35,482 persons.
4. Indigenous status proportions as recorded at the 2006 Australian Census of Population and Housing are included for comparative purposes.
5. There were 35,511 people (5.2%) who did not indicate the Indigenous status on the Census, these have been excluded from the 2006 Census columns.

Source: AIHW & DoHA 2012.

Faecal Occult Blood Test (FOBT) positivity numbers and rates

There were 2,097,520 eligible people invited to screen in Phase 2 of the NBCSP, and by 30 June 2011, 806,480 participants had returned at least one completed FOBT kit. Of these, 794,454 (98.5%) had a correctly completed FOBT kit tested by the pathology laboratory. Those participants recorded as having inconclusive or incorrectly completed FOBT kits were requested to complete another FOBT, but some had not returned a correctly completed the kit by 30 June 2011(AIHW 2012).

Only correctly completed FOBT kits were analysed. If no significant blood is found in either of the samples, the FOBT result is negative. If significant levels of blood are present in at least one of two samples, the FOBT result is considered positive. The Phase 2 positivity rate was higher than in previous NBCSP monitoring reports and this may be related to the different kits used within Phase 2, retesting as part of remediation actions in Phase 2, or other unknown factors (AIHW 2012).

- Positivity rates were higher in people identified as Indigenous (11%) than non-Indigenous (8%); and this difference was statistically significant (Table 3.04.7).
- There was an increase in the FOBT positivity rate with an increase in age for both Indigenous males and females. The positivity rate of males who participated was higher than that of females, indicating both age and sex affect the FOBT positivity rate (Table 3.04.7).

Colonoscopy procedures

The table 3.04.7 also provides summary information on the number of colonoscopies as part of the NBCSP.

Only 42,580 of the 59,034 participants who underwent a colonoscopy by 31 January 2011 had their Indigenous status recorded, so comparisons of colonoscopy follow-up rates between Indigenous and non-Indigenous people should be made with caution.

- Colonoscopy follow-up rates were significantly lower for Indigenous people (58%) than non-Indigenous people (72%) (Table 3.04.7).

Table 3.04.7: FOBT positivity rates from national bowel screening and Crude colonoscopy follow-up after a positive FOBT result, by age, sex and Indigenous status, 2010

		Indigenous	Non-Indigenous	Rate Ratio(a)	Rate Difference(b)
Males					
50 years	Positive results	99	9,438		
	Per cent	10.7	7.0	1.5*	3.6*
55 years	Positive results	100	9,195		
	Per cent	13.7	8.2	1.7*	5.4*
65 years	Positive results	77	11,804		
	Per cent	16.0	11.5	1.4*	4.5*
Total positive	**Positive results**	**276**	**30,437**		
	Per cent	**12.9**	**8.7**	**1.5***	**4.2***
Colonoscopies reported following a positive FOBT result	**Number**	**155**	**21,885**		
	Per cent	**56.2**	**71.9**	**0.8***	**–15.7***
Females					
50 years	Positive results	87	9,231		
	Per cent	7.8	5.9	1.3*	1.9*
55 years	Positive results	73	9,087		
	Per cent	8.0	6.6	1.2	1.3
65 years	Positive results	69	9,774		
	Per cent	13.5	8.7	1.6*	4.8*
Total positive	**Positive results**	**229**	**28,092**		
	Per cent	**9.0**	**6.9**	**1.3***	**2.1***
Colonoscopies reported following a positive FOBT result	**Number**	**140**	**20,400**		
	Per cent	**61.1**	**72.6**	**0.8***	**11.5***
Persons					
50 years	Positive results	186	18,669		
	Per cent	9.1	6.4	1.4*	2.7*
55 years	Positive results	173	18,282		
	Per cent	10.5	7.3	1.4*	3.2*
65 years	Positive results	146	21,578		
	Per cent	14.7	10.0	1.5*	4.7*
Total positive	**Positive results**	**505**	**58,529**		
	Per cent	**10.8**	**7.7**	**1.4***	**3.0***
Total colonoscopies reported following a positive FOBT result	**Number**	**295**	**42,285**		
	Per cent	**58.4**	**72.2**	**0.8***	**–13.8***

(continued)

Table 3.04.7 (continued): FOBT positivity rates from national bowel screening, by age, sex and Indigenous status, 2010

* Represents results with statistically significant differences in the Indigenous/other comparisons at the $p < 0.05$ level.

(a) Rate difference is equal to the Indigenous rate minus the non-Indigenous.
(b) Rate ratio is equal to the Indigenous rate divided by the non-Indigenous rate.

Notes

1. Indigenous status was defined by the participant on the Participant Details form.
2. There were 3,033 recorded colonoscopies and 34,210 positive FOBT results where Indigenous status was not stated. These are regarded as missing data and are excluded from this table. Hence the sum of the areas may be less than the national total.
3. Percentages of colonoscopies performed equal the number of people who have had a colonoscopy recorded following a positive FOBT as a proportion of the total number of people with positive FOBT results.
4. As progression through the pathway to the colonoscopy stage may take some time, some participants (particularly those aged 50 years) may not have had sufficient time to undergo a colonoscopy. Additionally, reporting of colonoscopy follow-up is not mandatory. Therefore, actual numbers of participant colonoscopies may be underestimated.

Source: National Bowel Cancer Screening Program Register as at 21 July 2011.

Mortality from bowel cancer

- In 2006–2010, the age-standardised mortality rate of bowel cancer was 17 per 100,000 for Indigenous males and 12.3 per 100,000 for Indigenous females (see Table 1.08.4 in the Indicator *1.08 Cancer* of this report).
- In 2007, the risk of dying from bowel cancer by the age of 85 was 1 in 33 for males and 1 in 50 for females (1 in 41 for persons) (AIHW 2012).

Cervical cancer screening

A cervical cancer may take 10 or more years to develop, but before this, the cervical cells may show pre-cancerous changes. These early changes can be detected by a pap smear and, if they are promptly treated, cervical cancer can be prevented. Self-reported data from the NATSIHS on the occurrence and regularity of pap smears among Aboriginal and Torres Strait Islander women are presented in the tables and figure below.

- In 2004–05, approximately 85% of Indigenous women aged 18 years and over reported ever having a pap smear test and 58% reported having regular pap smear tests (Table 3.04.8).

Pap smears by age

- The 25–34 and 35–44 year age groups had the highest proportion (both 68%), and the 18–24 and 55 years and over age groups had the lowest proportion (both 43%) of Indigenous women who reported having regular pap smear tests (Table 3.04.8).

Table 3.04.8: Indigenous women aged 18 years and over reporting whether had a pap smear test[(a)], by age group, 2004–05

	18–24	25–34	35–44	45–54	55 and over	Total
			Per cent			
Has never had a pap smear test	32.1	8.7	6.0	5.5	13.6	13.2
Has had a pap smear test	65.8	90.7	91.9	92.5	82.2	84.9
Only had one pap smear test	17.0	5.0	3.7	4.1	5.8	7.2
More than one pap smear test but not regular	6.3	17.7	20.0	25.3	32.6	18.8
Has regular pap smear tests	42.5	67.8	68.0	61.6	42.9	58.4
At least annually	11.3	20.5	19.3	17.3	9.3	16.4
More than 1 year, up to and including 2 years	28.7	44.4	41.1	38.4	30.4	37.6
More than 2 years apart	2.5	2.9	7.6	5.7	3.2	4.4
All Indigenous women aged 18 and over[(b)]	**26,193**	**33,330**	**29,487**	**18,831**	**15,454**	**123,295**

(a) Should exclude data from women who have had a hysterectomy; however, these data were not collected in the NATSIHS.

(b) Excludes women who did not complete the NATSIHS form.

Source: AIHW analysis of 2004–05 NATSIHS.

Pap smears by state/territory

- In 2004–05, the proportion of Indigenous women who reported never having had a pap smear test was highest in Western Australia (16%) and lowest in Victoria (11%) (Table 3.04.9).
- The proportion of Indigenous women who reported having regular pap smear tests was highest in the Northern Territory (72%) and lowest in New South Wales and Western Australia (both 52%).

Pap smears by remoteness and time series

- In 2004–05, the proportion of Indigenous women who reported never having had a pap smear test was lowest in *Inner regional* areas (7%) and highest in *Major cities* and *Outer regional* areas (both 15%) (Table 3.04.10).
- The proportion of Indigenous women who reported having regular pap smear tests was highest in *Remote and very remote* areas (65%) and lowest in *Major cities* (54%).
- Over the period 2001 to 2004–05, the proportion of Indigenous women who reported having regular pap smear tests increased in remote areas (from 56% to 65%) and decreased in non-remote areas (from 52% to 47%) (Figure 3.03.3).

Table 3.04.9: Indigenous women aged 18 years and over reporting whether had a pap smear test[(a)], by state/territory, 2004–05

	NSW	Vic	Qld	WA	SA	NT	Tas/ACT[(b)]	Aust.
				Per cent				
Has never had a pap smear test	11.6	10.9	12.7	16.0	14.5	14.8	11.7	13.2
Has had a pap smear test	87.9	89.1	84.9	79.1	82.2	83.8	88.3	84.9
Only had one pap smear test	8.7	7.6	4.0	11.9	7.5	6.0	5.6	7.2
More than one pap smear test but not regular	26.2	18.2	20.3	15.2	15.3	6.0	21.4	18.8
Has regular pap smear tests	52.1	63.4	60.2	52.0	58.4	71.6	60.9	58.4
At least annually	17.7	18.2	17.9	9.2	13.9	17.5	20.0	16.4
More than 1 year, up to and including 2 years	30.3	35.4	39.3	35.2	38.4	51.6	38.0	37.6
More than 2 years apart	4.0	9.2	3.0	7.6	6.2	2.5	3.0	4.4
All Indigenous women aged 18 and over[(c)]	**34,014**	**6,607**	**34,938**	**18,457**	**6,770**	**17,214**	**5,296**	**123,295**

(a) Should exclude data from women who have had a hysterectomy. However, this data was not collected in the NATSIHS.

(b) Due to confidentiality considerations, the samples from Tasmania and the Australian Capital Territory have been combined.

(c) Excludes women who did not complete the NATSIHS form.

Source: AIHW analysis of 2004–05 NATSIHS.

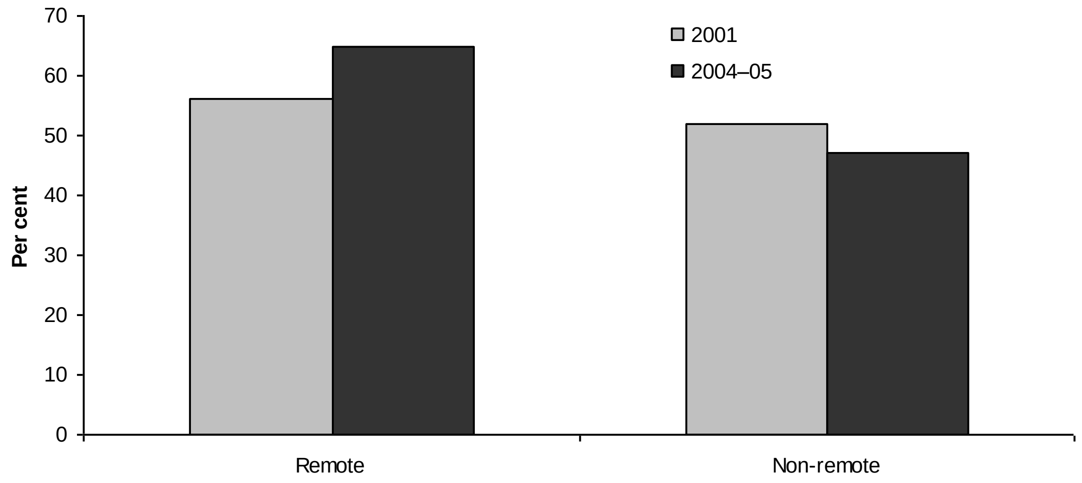
Table 3.04.10: Indigenous women aged 18 years and over reporting whether had a pap smear test[(a)], by remoteness, 2004–05

	Major cities	Inner regional	Outer regional	Remote/Very remote	Aust.
			Per cent		
Has never had a pap smear test	15.0	7.2	14.8	13.7	13.2
Has had a pap smear test	84.2	92.8	84.7	81.2	84.9
Only had one pap smear test	9.3	4.6	7.9	6.2	7.2
More than one pap smear test but not regular	20.5	29.1	20.5	10.4	18.8
Has regular pap smear tests	53.8	58.6	55.5	64.6	58.4
At least annually	20.3	15.6	15.1	13.9	16.4
More than 1 year, up to and including 2 years	28.8	39.8	35.7	46.1	37.6
More than 2 years apart	4.7	3.1	4.7	4.6	4.4
All Indigenous women aged 18 and over[(b)]	**37,224**	**22,125**	**25,028**	**38,917**	**123,295**

(a) Should exclude data from women who have had a hysterectomy. However, this data was not collected in the NATSIHS.

(b) Excludes women who did not complete the NATSIHS form.

Source: AIHW analysis of 2004–05 NATSIHS.



Source: ABS 2006.

Figure 3.04.3: Indigenous women aged 18 years and over who had regular pap smear tests, by remoteness, 2001 and 2004–05

Mortality from cervical cancer

Data on the mortality of Indigenous women from cervical cancer are presented below.

- Over the period 2006–2010 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 58 deaths of Indigenous women from cervical cancer. The age-standardised rate of cervical cancer for Indigenous women was 8.8 per 100,000. This was 4.6 times the rate for non-Indigenous women (see Table 1.08.4 in the Indicator *1.08 Cancer* of this report).
- In 2003–2007, the age-standardised mortality rate of cervical cancer for Indigenous women aged 50–69 years, which is the target age for cervical cancer screening, was 8.3 per 100,000 compared with 2.0 per 100,000 for non-Indigenous women of the same age (AIHW 2010b).

Other screening activities

The OSR includes data on health-related activities undertaken or facilitated by Aboriginal and Torres Strait Islander primary health-care services, including a range of screening programs.

- In 2010–11, approximately 75% of respondent Aboriginal and Torres Strait Islander primary health-care services provided well persons checks, 76% provided pap smear/cervical screening and 80% provided diabetic screening (Table 3.04.11).
- Between 2001–02 and 2010–11, there was a significant increase in the proportion of Aboriginal and Torres Strait Islander primary health-care services providing cardiovascular screening (27% over this period), renal disease screening (19%), well person's checks (19%) and STI screening (12%) (Table 3.04.11).

Table 3.04.11: Percentage of respondent Aboriginal and Torres Strait Islander primary health-care services providing screening activities, 2001–02 to 2010–11

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11[(a)]	Per cent change[(c)]	Annual growth[(b)]
Well person's checks	66.0	64.0	64.0	63.0	65.0	76.0	69.0	79.6	72.6	74.8	19.5*	1.6
PAP smears/cervical screening	79.0	73.0	79.0	77.0	75.0	76.0	75.0	80.1	76.2	75.6	0.2	0.02
STI screening	65.0	66.0	64.0	65.0	63.0	67.0	64.0	73.1	74.0	70.5	12.2*	1.0
Hearing screening	72.0	73.0	72.0	70.0	71.0	76.0	71.0	71.6	74.9	70.9	2.1	0.2
Eye disease screening	63.0	66.0	65.0	70.0	64.0	73.0	65.0	68.7	71.7	69.7	9.8	0.8
Renal disease screening	44.0	46.0	50.0	50.0	43.0	51.0	50.0	54.2	53.4	56.4	19.1*	1.1
Diabetic screening	77.0	79.0	82.0	80.0	77.0	79.0	76.0	77.6	75.3	79.5	–4.1	–0.4
Cardiovascular screening	49.0	54.0	57.0	60.0	53.0	64.0	59.0	66.2	62.3	68.4	26.7*	1.6
Child growth monitoring	76.0	75.0	71.0	72.0	65.0	72.0	72.0	64.2	76.2	71.8	–5.2	–0.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2010–11.

(a) Two hundred and thirty-four of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health related activities provided by the service for 2010–11. The percentages in the table above are calculated as a proportion of these 234 services.

(b) Average annual change in percentage of respondent Aboriginal and Torres Strait Islander primary health-care services providing screening activities determined using linear regression analysis.

(c) Per cent change between 2001–02 and 2010–11 based on the average quarterly change over the period

Note: Since 2008–09 OSR data counts all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods.

Source: DoHA Service Activity Report 2007–08, 2005–06, 2004–05, 2003–04, 2002–03, 2001–02, AIHW OSR 2008–09, 2009–10, 2010–11 data collection.

Additional information

Studies on early detection, diagnosis and survival rates for cancer in Indigenous Australians

There have been a number of studies that have investigated the stage of diagnosis and survival rates for cancer for Indigenous Australians.

A landmark study by Condon et al. (2005) on the stage at diagnosis and cancer survival of Indigenous and non-Indigenous people in the Northern Territory between 1991 and 2000 found that Indigenous people were more likely than non-Indigenous people to be diagnosed with advanced disease for cancers of the colon and rectum, breast, cervix and non-Hodgkin's lymphoma. The difference in the proportion of people diagnosed with localised disease ranged from 13 percentage points for cervical cancer (Indigenous 63% compared with non-Indigenous 76%) to 29 percentage points for non-Hodgkin's lymphoma (6% compared with 35%). However, for cancer of the lung, Indigenous people were more likely to be diagnosed with localised disease (41% compared with 31%)—possibly because many older Indigenous people have regular chest X-rays for clinical management of chronic respiratory disease and as part of contact-tracing and long-term follow-up by the tuberculosis control program.

Indigenous people had lower cancer survival than non-Indigenous people for all five cancer sites. The difference in age-stage-adjusted 5-year survival rates was greatest for non-Hodgkin's lymphoma (Indigenous 16% compared with non-Indigenous 65%) and least for lung cancer (5% compared with 12%). With few exceptions, Indigenous people had lower survival than non-Indigenous people with the same stage at diagnosis for each cancer site. The relative risk of cancer death (Indigenous compared with non-Indigenous) was greater for people diagnosed at younger than older age for cancers of the colon and rectum, lung and breast, but not for cervical cancer or non-Hodgkin's lymphoma. For colorectal and lung cancers, the relative risk was greater for people diagnosed with localised compared with advanced disease; this was not the case for the other three cancer sites.

Overall, the relative risk of cancer death was higher for Indigenous than non-Indigenous patients regardless of stage of diagnosis or cancer type (Condon et al. 2005).

In relation to the cancer survival differential, it is relevant to note that the 'absolute difference in cancer survival is greatest for cancers with the highest survival in non-Indigenous people—cancers of the thyroid, breast, prostate and bowel. For cancer of the thyroid, 5-year survival for all Australian cases is over 90% and for breast cancer over 80%, compared with only 60% and 42%, respectively, for Indigenous cases in the Northern Territory. These cancers are amenable to early diagnosis, effective treatment and a high probability of cure. Better access to, and higher quality of, health care offers the possibility of disease cure for many Indigenous people with these cancers' (Condon 2004).

A study examined the role of stage of diagnosis in cancer for 815 Indigenous and 810 non-Indigenous patients diagnosed with cancer in Queensland between 1997 and 2002. It found that, after adjustment for stage at diagnosis, treatment and comorbidities, non-Indigenous Australians had better survival than Indigenous patients (hazard ratio = 1.3, 95% CI 1.1–1.5). The stage at diagnosis was significantly different, with 47% of Indigenous patients with localised cancers compared with 53% of non-Indigenous patients. Comorbidities such as diabetes or chronic renal disease were more common in Indigenous patients. Indigenous patients were less likely to have had treatment for cancer (surgery, chemotherapy or radiotherapy) and waited longer for surgery (hazard ratio = 0.84, 95% CI 0.72–0.97) than non-Indigenous patients (Valery et al. 2006).

Exploring the experience of Indigenous people and their outcomes in relation to cancer incidence, stage of disease at presentation, access to treatment, survival and mortality can help illustrate aspects of Indigenous Australians' access to, and interaction with, the health system. This provides an opportunity to monitor health system performance for Indigenous Australians in relation to both primary care and specialist services, and the interaction between them (Condon 2004).

Data quality issues

Medicare data

MBS items

The MBS items included in this measure have been introduced over the last few years with the child health check item commencing in May 2006. The take-up of new MBS items is influenced by the speed at which practitioners and the population become aware of the new items and how to use them. Also take-up can be influenced by administrative processes and the time taken to change computer systems to incorporate these new items.

Standard Indigenous status question

In November 2002, the ABS standard question on Indigenous identification was included on Medicare enrolment forms. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Under-identification

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. There were around 339,310 people who had identified as Aboriginal and/or Torres Strait Islander in this database at May 2012; around 59% of the estimated Aboriginal and Torres Strait Islander population (AHMAC 2012). There has been a rapid expansion in the number of enrolees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

Readers should note the following caveats to the Medicare voluntary Indigenous Identifier (VII) adjustment methodology:

- Estimates generated by the adjustment methodology for a given period will vary according to the point in time at which they are calculated, as the adjustment factors will be updated regularly to account for the ongoing change in the population coverage of the VII sample.
- There are inherent uncertainties in the current ABS Indigenous population estimates, and they are therefore described by the ABS as 'experimental estimates and projections'. The ABS Indigenous population estimates after 2006–07 are experimental projections, based on a number of assumptions about future levels of fertility, mortality and migration. The projections are not predictions or forecasts, but are illustrations of the growth and change in population that would occur if these assumptions were to prevail over the projection period. There can be no certainty that any particular outcome will be realised, or that future outcomes will necessarily fall within the projected ranges.
- The propensity to identify as Aboriginal and/or Torres Strait Islander varies according to the motivations of the individual and the perceived uses of the data in question. For example, it is possible that there are some Aboriginal and Torres Strait Islander people who are registered with the VII but who do not identify as Indigenous for the purposes of the Census, or vice versa.
- In some areas, particularly remote and very remote areas, there is a portion of the Indigenous population that does not ever use the Medicare system. It is therefore possible that the adjustment methodology could overestimate Medicare use by the Indigenous population.

- As the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could be biases in the data that are not addressed by the adjustment methodology.

BreastScreen Australia

State and territory BreastScreen registers collect information on all breast cancer screening undertaken as part of BreastScreen Australia.

Women who attend for a screening mammogram at a BreastScreen Australia service are asked to complete a form that includes personal and demographic details, as well as personal and family history of breast cancer. The form also includes a question on Aboriginal and Torres Strait Islander status where women are able to identify as 'Aboriginal', 'Torres Strait Islander', 'both Aboriginal and Torres Strait Islander', or 'neither Aboriginal or Torres Strait Islander'. There is an additional 'not stated' category for women who choose not to answer this question. These responses are aggregated into the categories of 'Aboriginal and Torres Strait Islander', 'non-Indigenous' and 'not stated'. While self-reported data are generally a robust source of data on Aboriginal and Torres Strait Islander status (AIHW 2011), a significant cause of concern with the accuracy of these data is that some jurisdictions do not allow for the 'not stated' category. Further, some Aboriginal and Torres Strait Islander women may choose not to identify as such when presenting to a BreastScreen Australia service. Thus, some Aboriginal and Torres Strait Islander women may be incorrectly assigned non-Indigenous status. Indigenous status disaggregated by jurisdiction leads to very small numbers leading to issues around confidentiality and comparability.

Estimated resident populations and Indigenous experimental estimates and projections are provided by the ABS.

National Bowel Cancer Screening Register

Data on bowel cancer screening are available from the NBCSR by Indigenous status. Data are collected about participants and their screening outcomes from a variety of sources and stored in the Register. The data are collected on questionnaires completed by participants, GPs, colonoscopists, pathologists and other specialists.

Details of an invitee's Aboriginal and Torres Strait Islander status is not known at the time of invitation—these details are only collected if a person becomes a participant in the NBCSP and completes the relevant section of their Participant Details form. Hence, as the number of people invited into the NBCSP of these subgroups is not known, it is not possible to accurately determine their subsequent participation levels. Instead, the proportion of participants who reported their status within these subgroups is shown, along with the corresponding population proportions derived from those reported in the 2006 Census of Population and Housing. As the relevant subgroup questions on the NBCSP Participant Details form are worded identically to those in the Census, basic comparisons can be made. While it should be noted that proportions may have changed since the 2006 Census, these data allow two things to be determined:

1. Comparing the percentage of people who did not answer these questions (that is, those counted in the 'Not stated' columns) between the NBCSP participation data and the 2006 Census data provides an indication of the data quality.
2. If the data quality compared with the 2006 Census appears reasonable, an estimation of the level of participation of those within the subgroup can be made.

As the 'Not stated' percentages for questions related to Aboriginal and Torres Strait Islander status and disability status were similar between NBCSP participation data and the 2006 Census, it can be assumed that these questions were answered thoroughly for NBCSP participants (AIHW 2012). The proportion of participants who identified as Indigenous in the NBCSP was consistently lower than the comparable proportion who identified as Indigenous in the 2006 Census. This may have been due to:

1. The proportions of Indigenous and non-Indigenous people in the Australian population having changed slightly since the 2006 Census.
2. The eligible population who were Indigenous having participated at a lower rate than the eligible population who were non-Indigenous. That is, 0.6% of the eligible population who participated were reported as Indigenous, compared with 2.3% of the eligible population reporting as Indigenous at the time of the 2006 Census.

However, it should be noted that the proportion who did not respond to this question in the NBCSP was also consistently lower than in the 2006 Census.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

OATSIH Services Reporting Data Collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. (The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.05 Chronic disease management

The management of chronic disease among the Aboriginal and Torres Strait Islander population

Data sources

Data on chronic disease management come from Medicare, OATSIH Services Reporting data collection, the Healthy for Life data collection and Divisions of General Practice National Performance Indicators.

Medicare Database

Medicare enrolment application forms are lodged by persons wishing to enrol with Medicare at Medicare offices in each state/territory or by mail. Information from these forms is entered directly into the Medicare database, which is held by the Department of Health and Ageing (DoHA).

In November 2002, the ABS standard question on Indigenous identification was included on this form. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete.

As at 1 May 2012, 339,310 Indigenous Australians were enrolled on the VII database. This represents 59% of the estimated total Indigenous population (AHMAC 2012).

Medicare data presented in this report have been adjusted for under-identification. There are a number of caveats to the VII adjustment methodology, including that as the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could therefore be biases in the data that are not addressed by the adjustment methodology.

OATSIH Services Reporting data collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Healthy for Life

The Healthy for Life (HfL) program is an ongoing program funded by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) of the Australian Government Department of Health and Ageing (DoHA). The program aims to improve the capacity and performance of primary health-care services to deliver high-quality maternal, children's and chronic disease care to Aboriginal and Torres Strait Islander people. This is carried out through population health approaches using best-practice and quality improvement principles.

Services participating in the HfL program are required to submit de-identified, aggregate service data for 11 essential indicators. These indicators cover maternal health, child health and chronic disease care on a regular basis (6 and 12 months), as well as information about the characteristics of their service and organisational infrastructure.

The Commonwealth and the AIHW are working with the States and Territories to develop a national Key Performance Indicator (KPI) framework for Indigenous primary health care services. The new National KPIs will replace the *Healthy for Life* program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services. The national KPI data collection will be implemented in three stages, with rollout in 2012 and 2013.

Divisions of General Practice National Performance Indicators

Divisions of General Practice report on a set of National Performance Indicators (NPIs) as part of their accountability to their funding source. Data are submitted to DoHA (through the Primary Health Care Research & Information Service) and are reported annually in the Divisions Performance Indicator Reports. These provide a synthesis of the key findings related to specific NPIs using data derived from three main sources:

- The Divisions' 12 month reports.
- The characteristics and activities from the Annual Survey of Divisions (ASD).
- Medicare.

Analyses

MBS services claimed

Chronic disease management plans

From 1 July 2005, the Australian Government introduced chronic disease management Medicare items, including MBS items 721 and 723.

General Practitioner Management Plan (MBS item 721)

General Practitioner Management Plans (GPMPs) are for patients with a chronic or terminal medical condition who will benefit from a structured approach to management of their care needs. A rebate can be claimed once the patient's GP has prepared GPMP. The recommended frequency of GPMPs is once every 2 years. The GP may be assisted by their practice nurse, Aboriginal health worker or other health professional in the GP's medical practice or health service. The service must include a personal attendance by the GP with the patient.

Team Care Arrangement (MBS item 723)

Chronic disease management plans Team Care Arrangement (TCA) provide a rebate for a GP to coordinate the preparation of TCAs for a patient with a chronic or terminal medical condition who also requires ongoing care from a multidisciplinary team of at least three health or care providers. The recommended frequency is once every 2 years, supported by regular review services.

- Over the period 2009–10 to 2010–11 there has been an increase in the number of GP management plans (GPMP) and team care arrangements (TCA) claimed by Indigenous Australians (from 23,927 to 32,717 and from 18,680 to 26,525, respectively) (Table 3.05.1).
- Over the same period, there has also been an increase in allied health care services claimed through Medicare by Indigenous Australians with dental up from 77,343 to 122,822 and other allied health from 25,961 to 35,731 (Table 3.05.1).
- After adjusting for differences in age structures between the two populations, Indigenous Australians received more claimed GPMPs and TCAs than non-Indigenous Australians in 2010–11 (102 per 1,000 compared with 55 per 1,000 for GPMPS and 83 per 1,000 compared with 45 per 1,000 for TCAs) (Table 3.05.1).

Table 3.05.1: MBS services by selected categories claimed, by Indigenous status, Australia, 2009–10 and 2010–11

MBS services claimed	No. of services				Age standardised services per 1,000 population				Rate difference	
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous			
	2009–10	2010–11	2009–10	2010–11	2009–10	2010–11	2009–10	2010–11	2009–10	2010–11
GPMP	23,927	32,717	1,088,272	1,279,133	75.6	102.0	46.7	55.0	28.9	47.0
TCA	18,680	26,525	867,164	1,049,205	59.7	83.0	37.2	45.0	22.4	38.2
Practice nurse/AHW	277,530	242,473	7,394,556	5,861,460	577.6	522.0	326.3	257.0	251.3	264.4
Other allied health	25,961	35,731	2,628,937	3,180,246	91.4	125.0	113.1	136.0	–21.63	–11.3
Allied health AHW	640	1,660	. .	. .	1.5	5.0	. .	. .	. .	. .
Dental	77,343	122,822	4,622,571	5,975,891	230.2	373.0	199.2	257.0	31.0	115.9
Specialist	201,118	85,149	21,534,930	9,985,713	562.0	257.0	939.4	435.0	–377.47	–177.5

Note: Data are adjusted for Indigenous under-identification.

Source: Medicare Financing & Analysis Branch, Department of Health and Ageing.

Aboriginal and Torres Strait Islander primary health-care services

OATSIH Services Reporting

- In 2010–11, there were 235 respondent Aboriginal and Torres Strait Islander primary health-care services that provided information on their clinical health care activities. Not all services provide clinical care. Approximately 63% of the services had a doctor working at the service, with 362 full-time doctors in total (AIHW 2011).
- Approximately 83% of Indigenous primary health-care services provided management of chronic illness, 70% reported keeping track of clients needing follow-up (for example, through monitoring sheets/follow-up files), 74% reported they maintained health registers (for example, chronic disease register) and 75% used clinical practice guidelines. About 72% of Indigenous primary health-care services reported that they used Patient Information and Recall Systems (PIRS), which automatically provides reminders for follow-up and routine health checks (Table 3.05.2).
- Forty-three per cent of Indigenous primary health-care services provided chronic disease management groups, 58% provided chronic disease management groups relating to mothers and babies groups, 64% provided chronic disease management groups involving sport, recreation or exercise groups, 65% involving living skills groups and 57% involving men's groups (Table 3.05.2).
- There was a significant increase in the proportion of Indigenous primary health-care services providing management of chronic illness between 2001–02 and 2010–11 (from 74% to 85%) (Table 3.05.3; Figure 3.05.1). The proportion of services keeping track of clients needing follow-up fluctuated during this period but there was only a small annual increase over the period (0.1%) (Table 3.05.3).

Table 3.05.2: Percentage of respondent Indigenous primary health-care services providing chronic disease management activities and use of the Patient Information and Recall System, 2010–11

	Per cent
Chronic disease management activities[(a)]	
Management of diabetes	82.9
Management of cardiovascular disease	79.1
Management of other chronic illness	83.3
Keep track of clients needing follow-up (e.g. through monitoring sheets/follow-up files)	69.7
Maintains health registers (e.g. chronic disease register)	74.4
Clinical practice guidelines used (e.g. Central Australian Remote Practitioners Association, diabetes guidelines)	75.2
Patient Information and Recall Systems (PIRS)[(b)]	
PIRS which automatically provides reminders for follow-up and routine health checks	71.9
Chronic disease management groups[(c)]	
Counselling groups	29.9
Chronic disease management groups	42.7
Antenatal groups	43.6
Mothers and babies group	58.3
Tobacco use treatment/prevention groups	33.6
Alcohol use treatment/prevention groups	26.1
Other substance use treatment/prevention	17.1
Cultural groups	50.2
Sport/recreation/physical exercise groups	64.5
Living skills groups (e.g. cooking and nutrition groups)	64.5
Men’s groups	56.9
Women's groups	60.2
Youth groups	40.8
Other groups activities[(d)]	12.8

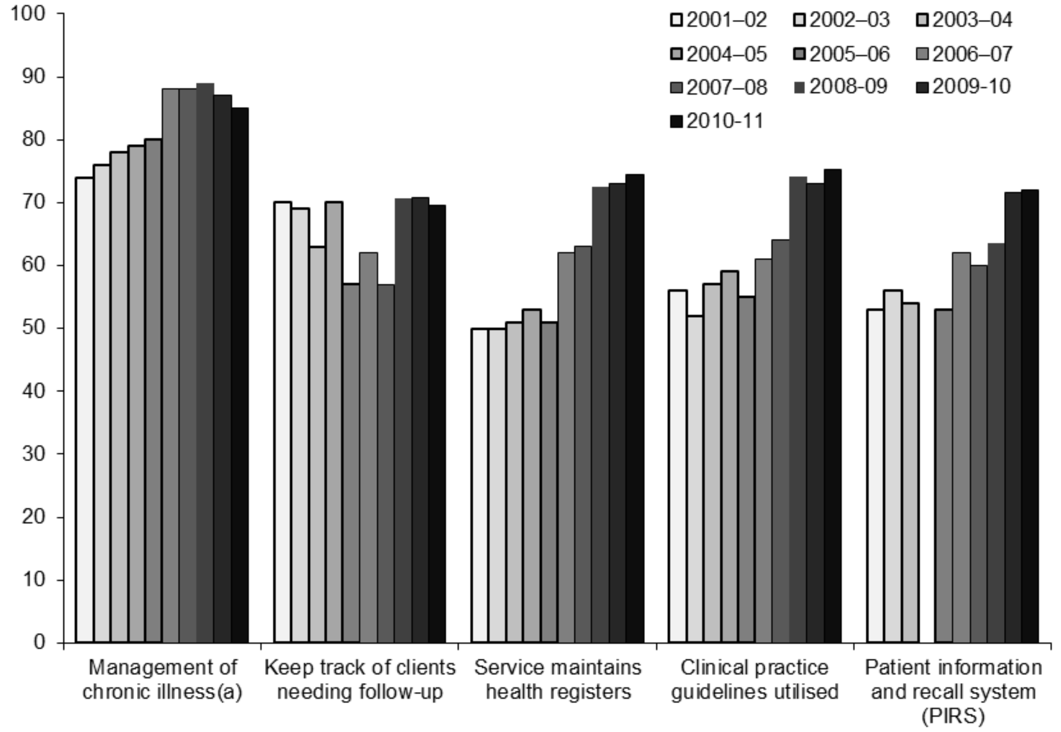
(a) Two hundred and thirty-four of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health related activities provided by the service for 2010–11. The percentages in the table above are calculated as a proportion of these 234 services.

(b) All of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data for using computers for 2010–11. The percentages in the table above are calculated as a proportion of these 235 services.

(c) Two hundred and eleven of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided information on group activities offered by the service. The percentages in the table above are calculated as a proportion of these 211 services.

(d) Other groups activities refer to other health group activities provided by respondent Aboriginal and Torres Strait Islander primary health care services.

Source: AIHW OSR data collection.



(a) From 2006–07 the OSR response category 'Management of chronic illness' was replaced by the three categories 'Management of diabetes', 'Management of cardiovascular disease' and 'Management of other chronic illness'. 'Management of chronic illness' represents the percentage of services that provided or facilitated access to any one of those three categories

Note: 2008–09 OSR data counts all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods.

Source: DoHA Service Activity Report 2007–08, 2005–06, 2004–05, 2003–04, 2002–03, 2001–02, AIHW OSR 2008–09, 2009–10, 2010–11 data collection.

Figure 3.05.1: Percentage of respondent Indigenous primary health-care services that provide management of chronic disease, 2001–02 to 2010–11

Table 3.05.3: Percentage of respondent Indigenous primary health-care services that provide management of chronic disease, 2001–02 to 2010–11

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	Per cent change[a]	Annual growth[a]
Management of chronic illness[b]	74.0	76.0	78.0	79.0	80.0	88.0	88.0	89.0	87.0	85.0	19.6*	1.6*
Keep track of clients needing follow-up	70.0	69.0	63.0	70.0	57.0	62.0	57.0	70.6	70.9	69.7	1.1*	0.1*
Service maintains health registers	50.0	50.0	51.0	53.0	51.0	62.0	63.0	72.6	73.1	74.4	57.8*	3.2*
Clinical practice guidelines utilised	56.0	52.0	57.0	59.0	55.0	61.0	64.0	74.1	73.1	75.2	41.6*	2.6*
Patient information and recall system (PIRS)	53.0	56.0	54.0	n.a.	53.0	62.0	60.0	63.5	71.6	71.9	35.5*	2.1*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2010–11.

(a) Average annual change in percentage of respondent Indigenous primary health-care services that provide management of chronic disease determined using linear regression analysis. Per cent change between 2001–02 and 2010–11 based on the average annual change over the period.

(b) From 2006–07 the SAR response category 'Management of chronic illness' was replaced by the three categories 'Management of diabetes', 'Management of cardiovascular disease' and 'Management of other chronic illness'. 'Management of chronic illness' represents the percentage of services that provided or facilitated access to any one of those three categories.

Note: Since 2008–09 OSR data counts all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods.

Source: DoHA Service Activity Report 2007–08, 2005–06, 2004–05, 2003–04, 2002–03, 2001–02, AIHW OSR 2008–09, 2009–10, 2010–11 data collection.

Healthy for Life data

For the reporting period July 2008 to June 2010, 79 services that were funded through the Healthy for Life program provided data on chronic disease management (AIHW 2013)

In the period ending June 2010:

- Some of the most commonly used strategies for chronic disease management by HfL services included: behaviour risk reduction activities aimed at smoking, alcohol use, nutrition, physical activity and emotional wellbeing; the use of a condition register for recall and reminder; systematic follow-up of abnormal results; routine clinical reviews; hospital admission and discharge communications; and the provision of linkages, referrals and client advocacy, specifically in the areas of social services, housing, domestic violence and legal aid (Table 3.05.4).
- In relation to approaches to client self-management for clients with chronic disease, client education was the most commonly used strategy (85%), followed by goal setting (81%) and staff training (79%). There was an increase in the use of these strategies since the reporting period ending June 2007, where the proportions were 81%, 70% and 70%, respectively (Table 3.05.4).

Table 3.05.4: Chronic disease: management, reporting periods ending 30 June 2008, 2009 and 2010

HfL services had strategies for chronic disease management[(a)] for their clients with chronic disease that included:	Jun–08			Jun–09			Jun–10		
	% Yes	% No	% No response	% Yes	% No	% No response	% Yes	% No	% No response
1. A population based approach									
a. A condition register used for recall and reminder	83.6	9.0	7.5	81.1	8.1	10.8	86.1	6.3	7.6
b. Use of recognised guidelines	88.1	3.0	9.0	85.1	4.1	10.8	88.6	2.5	8.9
2. A team-based approach	92.5	1.5	6.0	86.5	2.7	10.8	89.9	1.3	8.9
3. Clinical review, behavioural, social and environmental risk assessment									
a. Systematic	67.2	25.4	7.5	74.3	14.9	10.8	79.7	11.4	8.9
b. Opportunistic	91.0	1.5	7.5	81.1	5.4	13.5	87.3	3.8	8.9
4. Behavioural risk reduction									
a. Smoking									
– Brief intervention	88.1	3.0	9.0	85.1	4.1	10.8	88.6	2.5	8.9
– Other advice	86.6	6.0	7.5	83.8	5.4	10.8	87.3	3.8	8.9
b. Nutrition	91.0	1.5	7.5	83.8	4.1	12.2	89.9	1.3	8.9
c. Alcohol									
– Brief intervention	88.1	4.5	7.5	85.1	4.1	10.8	88.6	2.5	8.9
– Other advice	83.6	9.0	7.5	81.1	8.1	10.8	83.5	6.3	10.1
d. Physical activity	91.0	1.5	7.5	87.8	1.4	10.8	89.9	1.3	8.9
e. Emotional wellbeing	91.0	1.5	7.5	89.2	0.0	10.8	87.3	1.3	11.4
f. Other	14.9	46.3	38.8	21.6	44.6	33.8	22.8	41.8	35.4

(continued)

Table 3.05.4 (continued): Chronic disease: management, reporting periods ending 30 June 2008, 2009 and 2010

HfL services had strategies for chronic disease management[(a)] for their clients with chronic disease that included:	Jun–08			Jun–09			Jun–10		
	% Yes	% No	% No response	% Yes	% No	% No response	% Yes	% No	% No response
5. Care planning	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
6. Routine clinical reviews	70.1	19.4	10.4	78.4	6.8	14.9	79.7	10.1	10.1
7. Follow-up of abnormal results									
a. Systematic	80.6	10.4	9.0	78.4	8.1	13.5	86.1	5.1	8.9
b. Opportunistic	79.1	10.4	10.4	68.9	14.9	16.2	72.2	15.2	12.7
8. Immunisation									
a. Systematic	74.6	14.9	10.4	73.0	12.2	14.9	79.7	10.1	10.1
b. Opportunistic	83.6	4.5	11.9	75.7	6.8	17.6	82.3	5.1	12.7
9. Systematic approach to client self-management									
a. Staff training	70.1	20.9	9.0	71.6	13.5	14.9	78.5	12.7	8.9
b. Goal setting	70.1	20.9	9.0	74.3	12.2	13.5	81.0	10.1	8.9
c. Client education	80.6	10.4	9.0	79.7	6.8	13.5	84.8	6.3	8.9
d. Hand held records	35.8	53.7	10.4	37.8	47.3	14.9	45.6	44.3	10.1
e. Support for involvement of family	70.1	20.9	9.0	70.3	13.5	16.2	70.9	16.5	12.7
f. Peer support	44.8	43.3	11.9	41.9	31.1	27.0	59.5	22.8	17.7
10. Health service linkages									
a. Hospital admission communication	62.7	25.4	11.9	70.3	14.9	14.9	77.2	12.7	10.1
b. Hospital discharge communication	71.6	16.4	11.9	71.6	13.5	14.9	77.2	12.7	10.1

(continued)

Table 3.05.4 (continued): Chronic disease: management, reporting periods ending 30 June 2008, 2009 and 2010

	Jun–08			Jun–09			Jun–10		
HfL services had strategies for chronic disease management[(a)] for their clients with chronic disease that included:	**% Yes**	**% No**	**% No response**	**% Yes**	**% No**	**% No response**	**% Yes**	**% No**	**% No response**
c. Care provided in residential aged care services	40.3	49.3	10.4	43.2	41.9	14.9	53.2	36.7	10.1
11. Social service linkages, referrals and client advocacy									
a. Social services	68.7	17.9	13.4	74.3	10.8	14.9	77.2	11.4	11.4
b. Housing	65.7	22.4	11.9	62.2	21.6	16.2	73.4	13.9	12.7
c. Employment	61.2	26.9	11.9	56.8	28.4	14.9	68.4	19.0	12.7
d. Income support	62.7	25.4	11.9	63.5	21.6	14.9	65.8	21.5	12.7
e. Domestic violence	79.1	9.0	11.9	74.3	10.8	14.9	82.3	5.1	12.7
f. Legal aid	64.2	23.9	11.9	60.8	24.3	14.9	70.9	16.5	12.7
g. Other	16.4	49.3	34.3	14.9	40.5	44.6	15.2	46.8	38.0

(a) 'Management' includes health promotion, prevention of complications, clinical care and advocacy.

(b) Not collected.

Source: AIHW, Healthy for Life data collection.

Type II diabetes clients—HbA1c levels

HbA1c levels reflect the mean glycaemia over the preceding 2–3 months and the test is performed in accredited laboratories.

HbA1c levels are defined as:

a. Less than or equal to 7.0% (recommended level for diabetics)

b. Greater than 7.0% but less than or equal to 8.0%

c. Greater than 8.0% but less than 10%

d. Greater than or equal to 10%.

The recommended HbA1c levels are less than or equal to 7.0% for diabetics—a higher target is to be expected for the elderly (65 years and over), pregnant women, and for patients with severe hypoglycaemia.

For the period 1 January to 30 June 2010, 75 services that were part of the HfL program provided valid data on whether HbA1c tests were undertaken for Indigenous clients with Type II diabetes in the last 6 months and 6 of these were urban services, 42 were regional services and 27 were remote services.

- Of the 13,264 Indigenous adults with Type II diabetes who were regular clients of the HfL services, 6,871 (51.8%) had an HbA1c test in the last 6 months. The proportion of Indigenous adults with Type II diabetes who had an HbA1c test in the last 6 months varied by remoteness, from 36% in *Major cities* to 63% in *Very remote* areas (Table 3.05.5).

Table 3.05.5: Number and proportion of Indigenous regular clients[(a)] who are diagnosed with Type II diabetes and HbA1c test in the last 6 months, by remoteness, 1 January–30 June 2010

	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
			Per cent			
Indigenous regular clients with Type II diabetes who had an HbA1c test	36.2	60.6	49.9	52.2	63.0	51.8
Number of Indigenous regular clients with Type II diabetes	2,158	1,474	4,350	2,756	2,526	13,264

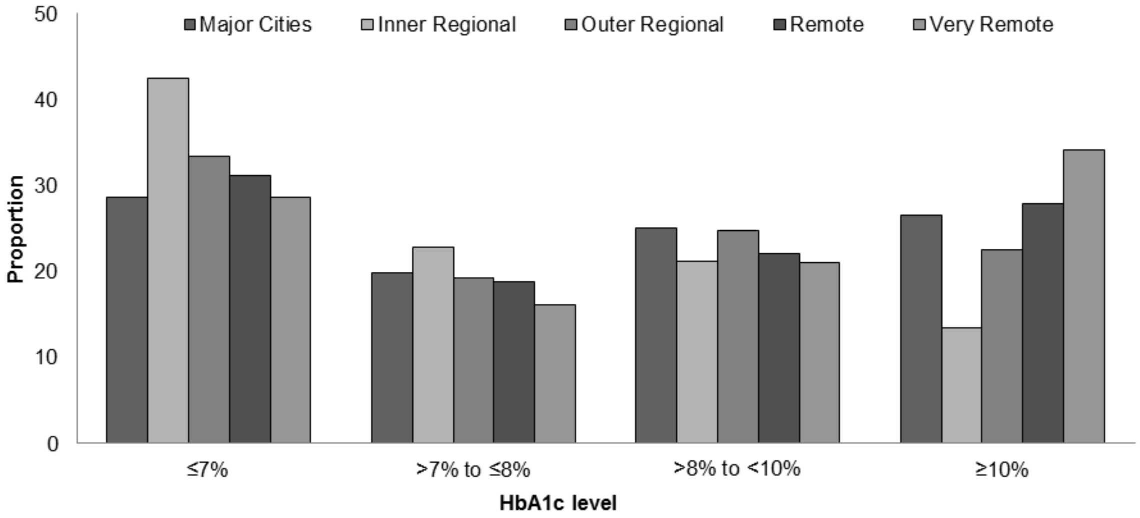
(a) Indigenous regular clients aged 15 years and over.

Notes

1. Valid data for this indicator were provided by 75 services (6 in major cities of Australia, 16 in inner regional Australia, 26 in outer regional Australia, 13 in remote Australia and 14 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

- Of the 6,619 Indigenous adults with Type II diabetes who were regular clients of the HfL services and had an HbA1c test in the last 6 months (and for whom information was available on their HbA1c result), 32% had an HbA1c result less than or equal to 7%, and 26% had a result greater than or equal to 10% (Figure 3.05.2).
- Clients living in *Very remote* areas had the highest proportion of HbA1c results that were greater than or equal to 10% (34%).



(a) Numerator is the number of Indigenous regular clients with Type II diabetes who had an HbA1c test in the last six months by HbA1c result and Denominator is the total number of Indigenous regular clients with Type II diabetes who had an HbA1c test in the last six months.

(b) Indigenous regular clients aged 15 years and over.

Notes

1. Valid data for this indicator were provided by 73 services (5 in major cities of Australia, 15 in inner regional Australia, 26 in outer regional Australia, 13 in remote Australia and 14 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Figure 3.05.2: Proportion[(a)] of Indigenous regular clients[(b)] with Type II diabetes who had an HbA1c test in the last 6 months, by HbA1c result and remoteness, 1 January–30 June 2010

For the 6 month reporting period ending June 2010, 72 HfL services reported information on the average HbA1c result of clients with Type II diabetes who had an HbA1c test in the last 6 months. These data are presented in Table 3.05.6 below.

- Of the 6,543 Indigenous regular clients of HfL services with Type II diabetes who had an HbA1c test in the last 6 months whose last HbA1c result was recorded, the average HbA1c result was 8.6%.
- The average HbA1c result was highest in *Very remote* areas (9%) and lowest in *Inner regional* areas (7.8%).

Table 3.05.6: Average HbA1c result for Indigenous regular clients[(a)] diagnosed with Type II diabetes who had an HbA1c test in the last 6 months, by remoteness 1 January–30 June 2010

	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
Average HbA1c result (%)	8.8	7.8	8.4	8.8	9.0	8.6
Number of Indigenous regular clients with Type II diabetes who had an HbA1c test in the last six months	782	811	2,155	1,435	1,360	6,543

(a) Indigenous regular clients aged 15 years and over.

Notes

1. Valid data for this indicator were provided by 72 services (6 in major cities of Australia, 15 in inner regional Australia, 25 in outer regional Australia, 13 in remote Australia and 13 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Type II diabetes clients—blood pressure tests

Blood pressure is elevated in many people with Type II diabetes. Increased blood pressure levels have been associated with a spectrum of health problems occurring later in people with diabetes—notably cardiovascular disease (especially stroke), eye damage and kidney damage.

The target blood pressure for people with Type II diabetes is less than or equal to 130/80 mmHg (NHMRC 2004).

For the period 1 January to 30 June 2010, 75 services that were part of the HfL program provided data on whether blood pressure tests were undertaken for Indigenous clients with Type II diabetes in the last 6 months.

- Of the 13,264 Indigenous adults with Type II diabetes who were regular clients of the HfL services, 8,251 (62%) had a blood pressure test in the last 6 months. In *Very remote* areas, 77% of Indigenous adults with Type II diabetes had a blood pressure test in the last 6 months, compared with 57% in *Outer regional* areas and 52% in *Major cities* (Table 3.05.7).

Table 3.05.7: Number and proportion of Indigenous regular clients(a) with Type II diabetes who had a blood pressure test in the last six months, by remoteness, 1 January–30 June 2010

	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
Indigenous regular clients with Type II diabetes who had a blood pressure test (%)	52.2	71.5	56.6	61.0	76.6	62.2
Number of Indigenous regular clients with Type II diabetes	2,158	1,474	4,350	2,756	2,526	13,264

(a) Indigenous regular clients aged 15 years and over.

Notes

1. Valid data for this indicator were provided by 75 services (6 in major cities of Australia, 16 in inner regional Australia, 26 in outer regional Australia, 13 in remote Australia and 14 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

- Of the 8,253 Indigenous adults with Type II diabetes who were regular clients of the HfL service and had a blood pressure test in the last 6 months, 3,600 (44%) had a blood pressure result less than or equal to 130/80 mmHg.
- The proportion of Indigenous adults with Type II diabetes who had a blood pressure result less than or equal to 130/80 mmHg was highest for clients living in *Remote areas* and lowest in *Major cities* and *Inner regional* areas (both 40%) (Table 3.05.8).

Table 3.05.8: Number and proportion of Indigenous regular clients[(a)] with Type II diabetes who had a blood pressure test in the last six months with a result less than or equal to 130/80mmHg, by remoteness, 1 January–30 June 2010

Major cities		Inner regional		Outer regional		Remote		Very remote		Total	
%	N/D[(b)]	%	N/D[(b)]	%	N/D[(b)]	%	N/D[(b)]	%	N/D[(b)]	%	N/D[(b)]
40.2	453/1,126	40.2	424/1,054	45.4	1,116/2,456	45.7	768/1,681	43.3	839/1,936	43.6	3,600/8,253

(a) Indigenous regular clients aged 15 years and over.

(b) N (numerator) is the number of Indigenous regular clients with Type II diabetes who had a blood pressure test in the last six months with a result less than or equal to 130/80mmHg. D (denominator) is the total number of Indigenous regular clients with Type II diabetes who had a blood pressure test in the last six months.

Notes

1. Valid data for this indicator were provided by 75 services (6 in major cities of Australia, 16 in inner regional Australia, 26 in outer regional Australia, 13 in remote Australia and 14 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Coronary heart disease clients—blood pressure tests

A client has high blood pressure if their systolic blood pressure is greater than or equal to 140 mmHg; or their diastolic blood pressure is greater than or equal to 90 mmHg.

For the period 1 January to 30 June 2010, 75 services that were part of the HfL program provided data on whether blood pressure tests were undertaken for Indigenous clients with coronary heart disease in the last 6 months and provided data on blood pressure test results.

- Of the 3,957 Indigenous adults with coronary heart disease who were regular clients of the HfL services, 2,748 (69%) had a blood pressure test in the last 6 months.

- The proportion of coronary heart disease clients who had a blood pressure test in the last 6 months was highest among clients living in *Very remote* areas (82%), followed by *Inner regional* areas (74%), *Remote areas* (70%), *Outer regional* (69%) and *Major cities* (60%) (Table 3.05.9).

Table 3.05.9: Number and proportion of Indigenous regular clients[(a)] with coronary heart disease who had a blood pressure test in the last six months, by remoteness, 1 January–30 June 2010

Major cities		Inner regional		Outer regional		Remote		Very remote		Total	
%	N/D(b)	%	N/D(b)	%	N/D(b)	%	N/D(b)	%	N/D(b)	%	N/D(b)
60.4	546/904	73.5	472/642	69.4	904/1,302	70.1	497/709	82.3	329/400	69.4	2,748/3,957

(a) Indigenous regular clients aged 15 years and over.

(b) N (numerator) is the number of Indigenous regular clients with coronary heart disease who had a blood pressure test in the last six months. D (denominator) is the total number of Indigenous regular clients with coronary heart disease who had a blood pressure test.

Notes

1. Valid data for this indicator were provided by 75 services (6 in major cities of Australia, 16 in inner regional Australia, 26 in outer regional Australia, 13 in remote Australia and 14 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

- Of the 2,748 Indigenous adults with coronary heart disease who were regular clients of the HfL services and had a blood pressure test in the last 6 months, 1,694 (62%) had a blood pressure result less than 140/90 mmHg.
- Proportions varied by remoteness with the highest in *Very remote* areas (67%) and lowest in *Inner regional* areas (58%) (Table 3.05.10).

Table 3.05.10: Number and proportion of Indigenous regular clients[(a)] with coronary heart disease who had a blood pressure test in the last six months with a result less than 140/90mmHg, by remoteness, 1 January–30 June 2010

Major cities		Inner regional		Outer regional		Remote		Very remote		Total	
%	N/D(b)	%	N/D(b)	%	N/D(b)	%	N/D(b)	%	N/D(b)	%	N/D(b)
60.1	328/546	57.8	273/472	60.7	549/904	65.0	323/497	67.2	221/329	61.6	1,694/2,748

(a) Indigenous regular clients aged 15 years and over.

(b) N (numerator) is the number of Indigenous regular clients with coronary heart disease who had a blood pressure test in the last six months with a result less than 140/90mmHg. D (denominator) is the total number of Indigenous regular clients with coronary heart disease who had a blood pressure test in the last six months.

Notes

1. Valid data for this indicator were provided by 75 services (6 in major cities of Australia, 16 in inner regional Australia, 26 in outer regional Australia, 13 in remote Australia and 14 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Divisions of General Practice National Performance Indicators data

Information on the management of patients with diabetes is available from the Divisions of General Practice National Performance Indicators.

Specific information on HbA1c and cholesterol results among patients with diabetes is available for 2010–11 and is presented below.

Of the 112 Divisions for whom online reports were available in 2010–11, 110 reported on the chronic disease management domain. All of these 110, (100%) reported data on the most recent HbA1c result in the past 12 months among patients with diabetes on practice reminder systems (PHC RIS 2013). Of these:

- 60% had recorded their Indigenous diabetes patients' most recent HbA1c result. About 22% of Indigenous patients on the practice diabetes register had an HbA1c result of 7.0% or less (Table 3.05.11). When a patient for whom HbA1c was not measured or recorded was excluded, 37% of Indigenous patients on the practice diabetes register had a result of 7.0% or less.
- 68% had recorded their non-Indigenous diabetes patients' most recent HbA1c status in the past 12 months. Approximately 37% of non-Indigenous patients on the practice diabetes register had an HbA1c result of 7.0% or less (Table 3.05.11). When a patient for whom HbA1c was not measured or recorded was excluded, 55% of non-Indigenous patients on the practice diabetes register had a result of 7.0% or less.

Table 3.05.11: Most recent HbA1c in past 12 months among patients on practice diabetes register, by Indigenous status, 2010–11

	Indigenous		Non-Indigenous		Origin missing	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
7% or less	2,083	22.0	89,529	37.0	48,264	21.0
Between 7% and 10%	2,479	26.1	64,390	26.6	35,866	15.6
10% or more	1,105	11.7	9,906	4.1	5,156	2.2
Total measured/recorded	**5,667**	**59.8**	**163,825**	**67.8**	**89,286**	**38.9**
Not measured/recorded	3,817	40.2	77,965	32.2	140,298	61.1

Source: Divisions of General Practice National Performance Indicators 2010–11.

Specific information on cholesterol results among patients with diabetes is available for 2007–08 and is presented in Table 3.05.12. More recent data is unavailable due to a simplification of the National Quality and Performance System (NQPS) in 2007–08, which no longer requires Divisions to report information on this measure.

Of the 105 Divisions who reported on the diabetes domain in 2007–08, 48 (46%) reported data on the most recent total cholesterol among patients with diabetes. Of these:

- Fifty-six per cent had cholesterol results recorded for their Indigenous patients. About 22% of Indigenous patients on the practice diabetes register had a cholesterol result of less than 4.0 mmol/L. When a patient for whom cholesterol was not measured or recorded was excluded, 40% of Indigenous patients with diabetes had a cholesterol result of less than 4.0 mmol/L.
- Sixty-five per cent of Divisions had cholesterol results recorded for their non-Indigenous patients. Approximately 16% had a cholesterol result of less than 4.0 mmol/L. When a

patient for whom cholesterol was not measured or recorded was excluded, 25% of non-Indigenous patients with diabetes had a cholesterol result of less than 4.0 mmol/L (Table 3.05.12).

Table 3.05.12: Most recent cholesterol test in past 12 months among patients with diabetes on register, by Indigenous status, 2007–08

	Indigenous	Non-Indigenous	Origin missing
		Per cent	
Less than 4.0mmol/L	22.4	16.1	17.1
4.0mmol/L or more	33.1	48.6	31.7
Total measured/ recorded	**55.5**	**64.8**	**48.8**
Not measured/ recorded	44.5	35.2	51.2

Source: Divisions of General Practice National Performance Indicators 2007–08.

Data quality issues

Medicare database

MBS items

The MBS items included in this measure have been introduced over the last few years with the child health check item commencing in May 2006. The take-up of new MBS items is influenced by the speed at which practitioners and the population become aware of the new items and how to use them. Also take-up can be influenced by administrative processes and the time taken to change computer systems to incorporate these new items.

Standard Indigenous status question

In November 2002, the ABS standard question on Indigenous identification was included on Medicare enrolment forms. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Under-identification

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. . There were around 339,310 people who had identified as Aboriginal and/or Torres Strait Islander in this database at May 2012; around 59% of the estimated Aboriginal and Torres Strait Islander population (AHMAC 2012). There has been a rapid expansion in the number of enrolees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

Readers should note the following caveats to the Medicare voluntary Indigenous Identifier (VII) adjustment methodology:

- Estimates generated by the adjustment methodology for a given period will vary according to the point in time at which they are calculated, as the adjustment factors will be updated regularly to account for the ongoing change in the population coverage of the VII sample.
- There are inherent uncertainties in the current ABS Indigenous population estimates, and they are therefore described by the ABS as ‘experimental estimates and projections’. The ABS Indigenous population estimates after 2006–07 are experimental projections, based on a number of assumptions about future levels of fertility, mortality and migration. The projections are not predictions or forecasts, but are illustrations of the growth and change in population that would occur if these assumptions were to prevail over the projection period. There can be no certainty that any particular outcome will be realised, or that future outcomes will necessarily fall within the projected ranges.
- The propensity to identify as Aboriginal and/or Torres Strait Islander varies according to the motivations of the individual and the perceived uses of the data in question. For example, it is possible that there are some Aboriginal and Torres Strait Islander people who are registered with the VII but who do not identify as Indigenous for the purposes of the Census, or vice versa.
- In some areas, particularly remote and very remote areas, there is a portion of the Indigenous population that does not ever use the Medicare system. It is therefore possible that the adjustment methodology could overestimate Medicare use by the Indigenous population.

- As the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could be biases in the data that are not addressed by the adjustment methodology.

OATSIH Service Reporting (OSR) data collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012).

Healthy for Life data

For the July 2009 to June 2010 reporting period, 79 services submitted data as part of the Healthy for Life (HfL) Program.

Services started submitting their data through an electronic interface (OSCAR) for the February 2008 reporting period. This has improved the quality of data submitted.

Not all of the services were able to provide data for all of the essential indicators and service profile questions included in the HfL data collection. The number of services that were able to provide data varies across the qualitative and quantitative indicators.

There has been an upward trend in the proportion of services that reported on each of the indicators over time, particularly compared with the first reporting period ending June 2007. All of the services reporting provided data for all of the EIs in the period ending December 2009. This proportion decreased slightly in the current reporting period ending June 2010. This may be because services need to report against fewer EIs and do not need to provide most qualitative data in periods ending in December, unlike in annual reporting periods ending in June. The current period had higher proportions of services that reported against most EIs than the previous annual collection period ending June 2009.

In general, the data quality improved noticeably between the period ending June 2008 and the period ending June 2009. The overall level of data quality remained similar in the current period, though there was a different pattern of data quality issues.

The current period ending June 2010 had a different distribution of data quality issues than the previous period. No services had inconsistencies between related indicators, however the number of services with missing data and data out of the expected range increased. The latter might be due to more stringent data checking procedures employed by the AIHW during the current period.

Divisions of General Practice National Performance Indicators

Divisions of General Practice report on a set of National Performance Indicators (NPIs) as part of their accountability to their funding source. Data are submitted to DoHA (through the Primary Health Care Research & Information Service) and are reported annually in the Divisions Performance Indicator Reports.

The NPIs are part of the National Quality Performance System (NQPS). The NQPS is an integral aspect of the Government's primary health policy framework.

The Department has entered into new agreements with the Divisions Network which involve a simplification of the complex NQPS implemented for the 2005–08 contract period. From July 2008 to June 2012 Divisions have reported on a new set of National Performance Indicators (NPIs). For more information go to: (http://www.phcris.org.au/divisions/reporting/div/list.php).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.06 Access to hospital procedures

The key hospital procedure differentials between Aboriginal and Torres Strait Islander people and other Australians as measured through standardised rates, ratios and rate differences in hospital separations with the same principal diagnosis

Data sources

Data for this measure come from the AIHW's National Hospital Morbidity Database.

The National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in

data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).

- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Analyses

Age-standardised rates and ratios have been used for this indicator as a measure of hospitalisations in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of other Australians, taking into account differences in age distributions.

Hospitalisations with a procedure recorded

Table 3.06.1 presents the proportion of hospitalisations with a procedure recorded in public hospitals between July 2008 and June 2010 by a number of demographic variables. This table includes all jurisdictions and because the proportions are of those in hospital, and not population rates and, as such, data are not affected by Indigenous under-identification issues as are other data on hospital admissions.

- Between July 2008 and June 2010, excluding hospitalisations for care involving dialysis, there were around 11.5 million hospitalisations with a procedure reported in Australia, 1.7% (191,222) of which were hospitalisations recorded for Indigenous patients.
- Although Indigenous Australians were more likely to be hospitalised than non-Indigenous Australians, they were less likely to undergo a procedure once admitted to hospital. Between July 2008 and June 2010, excluding hospitalisations for care involving dialysis, 60% of Indigenous hospitalisations had a procedure recorded, compared with 81% of non-Indigenous hospitalisations (Table 3.06.1).
- The proportion of hospitalisations with a procedure recorded was highest for Indigenous patients aged 55–64 years and 65 years and over (66% and 67%).
- Patients who were hospitalised in *Remote* or *Very remote* areas were less likely to undergo a procedure (50% and 52% of Indigenous patients and 69% and 64% of non-Indigenous patients) compared with those hospitalised in *Major cities* (71% and 83% for Indigenous and non-Indigenous patients, respectively).
- Both Indigenous and non-Indigenous patients hospitalised in private hospitals were much more likely to undergo a procedure (93% and 94%, respectively) than Indigenous and non-Indigenous patients hospitalised in public hospitals (59% and 72%, respectively).
- Indigenous patients hospitalised in Queensland, New South Wales and South Australia were least likely to receive a procedure (56% in Queensland and 60% in New South Wales and South Australia) and Indigenous patients hospitalised in the Australian Capital territory were most likely to receive a procedure (73%).

Table 3.06.1: Number and proportion of hospitalisations with a procedure recorded[(a)], by Indigenous status, Australia, July 2008 to June 2010

	Indigenous		Non-Indigenous			
	No.	Per cent	No.	Per cent	Ratio[(b)]	Difference[(c)]
Overall	191,222	60.0	11,065,696	81.4	*0.74	–21.4*
Sex						
Males	82,260	60.5	5,038,331	81.4	0.74*	–21.0*
Females	108,960	59.9	6,027,262	81.4	0.74*	–21.5*
Age group (years)						
Under 1	9,112	42.9	139,896	50.8	0.85*	–7.86*
1–14	25,446	53.3	505,780	66.4	0.80*	–13.1*
15–34	60,200	54.5	1,829,512	75.1	0.73*	–20.6*
35–54	57,030	57.3	2,652,502	82.9	0.69*	–25.6*
55–64	20,460	65.6	1,832,090	87.0	0.75*	–21.3*
65+	18,973	67.1	4,105,915	85.4	0.79*	–18.3*
State/territory of residence						
NSW	49,320	59.8	3,444,413	81.6	0.73*	–21.8*
Vic	12,577	71.3	3,120,047	81.6	0.87*	–10.4*
Qld	48,687	55.7	2,213,442	80.0	0.70*	–24.3*
WA	32,883	60.5	1,185,783	86.0	0.70*	–25.4*
SA	12,664	59.7	825,650	81.0	0.74*	–21.3*
Tas	3,453	71.3	121,862	74.6	0.96*	–3.32*
NT	29,780	60.7	39,737	69.1	0.88*	–8.45*
ACT	1,159	72.5	82,217	76.1	0.95	–3.66
Other Territories	267	61.0	5,332	69.6	0.88*	–8.6*
Remoteness of residence						
Major Cities	55,465	70.6	7,802,583	83.3	0.85*	–12.7*
Inner Regional	38,554	64.1	2,201,254	79.8	0.80*	–15.7*
Outer Regional	41,179	56.2	882,269	73.7	0.76*	–17.5*
Remote	23,629	49.9	110,026	68.8	0.72*	–18.9*
Very Remote	31,364	51.9	32,299	63.7	0.81*	–11.8*
Sector						
Public	180,046	58.9	5,582,175	72.2	0.81*	–13.4*
Private	11,176	92.9	5,483,521	93.6	0.99	–0.64
Same-day admission						
Yes	55,075	57.3	5,957,041	85.9	0.67*	–28.6*
No	136,147	61.1	5,108,655	76.8	0.80*	–15.6*
Patient accommodation						
Public	173,638	58.8	4,696,610	71.4	0.82*	–12.7*
Private	17,512	82.6	6,352,322	90.9	0.91*	–8.25*

(continued)

Table 3.06.1 (continued): Number and proportion of hospitalisations with a procedure recorded[(a)], by Indigenous status, Australia, July 2008 to June 2010

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p< 0.05 level.

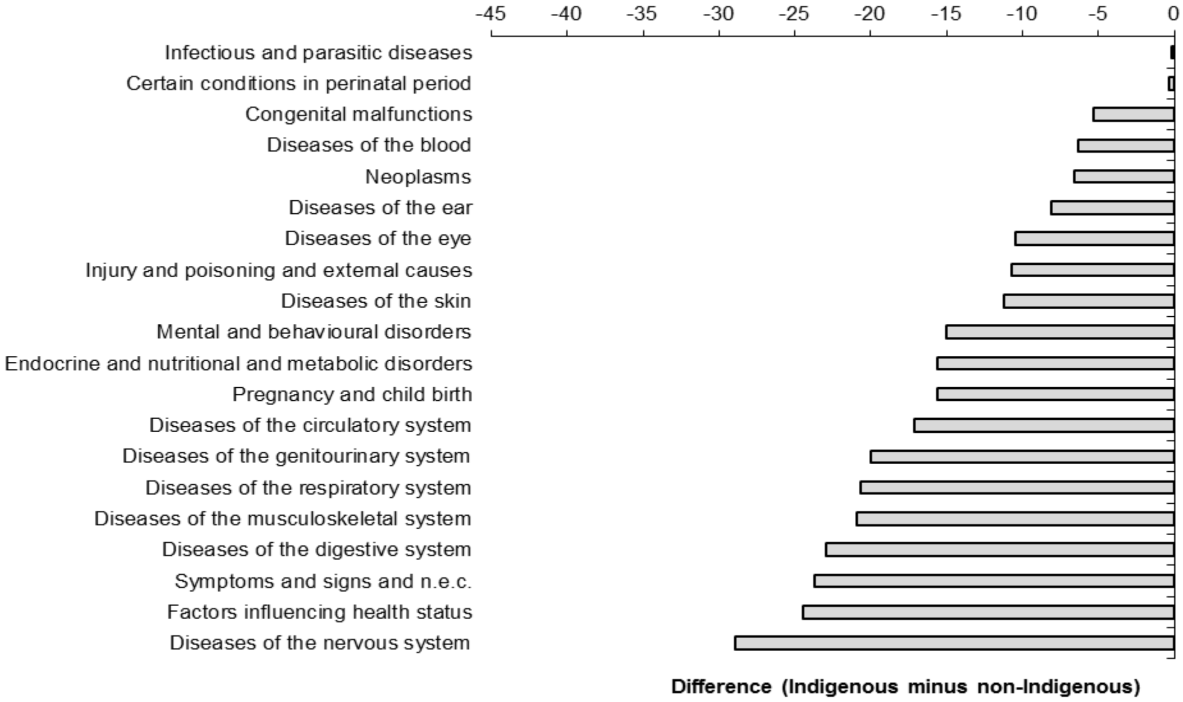
(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.
(b) Ratio—Indigenous divided by non-Indigenous.
(c) Difference—Indigenous minus non-Indigenous.

Notes

1. Proportions are age-standardised using the age-specific rates of non-Indigenous Australians.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.1 and Table 3.06.2 show that between July 2008 and June 2010 in Australia, the proportion of separations with a procedure reported by principal diagnosis was lower for Indigenous patients than for non-Indigenous patients for almost all of the diagnosis chapters (proportions were similar for infectious and parasitic diseases and certain conditions originating in the perinatal period). For example, for 'diseases of the nervous system', 57% of separations for Indigenous patients had a procedure reported, compared with 86% of separations for non-Indigenous patients.



(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

Notes

1. Proportions are age-standardised using the age-specific rates of non-Indigenous Australians
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.1: Proportion of separations with a procedure reported[(a)], by principal diagnosis and Indigenous status, Australia, July 2008 to June 2010

Table 3.06.2: Proportion of separations with a procedure reported[(a)(b)], by principal diagnosis and Indigenous status, Australia, July 2008 to June 2010

Principal diagnosis chapter (excluding dialysis)	Indig.	Non-Indig.	Difference[(c)]
		Per cent	
Diseases of the nervous system(G00–G99)	56.7	85.6	–29.0
Factors influencing health status(Z00–Z99)	67.7	92.2	–24.5
Symptoms and signs and n.e.c.(R00–R99)	37.5	61.2	–23.8
Diseases of the digestive system(K00–K93)	67.4	90.3	–22.8
Diseases of the musculoskeletal system(M00–M99)	71.8	92.7	–20.9
Diseases of the respiratory system(J00–J99)	41.5	62.2	–20.7
Diseases of the genitourinary system(N00–N99)	65.1	85.1	–20.0
Diseases of the circulatory system(I00–I99)	58.6	75.7	–17.1
Endocrine and nutritional and metabolic disorders(E00–E89)	69.5	85.1	–15.6
Pregnancy and child birth(O00–O99)	63.1	78.7	–15.6
Mental and behavioural disorders(F00–F99)	39.8	54.8	–15.0
Diseases of the skin(L00–L99)	60.6	71.8	–11.2
Injury and poisoning and certain other consequences of external causes (S00–T98)	63.3	74.0	–10.7
Diseases of the eye(H00–H59)	88.1	98.6	–10.5
Diseases of the ear(H60–H99)	79.6	87.7	–8.1
Neoplasms(C00–D48)	89.7	96.3	–6.6
Diseases of the blood(D50–D89)	87.5	93.8	–6.3
Congenital malfunctions(Q00–Q99)	86.9	92.2	–5.2
Infectious and parasitic diseases(A00–B99)	43.9	44.1	–0.3
Certain conditions in perinatal period(P00–P96)	73.3	73.6	–0.2
Any principal diagnosis[(a)(b)]	**60.0**	**81.5**	**–21.4**

(continued)

Table 3.06.2 (continued): Proportion of separations with a procedure reported[(a)(b)], by principal diagnosis and Indigenous status, Australia, July 2008 to June 2010

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

(b) Hospitalisations with a principal diagnosis not stated have been excluded.

(c) Difference—Indigenous minus non-Indigenous.

Notes

1. Proportions are age-standardised using the age-specific rates of non-Indigenous Australians.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Remoteness by principal diagnosis.

The diagnostic chapters with the largest gap between Indigenous and non-Indigenous hospitalisations receiving a procedure were fairly consistent across remoteness categories. The same four principal diagnoses ('symptoms, signs, n.e.c.', 'diseases of the nervous system', 'factors influencing health status' and diseases of the musculoskeletal system') were among the top 3 diagnoses with the largest gap in each remoteness category (Table 3.06.3).

Table 3.06.3: Diagnosis chapters with the largest gap between Indigenous and non-Indigenous hospitalisations receiving a procedure[(a)], Australia, 2007–08 to 2009–10[(b)]

Remoteness category	Largest rate difference		Second largest rate difference		Third largest rate difference	
Major cities	Symptoms and signs and n.e.c.	–14.6	Factors influencing health status	–14.4	Diseases of the nervous system	–13.0
Inner regional	Symptoms and signs and n.e.c.	–18.0	Factors influencing health status	–15.8	Endocrine and nutritional and metabolic disorders	–15.7
Outer regional	Diseases of the nervous system	–30.7	Factors influencing health status	–22.5	Diseases of the digestive system	–21.7
Remote	Diseases of the nervous system	–34.4	Diseases of the musculoskeletal system	–29.5	Factors influencing health status	–27.6
Very remote	Factors influencing health status	–30.0	Diseases of the musculoskeletal system	–25.9	Diseases of the nervous system	–25.6

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

(b) Data are reported by remoteness of usual residence of the patient hospitalised.

Notes

1. Proportions are age-standardised using the age-specific rates of non-Indigenous Australians.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Detailed analysis

A series of more-detailed univariate analysis looked at the association between receiving a procedure once hospitalised and other variables aside from state or territory, remoteness and principal diagnosis, such as age, remoteness by principal diagnosis, sector of hospital, volume of procedures, and impact of principal diagnosis.

Age

Within each age group, the highest proportion of hospitalisations of Indigenous and non-Indigenous patients for which a procedure was reported were for those aged 55–64 and 65–74 years (66% to 67% for Indigenous and 87%and 85% for non-Indigenous patients) (Table 3.06.05). Indigenous patients were less likely to receive a procedure once in hospital than non-Indigenous patients across all age groups. The greatest absolute difference in rates was observed for those aged 35–44 years (rate difference of 26.2 per 100,000) (Table 3.06.4).

Table 3.06.4: Proportion of separations with a procedure reported[(a)], by Indigenous status and age group, Australia, 2008–09 to 2009–10

Age groups (years)	Indigenous	Non-Indigenous
	Per cent	
0–4	44.0	54.3
5–14	59.5	73.1
15–24	53.8	73.1
25–34	54.7	76.5
35–44	54.9	81.1
45–54	59.7	84.5
55–64	65.6	87.0
65+	67.1	85.4
Total age standardised[(b)]	**56.3**	**81.4**

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

(b) Total directly age-standardised using the Australian 2001 standard population, calculated using the direct method, age standardised by five year age group to 75+.

Notes

1. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
2. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Sector

The proportion of separations with a procedure reported was much higher for Indigenous patients admitted to private hospitals than for Indigenous patients admitted to public hospitals (excluding psychiatric hospitals) (76% compared with 59%). The proportion of separations of Indigenous patients with a procedure reported was higher for public psychiatric hospitals than other public hospitals (91% compared with 59%). Indigenous patients admitted to public hospitals, excluding psychiatric hospitals, were less likely to receive a procedure than non-Indigenous patients admitted to public hospitals (ratio of 0.8) (Table 3.06.5).

Of all hospitalisations for Indigenous Australians with a procedure performed, 93.5% were performed in public hospitals (excluding psychiatric hospitals) and 4.6% were performed in public psychiatric hospitals. This compared with 50.3% and 38.9% of hospitalisations for non-Indigenous Australians for these hospital sectors (Table 3.06.6).

Table 3.06.5: Proportion of separations with a procedure reported[(a)], by Indigenous status and sector of hospital, Australia, 2008–09 to 2009–10

Sector	Indigenous	Non-Indigenous
	Per cent	
Public hospital excluding psychiatric	58.8	72.2
Public psychiatric hospital	91.3	92.1
Private hospital	76.2	64.8
Private free standing day hospital facility	99.7	99.5

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

Notes

1. Proportions are age-standardised using the age-specific rates of non-Indigenous Australians.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.06.6: Proportion of procedures[(a)] performed by sector of hospital and Indigenous status, reside in Australia, 2008–09 to 2009–10

Sector	Indigenous	Non-Indigenous
	Per cent	
Public hospital excluding psychiatric	93.5	50.3
Public psychiatric hospital	4.6	38.9
Private hospital	0.7	0.1
Private free standing day hospital facility	1.2	10.6
Total	**100.0**	**100.0**

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

Notes

1. Proportions are age-standardised using the age-specific rates of non-Indigenous Australians.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Number of procedures

Around 25% of all hospitalisations of Indigenous Australians did not have a procedure reported. Around 53% of Indigenous hospitalisations had one procedure reported, 10% had two procedures reported, 6% had three procedures reported and 7% had four or more procedures reported. Indigenous Australians were 1.5 times as likely as non-Indigenous Australians to have no procedures reported and less likely than non-Indigenous Australians to have two or more procedures reported (Table 3.06.7).

Table 3.06.7: Proportion of separations with a procedure reported[(a)], by Indigenous status and number of procedures reported, Australia, 2008–09 to 2009–10

No. of procedures	Indigenous	Non-Indigenous
	Per cent	
0	24.8	16.3
1	52.8	30.2
2	10.0	24.9
3	5.5	14.6
4	2.8	6.1
5–9	3.4	6.9
10+	0.8	1.0

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

Notes

1. Proportions are age-standardised using the age-specific rates of non-Indigenous Australians.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Impact of the individual principal diagnosis

Table 3.06.8 shows the impact of the individual principal diagnosis categories on the likelihood of receiving a procedure in hospital for both Indigenous Australians and non-Indigenous Australians. It shows that, for Indigenous Australians, patients hospitalised for 'diseases of the respiratory system', 'diseases of the nervous system', and 'diseases of the circulatory system' were the least likely to receive a procedure. Two of these chapters—'diseases of the respiratory system' and 'diseases of the digestive system' —were also among the lowest for non-Indigenous Australians.

Table 3.06.8: Impact of principal diagnosis on the likelihood of receiving a procedure in hospital[(a)] (relative to diseases of the skin), by Indigenous status, Australia, 2008–09 to 2009–10

	Indigenous	Non-Indigenous
	Per cent	
Neoplasms	5.97	1.00
Diseases of the blood	5.01	7.97
Endocrine, metabolic & nutritional disorders	0.98	6.80
Diseases of the nervous system	0.86	1.59
Diseases of the eye & adnexa	5.81	2.33
Diseases of the ear & mastoid process	4.61	21.54
Diseases of the circulatory system	0.69	3.79
Diseases of the respiratory system	0.45	0.89
Diseases of the digestive system	1.56	0.75
Diseases of the musculoskeletal system	1.74	2.75
Diseases of the genitourinary system	1.30	3.39
Pregnancy & childbirth	1.20	1.93
Diseases of the skin	1.00	1.25

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

Notes

1. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
2. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Multivariate analysis of hospitalisations with a procedure reported

In 2012, the AIHW undertook multivariate regression analyses to examine the relative importance of selected variables, including Indigenous status, in affecting the outcome of whether a patient hospitalised underwent a procedure for the period 2008–09 to 2010–11 in Australia.

In order to test whether distinct differences between Indigenous Australians and other Australians were driving the differences in the likelihood of having a procedure reported, a series of multivariate analyses were run, which included sociodemographic characteristics, state and territory variables, remoteness, hospital sector (public or private), principal diagnosis and total number of additional diagnoses.

After controlling for these other variables, Indigenous status was the 6th most significant variable (if principal diagnosis is counted as a single variable rather than individual variables for each diagnosis) contributing to whether a patient would receive a procedure once in hospital. The odd of receiving a procedure for Indigenous Australians was about 35% less than the odds for other Australians.

The most significant variable contributing to whether a patient would receive a procedure once in hospital was hospital sector. The odds of a person in a private hospital receiving a procedure was five times the odds for a patient in a public hospital.

The second most significant variable was the number of additional diagnoses. Patients hospitalised with additional diagnoses recorded were more likely to receive a procedure than those without additional diagnoses recorded.

Principal diagnosis was the third most significant variable. Of the diagnostic categories, 'neoplasms' was the most significant in increasing the likelihood of receiving a procedure, followed by 'diseases of the digestive system', 'diseases of the musculoskeletal system', 'diseases of the eye and adnexa', 'diseases of the genitourinary system', 'diseases of the blood', 'diseases of the nervous system', 'pregnancy and childbirth', 'diseases of the ear and mastoid process' and 'respiratory diseases'.

The fourth most significant variable was remoteness of usual residence. The odds of receiving a procedure for patients residing in *Remote* and *Very remote* areas were around half as great as the odds for patients residing in *Major cities*.

Age group was the fifth most significant variable, with those aged 55–64 most likely to receive a procedure.

State/territory of usual residence and sex were also significant variables in predicting whether a person would receive a procedure once in hospital, ranking after Indigenous status.

Hospital procedures

Although these exploratory analyses have been critical in identifying some of the factors underlying the disparity between Indigenous and non-Indigenous Australians in the likelihood of receiving a procedure once in hospital, they were not able to fully account for the differences between Indigenous Australians and non-Indigenous Australians. Further research is needed to explore the mechanisms underlying these disparities.

Procedures are clinical interventions that are surgical in nature, carry a procedural risk, carry an anaesthetic risk, require specialised training, and/or require special facilities or equipment that is only available in an acute-care setting. Procedures, therefore, encompass surgical procedures and non-surgical investigative and therapeutic procedures such as X-rays and chemotherapy. Client-support interventions that are neither investigative nor therapeutic (such as anaesthesia) are also included.

- Over the period July 2008 to June 2010, there were 794,477 hospital procedures performed on Indigenous patients in Australia. Approximately one third (34%) of these procedures were for haemodialysis (Table 3.06.9).
- Procedures on the urinary system were the most frequently reported procedures for Indigenous patients (35% of all procedures) followed by haemodialysis procedures. After adjusting for differences in age-structure, Indigenous patients were 5 times more likely to under a urinary system procedure, and 6 times more likely to undergo a haemodialysis procedure than non-Indigenous persons.
- For most other procedure chapters, Indigenous Australians were less likely than non-Indigenous Australians to undergo a procedure. The greatest disparities were for procedures of the nervous system, and procedures of the male genital organs (ratio of 0.3).

Table 3.06.9: Hospital procedures, by type of procedure reported and Indigenous status, Australia, July 2008 to June 2010[(a)]

	Number		Per cent		Age standardised %[(b)]	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Procedure on urinary system(1040–1129)	275,097	2,529,202	34.6	8.1	36.9	8.1
Haemodialysis(1060)	265,795	1,901,982	33.5	6.1	35.6	6.1
Non-invasive and cognitive and other interventions, n.e.c.(1820–1922)	269,891	15,312,300	34.0	48.8	35.9	48.8
Imaging services(1940–2016)	39,104	1,751,262	4.9	5.6	5.3	5.6
Obstetric procedures(1330–1347)	32,412	1,012,237	4.1	3.2	2.7	3.2
Procedures on digestive system(850–1011)	28,598	2,954,331	3.6	9.4	3.9	9.4
Procedures on musculoskeletal system(1360–1579)	26,721	1,499,086	3.4	4.8	2.7	4.8
Dermatological and plastic procedures(1600–1718)	25,785	1,136,767	3.2	3.6	2.5	3.6
Dental services(450–490)	21,989	617,529	2.8	2.0	1.4	2.0
Procedures on cardiovascular system(600–777)	21,972	1,081,280	2.8	3.4	2.9	3.4
Gynaecological procedures(1240–1299)	15,238	995,865	1.9	3.2	1.5	3.2
Procedures on respiratory system(520–570)	10,587	327,580	1.3	1.0	1.2	1.0
Procedures on nose and mouth and pharynx(370–422)	6,010	442,490	0.8	1.4	0.5	1.4
Procedures on ear and mastoid process(300–333)	5,380	117,552	0.7	0.4	0.4	0.4
Procedures on nervous system(1–86)	5,190	463,952	0.7	1.5	0.5	1.5
Procedures on eye and adnexa(160–256)	5,143	613,530	0.6	2.0	1.2	2.0
Procedures on male genital organs(1160–1203)	2,025	219,668	0.3	0.7	0.2	0.7
Procedures on breast(1740–1759)	1,326	139,841	0.2	0.4	0.2	0.4
Procedures on blood and blood-forming organs(800–817)	1,270	111,300	0.2	0.4	0.2	0.4
Radiation oncology procedures(1786–1799)	379	31,496	0.0	0.1	0.1	0.1

(continued)

Table 3.06.9 (continued): Hospital procedures, by type of procedure reported and Indigenous status, Australia, July 2008 to June 2010[(a)]

	Number		Per cent		Age standardised %[(b)]	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Procedures on endocrine system(110–129)	360	29,172	0.0	0.1	0.0	0.1
Total (excluding haemodialysis)	**528,682**	**29,484,458**	**66.5**	**93.9**	**64.4**	**93.9**
Total (including haemodialysis)	**794,477**	**31,386,440**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(b) Directly age-standardised using the Australian 2001 standard population.

Notes

1. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
2. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

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Time series analyses

Longer term time series data are limited to four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations for all years from 1998–99 to 2009–10: Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Additional trend analysis has also been presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined from 2004–05 to 2007–08 for Indigenous and non-Indigenous Australians. New South Wales and Victoria have been assessed as having adequate identification of Indigenous hospitalisations from 2004–05. These six jurisdictions represent approximately 96% of the Indigenous population of Australia.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital procedures for Indigenous Australians. Also, changes in access, hospital policies and practices all have an impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time because it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in procedures may reflect better access to hospitals/hospital procedures rather than a worsening of health

1998–99 to 2009–10

Rates of hospitalisation separations with a procedure, rate ratios and rate differences between Indigenous and non-Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory combined over the 11-year period 1998–99 to 2009–10, excluding haemodialysis procedures, are presented in Table 3.06.10 and Figure 3.06.2.

- Over the period 1998–99 to 2009–10 for Queensland, Western Australia, South Australia and Northern Territory combined, there were significant increases in rates of hospitalisation separations with a procedure, excluding dialysis, for both Indigenous and non-Indigenous Australians. The fitted trend implies an average yearly increase in the rate of 5.8 per 1,000 for Indigenous Australians (equivalent to a 32.7% increase over the period) and 4.2 per 1,000 for non-Indigenous Australians (equivalent to a 23.1% increase over the period).
- There was a significant increase in the hospitalisation rate ratios and rate differences between Indigenous and non-Indigenous Australians over the period.

Table 3.06.10: Age-standardised hospital procedure[(a)] rates, rate ratios and rate differences, Qld, WA, SA and NT, 1998–99 to 2009–10[(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change over period[(d)]
Indigenous separations														
Males	15,990	17,145	17,689	18,197	18,747	19,800	19,989	21,463	21,956	24,482	25,855	27,288	970*	66.7*
Females	22,340	24,458	25,377	25,853	26,321	27,486	27,823	29,517	31,181	32,686	34,717	36,152	1,161*	57.2*
Persons	38,330	41,604	43,068	44,057	45,069	47,286	47,813	50,980	53,137	57,168	60,574	63,440	2,130*	61.1*
Non-Indigenous separations														
Males	604,701	656,390	691,127	717,777	733,729	748,150	771,091	837,870	877,121	916,546	958,949	989,144	33,783*	61.5*
Females	729,298	778,786	820,638	857,084	879,513	897,703	914,354	989,939	1,034,296	1,068,316	1,138,533	1,177,959	38,954*	58.8*
Persons	1,334,008	1,435,185	1,511,771	1,574,870	1,613,258	1,645,854	1,685,449	1,827,812	1,911,423	1,984,874	2,097,494	2,167,118	72,737*	60.0*
Indigenous rate per 1,000														
Males	175.5	189.6	191.0	189.5	196.6	214.2	201.9	217.4	213.1	240.2	241.1	251.4	6.3*	39.7*
Females	212.3	230.1	231.7	232.7	235.9	243.6	233.6	246.2	255.7	268.6	275.1	280.3	5.4*	28.0*
Persons	193.9	209.8	211.3	211.3	216.1	227.8	216.9	230.7	234.1	253.3	257.3	264.6	5.8*	32.7*
Non-Indigenous rate per 1,000														
Males	191.5	204.3	210.5	213.2	212.5	211.3	212.2	224.1	228.1	231.5	235.9	236.9	3.6*	20.9*
Females	214.5	225.0	232.5	238.0	239.2	239.0	238.3	252.4	257.7	259.6	269.8	272.3	4.8.	24.5*
Persons	201.6	213.1	220.1	224.3	224.6	223.9	224.0	237.0	241.6	244.3	251.5	253.4	4.2*	23.1*
Rate ratio[(e)]														
Males	0.9	0.9	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1.0	1.0	1.1	0.01*	15.3*
Females	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	2.6
Persons	1.0	1.0	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.01*	7.7*

(continued)

Table 3.06.10 (continued): Age-standardised hospital procedure[(a)] rates, rate ratios and rate differences, Qld, WA, SA and NT, 1998–99 to 2009–10[(b)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change over period[(d)]
Rate difference[(f)]														
Males	–15.9	–14.7	–19.5	–23.7	–15.9	2.8	–10.3	–6.7	–15.0	8.8	5.2	14.5	2.7*	–185.8*
Females	–2.2	5.2	–0.8	–5.3	–3.3	4.6	–4.7	–6.2	–1.9	9.0	5.4	8.0	0.6	–312.2
Persons	–7.7	–3.3	–8.8	–13.0	–8.5	3.9	–7.1	–6.3	–7.5	9.1	5.8	11.3	1.5*	–220.2*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.

(c) Average annual change in rates, rate ratios and rate differences were determined using linear regression analysis.

(d) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

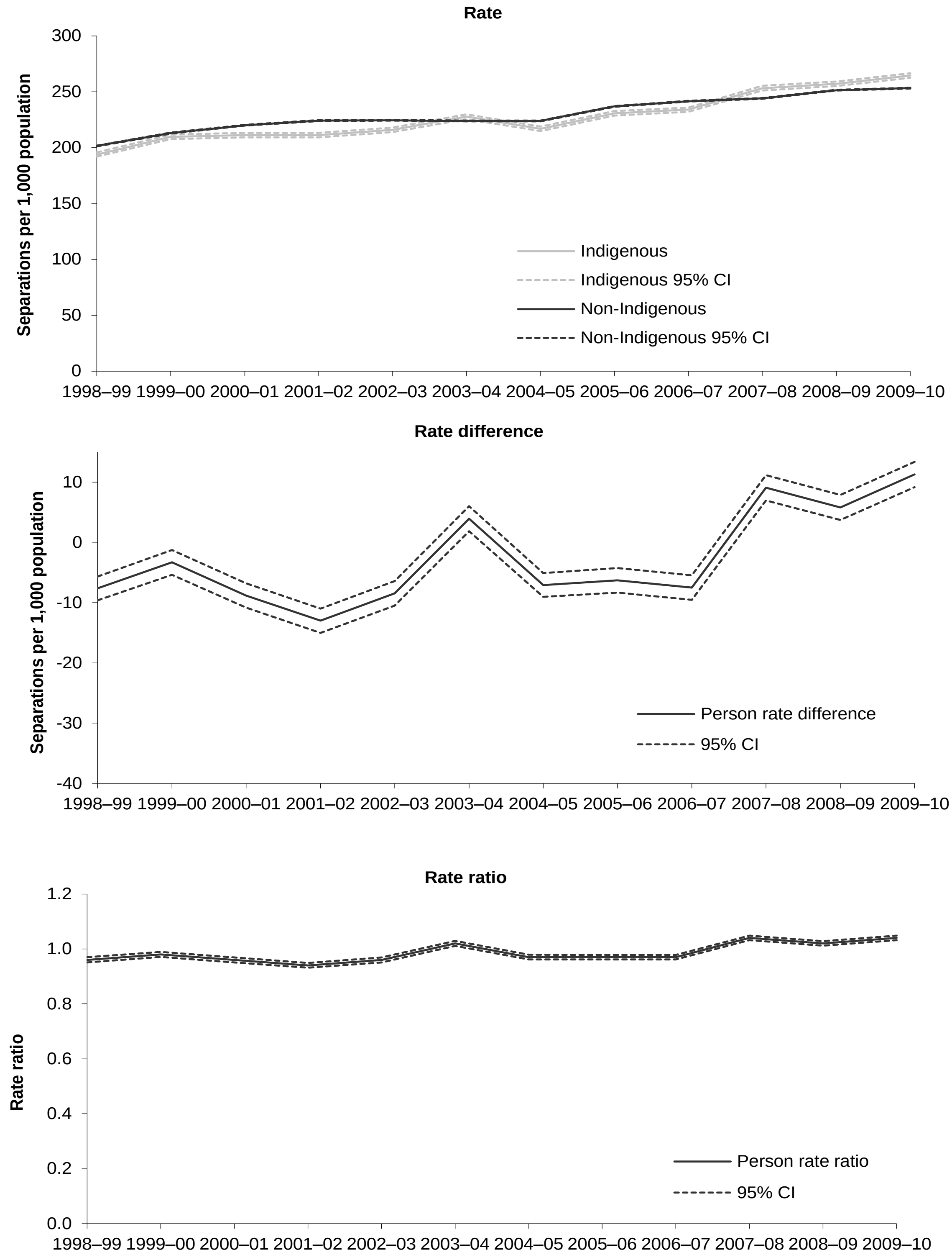
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for non-Indigenous Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.



Notes

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.2: Rates of hospitalisation separations with a procedure, rate ratios and rate differences between Indigenous and non-Indigenous, Qld, WA, SA and NT, 1998–99 to 2009–10

2004–05 to 2009–10

Rates of hospitalisation separations with a procedure, rate ratios and rate differences between Indigenous and other Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined over the time period 2004–05 to 2009–10, excluding haemodialysis procedures, are presented in Table 3.06.11 and Figure 3.06.3.

- Over the period 2004–05 to 2009–10, for New South Wales, Victoria, Queensland, Western Australia, South Australia and Northern Territory combined, there were significant increases in rates of hospitalisation separations with a procedure, excluding dialysis, for both Indigenous and non-Indigenous Australians. The fitted trend implies an average yearly increase in the rate of 11.0 per 1,000 for Indigenous Australians (equivalent to a 28.3% increase over the period) and 4.9 per 1,000 for non-Indigenous Australians (equivalent to a 10.7% increase over the period).
- There was a significant increase in the hospitalisation rate ratios, and a significant decline in the hospitalisation rate differences, between Indigenous and non-Indigenous Australians over the period.

Table 3.06.11: Age-standardised hospital procedure[(a)] rates, rate ratios and rate differences, NSW, Vic, Qld, WA, SA & NT, 2004–05 to 2009–10[(b)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(c)]	Per cent change over period[(d)]
Indigenous procedures								
Males	28,855	31,343	32,736	35,770	38,617	41,329	2,492*	43.2*
Females	39,924	42,587	45,814	48,095	51,561	54,402	2,903*	36.4*
Persons	68,782	73,930	78,550	83,865	90,180	95,731	5,395*	39.2*
Non-Indigenous procedures								
Males	2,029,961	2,138,570	2,225,515	2,317,715	2,411,522	2,514,148	95,200*	23.5*
Females	2,433,663	2,559,640	2,665,571	2,762,958	2,888,050	3,015,252	114,016*	23.4*
Persons	4,463,658	4,698,223	4,891,101	5,080,689	5,299,600	5,529,472	209,223*	23.4*
Indigenous rate per 1,000								
Males	178.4	192.9	193.7	212.8	221.3	234.6	11.0*	30.8*
Females	209.5	221.2	235.3	246.4	255.9	263.9	11.1*	26.4*
Persons	193.5	206.3	214.5	229.2	238.2	248.3	11.0*	28.3*
Non-Indigenous rate per 1,000								
Males	217.7	224.4	228.1	231.7	235.4	239.6	4.2*	9.6*
Females	242.8	251.1	256.6	260.4	266.2	271.8	5.6*	11.4*
Persons	229.1	236.6	241.2	244.9	249.7	254.6	4.9*	10.7*
Rate ratio[(e)]								
Males	0.8	0.9	0.9	0.9	0.9	1.0	0.03*	19.3*
Females	0.9	0.9	0.9	1.0	1.0	1.0	0.02*	13.4*
Persons	0.8	0.9	0.9	0.9	1.0	1.0	0.03*	15.9*

(continued)

Table 3.06.11 (continued): Age-standardised hospital procedure[a] rates, rate ratios and rate differences, NSW, Vic, Qld, WA, SA & NT 2004–05 to 2009–10[b]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[b]	Per cent change over period[c]
Rate difference[f]								
Males	–39.2	–31.5	–34.4	–19.0	–14.1	–5.0	6.8*	–86.9*
Females	–33.3	–29.9	–21.4	–14.0	–10.3	–8.0	5.5*	–82.7*
Persons	–35.5	–30.3	–26.7	–15.8	–11.5	–6.4	6.1*	–85.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

(b) Data are reported by state/territory of usual residence of the patient hospitalised.
(c) Average annual change in rates, rate ratios and rate differences were determined using linear regression analysis.
(d) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for non-Indigenous Australians.
(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

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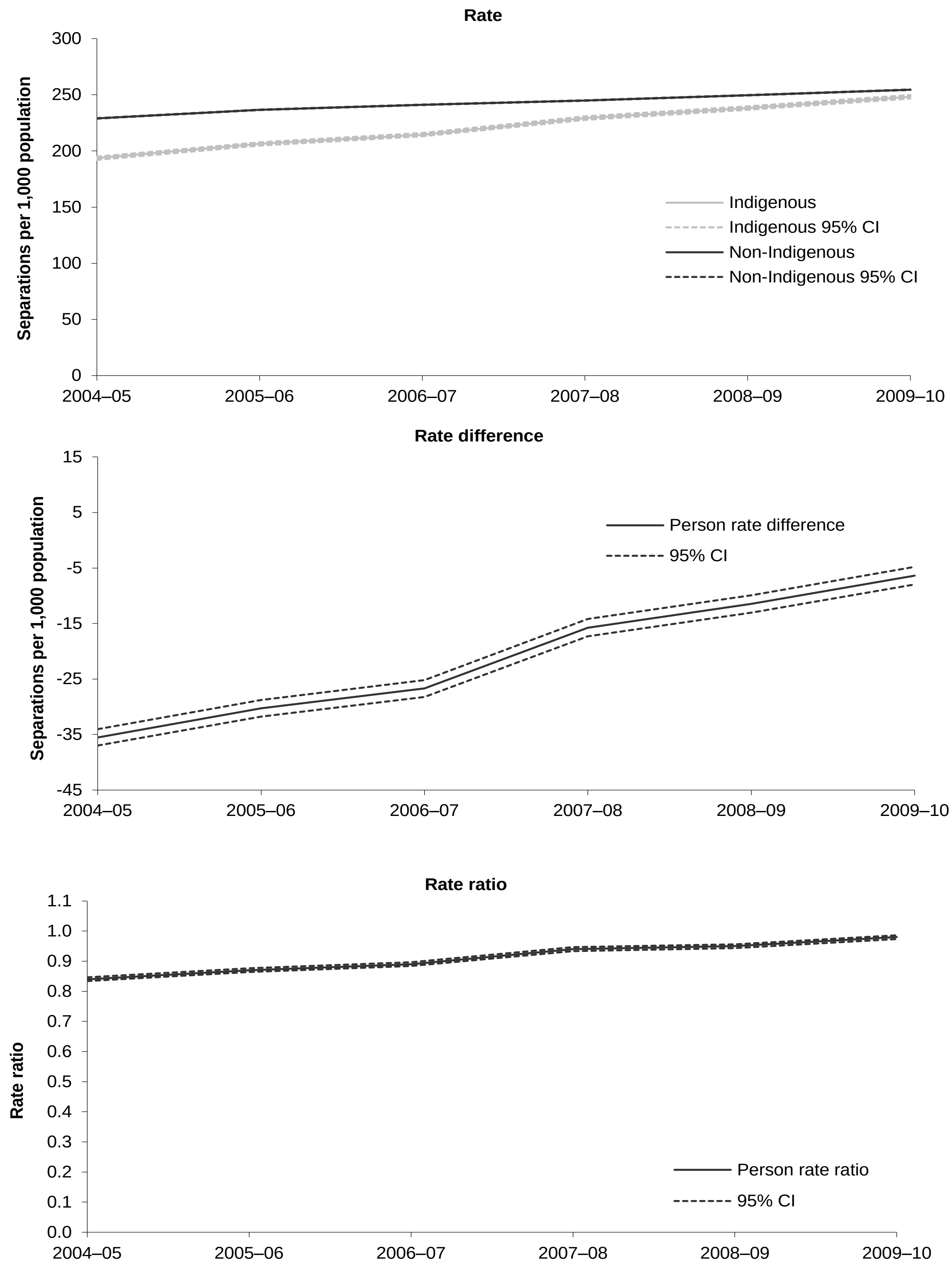

Notes

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.3: Rates of hospitalisation separations with a procedure, rate ratios and rate differences between Indigenous and non-Indigenous, NSW, Vic, Qld, WA, SA & NT, 2004–05 to 2009–10

Coronary heart disease hospital procedures

The AIHW report *Aboriginal and Torres Strait Islander people with coronary heart disease: further perspectives on health status and treatment* (AIHW 2006) looked at the disparities between Aboriginal and Torres Strait Islander people and other Australians with respect to their health status and treatment of coronary heart disease, including the use of coronary procedures in hospital. These data have been updated and the key findings from these analyses are outlined below.

- In 2008–10, among those Australians hospitalised with coronary heart disease, Indigenous Australians were less likely to receive coronary procedures such as coronary angiography and revascularisation procedures than non-Indigenous Australians. This was evident across all age groups (Table 3.06.12). The detailed age-specific rates indicate that, in both relative and absolute terms, the largest differences for both angiography and revascularisation occurred in the 45–54, 55–64 and 65+ year age groups, where the rates for non-Indigenous Australians were around double that for Indigenous Australians and the rate difference was over 17 percentage points for angiography and over 9 percentage points for revascularisation. Revascularisation procedures include percutaneous coronary intervention (PCI) and coronary artery by-pass grafts (CABG).
- After taking the different population age structures into account, the angiography and revascularisation rate for Aboriginal and Torres Strait Islanders was 60% lower than the rate for non-Indigenous Australians (rate ratio of 0.6 for both).
- Similar results were observed when PCI and CABG were analysed separately, with Indigenous Australians generally less likely to receive these procedures than non-Indigenous Australians across all age groups for those hospitalised for coronary heart disease, except for CABG and those in the 35–44 age group (Table 3.05.13). The age-adjusted procedure rate for PCI is around 50% lower than non-Indigenous Australians, although the age-adjusted rate for CABG is 10% lower (age-standardised rate ratio of 0.5 and 0.9, respectively).
- Indigenous Australians with coronary heart disease tended to have more complex cases (measured by the number of comorbidities). In 2008–10, Indigenous people with coronary heart disease were less likely to undergo a coronary procedure across all levels of complexity. In the lower complex group (none, 1 or 2 comorbidities present), Indigenous Australians were no more than half as likely to have a coronary procedure.
- The complexity of cases did not explain the lower procedure rate in Indigenous Australians compared with non-Indigenous Australians.

Table 3.06.12: Use of coronary procedures for those hospitalised with coronary heart disease[(a)], by Indigenous status, Australia, July 2008 to June 2010

	Indigenous Australians		Non-Indigenous Australians		Inequality measures	
Age group	**Number**	**Per cent[(b)]**	**Number**	**Per cent[(b)]**	**Ratio[(c)]**	**Difference[(d)]**
Coronary angiography						
25–34	79	32.0	470	42.3	0.8*	–10.4*
35–44	529	35.9	4,590	49.6	0.7*	–13.7*
45–54	880	34.9	18,098	53.8	0.6*	–18.9*
55–64	717	34.0	37,931	57.3	0.6*	–23.4*
65+	428	28.7	82,989	46.1	0.6*	–17.4*
All ages[(e)]						
Crude	**2,643**	**33.6**	**144,132**	**49.7**	**0.7***	**–16.1***
ASR[(f)]	**—**	**29.3**	**—**	**49.7**	**0.6***	**–20.4***
Revascularisation (PCI and CABG)						
25–34	38	15.4	256	23.1	0.7*	–7.7*
35–44	280	19	2,838	30.7	0.6*	–11.7*
45–54	505	20	11,756	34.9	0.6*	–14.9*
55–64	446	21.1	23,488	35.5	0.6*	–14.4*
65+	247	16.6	46,318	25.8	0.6*	–9.2*
All ages[(e)]						
Crude	**1,519**	**19.3**	**84,668**	**29.2**	**0.7***	**–9.9***
ASR[(f)]	**—**	**17.2**	**—**	**29.2**	**0.6***	**–12.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Only includes hospitalisations with a principal diagnosis of I20 to I25.

(b) Per cent refers to the proportion of hospitalisations with coronary heart disease as the principal diagnosis receiving either coronary angiography or coronary revascularisation.

(c) Per cent for Indigenous Australians divided by per cent for non-Indigenous Australians.

(d) Per cent for Indigenous Australians minus per cent for non-Indigenous Australians.

(e) Includes those aged less than 25 years.

(f) ASR refers to age-standardised rate using ‘non-Indigenous Australians’ population as the standard population.

Notes

1. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
2. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.06.13: Inequalities in the use of PCI and CABG procedures for those hospitalised with a principal diagnosis of coronary heart disease[(a)], Australia, July 2008 to June 2010

	Age group (years)					All ages[(b)]	
	25–34	35–44	45–54	55–64	65+	Crude	ASR[(c)]
PCI							
Ratio[(d)]	0.6*	0.5*	0.5*	0.5*	0.5*	0.6*	0.5*
Difference[(e)]	–7.5*	–12.4*	–14.7*	–14.1*	–8.8*	–9.1*	–11.2*
CABG							
Ratio[(d)]	—[(e)]	1.2	1	1	0.9	0.9*	0.9*
Difference[(e)]	—[(e)]	0.7	–0.3	–0.4	–0.4	–0.9*	–0.8*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Only includes hospitalisations with a principal diagnosis of I20 to I25.

(b) Includes those aged less than 25 years.

(c) ASR refers to age-standardised rate using Non-Indigenous Australians population as the standard population.

(d) Per cent for Indigenous Australians divided by per cent for non-Indigenous Australians.

(e) Per cent for Indigenous Australians minus per cent for non-Indigenous Australians.

Notes

1. The estimates are not reliable as some of the numbers involved are small.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Digestive system hospital procedures

A study looking at hospital procedures performed for diseases of the digestive tract between July 2003 to June 2006 showed that Aboriginal and Torres Islander people were significantly less likely to receive a corresponding procedure during hospital admissions for complicated or uncomplicated hernias, diseases of the extrahepatic biliary tree and non-neoplastic diseases of the anus or rectum. Indigenous people were as likely as other Australians to receive an appendicectomy for a principal diagnosis recorded as appendicitis, and only marginally less likely to receive a large intestinal resection for admissions where a malignant neoplasm of the large intestine/rectum was recorded as the principal diagnosis. These results were statistically adjusted for age, sex, hospital, urgency of admission, remoteness of usual residence, remoteness of hospital and several comorbidities (Moore et al. 2008).

This study was replicated using the most recent data from July 2008 to June 2010, and results are summarised in Table 3.06.14. The data suggest a similar pattern as the study using data for an earlier period, that being that Aboriginal and Torres Islander people were significantly less likely to receive a corresponding procedure during hospital admissions for complicated or uncomplicated hernias and diseases of the extrahepatic biliary tree, and as likely as non-Indigenous Australians to receive a corresponding procedure for appendicitis; malignant neoplasm of the large intestine/rectum; and non-neoplastic anorectal disease.

Table 3.06.14: Relative odds of receiving corresponding procedure for Indigenous versus non-Indigenous for hospital admissions involving diagnoses of the digestive tract, Australia, June 2008 to July 2010

Principal diagnoses	(Adjusted odds ratio)	95% confidence interval	p value
Appendicitis	0.89	0.80 – 1.00	0.0566 not significant
Complicated and uncomplicated hernias	0.79	0.69 – 0.90	0.0006
Diseases of extrahepatic biliary tree	0.81	0.75 – 0.88	<.0001
Non-neoplastic anorectal disease	0.98	0.87– 1.10	0.7189 not significant
Malignant neoplasm of the large intestine/rectum	1.07	0.86 – 1.31	0.5426 Not significant

Notes

1. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
2. Excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

Source: AIHW analysis of National Hospital Morbidity Database.

Cancer research work

A study of 815 Indigenous and 810 non-Indigenous patients diagnosed with cancer in Queensland between 1997 and 2002 found that, after adjustment for stage at diagnosis, treatment and comorbidities, non-Indigenous Australians had better survival than Indigenous patients (hazard ratio = 1.3, 95% CI 1.1–1.5). Indigenous patients were less likely to have had treatment for cancer (surgery, chemotherapy or radiotherapy) and waited longer for surgery (hazard ratio = 0.84, 95% CI 0.72–0.97) than non-Indigenous patients (Valery et al. 2006).

A study in Western Australian of patients who had a cancer registration in the state between 1982 and 2001 found that Indigenous people were less likely to receive surgery for lung cancer and prostate cancer, but not breast cancer (Hall et al. 2004).

Sub-acute care

Sub-acute care service provision in Australia is measured in the National Healthcare Agreement, for which a report is produced annually by the COAG Reform Council (CRC). The most recent report (CRC 2012) presented sub-acute services disaggregated by state, Indigenous status and age group.

Table 3.06.15 presents hospital separation rates involving non-acute care for all states and territories for the financial year 2009–10. Table 3.06.16 presents this information further disaggregated by the type of care provided.

- Nationally, the rate on non-acute care separations for Indigenous Australians was 10.6 per 1,000 compared with 7.8 per 1,000.
- Rates of non-acute care separations were higher for Indigenous Australians than other Australians in most states and territories.
- The highest rate of separations involving non-acute care for Indigenous people was observed in the Australian Capital Territory, at 33.2 separations per 1,000 population. The lowest rate was observed in Tasmania, at 3.0 separations per 1,000 population. For

non-Indigenous people, the rate varied from 5.1 in Tasmania and Northern Territory to 9.0 separations per 1,000 population in Victoria. Rates for the Australian Capital Territory and Tasmania should be interpreted with caution until further assessment of Indigenous identification is completed.

Table 3.06.15: Non-acute care separations[a], by state/territory and Indigenous status, 2009–10[a][b][c]

	NSW	Vic	Qld	WA	SA	Tas[e]	ACT[d][e]	NT	Australia
					Number per 1,000 population				
Indigenous	7.1	12.1	13.5	12.2	7.3	3.0	33.2	11.7	10.6
Other Australians	7.6	9.0	7.1	7.6	6.9	5.1	19.2	5.1	7.8

(a) Rates are age standardised to the Australian population as at 30 June 2001.

(b) Caution should be used in the interpretation of these data as there is some variation in the use of care type categories between jurisdictions.

(c) Cells have been suppressed to protect confidentiality where the presentation could identify a patient or service provider or where rates are likely to be highly volatile, for example, where the denominator is very small. See the Data Quality Statement for further details.

(d) The ACT rates of services should be interpreted with caution since ACT services include a relatively large number of services provided to interstate resident patients while the denominator used in deriving the rates is for ACT population only.

(e) Data for Tasmania and ACT should be interpreted with caution until further assessment of Indigenous identification is completed. The Australian totals for Indigenous/Other Australians do not include data for the ACT, Tasmania and NT (private hospitals only). 'Other Australians' includes separations for non-Indigenous people and those for whom Indigenous status was not stated.

Source: CRC 2012.

- The most common form of non-acute care provided in the 2009–10 financial year was rehabilitation. Rates of separations for care involving rehabilitation for Indigenous people varied from 1.7 per 1,000 in Tasmania to 17.5 per 1,000 in the Australian Capital Territory. The range was somewhat lower for non-Indigenous people, ranging from 0.8 per 1,000 in the Northern Territory to 10.1 per 1,000 in the Australian Capital Territory. The number per thousand nationally was 2.6 per 1,000 for Indigenous people and 1.8 per 1,000 for non-Indigenous Australians.
- Separations involving maintenance care for Indigenous people were most common in the Australian Capital Territory (9.5 per 1,000), while Victoria experienced the lowest rate (0.5 per 1,000) (Table 3.06.16).

Table 3.06.16: Non-acute care separations[(a)], by care type, Indigenous status, sex and state/territory 2009–10[(a)(b)(c)]

	NSW	Vic	Qld	WA	SA	Tas[(e)]	ACT[(d)(e)]	NT	Australia
					Number per 1,000 population				
Rehabilitation									
Indigenous	4.0	7.7	5.5	6.2	4.1	1.7	17.5	3.0	2.6
Other Australians	5.1	5.3	3.6	4.6	3.8	3.6	10.1	0.8	1.8
Palliative care									
Indigenous	1.6	1.7	2.4	2.0	1.3	0.8	n.p.	1.4	0.9
Other Australians	1.1	1.1	1.6	1.3	0.9	0.6	2.0	2.7	0.5
Geriatric evaluation and management									
Indigenous	0.2	2.1	0.6	0.2	n.p.	n.p.	3.9	0.6	0.1
Other Australians	0.4	2.2	0.4	0.3	0.7	0.1	2.1	0.1	0.2
Psychogeriatric care									
Indigenous	0.2	n.p.	n.p.	0.1	n.p.	—	—	n.p.	—
Other Australians	0.3	0.1	0.7	0.1	—	n.p.	0.1	n.p.	0.1
Maintenance care									
Indigenous	1.2	0.5	4.9	3.4	1.5	n.p.	9.5	6.7	1.5
Other Australians	0.9	0.1	1.4	0.7	1.4	0.8	4.9	1.6	0.3

(a) Rates are age standardised to the Australian population as at 30 June 2001.

(b) Caution should be used in the interpretation of these data as there is some variation in the use of care type categories between jurisdictions.

(c) Cells have been suppressed to protect confidentiality where the presentation could identify a patient or service provider or where rates are likely to be highly volatile, for example, where the denominator is very small. See the Data Quality Statement for further details.

(d) The ACT rates of services should be interpreted with caution since ACT services include a relatively large number of services provided to interstate resident patients while the denominator used in deriving the rates is for ACT population only.

(e) Data for Tasmania and ACT should be interpreted with caution until further assessment of Indigenous identification is completed. The Australian totals for Indigenous/Other Australians do not include data for the ACT, Tasmania and NT (private hospitals only). 'Other Australians' includes separations for non-Indigenous people and those for whom Indigenous status was not stated.

Source: CRC 2012.

Table 3.06.17 presents separation rates for Indigenous and non-Indigenous people aged 65 years or over who received sub-acute services. Rates in this table are not age-standardised, and caution should be exercised making Indigenous/non-Indigenous comparisons.

- Separations involving sub-acute services per 1,000 population among those aged over 65 years were lowest in the Northern Territory for both Indigenous people (9.9) and other Australians (36). The highest rates were observed in Victoria for Indigenous people (59), and in New South Wales for non-Indigenous people (78).

Table 3.06.17: Separations for persons aged 65 years or over, receiving sub-acute services[(a)], by Indigenous status and state/territory, 2009–10

	NSW	Vic	Qld	WA	SA	Tas[(a)]	ACT[(a)(b)]	NT	Australia[(b)]
					Number per 1,000 population[(c)]				
Indigenous	30.4	71.9	47.4	33.3	26.7	15.4	202.5	12.3	36.3
Other Australians	101.3	64.6	63.2	46.8	75.0	26.0	127.7	24.8	76.4

(a) Data for Tasmania and ACT should be interpreted with caution until further assessment of Indigenous identification is completed. The Australian totals for Indigenous/Other Australians do not include data for the ACT, Tasmania and NT (private hospitals only). 'Other Australians' includes separations for non-Indigenous people and those for whom Indigenous status was not stated.

(b) The ACT rates of services should be interpreted with caution since ACT services include a relatively large number of services provided to interstate resident patients while the denominator used in deriving the rates is for ACT population only.

(c) Age-standardised to the Australian population as at 30 June 2001.

Source: CRC 2012.

Emergency department waiting times

Emergency department waiting times are measured as a percentage of patients who are seen within the clinically recommended triage times as advised by the Australasian College of Emergency Medicine. The percentages of patients seen within recommended times are presented in Table 3.06.18.

- Nationally, the percentages of patients seen within the recommended waiting times were similar for Indigenous and other Australians (66 and 69%).
- Rates of Indigenous people seen within the recommended times were higher when compared with other Australians in Victoria, Queensland, Western Australia and the Northern Territory. In all other jurisdictions, rates were similar.
- Rates were similar in the Northern Territory for both Indigenous and non-Indigenous people (52%). The highest rates were observed in Victoria for Indigenous (72%) and in New South Wales for non-Indigenous people (74%).

Table 3.05.18: Patients treated within national benchmarks for emergency department waiting times, by Indigenous status and state/territory, 2010–11[(a)(b)(c)(d)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Indigenous	71	72	71	62	69	57	56	52	66
Other Australians	74	70	66	59	71	59	58	52	69

(a) Data represent the proportion of presentations for which the waiting time to service delivery was within the time specified in the definition of the triage category.

(b) It should be noted that the data presented here are not necessarily representative of the hospitals not included in the NNAPEDCD. Peer group A and B hospitals provided approximately 69 per cent of Emergency Department services.

(c) The quality of the identification of Indigenous patients in National Non-admitted Patient Emergency Department Care Database has not been assessed. Identification of Indigenous patients is not considered to be complete, and completeness may vary among the states and territories.

(d) Excludes records for which the waiting time to service was invalid, and records for which the episode end status was either 'Did not wait to be attended by a health care professional' or 'Dead on arrival, not treated in emergency department'.

Source: CRC 2012.

Elective surgery waiting times

The median and 90th percentile waiting times for elective surgery procedures in public acute care hospitals are presented in Table 3.06.19. Elective surgery refers to a situation where surgery can safely be delayed for 24 hours. The median represents the number of days it took for 50% of patients on the waiting list to be removed from the list, and the 90th percentile represents the time it took for 90% of patients to be removed from the list.

- Nationally in 2010–11, the median waiting time for Indigenous people was 39 days, compared with 36 days for other Australians. In the Northern Territory, the median waiting time for Indigenous people was 42 days, compared with 30 days for other Australians. In South Australia, Indigenous people were on the waiting list for a median of 33 days, and other Australians 38 days.
- The longest 90th percentile waiting time was in the Tasmania for Indigenous people, at 360 days. The 90th percentile for other Australians in the Tasmania was 358 days. The shortest 90th percentile waiting times for both Indigenous and other Australians were observed in Queensland, at 155 and 148 days.
- South Australia was the only jurisdiction where Indigenous people waited less time than other Australians for elective surgery. This difference was observed at both the median (33 and 38 days) and the 90th percentile (157 and 209 days).

Table 3.06.19: Waiting times for elective surgery in public hospitals, by Indigenous status, procedure and state/territory, 2010–11 (days)[(a)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(b)]
					Indigenous				
50th percentile	50	34	33	32	33	40	67	42	39
90th percentile	337	209	155	189	157	360	366	276	265
					Other Australians				
50th percentile	47	36	28	29	38	38	77	30	36
90th percentile	333	182	148	158	209	358	378	204	252

(a) Total includes all removals for elective surgery procedures, including but not limited to the procedures listed above.

Source: CRC 2012.

Overnight separations

Age-standardised separation rates where the length of stay in hospital was at least one night are presented in Table 3.06.20. The CRC (2012) has noted that comparability across the jurisdictions for this indicator is not particularly meaningful, but this indicator does depict the level of activity in public and private hospitals as an end point in the health system.

- The highest rates of Indigenous people with overnight stays in hospital were observed in Western and South Australia (364 separations per 1,000 population for both). The lowest rate was observed in Tasmania, at 117 separations per 1,000.
- Tasmania had the lowest rate of overnight stays for other Australians, at 134 separations per 1,000.
- Nationally, the overnight separation rate for Indigenous Australians about twice the rate of other Australians (157 and 288 per 1,000). The greatest difference was in the Western Australia, where the overnight separation rate for Indigenous Australians was over three times that for other Australians (364 compared with 154 per 1,000 population).

Table 3.06.20: Overnight separations, by Indigenous status and state/territory, 2009–10

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(a)]
					Number per 1,000 population[(a)]				
Indigenous	241.9	204.0	278.2	364.0	363.6	116.8	300.2	359.2	288.4
Other Australians	52.8	156.5	160.2	154.1	171.2	133.6	173.1	157.0	156.6

(a) Rates are age standardised to the Australian population as at 30 June 2001.

Source: CRC 2012.

Data quality issues

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The

proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.07 Selected potentially preventable hospital admissions

The number of hospital admissions for potentially preventable conditions for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age–standardised rate and ratio

Data sources

Data for this measure come from the Australian Institute of Health and Welfare's (AIHWs) National Hospital Morbidity Database.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Analyses

Age-standardised rates and ratios have been used for this indicator as a measure of hospitalisations in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of other Australians, taking into account differences in age distributions.

Hospitalisations

- For the two-year period from July 2008 to June 2010, for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 87,750 potentially preventable hospital admissions of Indigenous people (representing 137 admissions per 1,000 population), compared with 1,226,315 admissions of non-Indigenous people (29 per 1,000 population) (Table 3.07.2).
- In the two year period July 2008 to June 2010, rates for potentially preventable hospital admissions (or potentially preventable conditions) were nearly five times as high for Indigenous Australians compared with non-Indigenous Australians (Tables 3.07.2).

Hospitalisations by age and sex

- In the two-year period from July 2008 to June 2010, Indigenous males and females had higher hospitalisation rates than non-Indigenous males and females for potentially preventable conditions across all age groups (Table 3.07.1).
- Differences in rates between Indigenous and other Australians were particularly marked in the older age groups. For males, the greatest relative difference in rates occurred in the 45–54 year age group where Indigenous males were hospitalised for potentially preventable conditions at 9 times the rate of non-Indigenous males. For females, the greatest relative difference in rates occurred in the 45–54 and 55–64 year age group, where Indigenous females were hospitalised at 10 to 12 times the rate of non-Indigenous females in both these age groups. The age-group with the greatest absolute difference in hospitalisation rates was 65 years and over for males (351 per 1,000) and 55–64 for females (324 per 1,000).
- For Indigenous males and females, hospitalisation rates increased with age from age 15–24 years onwards; for other Australians the rates increased from the age-group 25–34 years onwards. The highest rates were observed among persons aged 65 years and over in both population groups.
- Approximately 46%of Indigenous Australians hospitalised for potentially preventable conditions were males (40,011) and 54% were females (47,739) (Table 3.0.2).

Table 3.07.1: Age-specific hospitalisation rates for potentially preventable conditions (per 1,000 population), by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT combined, July 2008 to June 2010[a][b][c][d]

									All ages	
	0–4	**5–14**	**15–24**	**25–34**	**35–44**	**45–54**	**55–64**	**65+**	**Crude**	**Age std.**[e]
Males										
Indigenous	78.1	24.6	16.0	35.1	89.3	173.7	273.0	462.6	76.3	136.7
Non-Indigenous	42.4	15.1	9.1	9.3	11.8	18.8	37.7	112.1	29.8	29.9
Rate ratio[f]	1.8	1.6	1.8	3.8	7.6	9.2	7.2	4.1	2.6	4.6
Rate difference[g]	35.7	9.5	6.9	25.9	77.5	154.9	235.4	350.5	46.5	106.8
Females										
Indigenous	63.1	23.6	28.0	46.6	104.1	192.7	354.2	383.1	90.3	139.8
Non-Indigenous	34.0	14.1	14.7	13.2	14.9	19.4	30.1	95.0	29.8	27.6
Rate ratio[f]	1.9	1.7	1.9	3.5	7.0	10.0	11.8	4.0	3.0	5.1
Rate difference[g]	29.1	9.5	13.3	33.4	89.1	173.4	324.1	288.1	60.4	112.2
Persons										
Indigenous	70.8	24.1	21.9	40.9	97.0	183.6	316.1	417.2	83.3	137.3
Non-Indigenous	38.3	14.7	11.8	11.2	13.4	19.1	33.9	102.8	29.8	28.6
Rate ratio[f]	1.8	1.6	1.9	3.6	7.2	9.6	9.3	4.1	2.8	4.8
Rate difference[g]	32.4	9.5	10.1	29.7	83.6	164.6	282.2	314.4	53.5	108.8

(a) Data are from public and most private hospitals, excluding private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): codes J10, J11, J13, J14, J153, J154, J157, J159, J168, J181, J188, A35, A36, A37, A80, B05, B06, B161, B169, B180, B181, B26, G000, M014, J45, J46, I50, I110, J81, E10–E14.9, J20, J41, J42, J43, J44, J47, I20, I240, I248, I249, D501, D508, D509, I00–I09, I10, I119, E40, E41, E42, E43, E550, E643, A099, E86, K522, K528, K529, N390, N10, N12, N11, N136, K250, K251, K252, K254, K255, K256, K260, K261, K262, K264, K265, K266, K270, K271, K272, K274, K275, K276, K280, K281, K282, K284, K285, K286, L03, L04, L08, L980, L88, L983, N70, N73, N74, H66, H67, J02, J03, J06, J312, K02, K03, K04, K05, K06, K08, K098, K099, K12, K13, K350, O15, G40, G41, R56, R02. Note some of these codes are for principal diagnosis only, some are for principal or additional diagnosis, and some are principal diagnosis with the exclusion of some procedure codes. For more information on coding used, refer to the AIHW National Healthcare Agreement, PI-22 Selected potentially preventable hospitalisations, 2012.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous Australians.

(g) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Population estimates based on the 2006 Census.
2. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 3.07.2 presents the number of potentially preventable hospital admissions for the two-year period from July 2008 to June 2010 in New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory.

- Over the period from July 2008 to June 2010, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for potentially preventable conditions at around five times the rate of non-Indigenous Australians.
- In Victoria and the Australian Capital Territory, Indigenous Australians were hospitalised for potentially preventable conditions at around twice the rate of non-Indigenous Australians. In New South Wales, Indigenous hospitalisation rates were around three times as high, and in Queensland, South Australia and the Northern Territory Indigenous hospitalisation rates were around four times as high as for non-Indigenous Australians.
- In Western Australia, Indigenous Australians were hospitalised at 13 times the rate of non-Indigenous Australians. Western Australia also had the greatest absolute difference in hospitalisation rates for potentially preventable conditions. The much higher rates recorded in Western Australia is likely to be a reflection of recent change in coding which has led to substantial increase in the number of hospitalisations for diabetes recorded as an additional diagnosis and consequently the number of potentially preventable hospitalisations (see footnote h in table 3.07.2 below).

Table 3.07.2: Hospitalisations for potentially preventable hospital admissions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, and Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Rate difference[(g)]
NSW						
Males	6,954	65.0	190,396	27.3	2.4*	37.7*
Females	8,254	74.8	193,551	24.9	3.0*	49.9*
Persons	15,208	70.2	383,947	26.0	2.7*	44.3*
Vic						
Males	1,235	48.9	162,341	30.4	1.6*	18.5*
Females	1,670	66.2	172,867	29.2	2.3*	37.0*
Persons	2,905	58.1	335,210	29.6	2.0*	28.5*
Qld						
Males	10,299	121.4	133,740	32.0	3.8*	89.4*
Females	10,745	113.5	131,672	29.5	3.8*	83.9*
Persons	21,044	117.5	265,412	30.6	3.8*	86.8*
WA[(h)]						
Males	14,212	414.8	72,821	34.9	11.9*	379.9*
Females	19,436	428.2	64,745	29.2	14.7*	399.0*
Persons	33,648	413.6	137,566	31.8	13.0*	381.8*
SA						
Males	2,048	112.2	47,418	28.6	3.9*	83.7*
Females	2,082	99.1	50,628	27.3	3.6*	71.8*
Persons	4,130	104.3	98,048	27.8	3.7*	76.5*
NT						
Males	5,263	110.0	3,717	28.6	3.8*	81.4*
Females	5,552	105.1	2,415	21.4	4.9*	83.8*
Persons	10,815	107.3	6,132	25.4	4.2*	81.9*
ACT						
Males	75	22.2	5,483	17.9	1.2	4.3
Females	116	45.0	5,665	16.9	2.7*	28.1*
Persons	191	33.7	11,148	17.4	1.9*	16.3*
Tas						
Males	266	20.9	8,897	17.2	1.2*	3.7*
Females	318	22.3	9,018	16.5	1.4*	5.8*
Persons	584	21.6	17,915	16.8	1.3*	4.9*

(continued)

Table 3.07.2 (continued): Hospitalisations for potentially preventable hospital admissions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, and Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	**Rate per 1,000[(e)]**	**Number**	**Rate per 1,000[(e)]**	**Ratio[(f)]**	**Rate difference[(g)]**
NSW, Vic, Qld, WA, SA and NT[(i)]						
Males	**40,011**	**136.7**	**610,433**	**29.9**	**4.6***	**106.8***
Females	**47,739**	**139.8**	**615,878**	**27.6**	**5.1***	**112.2***
Persons	**87,750**	**137.3**	**1,226,315**	**28.6**	**4.8***	**108.8***

* Represents results with statistically significant differences in the Indigenous/other comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): codes J10, J11, J13, J14, J153, J154, J157, J159, J168, J181, J188, A35, A36, A37, A80, B05, B06, B161, B169, B180, B181, B26, G000, M014, J45, J46, I50, I110, J81, E10–E14.9, J20, J41, J42, J43, J44, J47, I20, I240, I248, I249, D501, D508, D509, I00–I09, I10, I119, E40, E41, E42, E43, E550, E643, A099, E86, K522, K528, K529, N390, N10, N12, N11, N136, K250, K251, K252, K254, K255, K256, K260, K261, K262, K264, K265, K266, K270, K271, K272, K274, K275, K276, K280, K281, K282, K284, K285, K286, L03, L04, L08, L980, L88, L983, N70, N73, N74, H66, H67, J02, J03, J06, J312, K02, K03, K04, K05, K06, K08, K098, K099, K12, K13, K350, O15, G40, G41, R56, R02. Note some of these codes are for principal diagnosis only, some are for principal or additional diagnosis, and some are principal diagnosis with the exclusion of some procedure codes. For more information on coding used, refer to the AIHW National Healthcare Agreement, PI-22 Selected potentially preventable hospitalisations, 2012.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population in five-year age groups to 75+ for NSW, Vic, Qld, WA, SA and NT. Directly age-standardised using the Australian 2001 standard population in five-year age groups to 65+ for Tasmania and the ACT.

(f) Rate ratio—Indigenous: other.

(g) Rate difference Indigenous minus non-Indigenous Australians.

(h) The much higher rates recorded in Western Australia is likely to be a reflection of a coding rule which was recently introduced in Western Australia whereby all patients hospitalised with a principal diagnosis of ‘care involving dialysis’ who were clinically documented as having diabetes must now have diabetes recorded as an additional diagnosis (ABS & AIHW 2008).

(i) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Population estimates based on the 2006 Census.
2. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for potentially preventable hospital conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 3.07.3, covering the period July 2008 to June 2010.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for potentially preventable conditions than non-Indigenous Australians. The difference in rates between Indigenous and non-Indigenous Australians was statistically significant for all ASGC areas.
- Rates of hospitalisations per 1,000 head of population were highest for Indigenous people living in *Remote* areas, at 324 per 1,000. The rate was highest for non-Indigenous Australians who lived in *Very remote* areas, at 36 per 1,000. The lowest rates were observed in *Inner regional* areas for Indigenous people (116 per 1,000) and *Major cities* for non-Indigenous Australians (27 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 10 times that of non-Indigenous Australians in *Remote* areas of Australia. In *Inner regional* areas, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of around four times that of non-Indigenous Australians.

Table 3.07.3: Hospitalisations for potentially preventable conditions by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d][e][f]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%[g]	UCL 95%[h]	Number	No. per 1,000	LCL 95%[g]	UCL 95%[h]	Ratio[i]	Difference[j]
Major cities	22,353	118.3	116.4	120.1	805,032	27.3	27.2	27.3	4.3*	91.0*
Inner regional	14,519	115.9	113.6	118.1	273,083	31.4	31.3	31.5	3.7*	84.5*
Outer regional[k]	17,135	126.2	123.9	128.4	125,095	32.1	31.9	32.2	3.9*	94.1*
Remote[l]	19,243	323.5	318.2	328.8	17,106	33.2	32.7	33.7	9.7*	290.3*
Very remote	14,430	119.3	117.1	121.6	5,543	35.6	34.6	36.6	3.4*	83.7*
Total[m]	**87,750**	**140.0**	**138.9**	**141.1**	**1,226,315**	**28.6**	**28.6**	**28.7**	**4.9***	**111.4***

* Indicates a significant difference at the p <0.05 level.

(a) Data are from public and most private hospitals, excluding private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): codes J10, J11, J13, J14, J153, J154, J157, J159, J168, J181, J188, A35, A36, A37, A80, B05, B06, B161, B169, B180, B181, B26, G000, M014, J45, J46, I50, I110, J81, E10–E14.9, J20, J41, J42, J43, J44, J47, I20, I240, I248, I249, D501, D508, D509, I00–I09, I10, I119, E40, E41, E42, E43, E550, E643, A099, E86, K522, K528, K529, N390, N10, N12, N11, N136, K250, K251, K252, K254, K255, K256, K260, K261, K262, K264, K265, K266, K270, K271, K272, K274, K275, K276, K280, K281, K282, K284, K285, K286, L03, L04, L08, L980, L88, L983, N70, N73, N74, H66, H67, J02, J03, J06, J312, K02, K03, K04, K05, K06, K08, K098, K099, K12, K13, K350, O15, G40, G41, R56, R02. Note some of these codes are for principal diagnosis only, some are for principal or additional diagnosis, and some are principal diagnosis with the exclusion of some procedure codes. For more information on coding used, refer to the AIHW National Healthcare Agreement, PI-22 Selected potentially preventable hospitalisations, 2012.

(c) Financial year reporting.

(d) Data are reported by state/territory and remoteness of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by diagnosis

Table 3.07.4 presents data on the top 10 potentially preventable hospital admissions for Aboriginal and Torres Strait Islander people in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined for the two-year period July 2008 to June 2010.

- During this period, diabetes complications were the most common type of potentially preventable condition among Indigenous Australians in the six jurisdictions, followed by chronic obstructive pulmonary disease (COPD) and convulsions and epilepsy. Indigenous Australians were hospitalised at around twelve times the rate of non-Indigenous Australians for diabetes complications, and around five times the rate for convulsions and epilepsy and COPD.

- Pyelonephritis (kidney infection) was the fourth most common potentially preventable condition for which Indigenous Australians were hospitalised, at almost 3 times the rate of non-Indigenous Australians.
- For most potentially preventable conditions, the average length of stay in hospital was higher among non-Indigenous Australians (4 days) compared with Indigenous Australians (3 days).
- COPD and congestive heart failure were responsible for the greatest average number of days in hospital for both Indigenous and non-Indigenous Australians. Indigenous Australians stayed an average of 5 and 6 days in hospital for these conditions respectively, compared with around 7 days for both conditions for non-Indigenous Australians.

Table 3.07.4: Top 10 potentially preventable hospital admissions, by Indigenous status, NSW, Vic, Qld, WA, SA and NT combined, July 2008 to June 2010[(a)(b)(c)(d)]

	Separations							Average bed days		Total bed days	
	Number Indig.	Indig. no. per 1,000[(e)]	LCL 95%[(f)]	UCL 95%[(g)]	Non-Indig. no. per 1,000[(e)]	Ratio[(h)]	Difference[(i)]	Indig.	Non-Indig.	Indig.	Non-Indig.
Diabetes complications	41,949	78.9	78.0	79.7	6.5	12.2*	72.4*	2.7	4.5	112,375	1,308,278
Convulsions and epilepsy	6,404	7.2	7.0	7.4	1.4	5.2*	5.8*	2.7	2.9	17,015	165,825
Chronic Obstructive Pulmonary Disease	5,675	12.5	12.2	12.9	2.5	5.0*	10.0*	5.1	6.7	28,832	767,599
Dental conditions	4,839	3.4	3.3	3.5	2.7	1.3*	0.8*	1.4	1.2	6,706	125,605
Ear, nose and throat infections	4,764	3.4	3.3	3.5	1.6	2.2*	1.9*	1.7	1.7	8,110	104,101
Asthma	4,112	3.6	3.5	3.8	1.7	2.1*	1.9*	2.0	2.1	8,410	147,163
Pyelonephritis	4,072	6.2	5.9	6.4	2.3	2.7*	3.9*	3.5	4.4	14,267	437,574
Cellulitis	4,033	4.6	4.4	4.8	1.6	2.9*	3.0*	3.5	4.8	13,985	322,575
Dehydration and Gastroenteritis	3,515	4.2	4.0	4.4	2.8	1.5*	1.4*	2.5	2.3	8,635	275,772
Congestive Heart Failure	2,728	6.0	5.7	6.3	1.9	3.2*	4.1*	5.9	7.3	15,993	621,460
Total[(j)]	**87,750**	**137.3**	**136.3**	**138.4**	**28.6**	**4.8***	**108.8***	**3.0**	**3.9**	**260,114**	**4,828,259**

(continued)

Table 3.07.4 (continued): Top 10 potentially preventable hospital admissions, by Indigenous status, NSW, Vic, Qld, WA, SA and NT combined, July 2008 to June 2010[(a)(b)(c)(d)]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals, excluding private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): codes J10, J11, J13, J14, J153, J154, J157, J159, J168, J181, J188, A35, A36, A37, A80, B05, B06, B161, B169, B180, B181, B26, G000, M014, J45, J46, I50, I110, J81, E10–E14.9, J20, J41, J42, J43, J44, J47, I20, I240, I248, I249, D501, D508, D509, I00–I09, I10, I119, E40, E41, E42, E43, E550, E643, A099, E86, K522, K528, K529, N390, N10, N12, N11, N136, K250, K251, K252, K254, K255, K256, K260, K261, K262, K264, K265, K266, K270, K271, K272, K274, K275, K276, K280, K281, K282, K284, K285, K286, L03, L04, L08, L980, L88, L983, N70, N73, N74, H66, H67, J02, J03, J06, J312, K02, K03, K04, K05, K06, K08, K098, K099, K12, K13, K350, O15, G40, G41, R56, R02. Note some of these codes are for principal diagnosis only, some are for principal or additional diagnosis, and some are principal diagnosis with the exclusion of some procedure codes. For more information on coding used, refer to the AIHW National Healthcare Agreement, PI-22 Selected potentially preventable hospitalisations, 2012.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio—Indigenous: non-Indigenous.

(i) Rate difference—Indigenous minus non-Indigenous.

(j) All potentially preventable hospital admissions. Note that the sum of the number of hospitalisations for each condition may exceed the total because more than one potentially preventable condition can be diagnosed for each hospital separation.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by diagnosis and age group

Table 3.07.5 presents data on the top three potentially preventable hospital admissions by age group for Aboriginal and Torres Strait Islander people in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined for the two-year period from July 2008 to June 2010.

- During this period, ear, nose and throat infections were the most common type of potentially preventable condition among Indigenous Australians aged less than one year of age, followed by dehydration and gastroenteritis. Indigenous infants were hospitalised at almost three times the rate of non-Indigenous infants for ear, nose and throat infections, and at around three and a half times the rates for dehydration and gastroenteritis.
- Dental conditions were the most common reason for hospitalisation among Indigenous Australians aged 1–14 years of age. This group was hospitalised at almost two times the rate of non-Indigenous Australians at this age. Dental conditions accounted for 7% of total hospitalisations of Indigenous Australians in this age group.
- Convulsions and epilepsy was the most common reason for hospitalisation among Aboriginal and Torres Strait Islander people aged 15–24 years, followed by pyelonephritis. Indigenous Australians of this age were hospitalised at just over three times the rate of non-Indigenous Australians for convulsions and epilepsy, and at twice the rates of non-Indigenous Australians for pyelonephritis. These two conditions each accounted for approximately 1% of total hospitalisations of Indigenous Australians aged 15–24 years.
- Complications associated with diabetes was the most common reason for potentially preventable hospitalisation among Indigenous Australians aged 25–44, 45–64 and 65 years and older. Indigenous Australians were hospitalised at between 8 and 22 times the rate of non-Indigenous Australians for diabetes complications in these age groups. Diabetes complications were responsible for 5%, 10% and 15% of total hospitalisations of Indigenous Australians in these age groups, respectively.
- COPD was another common type of potentially preventable condition responsible for hospitalisation among Indigenous Australians aged 45–64 and 65 years and over. Indigenous Australians were hospitalised at eight times the rate of non-Indigenous Australians for this condition in the 45–64 year age group, and at three and a half times the rate in the 65 year and over age group. COPD accounted for 1% and 3% of total hospitalisations of Indigenous Australians aged 45–64 and 65 years and over, respectively.

Table 3.07.5: Major potentially preventable hospital admissions, by age group and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[a][b][c][d]

		Indigenous				Non-Indigenous					
Age group (years)	Condition	Number	No. per 1,000[e]	LCL 95%[f]	UCL 95%[g]	Number	No. per 1,000[e]	LCL 95%[f]	UCL 95%[g]	Rate ratio[h]	Rate difference[i]
<1	Ear, nose and throat infections	841	31.0	28.9	33.1	5,964	11.0	10.8	11.3	2.8*	20.0*
	Dehydration and Gastroenteritis	485	17.9	16.3	19.5	2,722	5.0	4.8	5.2	3.6*	12.9*
	Pyelonephritis	248	9.2	8.0	10.3	4,219	7.8	7.6	8.0	1.2*	1.3*
1–14	Dental conditions	3,384	9.7	9.3	10.0	40,273	5.7	5.6	5.7	1.7*	4.0*
	Ear, nose and throat infections	2,386	6.8	6.5	7.1	28,184	4.0	3.9	4.0	1.7*	2.9*
	Asthma	2,229	6.4	6.1	6.6	39,921	5.6	5.5	5.7	1.1*	0.8*
15–24	Convulsions and epilepsy	726	3.4	3.1	3.6	6,131	1.1	1.0	1.1	3.2*	2.3*
	Pyelonephritis	626	2.9	2.7	3.2	8,266	1.4	1.4	1.5	2.0*	1.5*
	Ear, nose and throat infections	605	2.8	2.6	3.1	9,571	1.7	1.6	1.7	1.7*	1.2*
25–44	Diabetes complications	7,729	27.8	27.2	28.5	16,027	1.4	1.3	1.4	20.4*	26.5*
	Convulsions and epilepsy	2,486	9.0	8.6	9.3	12,678	1.1	1.1	1.1	8.3*	7.9*
	Cellulitis	1,302	4.7	4.4	4.9	11,773	1.0	1.0	1.0	4.7*	3.7*
45–64	Diabetes complications	24,016	159.5	157.5	161.5	76,560	7.4	7.3	7.4	21.6*	152.1*
	Chronic Obstructive Pulmonary Disease	2,698	17.9	17.2	18.6	23,749	2.3	2.3	2.3	7.8*	15.6*
	Convulsions and epilepsy	1,590	10.6	10.0	11.1	11,140	1.1	1.1	1.1	9.8*	9.5*
65+	Diabetes complications	9,531	277.5	272.0	283.1	183,333	32.9	32.7	33.0	8.4*	244.7*
	Chronic Obstructive Pulmonary Disease	1,876	54.6	52.2	57.1	87,174	15.6	15.5	15.7	3.5*	39.0*
	Congestive Heart Failure	837	24.4	22.7	26.0	75,337	13.5	13.4	13.6	1.8*	10.9*

(continued)

Table 3.07.5 (continued): Major potentially preventable hospital admissions, by age group and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD-10-AM sixth edition (National Centre for Classification in Health 2010): codes J10, J11, J13, J14, J153, J154, J157, J159, J168, J181, J188, A35, A36, A37, A80, B05, B06, B161, B169, B180, B181, B26, G000, M014, J45, J46, I50, I110, J81, E10–E14.9, J20, J41, J42, J43, J44, J47, I20, I240, I248, I249, D501, D508, D509, I00–I09, I10, I119, E40, E41, E42, E43, E550, E643, A099, E86, K522, K528, K529, N390, N10, N12, N11, N136, K250, K251, K252, K254, K255, K256, K260, K261, K262, K264, K265, K266, K270, K271, K272, K274, K275, K276, K280, K281, K282, K284, K285, K286, L03, L04, L08, L980, L88, L983, N70, N73, N74, H66, H67, J02, J03, J06, J312, K02, K03, K04, K05, K06, K08, K098, K099, K12, K13, K350, O15, G40, G41, R56, R02. Note some of these codes are for principal diagnosis only, some are for principal or additional diagnosis, and some are principal diagnosis with the exclusion of some procedure codes. For more information on coding used, refer to the AIHW National Healthcare Agreement, PI-22 Selected potentially preventable hospitalisations, 2012.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Age standardised number per 1,000 population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio—hospitalisation rate for Indigenous Australians divided by hospitalisation rate for non-Indigenous Australians.

(i) Rate difference—Indigenous minus non-Indigenous.

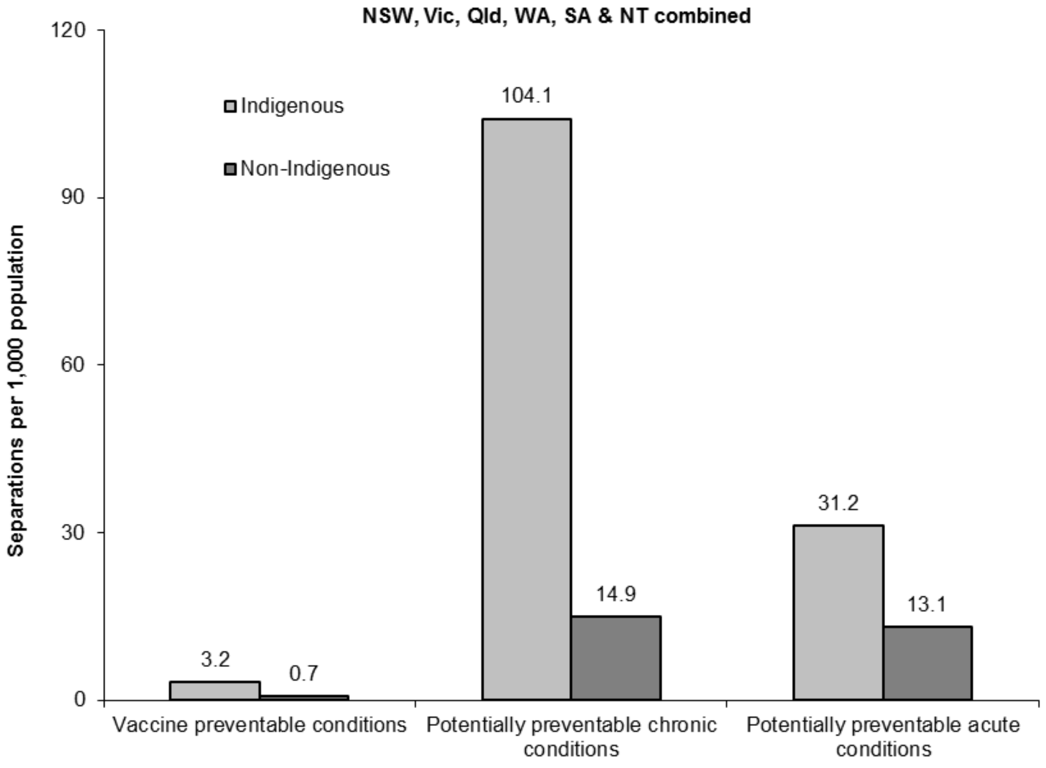
Notes

1. Population estimates based on the 2006 Census.
2. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Comparison of vaccine preventable, chronic and acute conditions

- For the two-year period from July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous Australians had higher hospitalisation rates for vaccine preventable conditions, potentially preventable chronic conditions and potentially preventable acute conditions (Figure 3.07.1).
- For potentially preventable chronic conditions, hospitalisation rates for Indigenous Australians were 7 times the rate of hospitalisations for non-Indigenous Australians.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.07.1: Age-standardised hospitalisation rates for potentially preventable hospital admissions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010

Time series analysis

In this section we present hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for vaccine-preventable conditions over the period 1998–99 to 2009–10. Due to changes in coding since 2007–08, resulting in an apparent decline for diabetes complication and increase for gastroenteritis, time series data are not currently available for hospitalisation rates for chronic and acute conditions under this performance measure.

Vaccine-preventable conditions from 1998–99 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for vaccine-preventable conditions, such as influenza, pneumonia, diphtheria, measles, mumps and rubella, over the period 1998–99 to 2009–10 are presented in Table 3.07.6 and Figure 3.07.2.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were statistically significant declines in hospitalisation rates for vaccine-preventable conditions among Indigenous Australians during the period 1998–99 to 2009–10. The fitted trend implies an average yearly decline in the rate of around 0.7 per 1,000 for Indigenous Australians, which was equivalent to a 40% decline in the rate over the period.
- Over the same period, there were statistically significant declines in hospitalisation rates for non-Indigenous Australians. The fitted trend implies an average yearly decline in the rate of around 0.1 per 1,000 for other Australians, which is equivalent to a 42% decline in the rate over the period.
- Most of the declines in rates for vaccine-preventable hospitalisations over this period were attributable to a sharp decline in hospitalisation rates from 1998–99 to 1999–00. This is likely to be the result of the introduction of a number of vaccination programs and changes to the Australian Standard Vaccination Schedule in 1999 and 2000. Such changes include: funding for influenza and pneumococcal vaccine for Indigenous adults aged 50 years and over and for those aged 15–49 years who are at high risk from these diseases; funding of influenza vaccine for non-Indigenous Australians aged 65 years and over; inclusion of diphtheria-tetanus-pertussis—hepatitis B vaccine on the childhood immunisation schedule; and the new requirement for full immunisation against hepatitis B and haemophilus influenza type B (Hib) at 12 months of age (Menzies et al. 2004).
- There was no significant change in the hospitalisation rate ratio between Indigenous and non-Indigenous Australians for vaccine-preventable conditions over the period 1998–99 to 2009–10. There was a significant decline in the hospitalisation rate difference between Indigenous and non-Indigenous Australians for vaccine-preventable conditions over the period 1998–99 to 2009–10 (40%).

Table 3.07.6: Age-standardised hospitalisation for vaccine preventable conditions, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Indigenous separations														
Males	1,911	535	519	507	417	399	368	430	342	430	428	592	–59.1	–34.0
Females	1,690	585	457	502	382	441	355	354	370	402	411	623	–50.8	–33.0
Persons	3,601	1,120	976	1,009	799	840	723	784	712	832	839	1,215	–109.9	–33.6
Non-Indigenous separations														
Males	13,703	4,051	3,138	3,101	2,960	2,788	2,384	2,637	2,238	2,961	2,850	3,246	–464.2*	–37.3*
Females	11,177	3,380	2,656	2,690	2,500	2,388	1,964	2,238	1,731	2,359	2,543	3,108	–365.0	–35.9
Persons	24,880	7,431	5,794	5,791	5,460	5,176	4,348	4,875	3,969	5,320	5,393	6,354	–829.2	–36.7
Indigenous rate per 1,000														
Males	21.9	6.1	5.3	4.9	4.4	4.0	3.7	4.1	3.1	3.7	3.6	5.0	–0.8*	–40.5*
Females	16.9	6.0	4.6	4.4	3.7	3.3	3.2	3.0	3.2	3.2	3.3	4.8	–0.6*	–40.0*
Persons	19.1	6.0	5.0	4.6	4.0	3.6	3.4	3.5	3.2	3.5	3.4	4.9	–0.7*	–40.2*
Non-Indigenous rate per 1,000														
Males	4.6	1.3	1.0	0.9	0.9	0.8	0.7	0.7	0.6	0.8	0.7	0.8	–0.2*	–42.5*
Females	3.2	1.0	0.7	0.7	0.7	0.6	0.5	0.6	0.4	0.6	0.6	0.7	–0.1*	–40.4*
Persons	3.8	1.1	0.8	0.8	0.8	0.7	0.6	0.6	0.5	0.7	0.7	0.8	–0.1*	–41.5*
Rate ratio[(d)]														
Males	4.7	4.7	5.5	5.3	5.0	5.1	5.5	5.6	5.3	4.9	5.0	6.3	0.06	14.7
Females	5.2	6.2	6.2	5.9	5.5	5.2	6.2	5.2	7.5	5.5	5.4	6.6	0.04	8.4
Persons	5.0	5.4	5.8	5.6	5.3	5.0	5.8	5.4	6.3	5.2	5.2	6.4	0.05	11.3

(continued)

Table 3.07.6 (continued): Age-standardised hospitalisation for vaccine preventable conditions, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Rate difference[(e)]														
Males	17.2	4.8	4.3	4.0	3.5	3.2	3.0	3.3	2.5	2.9	2.9	4.2	–0.6*	–39.9*
Females	13.6	5.0	3.9	3.7	3.1	2.7	2.7	2.4	2.8	2.6	2.6	4.1	–0.5*	–39.8*
Persons	15.3	4.9	4.1	3.8	3.3	2.9	2.8	2.8	2.7	2.8	2.8	4.1	–0.6*	–39.9*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

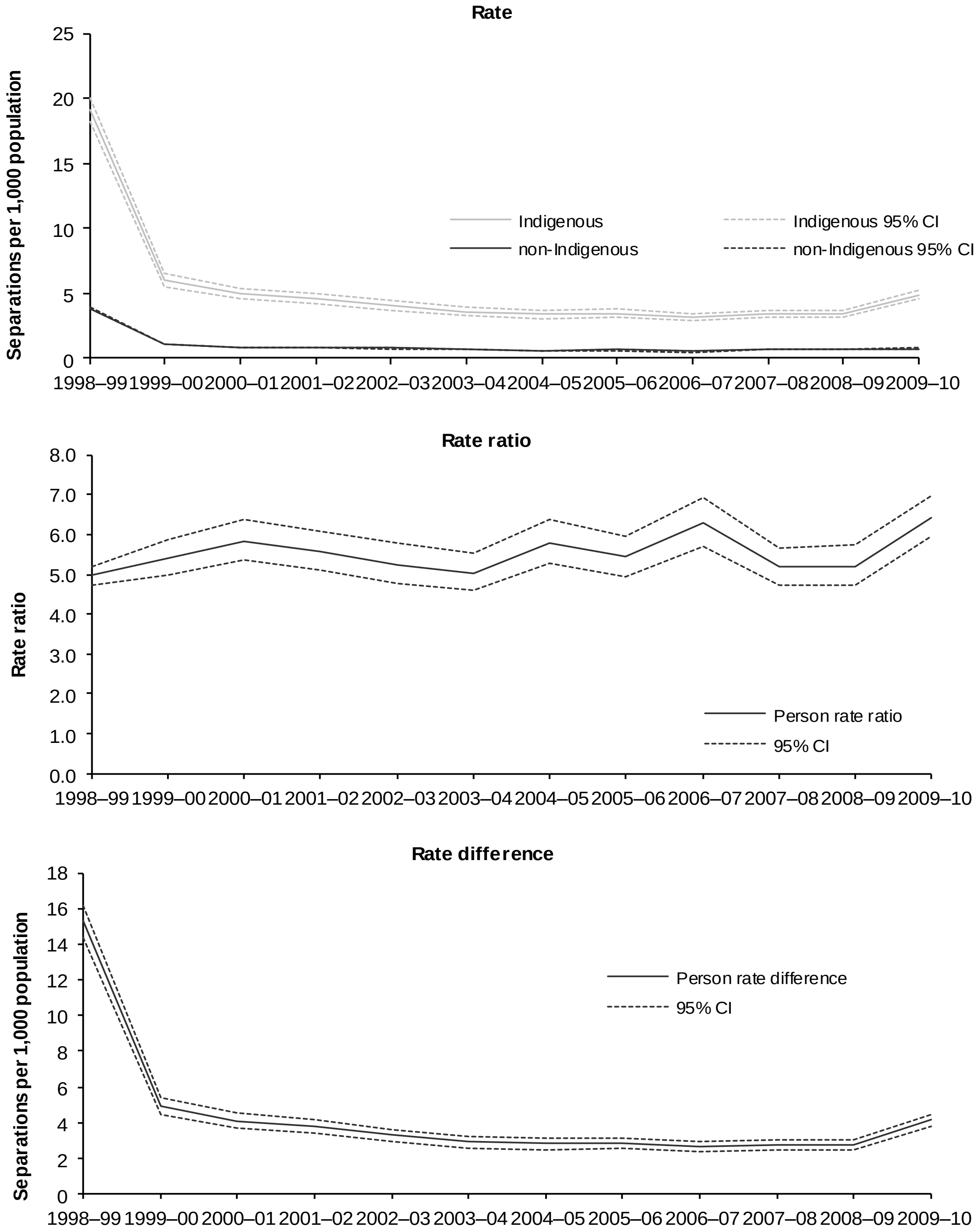
(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Separations with a principal diagnosis of dialysis excluded.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.07.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for vaccine preventable conditions, Qld, WA, SA and NT combined, 1998–1999 to 2009–2010

Vaccine-preventable conditions from 2004–05 to 2009–10

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians over the period 1998–99 to 2009–10 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 3.07.7 and Figure 3.07.3.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant changes in hospitalisation rates for vaccine-preventable conditions among Indigenous Australians during the period 2004–05 to 2009–10. Over the same period, there were also no significant changes in hospitalisation rates for non-Indigenous Australians.
- There was no significant change in the hospitalisation rate ratio between Indigenous and non-Indigenous Australians for vaccine-preventable conditions over the period 2004–05 to 2009–10. There was a significant increase in the hospitalisation rate difference between Indigenous and non-Indigenous females for vaccine-preventable conditions over the period 2004–05 to 2009–10 (43%).

Table 3.07.7: Age-standardised hospitalisation for vaccine preventable conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2009–10(a)

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(b)	Per cent change(c)
Indigenous separations								
Males	467	516	452	536	565	742	45.9*	49.1*
Females	445	451	461	514	552	775	57.3*	64.4*
Persons	912	967	913	1,050	1,117	1,517	103.2*	56.6*
Non-Indigenous Australian separations								
Males	7,004	6,954	6,339	7,635	7,857	8,162	279.9*	20.0*
Females	5,278	5,450	4,695	6,031	6,530	7,338	425.0*	40.3*
Persons	12,282	12,404	11,034	13,666	14,387	15,500	704.9*	28.7*
Indigenous rate (separations per 1,000)								
Males	2.8	3.1	2.5	2.8	2.8	3.8	0.1	20.9
Females	2.4	2.4	2.4	2.6	2.6	3.6	0.2*	40.4*
Persons	2.6	2.7	2.5	2.7	2.7	3.7	0.2	31.3
Non-Indigenous Australian rate (separations per 1,000)								
Males	0.8	0.7	0.7	0.8	0.8	0.8	0.01	7.4
Females	0.5	0.5	0.4	0.6	0.6	0.7	0.03*	29.7*
Persons	0.6	0.6	0.5	0.7	0.7	0.7	0.02	17.2
Rate ratio(d)								
Males	3.7	4.1	3.8	3.6	3.6	4.8	0.1	12.6
Females	4.6	4.5	5.4	4.5	4.2	5.4	0.07	7.2
Persons	4.1	4.3	4.5	4.0	3.9	5.1	0.1	11.5
Rate difference(e)								
Males	2.1	2.3	1.9	2.0	2.0	3.0	0.1	25.8
Females	1.9	1.9	2.0	2.0	2.0	2.9	0.2*	43.4*
Persons	2.0	2.1	1.9	2.0	2.0	3.0	0.1	35.9

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are reported by state/territory of usual residence of the patient hospitalised. Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

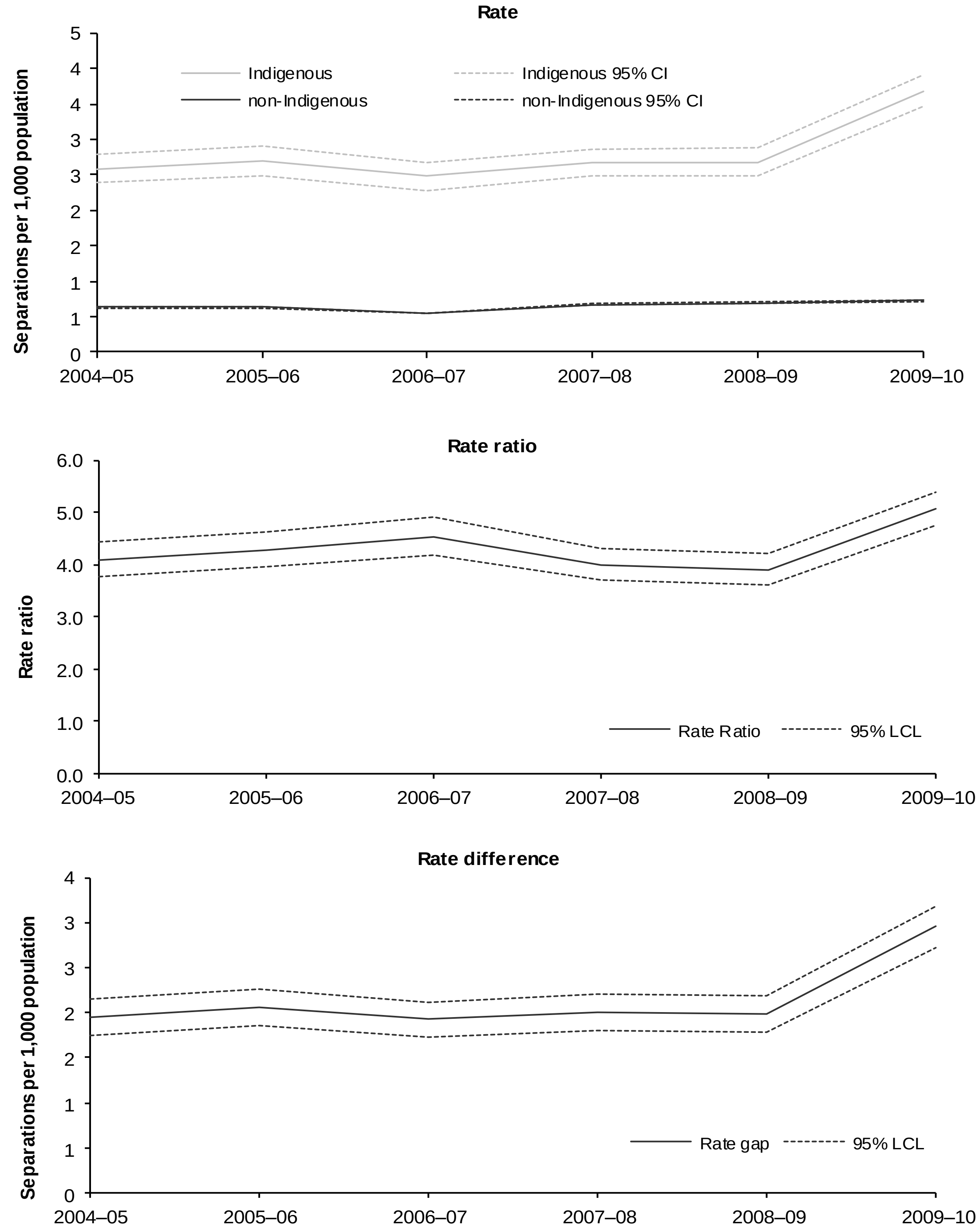
(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.07.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for vaccine preventable conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2009–2010

Data quality issues

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments. For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and ACT data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions. From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only. In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.08 Cultural competency

Available measures on aspects of cultural competency including discrimination and barriers to accessing services for Indigenous Australians

Data sources

Data for this measure come from the 2008 National Aboriginal and Torres Strait Islander Social Survey, the 2004–05 National Aboriginal and Torres Strait Islander Health Survey, the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database, the 2006 Census of Population and Housing, the Australian Government Department of Education, Employment and Workplace Relations (DEEWR) Higher Education Student Statistics Collection, the National Centre for Vocational Education Research (NCVER) National Vocational Education and Training (VET) Provider Collection and the OATSIH Services Reporting (OSR) data collection.

National Aboriginal and Torres Strait Islander Social Survey 2008

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Aboriginal and Torres Strait Islander Health Survey 2004–05

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Census of Population and Housing

The Census of Population and Housing is conducted by the ABS at 5-yearly intervals, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

The 2011 Census is the most recent, however data for the Indigenous population was not yet released at the time of writing this report. Therefore data included in this report come from the 2006 Census. In 2006, the ABS enhanced the sample for the Post-Enumeration Survey to include remote areas. The measured undercount for Indigenous Australians was 11.5%.

DEEWR Higher Education Statistics Collection

The Australian Government Department of Education, Employment and Workplace Relations (DEEWR) is the responsible agency for the Higher Education Statistics Collection, which includes information from higher education institutions such as universities and colleges of advanced education. This data collection contains statistics relating to students enrolled in higher education courses between 1 January and 31 December of each year in each Australian higher education provider.

Although universities design and produce their own enrolment forms, DEEWR has provided institutions with suggested wording for questions relating to Indigenous status (ABS 2003). Approximately 3% of students in this data collection have a 'not stated' Indigenous status. At the moment these are recorded as non-Indigenous, although plans are under way to record the 'not stated' responses separately.

National Vocational Education and Training (VET) Provider Collection

The National Centre for Vocational Education Research is Australia's main provider of vocational education and training (VET) sector research and statistics. VET is a national system designed to give workers the skills for particular occupations and industries. The VET sector includes providers that receive public VET funding, such as technical and further education organisations, higher education institutions, other government providers (for example, agricultural colleges), community education providers, government-funded private registered training organisations, schools funded through government allocations for VET, and all other Commonwealth and state recurrent and specific-purpose funded VET, regardless of the location of the training organisation.

OATSIH Services Reporting data collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in

earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Data Analyses

Discrimination experienced by Indigenous people

The 2008 NATSISS collected information about feelings of discrimination experienced by Indigenous people when contacting service providers and in other situations. In total, 27% of Indigenous people 27% of Indigenous Australians aged 15 years and over felt that they had been discriminated in the 12 months preceding the survey (Table 3.08.1).

- Indigenous people were most likely to report feelings of discrimination when in contact with 'members of the public' and when in contact with 'police, security people and lawyers or while in a court of law' (both 11%) (Table 3.08.1).
- Apart from other situations (0.4%), feelings of discrimination were least likely to be reported by Indigenous people while participating in sporting, recreational or leisure activities (3.0%) and while at school, university, a training course or another educational setting (4.0%).
- The Australian Capital Territory had the highest proportion of Indigenous Australians who had experienced discrimination in the last 12 months (36%), followed by Western Australia (34%) and South Australia (32%). Tasmania had the lowest (9%) (Table 3.08.2).
- Of those who experienced discrimination, 15% said that they felt discriminated against by doctors, nurses or other hospital staff, and 1.5% said that they avoided situations with such staff (Table 3.08.3).
- Indigenous people in remote areas were slightly less likely to experience discrimination in the previous 12 months (26%) than those in non-remote areas (28%). However, they were slightly more likely to report being discriminated against by doctors, nurses or other hospital staff (17% of those in remote areas who reported discrimination compared with 14% in non-remote areas) (Table 3.08.3).
- Similar proportions of Indigenous males and females said that they had experienced discrimination in the previous 12 months (28% and 27% respectively), however a higher proportion of females felt discriminated against by doctors, nurses or other hospital staff (18% of females who had experienced discrimination, compared with 11% of males) (Table 3.08.4).

Table 3.08.1: Situations or places felt discriminated against, Indigenous persons aged 15 years and over, 2008

Situations or places felt discriminated against	No	Per cent
Applying for work or when at work	26,351	8.1
At home, by neighbours or at someone else's home	16,351	5.0
At school, university, training course or other educational setting	12,061	3.7
While doing any sporting, recreational or leisure activities	9,837	3.0
By the police, security people, lawyers or in a court of law	35,739	10.9
By doctors, nurses or other staff at hospitals / surgeries	13,102	4.0
By staff of government agencies	17,156	5.2
When seeking any other services	12,650	3.9
By members of the public	36,766	11.2
Other situation	1,157	0.4
Total felt discriminated against in last 12 months[(a)]	*89,289*	*27.3*
Total did not feel discriminated against in last 12 months	*237,812*	*72.7*
Total	**327,101**	**100.0**

(a) Sum of components may exceed total because persons may have reported more than one situation or place.

Source: AIHW analyses of 2008 NATSISS.

Table 3.08.2: Discrimination, Indigenous persons aged 15 years and over, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Felt discriminated against in last 12 months									
By doctors, nurses or other staff at hospitals/surgeries	3,259	799	3,770	2,295	650	41	100	2,188	13,102
Other situations	22,769	5,996	25,286	14,403	5,646	1,146	1,007	10,802	87,054
Total	*23,688*	*6,064*	*25,664*	*14,784*	*5,799*	*1,146*	*1,007*	*11,138*	*89,289*
Did not feel discriminated against in the past 12 months									
Types of situations avoided due to past discrimination									
Doctors, nurses or other staff at hospitals/surgeries	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	1,381
Other situations	2,044	1,140	2,788(a)	2,263	988	358(a)	141(a)	1,542	11,265
Did not avoid situations(b)	70,442	14,709	61,503	26,719	11,128	10,837	1,662	28,508	225,507
Total	*72,679*	*15,874*	*64,923*	*29,042*	*12,149*	*11,205*	*1,803*	*30,136*	*237,812*
Total	**96,367**	**21,938**	**90,587**	**43,826**	**17,948**	**12,351**	**2,810**	**41,274**	**327,101**
					Per cent				
Whether felt discriminated against in last 12 months									
Felt discriminated against	24.6	27.6	28.3	33.7	32.3	9.3	35.8	27.0	27.3
Did not feel discriminated against	75.4	72.4	71.7	66.3	67.7	90.7	64.2	73.0	72.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Only asked of people who did not feel discriminated against.

Source: AIHW analyses of 2008 NATSISS.

Table 3.08.3: Discrimination, Indigenous persons aged 15 years and over, by remoteness, 2008

	Non-remote	Remote	Total
		Per cent	
Whether felt discriminated against in last 12 months			
Felt discriminated against	27.6	26.3	27.3
Did not feel discriminated against	72.4	73.7	72.7
Total	**100.0**	**100.0**	**100.0**
Situations or places felt discriminated against[(a)]			
By doctors, nurses or other staff at hospitals / surgeries	14.0	16.9	14.7
Types of situations avoided due to past discrimination[(a)]			
Doctors, nurses or other staff at hospitals / surgeries	1.5	1.6	1.5

(a) Proportions are of those who felt discriminated against.

Source: AIHW analyses of 2008 NATSISS.

Table 3.08.4: Discrimination, Indigenous persons aged 15 years and over, by sex, 2008

	Males	Females	Persons
		Per cent	
Whether felt discriminated against in last 12 months			
Felt discriminated against	27.9	26.8	27.3
Did not feel discriminated against	72.1	73.2	72.7
Total	**100.0**	**100.0**	**100.0**
Situations or places felt discriminated against[(a)]			
By doctors, nurses or other staff at hospitals / surgeries	11.1	18.1	14.7
Types of situations avoided due to past discrimination[(a)]			
Doctors, nurses or other staff at hospitals / surgeries	1.5	1.6	1.5

(a) Proportions are of those who felt discriminated against.

Source: AIHW analyses of 2008 NATSISS.

Cultural barriers to accessing services

Measurement of the accessibility of health services involves factors other than the distance people must travel and the financial costs incurred (Ivers et al. 1997). Many Indigenous persons or communities do not have adequate access to either culturally appropriate services or to other suitable arrangements and, where culturally appropriate services exist, they are often under-resourced or unable to meet community needs (Bell et al. 2000). The perception of cultural barriers may cause Indigenous people to travel substantial distances in order to access health services delivered in a more appropriate manner than those available locally (Ivers et al. 1997). The willingness of Indigenous people to access health services may be affected by such factors as community control of the service, the gender of health service staff and the availability of Aboriginal and Torres Strait Islander staff, particularly where the patient's proficiency in spoken and written English is limited (Ivers et al. 1997). Some Indigenous people do not feel comfortable attending services such as a private general practice because of educational, cultural, linguistic and lifestyle factors, and will do so only when there is no alternative or their health problem has worsened (Bell et al. 2000). Information on language and other cultural barriers comes from the 2008 NATSISS.

Cultural barriers to accessing health services by remoteness

- The 2008 NATSISS showed that 26% of Indigenous Australians aged 15 years and over had problems accessing health services. (Table 3.08.5).
- Of Indigenous Australians aged 15 years and over who had problems accessing health services, 7% thought that the health services were not culturally appropriate.
- A higher proportion of Indigenous Australians aged 15 years and over in remote areas had problems accessing health services than those in non-remote areas (36% compared with 23%).

Table 3.08.5: Barriers to accessing health service providers, Indigenous persons aged 15 years and over who had problems accessing health services, by type of services and remoteness, 2008

	Remote	Non remote	Australia	Remote	Non remote	Australia
	Per cent					
	Aboriginal and Torres Strait Islander health workers			**Dentists**		
Total had problem accessing health services(a)	5.7	5.5	5.6	27.4	16.9	19.5
Types of selected services had problems accessing(b)						
Transport / Distance	53.7	42.2	45.1	47.6	25.2	33.0
Cost of service	27.2(c)	36.7	34.3	19.8	48.4	38.4
No services in the area	70.9(c)	46.5	52.7	62.0	33.2	43.2
Not enough services in the area	66.0	42.1	48.2	58.1	37.8	44.9
Waiting time too long or not available at time required	44.4	48.8	47.6	41.3	58.8	52.7
Services not culturally appropriate	12.3(c)	13.5	13.2	6.1	7.0	6.7
Don't trust services	14.5(c)	19.8	18.5	7.2	11.3	9.9
	Hospitals			**Mental health services**		
Total had problem accessing health services(a)	14.5	4.0	6.6	5.5	2.8	3.5
Types of selected services had problems accessing(b)						
Transport / Distance	71.5	52.4	62.9	46.9	46.6	46.8
Cost of service	18.2	35.5	26.0	30.7	36.0	33.9
No services in the area	60.7	28.6(c)	46.1	88.3	43.8	61.5
Not enough services in the area	41.6	32.6	37.5	63.2	54.3	57.8
Waiting time too long or not available at time required	39.3	59.6	48.5	61.4	59.4	60.2
Services not culturally appropriate	7.1(c)	11.7	9.2	16.1	18.2(c)	17.3
Don't trust services	8.8	20.2	14.0	17.9	25.1	22.2
	Medicare			**Total Health Services**		
Total had problem accessing health services(a)	3.8	1.7	2.2	36.4	23.0	26.4
Types of selected services had problems accessing(b)						
Transport / Distance	55.9	68.6	63.2	47.8	25.1	33.5
Cost of service	22.2(c)	36.6(c)	30.4	17.5	39.7	32.0
No services in the area	77.4	23.4(c)	46.7	57.4	30.1	39.5
Not enough services in the area	60.6(c)	22.6(c)	39.0	51.8	36.3	41.7
Waiting time too long or not available at time required	49.6(c)	42.0(c)	45.3	39.7	58.1	51.8
Services not culturally appropriate	7.2(c)	12.1(c)	10.0(c)	6.1	7.4	7.0
Don't trust services	13.3(c)	21.8(c)	18.1(c)	7.7	11.3	10.0

(a) Proportion of total population.

(b) Proportion of respondents who reported problems accessing health service by remoteness.

(c) Estimate has a relative standard of error of 25% to 50% and should be used with caution.

Source: AIHW analyses of 2008 NATSISS.

Cultural barriers to accessing services by state/territory

- The 2008 NATSISS showed that 30% of Indigenous Australians aged 15 years and over had problems accessing service providers (Table 3.08.6).
- Around 5% of Indigenous persons surveyed said that services were not culturally appropriate (includes people who were treated badly or discriminated against and who do not trust the service), while 30% identified other barriers (such as transport/distance problems, cost of service, no services in the area, waiting time too long or service not available at the required time).
- Victoria had the highest proportion of respondents who said that services were not culturally appropriate (7%), followed by Western Australia and New South Wales (both 6%). The Australian Capital Territory also had a relatively high proportion of respondents who identified this factor as a barrier (7%), however, this estimate has a high relative standard error and should be used with caution.

Table 3.08.6: Barriers to accessing service providers, Indigenous persons aged 15 years and over who had problems accessing services, by state/territory, 2008

Barriers accessing service providers	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Whether had problems accessing services					**Number**				
Had problems accessing services	29,621	5,908	22,948	14,660	4,265	3,466	630	16,413	97,911
Did not have problems accessing services	66,746	16,030	67,639	29,166	13,683	8,885	2,180	24,861	229,190
Total	**96,367**	**21,938**	**90,587**	**43,826**	**17,948**	**12,351**	**2,810**	**41,274**	**327,101**
Type of barrier(s) to accessing any service									
Services not culturally appropriate(a)	5,629	1,591	3,420	2,632	957	542(b)	203(b)	1,425	16,400
Other(c)	29,376	5,750	21,983	14,529	4,200	3,414	613	16,211	96,075
Total has problems accessing selected services(d)	**29,621**	**5,908**	**22,948**	**14,660**	**4,265**	**3,466**	**630**	**16,413**	**97,911**
Total number	**96,367**	**21,938**	**90,587**	**43,826**	**17,948**	**12,351**	**2,810**	**41,274**	**327,101**
Whether had problems accessing services					**Per cent**				
Had problems accessing services	30.7	26.9	25.3	33.5	23.8	28.1	22.4	39.8	29.9
Did not have problems accessing services	69.3	73.1	74.7	66.5	76.2	71.9	77.6	60.2	70.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Type of barrier(s) to accessing any service									
Services not culturally appropriate(a)	5.8	7.3	3.8	6.0	5.3	4.4(b)	7.2(b)	3.5	5.0
Other(c)	30.5	26.2	24.3	33.2	23.4	27.6	21.8	39.3	29.4
Total has problems accessing selected services(d)	**30.7**	**26.9**	**25.3**	**33.5**	**23.8**	**28.1**	**22.4**	**39.8**	**29.9**
Did not have problems accessing services	69.3	73.1	74.7	66.5	76.2	71.9	77.6	60.2	70.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes people who were treated badly/discrimination and who don't trust services.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(c) Includes access problems due to transport/distance; cost of service; no services in the area; waiting time too long or not available at time required.

(d) Sum of components exceeds total as respondents may have provided more than one response.

Source: AIHW analyses of 2008 NATSISS.

Cultural barriers to accessing services by remoteness

- Indigenous Australians in remote areas were more likely than those in non-remote areas to have problems accessing service providers (42% compared with 26%, respectively) (Table 3.08.7).
- A slightly higher proportion of Indigenous Australians in non-remote areas than remote areas said that services were not culturally appropriate (9% of those who experienced problems accessing services, compared with 6%, respectively), didn't trust services (12% and 8% respectively), or said that they were treated badly or discriminated against (5% and 3% respectively).
- Indigenous females were more likely than Indigenous males to experience problems accessing service providers (32% compared with 27%, respectively) (Table 3.08.8).
- Similar proportions of males and females identified barriers relating to cultural appropriateness, trust of services and bad treatment or discrimination.

Table 3.08.7: Barriers to accessing service providers, Indigenous persons aged 15 years and over who had problems accessing services, by remoteness, 2008

Barriers accessing service providers	Non-remote	Remote	Total
		Per cent	
Whether had problems accessing services			
Had problems accessing services	25.9	42.0	29.9
Did not have problems accessing services	74.1	58.0	70.1
Total	**100.0**	**100.0**	**100.0**
Total number	**245,600**	**81,501**	**327,101**
Type of Barrier to accessing any service			
Services not culturally appropriate	8.8	5.8	7.7
Don't trust services	11.8	7.8	10.4
Treated badly / Discrimination	4.9	3.4	4.4
Other(a)	97.7	98.9	98.1
Total has problems accessing selected services	**100**	**100**	**100**
Total number	**63,699**	**34,212**	**97,911**

(a) Includes access problems due to transport/distance; cost of service; no services in the area; waiting time too long or not available at time required; and other.

Source: AIHW analyses of 2008 NATSISS.

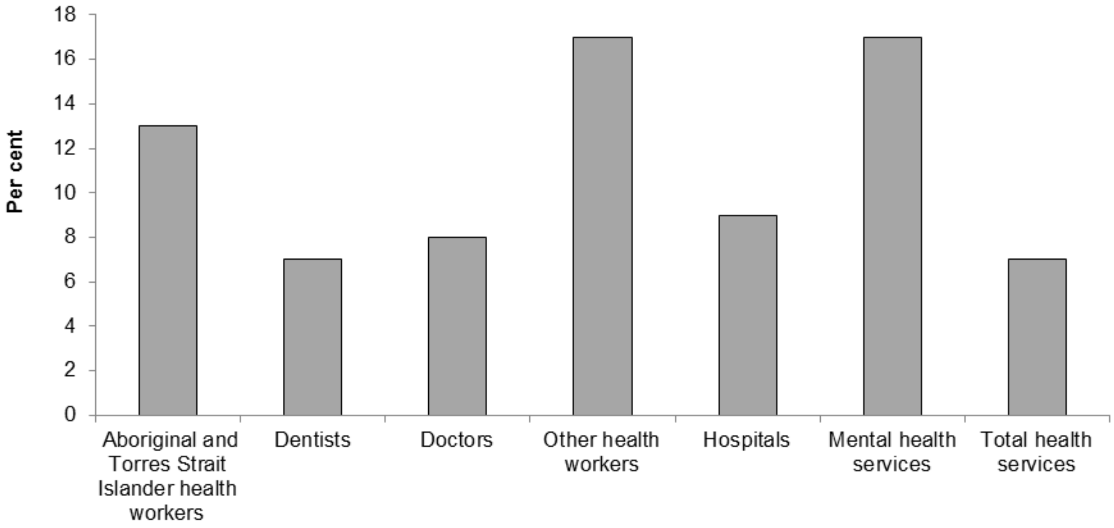
Table 3.08.8: Barriers to accessing service providers, Indigenous persons aged 15 years and over who had problems accessing services, by sex, 2008

Barriers accessing service providers	Males	Females	Persons
		Per cent	
Whether had problems accessing services			
Had problems accessing services	27.1	32.5	29.9
Did not have problems accessing services	72.9	67.5	70.1
Total	**100.0**	**100.0**	**100.0**
Total number	**156,052.2**	**171,048.8**	**327,101.0**
Type of Barrier to accessing any service			
Services not culturally appropriate	1.8	2.8	2.3
Don't trust services	3.3	3.0	3.1
Treated badly / Discrimination	1.2	1.4	1.3
Other[(a)]	26.4	32.0	29.4
Total has problems accessing selected services	**100**	**100**	**100**
Total number	**42,333.7**	**55,577.0**	**97,910.6**

(a) Includes access problems due to transport/distance; cost of service; no services in the area; waiting time too long or not available at time required; and other.

Source: AIHW analyses of 2008 NATSISS.

- Of Indigenous people who identified 'service not culturally appropriate' as a barrier, the types of services most commonly highlighted were mental health services and services provided by 'other' health workers (both 17%) (Figure 3.08.1).



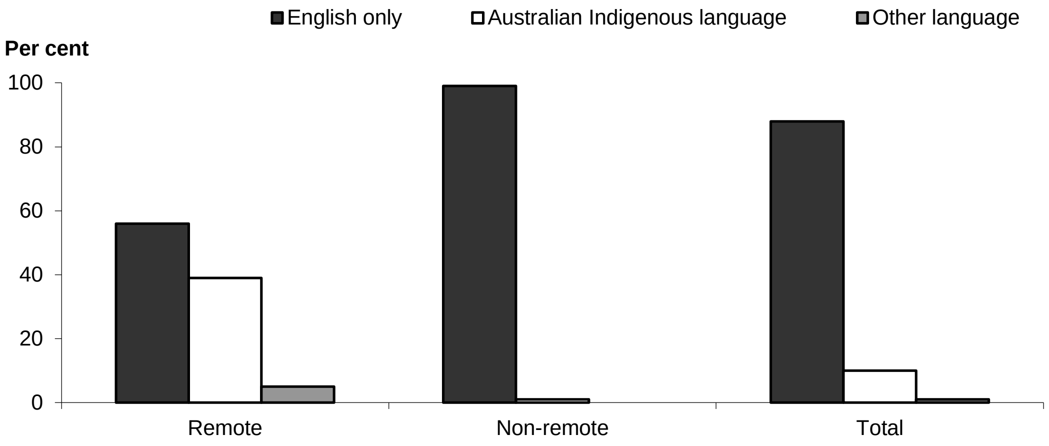
Source: ABS and AIHW analysis of 2008 NATSISS.

Figure 3.08.1: Proportion of Indigenous Australians aged 15 years and over with problems accessing health care who identified 'service not culturally appropriate' as a barrier, by selected services, 2008

Language

Not being able to speak, read and write English proficiently can mean that some Indigenous Australians find it difficult to approach services such as health and welfare services. They may therefore miss out on important information and entitlements and may have difficulty reading and completing forms (House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs 1993).

- In 2008, about 12% of Indigenous people reported that they spoke a language other than English at home. This figure includes 10.4% who said they spoke an Indigenous language at home and 1.4% who said they spoke another language. Indigenous persons living in remote areas of Australia were much more likely to report speaking an Australian Indigenous language at home (38.8%) than those living in non-remote areas (1.2%) (Figure 3.08.2; Table 3.08.9).



Source: Analyses of 2008 NATSISS.

Figure 3.08.2: Main language spoken at home, Indigenous Australians, 2008

Table 3.08.9: Main language spoken at home, Indigenous Australians[(a)], 2008

	Remote	Non-remote	Total
		Per cent	
English only	56.4	98.5	88.2
Australian Indigenous language	38.8	1.2	10.4
Other language	4.8	0.2	1.4
Total[(b)]	**100.0**	**100.0**	**100.0**
Total number[(b)]	**117,936**	**36,2536**	**480,472**

(a) Persons aged three years and over.

(b) Excludes those not currently speaking.

Source: Analysis of 2008 NATSISS.

Communicating with service providers

The 2008 NATSISS collected information on whether Indigenous Australians had difficulty communicating with English speakers.

- Approximately 17% of males and females aged 15 years and over who speak an Indigenous language reported that they had difficulty understanding English speakers, being understood by English speakers or both (Table 3.08.10).
- Indigenous persons living in remote areas were more likely to report experiencing difficulty (18%) than those in non-remote areas of Australia (6%) (Table 3.08.10).
- 83% of people in non-remote areas whose main language was an Indigenous language could also speak English. In remote areas, 66% could also speak English.

Table 3.08.10: Difficulty communicating with English speakers, Indigenous persons aged 15 years and over whose main language is Indigenous, by remoteness, 2008

	Non-remote	Remote	Total
		Per cent	
Difficulty understanding English speakers	5.2	6.8	6.7
Difficulty being understood by English speakers	4.0	3.8	3.8
Difficulty with both	5.8	18.4	17.2
No difficulty, assisted by others	2.1	3.3	3.2
No difficulty, not assisted by others	0.3	1.6	1.4
Can speak English	82.6	66.2	67.8
Total	**100.0**	**100.0**	**100.0**

Note: Proportions exclude 'not applicable' responses.

Source: AIHW analyses of 2008 NATSISS.

Treatment of Indigenous Australians seeking health care

- According to the 2004–05 NATSIHS, 16% of Indigenous Australians aged 15 years and over felt that they were treated badly, because of being Aboriginal or Torres Strait Islander, when seeking health care in the previous 12 months (Table 3.08.11).
- This proportion was similar for Indigenous people in remote and non-remote areas.
- Anger was the most common response of those who felt they were treated badly (experienced by 67% of those who were treated badly), with many people also feeling sorry for the perpetrator (31%) or sad (28%) (Table 3.08.11).
- A higher proportion of Indigenous people in remote areas than non-remote areas felt sad when treated badly (35% compared with 25%, respectively), or felt ashamed or worried about it (32% compared with 10%).
- One-third (33%) of Indigenous people who were treated badly said that they try to avoid the person or situation, with similar proportions for Indigenous people in remote and non-remote areas.

Table 3.08.11: Treatment of Indigenous Australians when seeking health care in the last 12 months, by remoteness, 2004–05

	Remote	Non-remote	Total
		Per cent	
Treatment when seeking health care			
Worse than non-Indigenous people	5	3	4
The same as non-Indigenous people	71	79	77
Better than non-Indigenous people	11	3	5
Only encountered Indigenous people	2	1(b)	2
Did not seek health care in last 12 months	4	6	5
Don't know/not sure	7	7	7
Total persons(a)	**185,515**	**72,782**	**258,297**
Whether felt treated badly because Aboriginal or Torres Strait Islander			
Yes	16	15	16
No	83	84	84
Total persons(a)	**185,515**	**72,782**	**258,297**
How usually feel when treated badly			
Feel angry	71	66	67
Feel sorry for the person who did it	28	32	31
Feel sad	35	25	28
Feel ashamed or worried about it	32	10	17
Feel sick	15	10	12
Other feeling	15	11	12
No feeling	6(b)	6(b)	6
Total persons(a)	**28,723**	**11,650**	**40,373**
What usually do when treated badly			
Talk to family or friends about it	49	33	38
Try to avoid the person/situation	34	32	33
Try to do something about the people who did it	36	27	30
Just forget about it	27	28	28
Keep it to yourself	15	19	18
Try to change the way you are or things that you do	12	8	9
Do anything else	5(b)	6	5
No action	3(b)	5(b)	4
Total persons(a)	**28,723**	**11,650**	**40,373**

(a) Total includes 'not stated' and refusal to answer.

(b) Estimate has a relative standard error between 25% and 50% and is subject to sampling variability too high for most practical purposes.

Note: Components may not add to total because persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Discharge from hospital against medical advice

- Between July 2008 and June 2010, there were 14,053 discharges from hospital of Indigenous people against medical advice in Australia (Table 3.08.12). This represented 2.4% of all hospital separations of Indigenous Australians.
- After adjusting for differences in age-structure, Indigenous persons were 5 times more likely than non-Indigenous Australians to be discharged against medical advice.
- Indigenous people in *Very remote* and *Remote* areas of Australia were most likely to be discharged from hospital against medical advice (3.5% and 3.1% of all hospitalisations respectively). In these areas, Indigenous people were 5 times and 4 times more likely than non-Indigenous people to be discharged against medical advice.

Table 3.08.12: Discharges against advice, by Indigenous status and remoteness, (excluding mental and behavioural disorders), Australia, July 2008 to June 2010[a][b][c][d]

	Number		Per cent		Age-standardised			
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Ratio[e]	Rate difference[f]
Major cities	2,355	37,688	1.8	0.4	1.5	0.4	4.0*	1.1*
Inner regional	1,614	11,029	1.9	0.4	1.4	0.4	3.8*	1.0
Outer regional	3,070	6,241	2.0	0.5	1.6	0.5	3.3*	1.1*
Remote	2,880	1,041	3.1	0.7	2.7	0.7	4.2*	2.1*
Very remote	3,927	341	3.5	0.7	3.3	0.7	4.8*	2.6*
Missing	206	912	13.5	1.7	11.4	1.7	6.7*	9.7*
Total	**14,052**	**57,252**	**2.4**	**0.4**	**2.0**	**0.4**	**5.1***	**1.6***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in Northern Territory, Australia Capital Territory and Tasmania

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Proportions are indirectly age-standardised using the age-specific proportions for non-Indigenous Australians as the standard.

(e) Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous/Other Australians.

(f) Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous/Other Australians.

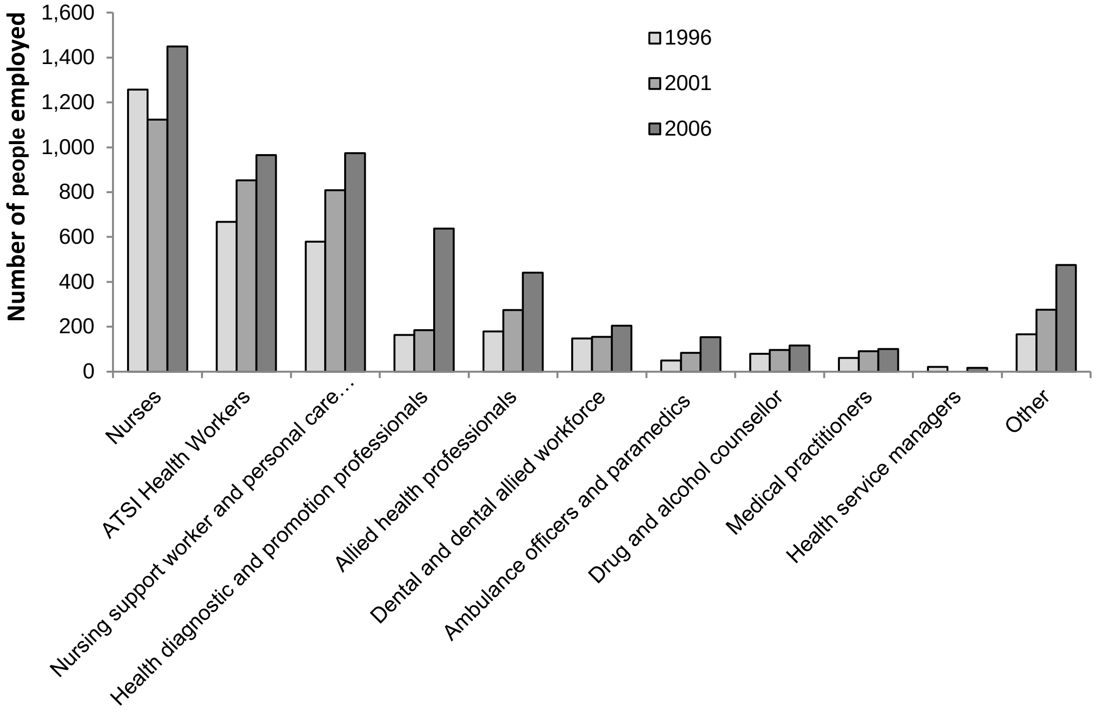
Notes

1. Principal diagnosis of mental & behaviour disorders excluded from analysis.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Indigenous people in health-related occupations

- Between 1996 and 2006 there was an increase in the number of Indigenous people employed in most health-related occupations (Figure 3.08.3 and Table 3.10.1).
- Substantial increases occurred in the areas of health diagnostic and promotional professions (increasing by 289% over the period), and allied health professions (increasing by 146%) (See indicator 3.10, Table 3.10.1).



Source: AIHW analysis of the ABS census data.

Figure 3.08.3: Aboriginal and Torres Strait Islander People employed in selected health-related occupations, 1996, 2001 and 2006

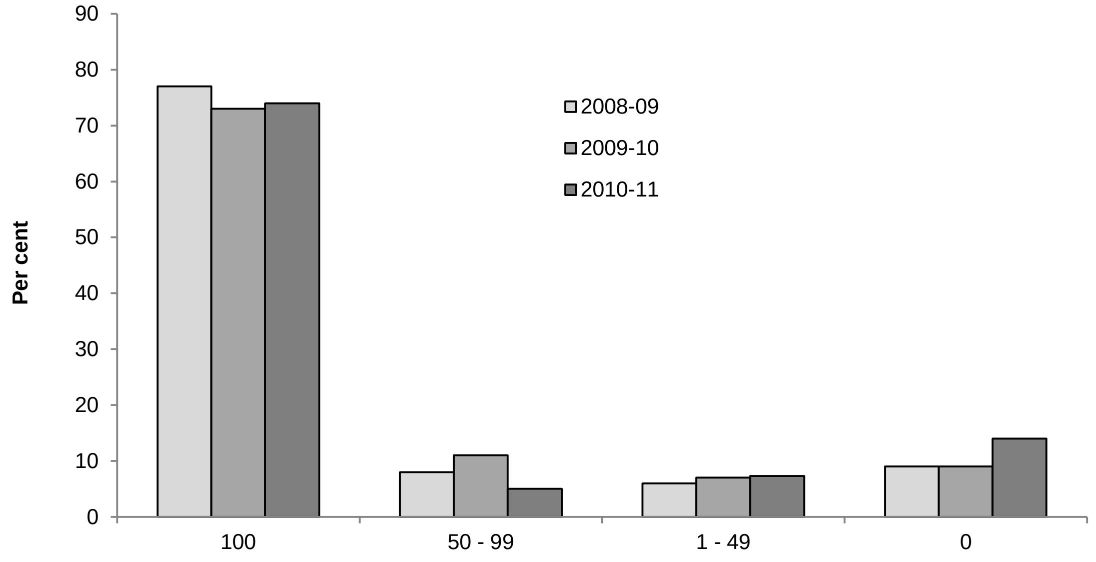
Indigenous students enrolled in health-related courses

Data on Indigenous student enrolments in higher education university health-related courses are available from the DEEWR Higher Education Students Statistics Collection. Data on Indigenous students enrolled in health-related courses in the VET sector are available from NCVER National VET Provider Collection.

- In 2010, there were 1,766 Indigenous students aged 15 years and over enrolled in university health-related courses, and 5,100 Indigenous students enrolled in health-related courses in the VET sector (See indicator 3.20, Tables 3.20.1 and 3.20.10).

Governance of Aboriginal and Torres Strait Island primary health care services

- In 2010–11, 74% of Aboriginal and Torres Strait Islander primary health care services had a board or governance committee where all members were Indigenous. This decreased slightly from 2008–09 where the proportion was 77% (Figure 3.08.4).
- Over the same period, there was a slight increase in the proportion of services with no Indigenous board members, rising from 9% to 14%.
- In 2010–11, there were approximately 5,731 full-time equivalent (FTE) staff employed in Indigenous primary health-care services, 3,875 (68%) health staff and 1,856 (32%) administration and support staff. The majority of both health and administration staff were Indigenous (51% and 57%, respectively) (see Table 3.13.3 in Indicator *3.13 Competent governance* of this report).
- In 2010–11, the most common health promotion/prevention group activity run by Aboriginal and Torres Strait Islander primary health-care services was community based education and prevention groups (71%), followed by living skills groups (e.g. cooking and nutrition groups) and sport/recreation/physical education groups (each 65%) and women's groups (60%) (see Figure 3.03.9 in Indicator *3.03 Health promotion* of this report).
- In 2010–11, around 20% of Indigenous primary health-care services offered bush tucker nutrition programs or traditional healing, 12% provided bush medicine programs and 4% offered other traditional health care programs (see Figure 3.03.8 in Indicator 3.03 *Health promotion* of this report).



Source: AIHW OSR data collection.

Figure 3.08.4: Aboriginal and Torres Strait Islander primary health-care services, by proportion of Aboriginal or Torres Strait Islander, members on governance committee/board, 2008–11

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User’s guide (ABS 2010).

National Aboriginal and Torres Strait Islander Health Survey

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially ‘as reported’ by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through

careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Hospital Morbidity Database

The scope of the NHMD is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

Census of Population and Housing

The Census uses the National health data dictionary standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplainable growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself; for example, whether people are counted more than once, or are undercounted (ABS 1996).

Although the Census data are adjusted for undercounts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

DEEWR Higher Education Schools Statistics Collection

The Higher Education Schools Statistics Collection comprises information on enrolments and award completions from public and private higher education institutions that are required to report to DEEWR.

Institutions receive detailed written documentation about what information is required to be furnished in the form of an electronic help file. Universities design and produce their own statistical information (enrolment) forms. These are designed to be used by institutions to collect the required information from students. DEEWR has provided institutions with suggested wording for questions relating to Indigenous status, language spoken at home and disability (ABS 2009).

Approximately 3% of students in this data collection have a 'not stated' Indigenous status. At the moment these are recorded as non-Indigenous, although plans are under way to record the 'not stated' responses separately.

National Centre for Vocational Education Research data

This collection gathers information from providers (in receipt of public VET funding) about activity of the VET system in Australia. The collection encompasses all delivery funded wholly or in part from public funds.

NCVER maintains a database of information on persons undertaking vocational education and training. Each state and territory collates data from their training providers on a student, course and module/unit of competency basis. These data are compiled into AVETMISS format and validated by each training organisation before being submitted to NCVER. The data are then further validated and quality checked for inconsistencies before being used for the production of statistical reports (ABS 2009).

Non-identification rates for Indigenous students in these data are high. Care also needs to be taken when comparing data across jurisdictions for load pass rates, as average module durations vary across jurisdictions (SCRGSP 2005).

OATSIH Service Reporting (OSR) data collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the Aboriginal and Torres Strait Islander Health Services Report, 2010–11 (AIHW 2012).

List of Symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.09 Discharge against medical advice

The rate at which Aboriginal and Torres Strait Islander people leave hospital against medical advice or are discharged at their own risk

Data sources

Data for this measure come from the AIHW's National Hospital Morbidity Database.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in

data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).

- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Analyses

Age-standardised rates and ratios have been used for this indicator as a measure of hospitalisations in the Indigenous population relative to non-Indigenous Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of non-Indigenous Australians, taking into account differences in age distributions.

Tables presented below report the crude and age standardised proportions of hospitalisations that involved discharge against medical advice in Australia.

- For the period from July 2006 to June 2008, there were 71,304 hospitalisations in Australia where the patient left hospital against medical advice or was discharged at their own risk, 14,052 (20%) of which were hospitalisations of Indigenous patients.
- For approximately 2% of all hospitalisations of Indigenous Australians, the patient was discharged against medical advice; compared with 0.4% for non-Indigenous Australians.
- After adjusting for differences in age structure, Indigenous persons were almost five times as likely as non-Indigenous persons to discharge themselves from hospital against medical advice.

Hospitalisations by age and sex

- Indigenous Australians aged 25–34 (4.9%) had the highest proportions of discharge from hospital against medical advice (Table 3.09.1).
- Indigenous males were more likely than Indigenous females to discharge against medical advice (2.7% compared with 2.2%) (Table 3.09.2).

Table 3.09.1: Discharges from hospital against medical advice (excluding mental and behavioural disorders), by Indigenous status and age group, Australia, July 2008 to June 2010[(a)(b)(c)]

	Number		Per cent[(d)]			
Age group (years)	Indig.	Non-Indig.	Indig.	Non-Indig.	Rate ratio[(e)]	Rate difference[(f)]
0–4	624	1,361	1.5	0.2	6.4*	1.2*
5–14	222	752	0.9	0.2	5.0*	0.7*
15–24	2,455	7,713	4.5	0.8	5.5*	3.7*
25–34	2,989	9,531	4.9	0.7	7.1*	4.2*
35–44	3,975	9,494	4.2	0.6	6.7*	3.6*
45–54	2,505	9,379	2.1	0.5	3.9*	1.5*
55–64	945	7,548	0.8	0.3	2.7*	0.5*
65+	337	11,474	0.5	0.2	2.4*	0.3*
Total	**14,052**	**57,252**	**2.0**	**0.4**	**5.1***	**1.6***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Australia Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Percentage of total hospital separations (excluding mental and behavioural disorders) in the period 2008–09 to 2009–10.

(e) Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.

(f) Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.

Note: Principal diagnosis of dialysis (Z49) and care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.09.2: Discharges from hospital against medical advice (excluding mental and behavioural disorders), by Indigenous status and sex, Australia, July 2008 to June 2010[(a)(b)(c)]

	Number		Per cent of total separations		Age standardised rate[(d)]			
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Rate ratio[(e)]	Rate difference[(f)]
Males	6,787	33,281	2.7	0.5	2.0	0.5	4.3*	1.6*
Females	7,265	23,971	2.2	0.3	1.9	0.3	6.1*	1.6*
Persons	14,052	57,252	2.4	0.4	2.0	0.4	5.1*	1.6*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Australia Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Directly age-standardised using the Australian 2001 standard population, by 5 year age group to 65+.

(e) Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.

(f) Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.

Note: Principal diagnosis of dialysis (Z49) and care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 3.09.3 presents hospitalisations for which patients were discharged against medical advice for the two-year period from July 2008 to June 2010 for all jurisdictions.

- The Northern Territory had the highest proportion of Indigenous persons hospitalised who discharged against medical advice (3.7%).
- After adjusting for differences in age structure, Indigenous persons were five times as likely as non-Indigenous persons to discharge themselves from hospital against medical advice. Disparities were greatest in South Australia, Western Australia and Victoria where Indigenous persons discharged from hospital against medical advice at seven, six and five times the rate of non-Indigenous persons respectively (Table 3.09.3).

Table 3.09.3: Discharges from hospital against medical advice (excluding mental and behavioural disorders), by Indigenous status and state/territory, July 2008 to June 2010[(a)(b)(c)]

	Number		Per cent of total separations	Age standardised proportion[(d)]			
	Indig.	**Non-Indig.**	**Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio[(e)]**	**Rate difference[(f)]**
New South Wales	2,712	24,408	2.4	1.9	0.5	3.7*	1.4*
Victoria	396	11,147	1.6	1.4	0.3	5.2*	1.1*
Queensland	2,532	11,472	1.8	1.4	0.4	3.6*	1.0*
Western Australia	2,447	4,491	2.1	1.7	0.3	5.8*	1.4*
South Australia	1,150	3,394	2.8	2.0	0.3	6.6*	1.7*
Tasmania	63	628	1.2	0.9	0.3	2.6*	0.6*
Australian Capital Territory	30	375	1.1	0.9	0.3	3.2*	0.6*
Northern Territory	4,588	636	3.7	3.4	1.0	3.3*	2.3*
Australia	**14,052**	**57,252**	**2.4**	**2.0**	**0.4**	**5.1***	**1.6***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, Australian Capital Territory and Tasmania.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised, they should be interpreted with caution until data quality is established.

(d) Directly age-standardised using the Australian 2001 standard population, by 5 year age group to 75+.

(e) Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.

(f) Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.

Note: Principal diagnosis of dialysis (Z49) and care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for discharge against medical advice in Australia are presented by remoteness using the Australian Standard Geographical Classification (ASGC) in Table 3.09.4, covering the period July 2008 to June 2010.

- Discharge against medical advice increased with increasing remoteness, with Indigenous persons living in *Very remote* areas having the highest proportions of hospitalisations involving discharge against medical advice (3.5%). The same pattern was evident for non-Indigenous Australians.
- Indigenous Australians in all remoteness areas were more likely to discharge from hospital against medical advice than non-Indigenous Australians.
- Indigenous people were discharged against advice at a rate 5 times that of non-Indigenous Australians in *Very remote* areas of Australia. In *Major cities*, where the lowest rates of discharge against medical advice were observed, Indigenous Australians were hospitalised at a rate of four times that of non-Indigenous Australians.

Table 3.09.4: Discharges against advice (excluding mental and behavioural disorders), by Indigenous status and remoteness, Australia, July 2008 to June 2010[(a)(b)(c)(d)]

	Number		Per cent of total separations		Age-standardised			
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio[(e)]	Rate difference[(f)]
Major cities	2,355	37,688	1.8	0.4	1.5	0.4	4.0*	1.1*
Inner regional	1,614	11,029	1.9	0.4	1.4	0.4	3.8*	1.0
Outer regional	3,070	6,241	2.0	0.5	1.6	0.5	3.3*	1.1*
Remote	2,880	1,041	3.1	0.7	2.7	0.7	4.2*	2.1*
Very remote	3,927	341	3.5	0.7	3.3	0.7	4.8*	2.6*
Missing	*206*	*912*	*13.5*	*1.7*	*11.4*	*1.7*	*6.7**	*9.7**
Total	**14,052**	**57,252**	**2.4**	**0.4**	**2.0**	**0.4**	**5.1***	**1.6***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in Northern Territory, Australia Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.

(f) Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.

Notes

1. Principal diagnosis of mental & behaviour disorders excluded from analysis.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by principal diagnosis

- The most common principal diagnoses of hospitalisations of Indigenous Australians who were discharged against medical advice were injury and poisoning (3,125 separations) followed by respiratory diseases (1,874). These two groups of diagnoses represented 36% of all Indigenous hospitalisations discharged against medical advice. As a proportion of all separations for each specific diagnoses group, discharge against medical advice for Indigenous people was also highest for injury and poisoning (6.9%), followed by diseases of the skin (6.8%), symptoms, signs and abnormal clinical and laboratory findings (5.9%) and diseases of the nervous system (5.6%) (Table 3.09.5).
- The greatest relative difference between Indigenous and non-Indigenous Australians in the proportion of hospitalisations involving discharge against medical advice was for hospitalisations with a principal diagnosis of diseases of the musculoskeletal system (14.1 times the proportion of non-Indigenous Australians). This was followed by diseases of the digestive system (11.9 times) and diseases of genitourinary system (9.9 times) (Table 3.09.5).
- In contrast, the greatest absolute difference between Indigenous and non-Indigenous Australians in the proportion of hospitalisations involving discharge against medical advice was for hospitalisation with a principal diagnosis of diseases of the skin (5.1 per 1,000), followed by infectious and parasitic diseases (4.8 per 1,000).

Table 3.09.5: Discharges from hospital against medical advice, by Indigenous status and principal diagnosis (excluding mental and behavioural disorders), Australia, July 2008 to June 2010[(a)(b)(c)]

	Number		Per cent[(d)]		Age standardised proportion of separations			
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio[(e)]	Rate difference[(f)]
Injury and poisoning and external causes(S00–Y98)	3,125	11,012	6.9	1.1	5.2	1.1	4.9*	4.2*
Diseases of the respiratory system(J00–J99)	1,874	3,961	5.2	0.6	4.5	0.6	7.8*	3.9*
Symptoms and signs and n.e.c.(R00–R99)	1,588	9,491	5.9	0.9	4.6	0.9	5.1*	3.7*
Diseases of the digestive system(K00–K93)	1,425	5,728	4.9	0.4	4.2	0.4	11.9*	3.9*
Pregnancy and child birth(O00–O99)	1,036	3,308	2.6	0.4	1.8	0.4	5.0*	1.5*
Diseases of the skin(L00–L99)	870	1,779	6.8	0.7	5.8	0.7	8.2*	5.1*
Diseases of the circulatory system(I00–I99)	798	4,424	4.4	0.5	3.0	0.5	6.2*	2.5*
Endocrine and nutritional and metabolic disorders(E00–E99)	678	2,108	5.5	0.7	4.5	0.7	6.5*	3.8*
Infectious and parasitic diseases(A00–B99)	568	1,474	5.2	0.6	5.5	0.6	8.5*	4.8*
Factors influencing health status(Z00–Z99)	517	5,479	0.2	0.1	0.2	0.1	1.2*	0.03*
Diseases of the genitourinary system(N00–N99)	450	1,914	3.0	0.3	2.6	0.3	9.9*	2.3*
Diseases of the nervous system(G00–G99)	432	1,846	5.6	0.5	4.4	0.5	9.2*	3.9*
Diseases of the musculoskeletal system(M00–M99)	417	1,982	4.0	0.2	3.3	0.2	14.1*	3.1*
Other (C00–D48,D50–D89,H00–H59,H60–H95,P00–P96,Q00–Q99)[(g)]	274	2,730	1.0	0.1	0.8	0.1	6.2*	0.7*
Total[(h)]	**14,052**	**57,252**	**2.4**	**0.4**	**2.0**	**0.4**	**5.1***	**1.6***

(continued)

Table 3.09.5 (continued): Discharges from hospital against medical advice, by Indigenous status and principal diagnosis (excluding mental and behavioural disorders), Australia, July 2008 to June 2010(a)(b)(c)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data exclude private hospitals in the Northern Territory, Australia Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2008–09 to 2007–10.

(e) Rate ratio is the rate for Indigenous Australians divided by the rate for non-Indigenous Australians.

(f) Rate difference is the rate for Indigenous Australians minus the rate for non-Indigenous Australians.

(g) Includes: neoplasms, certain conditions originating in the perinatal period, diseases of the ear and mastoid process, diseases of the eye and adnexa, diseases of the genitourinary system, diseases of the musculoskeletal system, diseases of the blood and blood-forming organs and certain disorders involving the immune system, and congenital malformations and deformations and chromosomal abnormalities.

(h) Includes hospitalisations for which no principal diagnosis was recorded. Excludes mental and behavioural disorders (F00–F99).

Note: Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness by principal diagnosis

Analysis of hospitalisation rates for discharge against medical advice by remoteness and principal diagnosis shows that the diagnostic chapters with the highest proportions of Indigenous separations ending in discharge against medical advice varied by region (Table 3.09.6). Diseases of the nervous system had the highest proportions of Indigenous separations involving discharge against medical advice in *Major cities* and regional areas; whilst in *Remote* areas, infectious and parasitic diseases, and in *Very remote* areas, diseases of the skin had the highest proportions.

Table 3.09.6: Diagnosis chapters with the highest proportions of Indigenous separations ending in discharge against medical advice, Australia, July 2008 to June 2010

	Highest		Second highest		Third highest	
Remoteness category	**Chapter**	**Proportion**	**Chapter**	**Proportion**	**Chapter**	**Proportion**
Major city	Diseases of the nervous system	3.2	Symptoms and signs and n.e.c.	3.2	Diseases of the skin	2.9
Inner regional	Diseases of the nervous system	2.7	Diseases of the digestive system	2.6	Injury and poisoning and external causes	2.5
Outer regional	Diseases of the nervous system	4.7	Endocrine and nutritional and metabolic disorders	3.9	Infectious and parasitic diseases	3.8
Remote	Infectious and parasitic diseases	7.2	Endocrine and nutritional and metabolic disorders	6.8	Diseases of the ear	6.8
Very remote	Diseases of the skin	11.4	Diseases of the musculoskeletal system	7.8	Infectious and parasitic diseases	7.4

Notes

1. Exclude principal diagnosis of mental & behavioural disorders ICD–10–AM 'F'; Care types 7.3, 9, 10; and patients treated in Tasmania, the NT or the ACT private hospitals.
2. Proportions are age-standardised using the age-specific proportion of non-Indigenous Australians.

Source: AIHW analysis of National Hospital Morbidity Database.

Average length of stay

- Indigenous patients who were discharged from hospital against medical advice stayed in hospital longer on average than Indigenous patients who were not discharged from hospital against medical advice (3.1 days compared with 2.5 days) (Table 3.09.7).
- Indigenous patients who were discharged from hospital against medical advice had a similar average length of stay to non-Indigenous patients who discharged from hospital against medical advice (3 days).

Table 3.09.7: Average length of stay in hospital for patients discharged against medical advice (excluding diagnoses for mental and behavioural disorders), by Indigenous status and sex, Australia, 2008–09 to 2009–10

	Discharged against medical advice					Not discharged against medical advice				
	Number of patient days		Average length of stay			Number of patient days		Average length of stay		
	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio
Males	22,429	99,213	3.3	3.0	1.1	662,066	20,329,244	2.7	2.9	0.9
Females	21,169	71,645	2.9	3.0	1.0	769,963	23,179,095	2.4	3.0	0.8
Persons	43,598	170,858	3.1	3.0	1.0	1,432,047	43,508,494	2.5	2.9	0.9

Notes

1. Exclude principal diagnosis of mental and behavioural disorders ICD–10–AM 'F', care types 7.3,9,10.
2. Data exclude private hospitals in the Northern Territory, Australian Capital Territory and Tasmania.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analyses

Time series data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations for all years from 1998–99 to 2009–10 in Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population. New South Wales and Victoria were identified as having adequate identification of Indigenous hospitalisations from 2004–05 onwards, and are included as part of a separate time series analysis (2004–05 to 2009–10).

The number and rate per 1000 population of hospitalisations for which Indigenous and non-Indigenous Australians were discharged against medical advice over the period 1998–99 to 2009–10 are presented in Table 3.09.8 and Figure 3.09.1. Data for the period 2004–05 to 2009–10 are presented in Table 3.09.9 and Figure 3.09.2.

- Over the period 1998–99 to 2009–10, in Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant increase in the rate of Indigenous and non-Indigenous hospitalisations that involved discharge against medical advice (20% for Indigenous and 36% for non-Indigenous). Indigenous Australians were discharged from hospital against medical advice at a rate of 16 per 1,000 in 1998–99 which increased to 20 per 1,000 in 2009–10. Non-Indigenous persons were discharged from hospital against medical advice at a rate of 0.9 per 1,000 in 1998–99 which increased to 1.1 per 1,000 in 2009–10.
- Over the period 2004–05 to 2009–10, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant increase in the rate of Indigenous and non-Indigenous hospitalisations that involved discharge against medical advice (12% for Indigenous and 22% for non-Indigenous).

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all have an impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time because it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which

Indigenous Australians are hospitalised. An increase in hospitalisation rates may reflect better access to hospitals, rather than a worsening of health.

Table 3.09.8: Discharges against medical advice (excluding mental and behavioural disorders), by Indigenous status, Qld, WA, SA and NT, 1998–99 to 2009–10[(a)(b)(c)(d)]

	Number		Indigenous			Non-Indigenous				
	Indig.	Non-Indig.	No. per 1,000[(e)]	95% LCL[(f)]	95% UCL[(g)]	No. per 1,000[(e)]	95% LCL[(f)]	95% UCL[(g)]	Rate ratio[(h)]	Rate difference[(i)]
1998–99	3,683	5,838	16.1	15.9	16.3	0.9	0.8	0.9	18.7	15.2
1999–00	3,976	6,128	17.0	16.8	17.3	0.9	0.9	0.9	19.1	16.1
2000–02	4,006	6,303	16.9	16.7	17.1	0.9	0.9	0.9	18.6	16.0
2001–02	4,184	6,316	16.9	16.7	17.2	0.9	0.9	0.9	18.8	16.0
2002–03	4,134	6,032	16.7	16.4	16.9	0.8	0.8	0.9	19.7	15.9
2003–04	4,316	6,314	17.0	16.8	17.3	0.9	0.9	0.9	19.7	16.1
2004–05	4,559	6,850	17.9	17.6	18.1	0.9	0.9	0.9	19.4	17.0
2005–06	4,975	7,284	19.2	19.0	19.4	1.0	1.0	1.0	20.0	18.2
2006–07	4,871	8,097	18.3	18.1	18.5	1.0	1.0	1.1	17.6	17.3
2007–08	4,951	8,984	18.3	18.1	18.5	1.1	1.1	1.1	16.3	17.2
2008–09	5,232	9,706	18.9	18.7	19.1	1.2	1.2	1.2	16.0	17.7
2009–10	5,485	10,287	19.7	19.5	19.9	1.2	1.2	1.2	16.1	18.5
Annual change	153.6*	395.5*	0.3*	. .	. .	0.03*	. .	. .	–0.3*	0.3*
Per cent change	45.9*	74.5*	19.6*	. .	. .	36.3*	. .	. .	–16.0*	18.6*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2006 standard population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

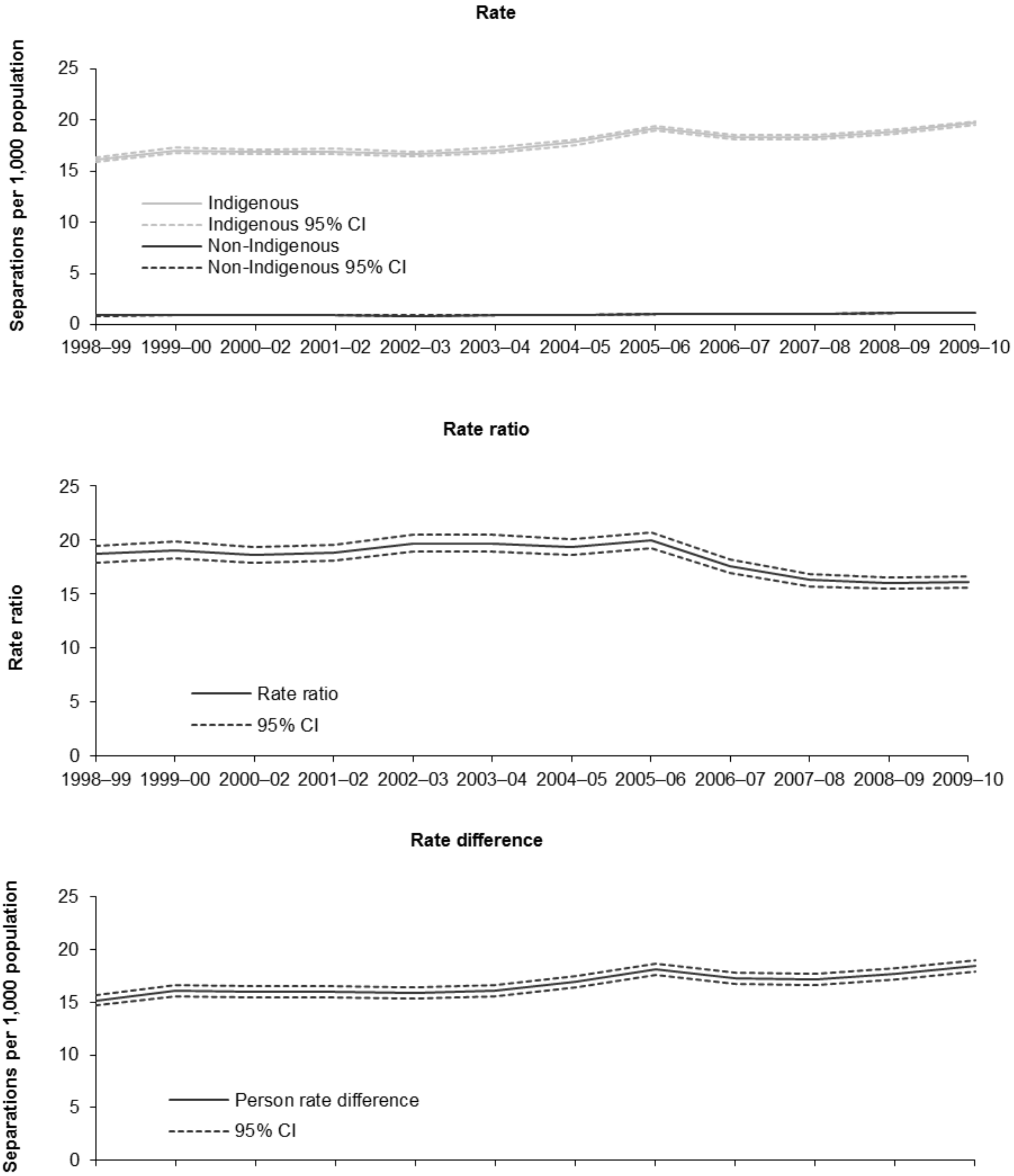
(h) Rate ratio—Indigenous: non-Indigenous.

(i) Rate difference—Indigenous: non-Indigenous.

Notes

1. Exclude principal diagnosis of mental and behavioural disorders ICD–10–AM 'F', care type 7.3,9,10.
2. Rate per 1,000 calculated using the Australian 2001 standard population, exclude sex not male or female and resident state is Other Territory.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.09.1: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians involving discharge against medical advice, Qld, WA, SA and NT combined, 1998–99 to 2009–10

Table 3.09.9: Discharges against medical advice (excluding mental and behavioural disorders), by Indigenous status, NSW, Vic, Qld, WA, SA & NT, 2004–05 to 2009–10[a][b][c][d]

	Number		Indigenous			Non-Indigenous				
	Indig.	Non-Indig.	No. per 1,000[e]	95% LCL[f]	95% UCL[g]	No. per 1,000[e]	95% LCL[f]	95% UCL[g]	Rate ratio[h]	Rate difference[i]
2004–05	5,631	21,145	13.9	13.7	14.0	1.1	1.1	1.1	12.6	12.8
2005–06	6,249	22,370	15.1	14.9	15.2	1.1	1.1	1.2	13.1	14.0
2006–07	6,258	23,920	14.9	14.7	15.1	1.2	1.2	1.2	12.4	13.7
2007–08	6,448	26,530	15.1	14.9	15.2	1.3	1.3	1.3	11.6	13.8
2008–09	6,782	27,278	15.6	15.4	15.7	1.3	1.3	1.3	11.9	14.3
2009–10	7,043	28,270	15.9	15.8	16.1	1.3	1.3	1.3	12.0	14.6
Annual change	253.0*	1,513.0*	0.3*	. .	. .	0.05*	. .	. .	–0.2*	0.3*
Per cent change	22.4*	35.8*	12.0*	. .	. .	22.1*	. .	. .	–8.4*	11.2*

* Represents results with statistically significant increases or declines at the p < 0.05 level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2006 standard population.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

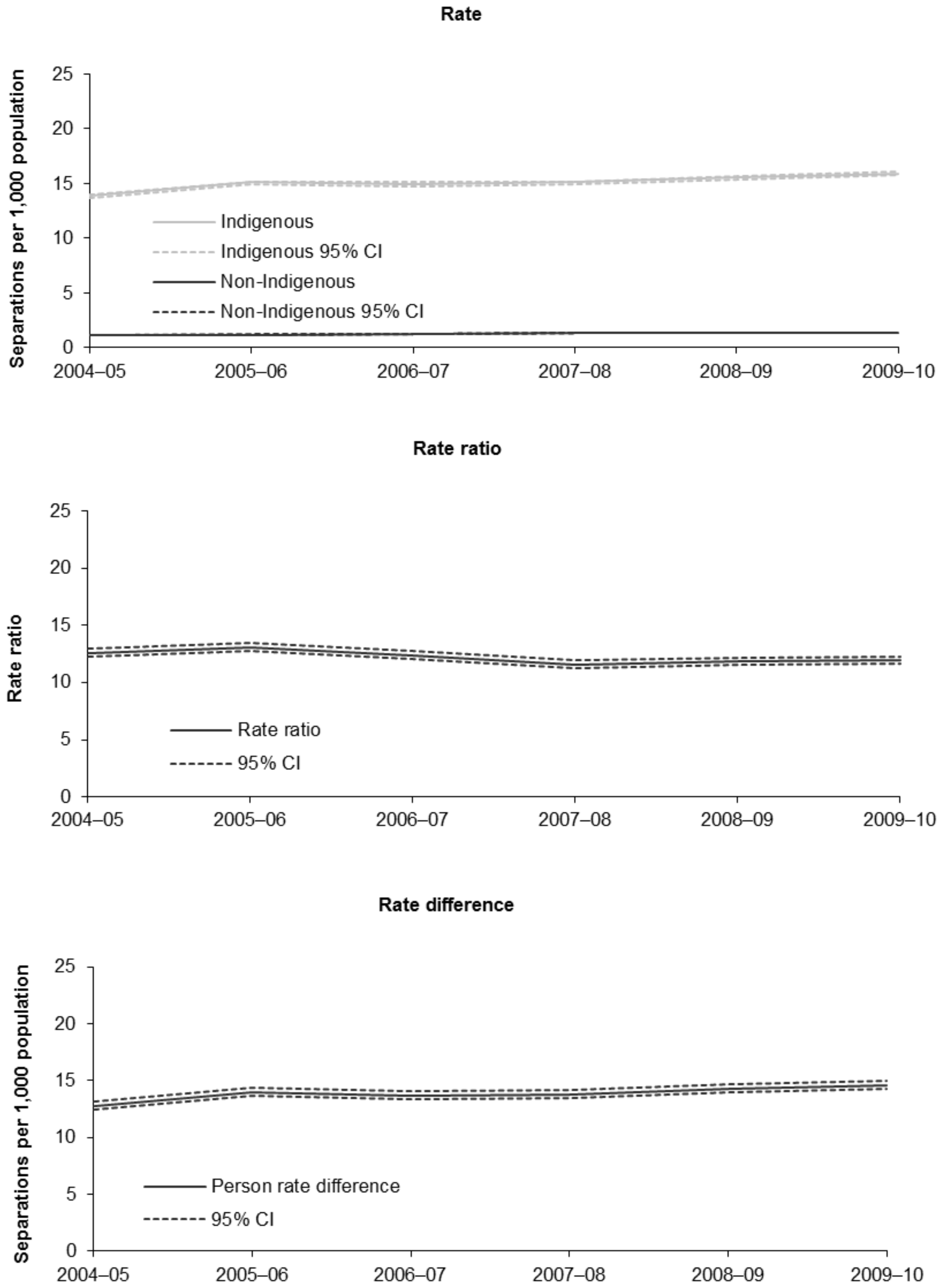
(h) Rate ratio—Indigenous: non-Indigenous.

(i) Rate difference—Indigenous minus non-Indigenous

Notes

1. Exclude principal diagnosis of mental and behavioural disorders ICD–10–AM 'F', care types 7.3,9,10.
2. Rate per 1,000 calculated using the Australian 2001 standard population, exclude sex not male or female and resident state is Other Territory.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.09.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians involving discharge against medical advice, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2009–10

Additional information

Multivariate analysis of discharge from hospital against medical advice

In 2012 the AIHW undertook multivariate regression analyses to examine the relative importance of selected variables including Indigenous status, in affecting the outcome of whether a patient discharged themselves from hospital against medical advice for the period 2008–09 to 2009–10 in Australia. All eight states and territories were included in the multivariate analyses. Thus, the analyses sought to answer the question of whether compositional differences between the two populations accounted for differences in the likelihood of discharge against medical advice. Categories of included variables were state and territory, remoteness, and principal diagnoses. All analyses controlled for age and sex.

Results from the multivariate analyses showed that Indigenous status was the most significant variable contributing to whether a patient would discharge themselves from hospital against medical advice, even after controlling for the other factors. Indigenous Australians were three times as likely to discharge from medical advice as other Australians.

Remoteness of hospital location was the second most significant variable affecting the outcome of discharge from hospital against medical advice. Persons hospitalised in outer regional areas were more likely to discharge against medical advice as patients hospitalised in other areas.

Sex was the third most significant variable affecting the outcome of discharge from hospital against medical advice. Females were around 30% less likely to discharge against medical advice as males.

Principal diagnosis was the fourth most significant variable affecting the outcome of discharge from hospital against medical advice. Persons hospitalised with a principal diagnosis of ‘mental and behavioural disorders’ were most likely to discharge against medical advice, followed by ‘symptoms, signs and abnormal findings’, ‘diseases of the nervous system’, and ‘injury and poisoning’.

Age-group was the next most significant variable, followed by state of hospital, remoteness of usual residence and state/territory of usual residence. Results show that where a patient is hospitalised is more important than where a patient resides.

Although these exploratory analyses have been important in identifying some of the factors underlying the disparity between Indigenous and other Australians in the likelihood of discharging against medical advice, they were not able to fully account for the differences. Thus, they point to the need for further research in other domains such as individual factors (such as psychosocial, personal circumstances, health and wellbeing, and cultural issues) and community level factors (such as trust/mistrust in system) and hospital level factors (such as staff, hospital policies and the environment).

Data quality issues

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of Newborn episodes that did not include qualified days, and records for Hospital boarders and Posthumous organ procurement have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The

proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in Major cities to 97% in Remote and Very remote areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021 (ABS 2009).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2009. Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021. ABS cat. no. 3238.0. Canberra: ABS.

AIHW (Australian Institute of Health and Welfare) 2010. Indigenous identification in hospital separations data — quality report. Health Services Series no. 35. Cat. no. HSE 85. Canberra: AIHW.

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3.10 Access to mental health services

Access to mental health care services such as hospitals, community mental health care, doctors and Aboriginal and Torres Strait Islander Primary health-care services by Aboriginal and Torres Strait Islander people

Data sources

Data for this indicator come from Medicare data, the Bettering the Evaluation and Care of Health (BEACH) Survey; OATSIH Services Reporting data collection; National Community Mental Health Care Database; National Hospital Morbidity Database; National Residential Mental Health Care Database; National Health Workforce Data Set; National Aboriginal and Torres Strait Islander Health Survey (NATSIHS); and the Supported Accommodation Assistance Program National Data Collection.

Medicare Database

Medicare enrolment application forms are lodged by persons wishing to enrol with Medicare at Medicare offices in each state/territory or by mail. Information from these forms is entered directly into the Medicare database, which is held by the Department of Health and Ageing (DoHA).

In November 2002, the ABS standard question on Indigenous identification was included on this form. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete.

As at 1 May 2012, 339,310 Indigenous Australians were enrolled on the VII database. This represents 59% of the estimated total Indigenous population (AHMAC 2012).

Medicare data presented in this report have been adjusted for under-identification. There are a number of caveats to the VII adjustment methodology, including that as the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could therefore be biases in the data that are not addressed by the adjustment methodology.

Bettering the Evaluation and Care of Health (BEACH) Survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program. The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

OATSIH Services Reporting data collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

National Community Mental Health Care Database

Information on the use of community mental health services by Indigenous people is available from the AIHW National Community Mental Health Care Database (NCMHCD). The NCMHCD is a collation of data on specialised mental health services provided to non-admitted patients, in both government-operated community and hospital-based ambulatory care services. For example, community mental health services, outpatient clinics and day clinics.

The quality of the Indigenous identification in this database varies by jurisdiction and should be interpreted with caution. All state and territory health authorities provided information on the quality of the data for the NCMHCD 2009–10. New South Wales, Victoria, Western Australia, Tasmania, and the Australian Capital Territory considered the quality of

Indigenous status data to be acceptable. Queensland reported that the quality of Indigenous status data was acceptable at the broad level, however, there are quality issues regarding the coding of more specific details (that is, Aboriginal, Torres Strait Islander, or Both Aboriginal and Torres Strait Islander). Northern Territory considered the quality to be below the previous year's standard as a result of lack of compliance with non-mandated data collection items by new external (non-mental health) health service provider data entry. South Australia indicated that the quality of these data is uncertain at this stage.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and ACT (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010a):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).

- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

National Residential Mental Health Care Database

Information on the use of residential mental health services by Indigenous people is available from the AIHW National Residential Mental Health Care Database (NRMHCD). The information collected in the database is a nationally agreed set of common data elements collected by service providers and based on the National Minimum Data Set for Residential Mental Health Care.

The quality of Indigenous identification in this database varies by jurisdiction.

As with hospitalisation data, service contacts for which the Indigenous status of the client was not reported have been included with hospitalisations for non-Indigenous people under the 'other' category.

National Health Workforce Data Set

The AIHW, in collaboration with Health Workforce Australia, is the custodian of the National Health Workforce Data Set (NHWDS) that describes these professionals and the work they do.

The NHWDS combines data from the National Registration and Accreditation Scheme (NRAS) with health workforce survey data collected when annual registrations are renewed. The mandatory registration process is administered by the Australian Health Practitioner Regulation Agency (AHPRA) and includes an optional survey that collects additional demographic and workforce information.

All practitioners in these professions must be registered with the AHPRA to practice in Australia, and this applies whether they trained in Australia or overseas. The AHPRA manages the NRAS, which replaced jurisdiction-based registration with a single national registration and accreditation system. As part of this scheme, the AHPRA supports National Health Practitioner Boards, which regulate registered health professions under nationally consistent legislation. Registration for each profession is granted by the relevant boards, subject to applicants meeting the standards and policies set by each.

At its introduction, the NRAS covered registration for 10 health professions, with another four scheduled for inclusion from 1 July 2012 (see below). In all, this represents more than 530,000 registered health professionals.

Since 1 July 2010, these professions have been regulated: chiropractors, dental practitioners (including dentists, dental hygienists, dental prosthetists and dental therapists), medical practitioners, nurses and midwives, optometrists, osteopaths, pharmacists, physiotherapists, podiatrists, and psychologists.

From 1 July 2012, these health professions are included: Aboriginal and Torres Strait Islander health practitioners, Chinese medicine practitioners, medical radiation practitioners, and occupational therapists.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Supported Accommodation Assistance Program National Data Collection

The Supported Accommodation Assistance Program National Data Collection (SAAP NDC) was collected from 1996 to June 2011. It was designed to capture data on government response to homelessness, and focuses on services provided by agencies funded under the Supported Accommodation Assistance Program which specifically target and provide services to people who are homeless or at risk of homelessness. Therefore, service providers who do not receive government funding and general service providers (that is, which are not 'specialist homelessness agencies') are not included in this data collection.

From July 2011, the SAAP NDC was replaced by the Specialist Homelessness Services Collection (SHSC). The SHSC was developed by the AIHW in collaboration with the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs and relevant departments of all state and territory governments. Key differences between the SAAP NDC and SHSC include the expanded scope of agencies included in the SHSC, to agencies funded under the National Affordable Housing Agreement (NAHA) and National Partnership Agreement on Homelessness (NPAH); the inclusion of children as clients in their own right in SHSC (whereas accompanying children were recorded on their parent's form in SAAP NDC); and the monthly collection of client information and services provided for the SHSC (whereas SAAP NDC information was only collected at the end of a support period).

Analyses

Age-standardised rates and ratios have been used for this indicator as a measure of the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates among Indigenous people and those of other Australians, taking into account differences in age distributions.

Medicare data

Claims made as patients for psychologist and psychiatric care

In 2010–11, Indigenous Australians were less likely to have claimed through Medicare as private patients for psychologist care (96 per 1,000 compared with 153 per 1,000) and psychiatric care (46 compared with 88 per 1,000) (Table 3.10.1).

Ambulatory mental health services claimed

In 2009–10, the rate of ambulatory mental health services claimed through Medicare was lower for Indigenous Australians than for non-Indigenous Australians (202 per 1,000 compared with 320 per 1,000) (Table 3.10.2). This includes private services for psychiatric, psychological, GP and other allied health care.

Clinical mental health services

In 2009–10, there were 28,303 Indigenous Australians who received clinical mental health services. After adjusting for differences in age-structure a lower proportion of Indigenous Australians received clinical mental health services than non-Indigenous Australians (5.6% compared with 6.2%) (Table 3.10.3).

Table 3.10.1: MBS services claimed, by Indigenous status, Australia, 2010–11

	Indigenous services	Non-Indigenous services	Indigenous crude rate/ 1,000	Indigenous age-std-rate/ 1,000	Non-Indigenous crude rate/ 1,000	Non-Indigenous age-std-rate/ 1,000	Rate ratio	Rate difference
MBS services claimed								
Psychologist	48,957	3,312,542	87	96	152	153	0.62	–57.61
Psychiatrist	18,498	1,963,608	33	46	90	88	0.52	–42.68

Source: Medicare Financing & Analysis Branch, Department of Health and Ageing.

Table 3.10.2: Rate of ambulatory mental health services provided, by sex, Indigenous status, remoteness and SEIFA, by state/territory, 2009–10(a)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust	
	Age standardised rate per 1000 population(b)									No.
Indigenous status(c)										
Indigenous	299.2	394.4	176.5	88.8	192.1	305.7	325.3	31.5	202.5	98,728
Non-Indigenous	315.6	391.9	294.9	256.7	301.5	290.7	242.1	116.2	320.3	6,864,684

(a) Disaggregation by state/territory, remoteness area and SEIFA is based on the patient’s postcode at the date their last service was processed in the reference period. This is not necessarily the location where the service was received.

(b) Rates are age-standardised to the Australian population as at 30 June 2001.

(c) Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. Indigenous rates are therefore modelled and should be interpreted with caution. These statistics are not derived from the total Australian Indigenous population, but from those Aboriginal and Torres Strait Islander people who have voluntarily identified as Indigenous to Medicare Australia. The statistics have been adjusted to reflect demographic characteristics of the overall Indigenous population, but this adjustment may not address all the differences in the service use patterns of the enrolled population relative to the total Indigenous population. The level of VII enrolment (50 per cent nationally as at August 2010) varies across age-sex-remoteness-State/Territory sub-groups and over time which means that the extent of adjustment required varies across jurisdictions and over time. Indigenous rates should also be interpreted with caution due to small population numbers in some jurisdictions.

Source: SCRGSP 2011.

Table 3.10.3: Proportion of people receiving clinical mental health services, by Indigenous status, by state/territory, 2009–10[(a)(b)(c)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust	
	Per cent									Number
Indigenous status										
Indigenous	8.1	10.2	4.7	3.0	6.1	7.2	8.6	1.3	5.6	28,303
Non-Indigenous	6.3	7.0	5.9	5.3	6.3	5.6	5.1	3.2	6.2	1,337,882

(a) Rates are age-standardised to the Australian population as at 30 June 2001.

(b) The Indigenous status rates should be interpreted with caution due to the varying and, in some instances, unknown quality of Indigenous identification across jurisdictions.

(c) Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. Indigenous rates are therefore modelled and should be interpreted with caution. These statistics are not derived from the total Australian Indigenous population, but from those Aboriginal and Torres Strait Islander people who have voluntarily identified as Indigenous to Medicare Australia. The statistics have been adjusted to reflect demographic characteristics of the overall Indigenous population, but this adjustment may not address all the differences in the service use patterns of the enrolled population relative to the total Indigenous population. The level of VII enrolment (51 per cent nationally as at August 2010) varies across age-sex-remoteness-State/Territory sub-groups and over time which means that the extent of adjustment required varies across jurisdictions and over time. Indigenous rates should also be interpreted with caution due to small population numbers in some jurisdictions.

Source: SCRGSP 2012.

General practitioner encounters

Information about general practitioner encounters is available from the BEACH survey. Mental health-related problems (psychological problems) are among the top five most common types of problems managed at GP encounters with Aboriginal and Torres Strait Islander patients. They were the second most common type of problem managed, behind respiratory diseases, during the period 2005–06 to 2009–10 (AIHW 2011a).

Data for the five year BEACH reporting period April 2006–March 2007 to April 2010–March 2011 are presented in Table 3.10.4.

- In the period April 2006–March 2007 to April 2010–March 2011 there were 5,971 GP encounters with Indigenous patients recorded in the survey, at which 9,196 problems were managed. Of these, 11.3% (1,037) were mental health-related problems (Table 3.10.4).
- Mental health-related problems were managed at a rate of 174 per 1,000 encounters with Indigenous patients.
- After adjusting for differences in age distribution, mental health-related problems were managed significantly more often at GP encounters with Indigenous patients at 1.4 times the rate of encounters with other patients.

Table 3.10.4: Mental health-related problems(a) managed by general practitioners, by Indigenous status of the patient, BEACH years April 2006–March 2007 to April 2010–March 2011(b)(c)

	Number		Per cent of total problems		Crude rate (no per 1,000 encounters)			Age-standardised rate (no. per 1,000 encounters)(d)							
Problem managed	**Indig.**	**Other(e)**	**Indig.**	**Other(e)**	**Indig.**	**95% LCL(f)**	**95% UCL(g)**	**Indig.**	**95% LCL(f)**	**95% UCL(g)**	**Other(e)**	**95% LCL(f)**	**95% UCL(g)**	**Rate ratio(h)**	**Rate difference(i)**
Mental health-related conditions(j)	1,037	60,595	11.3	8.1	173.7	155.2	192.1	173.2	154.9	191.5	126.7	124.3	129.2	1.4*	46.5*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Classified according to ICPC–2 codes (Classification Committee of the World Organization of Family Doctors (WICC) 2005).

(b) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

(c) Data for Indigenous and other Australians have not been weighted.

(d) Directly age-standardised rate (no. per 1,000 encounters) using total BEACH encounters in the period as the standard. Figures do not add to 100 as more than one problem can be managed at each encounter.

(e) Other includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(f) LCL = lower confidence interval.

(g) UCL = upper confidence interval.

(h) Rate ratio Indigenous: Other.

(i) Rate difference Indigenous rate minus Other (non-Indigenous) rate.

(j) ICPC–2 codes: P01–P13, P15–P20, P22–P25, P27–P29, P70–P82, P85–P86, P98–P99.

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Aboriginal and Torres Strait Islander primary health-care services

Information on client contacts with emotional and social well-being staff or psychiatrists in Aboriginal and Torres Strait Islander primary health care services is available from the OATSIH Services Reporting database (AIHW 2012a).

In 2010–11, there were 187,000 client contacts with emotional and social wellbeing staff or psychiatrists, representing 7% of the estimated total clients (AIHW 2012a).

The OSR also collects information on mental health programs run by Indigenous primary health care services.

- Nearly all services (97% or 229) provided information on social and emotional wellbeing issues experienced by their clients. Of these, almost all services (99% or 226) reported that one or more of their clients experienced social and emotional wellbeing issues (AIHW 2012a).

Community mental health care services

For the purposes of the National Community Mental Health Care Database, a contact is defined as the provision of a clinically significant service by specialised mental health service providers for patients or clients, other than those admitted to psychiatric hospitals or designated psychiatric units in acute care hospitals, and those resident in 24-hour staffed specialised residential mental health services where the nature of the service would normally warrant a dated entry in the clinical record of the patient or client in question (AIHW 2010b).

- In 2009–10, there were 6,014,294 (total of Indigenous and non-Indigenous) clients of community mental health care services, of which 430,894 service contacts (7.2%) were for Aboriginal and Torres Strait Islander people (Table 3.10.5).
- There were more service contacts per 1,000 population for Aboriginal and Torres Strait Islander people than for non-Indigenous Australians (842 per 1,000 and 262 per 1,000, respectively) (Table 3.10.5).

Contacts by age and sex

- In 2009–10, compared with non-Indigenous Australians, a higher proportion of Indigenous people in younger age groups (35–44 and younger) had contacts with mental health services. The proportions were lower in the older age groups (45–55 and older), which may, in part, be associated with the differences in age distribution in these populations (the median age of Indigenous Australians is around 21 years compared with 38 years for non-Indigenous Australians (ABS 2011)). For example, 23% and 24% of service contacts for Indigenous Australian males and females were for clients aged between 15 and 24 years compared with 14% and 17% of service contacts for non-Indigenous Australian males and females of the same age. Furthermore, the rate ratio between Indigenous and non-Indigenous rate per 1,000 populations ranged between 1.7 and 4.5 across all age groups (Table 3.10.5).
- Rates of service contacts with community mental health care services were much higher for Indigenous males than Indigenous females (1,061 compared with 629 per 1,000 population), and were highest for Indigenous persons aged 25–34 and 35–44
- In 2009–10, Indigenous Australians had higher rates of community mental health care service contacts across of all age groups compared with non-Indigenous Australians.

Rate ratios were most marked in the 25–34 and 35–44 year age groups where Indigenous persons were 4.5 and 3.6 times more likely, respectively, to be clients of community mental health care services than non-Indigenous persons (Table 3.10.5).

Table 3.10.5: Community mental-health-care service contacts, by Indigenous status, sex and age group, 2009–10[(a)]

	Indigenous			Non-Indigenous				
Sex and age group	No.	Per cent	No. per 1,000[(b)]	No.	Per cent	No. per 1,000[(b)]	Ratio[(c)]	Rate difference[(d)]
Males								
Less than 15 years	24,416	9.1	242.8	225,777	7.6	110.2	2.2*	132.6*
15–24	60,883	22.6	1,058.2	422,110	14.1	273.3	3.9*	784.9*
25–34	89,129	33.1	2,345.3	726,547	24.4	475.7	4.9*	1,869.6*
35–44	58,933	21.9	1,794.7	679,709	22.8	444.2	4.0*	1,350.5*
45–54	26,180	9.7	1,089.3	458,111	15.4	312.2	3.5*	777.1*
55–64	7,432	2.8	545.0	243,540	8.2	199.9	2.7*	345.1*
65 and over	2,444	0.9	317.9	224,862	7.5	170.2	1.9*	147.6*
Total[(e)(f)]	**269,543**	**100.1**	**1,061.4**	**2,983,379**	**100.0**	**282.2**	**3.8***	**779.3***
Females								
Less than 15 years	14,489	9.0	150.6	156,879	6.0	80.7	1.9*	69.9*
15–24	39,295	24.4	718.7	436,520	16.8	300.0	2.4*	418.7*
25–34	43,649	27.1	1,140.1	444,853	17.1	296.1	3.8*	844.0*
35–44	36,782	22.8	1,030.1	505,877	19.5	327.0	3.2*	703.1*
45–54	17,713	11.0	674.8	423,669	16.3	283.6	2.4*	391.2*
55–64	5,769	3.6	379.3	262,917	10.1	214.0	1.8*	165.4*
65 and over	3,565	2.2	350.6	365,072	14.1	231.6	1.5*	118.9*
Total[(e)(f)]	**161,304**	**100.1**	**629.5**	**2,597,503**	**100.0**	**240.8**	**2.6***	**388.7***
Persons								
Less than 15 years	38,905	9.0	197.6	382,724	6.9	95.9	2.1*	101.8*
15–24	100,184	23.3	892.6	858,806	15.4	286.3	3.1*	606.3*
25–34	132,788	30.8	1,739.6	1,171,845	21.0	386.8	4.5*	1,352.8*
35–44	95,720	22.2	1,395.8	1,186,346	21.2	385.5	3.6*	1,010.4*
45–54	43,895	10.2	872.5	882,020	15.8	297.9	2.9*	574.6*
55–64	13,201	3.1	457.2	506,496	9.1	207.0	2.2*	250.2*
65 and over	6,032	1.4	337.6	590,057	10.6	203.7	1.7*	133.9*
Total[(e)(f)]	**430,894**	**100.0**	**841.8**	**5,583,400**	**100.0**	**262.0**	**3.2***	**579.8***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p <0.05 level.

(a) These data should be interpreted with caution because of likely under-identification of Indigenous Australians.

(b) Number per 1,000 population based on estimated resident population as at **30 June 2009.**

(c) Rate ratio—Indigenous: non-Indigenous.

(d) Rate difference is equal to Indigenous rate minus non-Indigenous rate.

(e) Includes service contacts for clients for whom age or sex was not stated.

(f) Total rates have been directly age-standardised using the Australian 2001 standard population.

Source: AIHW analysis of National Community Mental Health Care Database.

Contacts by state/territory

The number and rate of service contacts per 1,000 population for Indigenous people vary among the states and territories. This may reflect variations in completeness of Indigenous identification among patients, varying coverage of service contacts for Indigenous people or for the total population, or different patterns of service use by Indigenous and non-Indigenous persons. These rates should be interpreted with caution because there is likely to be an under estimate of the actual number of service contacts for Indigenous clients.

- In 2009–10, the rate of service contacts for clients of community mental health services who identified themselves as being of Aboriginal or Torres Strait Islander origin ranged from 217 per 1,000 in the Northern Territory to 1,767 in the Australian Capital Territory. New South Wales had the highest rate ratio and rate difference in Indigenous to non-Indigenous community mental health service contacts (Table 3.10.6).

Table 3.10.6: Community mental-health-care service contacts per 1,000 population, by Indigenous status and state/territory, 2009–10

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Indigenous	209,543	32,202	78,074	40,120	28,533	19,610	7,804	15,008	430,894
Non-Indigenous	1,604,984	1,681,351	803,254	617,936	446,762	178,757	226,842	23,514	5,583,400
Not stated	427,507	22,457	2,130	22,078	68,053	14,232	22,851	462	579,770
Total	**2,242,034**	**1,736,010**	**883,458**	**680,134**	**543,348**	**212,599**	**257,497**	**38,984**	**6,594,064**
					Number per 1,000 population[(a)]				
Indigenous	1,459.1	971.2	530.2	554.4	941.3	1,211.1	1,767.0	217.4	841.8
Non-Indigenous	231.7	309.4	190.6	284.5	288.8	380.4	649.0	141.6	262.0
Ratio[(b)]	6.3	3.1	2.8	1.9	3.3	3.2	2.7	1.5	3.2
Rate Difference[(c)]	1227.4	661.8	339.6	269.9	652.5	830.7	1118.0	75.8	579.8
Total	**317.6**	**317.7**	**202.4**	**303.8**	**344.8**	**435.2**	**728.4**	**163.6**	**302.5**

(a) Rates were directly age-standardised using the Australian 2001 standard population.

(b) Rate ratio—Indigenous: non-Indigenous.

(c) Rate difference is equal to Indigenous rate minus non-Indigenous.

Note: Shading indicates that the Indigenous identification in the National Community Mental Health Care Database (NCMHCD) in these jurisdictions is in need of improvement. This is based on information provided by state and territory health authorities on the quality of their data in the NCMHCD. Data from these states and territories should be interpreted with caution because of likely under identification of Indigenous Australians.

Source: AIHW analysis of National Community Mental Health Care Database.

Hospitalisations

- For the two year period July 2008 to June 2010, there were 646,051 hospitalisations from mental health-related conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 24,327 (3.8%) of which were hospitalisations of Aboriginal and Torres Strait Islander people.
- Mental health related conditions were responsible for around 4% of all hospitalisations of Aboriginal and Torres Strait Islander Australians (see indicator 1.18).

Hospitalisations by state/territory

Table 3.10.7 presents hospitalisations for a principal diagnosis of mental health-related conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory, Tasmania and the Australian Capital Territory for the two year period from July 2008 to June 2010.

- Over the period from July 2008 to June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males were hospitalised for mental health-related conditions at 2.2 times the rate of non-Indigenous males, and Indigenous females were hospitalised for mental health-related conditions at 1.5 times the rate of non-Indigenous females.
- South Australia had the highest Indigenous hospitalisation rate for mental health-related conditions (45 per 1,000), followed by Western Australia (34 per 1,000). These two jurisdictions also had the largest rate differences between Indigenous and non-Indigenous hospitalisations for mental health-related conditions.
- In South Australia, Indigenous Australians were hospitalised for mental health-related conditions at around four times the rate of non-Indigenous Australians. In New South Wales, the Northern Territory and Western Australia rate ratios ranged from 2.2 to 2.5, and in Queensland and Victoria rate ratios were around 1.5.

Table 3.10.7: Hospitalisations for principal diagnosis of mental-health-related conditions, by Indigenous status, sex and state/territory, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	No. per 1,000[(e)]	Number	No. per 1,000[(e)]	Ratio[(f)]	Rate difference[(g)]
NSW						
Males	4,989	36.9	99,926	14.4	2.6*	22.5*
Females	4,068	28.5	109,900	15.3	1.9*	13.3*
Persons	9,057	32.5	209,836	14.8	2.2*	17.7*
Vic						
Males	663	22.5	71,213	13.2	1.7*	9.3*
Females	907	30.7	122,465	21.8	1.4*	8.9*
Persons	1,570	26.8	193,702	17.5	1.5*	9.2*
Qld						
Males	2,688	21.2	55,511	12.7	1.7*	8.5*
Females	2,255	16.6	66,656	15.4	1.1*	1.2*
Persons	4,943	18.8	122,167	14.1	1.3*	4.7*
WA						
Males	2,305	35.3	25,357	11.5	3.1*	23.9*
Females	2,220	32.7	33,949	15.7	2.1*	16.9*
Persons	4,525	33.9	59,306	13.6	2.5*	20.3*
SA						
Males	1,160	46.1	16,117	10.1	4.6*	36.0*
Females	1,190	44.6	18,563	11.1	4.0*	33.5*
Persons	2,350	45.3	34,680	10.6	4.3*	34.7*
NT						
Males	1,040	17.4	1,173	7.0	2.5*	10.4*
Females	842	12.8	860	5.9	2.2*	6.9*
Persons	1,882	15.0	2,033	6.5	2.3*	8.5*
NSW, Vic, Qld, WA, SA & NT[(h)]						
Males	**12,845**	**28.9**	**269,297**	**13.0**	**2.2***	**15.9***
Females	**11,482**	**24.6**	**352,393**	**16.7**	**1.5***	**7.9***
Persons	**24,327**	**26.7**	**621,724**	**14.8**	**1.8***	**11.8***
Tas						
Males	109	6.9	3,555	7.8	0.9	–0.8
Females	172	9.0	4,926	9.6	0.9	–0.6
Persons	281	8.0	8,482	8.7	0.9	–0.7

(continued)

Table 3.10.7 (continued): Hospitalisations for principal diagnosis of mental-health-related conditions, by Indigenous status, sex and state/territory, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2008 to June 2010[a][b][c][d]

	Indigenous		Non-Indigenous			
	Number	No. per 1,000[e]	Number	No. per 1,000[e]	Ratio[f]	Rate difference[g]
ACT						
Males	72	24.5	2,338	6.8	3.6*	17.7*
Females	70	18.1	2,284	6.4	2.8*	11.7*
Persons	142	20.9	4,622	6.5	3.2*	14.4*

* Represents results with statistically significant differences in the Indigenous/other comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010); ICD–10–AM codes F00–F99, G30, G47.0, G47.1, G47.2, G47.8, G47,9, 099.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population in five-year age groups to 75+ for NSW, Vic, Qld, WA, SA and NT. Directly age-standardised using the Australian 2001 standard population in five-year age groups to 65+ for Tasmania and the ACT.

(f) Rate ratio—Indigenous: other.

(g) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Population estimates based on the 2006 Census.
2. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by ambulatory and non-ambulatory-equivalent

Mental health services can be provided in ambulatory or non-ambulatory settings. Ambulatory mental health care settings range from care provided in the primary care settings through to ambulatory care in hospital-based outpatient services, community-based mental health care and same day admitted patient mental health care in specialised psychiatric and general hospitals. Non-ambulatory mental health care settings include admitted patient mental health care in specialised psychiatric and general hospitals and residential mental health care.

Table 3.10.8 and Figure 3.10.1 present ambulatory-equivalent and non-ambulatory-equivalent mental health-related hospitalisations for Indigenous and non-Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory over the two year period from July 2008 to June 2010. Data are for admitted patient from NHMD database. Ambulatory-equivalent and non-ambulatory-equivalent mental health-related hospitalisations are defined using the "Mental Health Flag" variable.

- Between July 2008 and June 2010, there were 3,939 ambulatory-equivalent mental health-related hospitalisations among Indigenous Australians (1,280 with specialised psychiatric care and 2,659 without specialised psychiatric care).
- Over the same period there were 21,158 non-ambulatory-equivalent mental health-related hospitalisations among Indigenous Australians (9,854 with specialised psychiatric care and 11,304 without specialised psychiatric care).
- Rates of ambulatory-equivalent mental health-related hospitalisations were lower for Indigenous Australians than non-Indigenous Australians (rate ratio of 0.6). This was particularly the case for ambulatory-equivalent separations with specialised psychiatric care, with the rate ratio being 0.2. In contrast, the rate of ambulatory-equivalent separations without specialised psychiatric care per 1,000 Indigenous people was almost double that for non-Indigenous Australians (rate ratio of 1.9).
- Rates of non-ambulatory-equivalent mental health-related hospitalisations per 1,000 Aboriginal and Torres Strait Islander people were more than double that for non-Indigenous Australians (rate ratio of 2.2). The rate of such hospitalisations with specialised psychiatric care among Indigenous Australians was 1.6 times that of non-Indigenous Australians. The rate of non-ambulatory-equivalent separations among Indigenous Australians without specialised psychiatric care was over three times that of non-Indigenous Australians.

Table 3.10.8: Ambulatory-equivalent and non-ambulatory-equivalent mental-health-related hospitalisations, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010(a)(b)(c)(d)

	Males					Females					Persons				
	No.	No. per 1,000(e)	LCL 95%(f)	UCL 95%(g)	Ratio(h)	No.	No. per 1,000(e)	LCL 95%(f)	UCL 95%(g)	Ratio(h)	No.	No. per 1,000(e)	LCL 95%(f)	UCL 95%(g)	Ratio(h)
Ambulatory-equivalent															
With specialised psychiatric care															
Indigenous	696	1.1	1.0	1.2	0.3*	584	1.1	1.0	1.2	0.2*	1,280	1.1	1.1	1.2	0.2*
Non-Indigenous	73,589	3.5	3.5	3.6	. .	125,663	6.1	6.1	6.2	. .	199,274	4.8	4.8	4.8	. .
Without specialised psychiatric care															
Indigenous	1,354	2.6	2.4	2.7	2*	1,305	2.3	2.2	2.5	1.8*	2,659	2.5	2.4	2.6	1.9*
Non-Indigenous	**25,975**	**1.3**	**1.3**	**1.3**	**. .**	**26,604**	**1.3**	**1.3**	**1.3**	**. .**	**52,580**	**1.3**	**1.3**	**1.3**	**. .**
Total Indigenous	**2,050**	**3.7**	**3.6**	**3.9**	**0.8***	**1,889**	**3.4**	**3.3**	**3.6**	**0.5***	**3,939**	**3.6**	**3.5**	**3.7**	**0.6***
Total Non-Indigenous	**99,564**	**4.8**	**4.8**	**4.8**	**. .**	**152,267**	**7.4**	**7.4**	**7.5**	**. .**	**251,854**	**6.1**	**6.1**	**6.1**	**. .**
Non-ambulatory-equivalent															
With specialised psychiatric care															
Indigenous	5,161	9.5	9.2	9.7	1.8*	4,693	8.7	8.4	8.9	1.4*	9,854	9.1	8.9	9.3	1.6*
Non-Indigenous	106,484	5.2	5.2	5.2	. .	128,826	6.3	6.2	6.3	. .	235,316	5.7	5.7	5.8	. .
Without specialised psychiatric care															
Indigenous	6,007	12.7	12.4	13.1	3.7*	5,297	10.5	10.2	10.8	2.8*	11,304	11.6	11.4	11.8	3.2*
Non-Indigenous	71,054	3.5	3.5	3.5	. .	79,980	3.8	3.8	3.8	. .	151,039	3.6	3.6	3.7	. .
Total Indigenous	**11,168**	**22.2**	**21.8**	**22.7**	**2.6***	**9,990**	**19.2**	**18.8**	**19.6**	**1.9***	**21,158**	**20.7**	**20.4**	**21.0**	**2.2***
Total Non-Indigenous	**177,538**	**8.7**	**8.6**	**8.7**	**. .**	**208,806**	**10.1**	**10.0**	**10.1**	**. .**	**386,355**	**9.4**	**9.4**	**9.4**	**. .**

(continued)

Table 3.10.8 (continued): Ambulatory-equivalent and non-ambulatory-equivalent mental-health-related hospitalisations, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data exclude record with missing mental health flag and private hospitals in Tasmania, Northern Territory and ACT.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010); ICD–10–AM codes: Chapter IX Diseases of Mental, Behavioural Disorders (F00–F99) and other mental-health-related conditions: ICD–10–AM codes: G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) LCL = lower confidence limit.

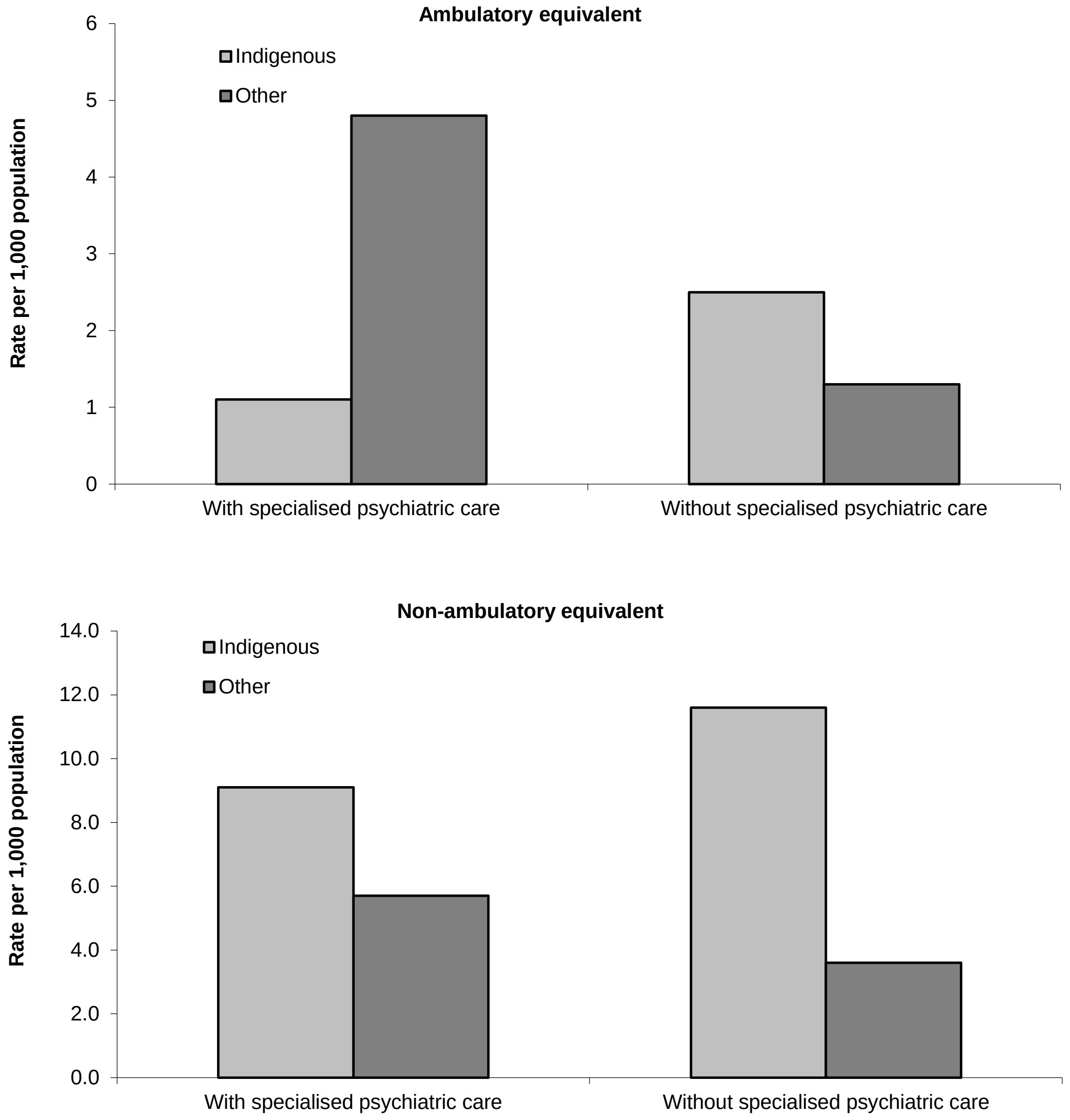
(g) UCL = upper confidence limit.

(h) Rate ratio—Indigenous: non-Indigenous.

Notes

1. Exclude care type 7.3,9,10, unknown Indigenous Status and unknown mental health flag.
2. Rate per 1000 Using the Australian 2001 standard population.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.10.1: Ambulatory-equivalent and non-ambulatory-equivalent mental health-related hospitalisation rates, by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2008to June 2010

Average length of stay

Table 3.10.9 presents the average length of stay and total number of bed days for non-ambulatory-equivalent mental health-related hospitalisations for Indigenous and non-Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- In the period from July 2008 to June 2010, the average length of stay in hospital for non-ambulatory-equivalent mental health-related hospitalisations was a bit higher for Indigenous Australians than non-Indigenous Australians (9.6 days compared with 8.9 days, respectively).
- For both Indigenous and non-Indigenous Australians, the average length of stay was longer for non-ambulatory-equivalent hospitalisations with specialised psychiatric care than without specialised psychiatric care.
- However, there were differences in average length of stay between Indigenous and non-Indigenous Australians with regard to specialised and non-specialised care. Indigenous Australians tended to stay in hospital slightly longer than non-Indigenous Australians for non-ambulatory-equivalent hospitalisations involving specialised psychiatric care (20.8 compared with 19.2 average days), but experienced shorter stays involving hospitalisations without specialised psychiatric care (2.9 compared with 5.9 average days).

Table 3.10.9: Average length of stay for non-ambulatory-equivalent mental health-related hospitalisations, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous			Non-Indigenous			Total		
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Patient days									
With specialised psychiatric care	129,073	75,910	204,983	2,311,333	2,195,010	4,506,427	2,440,406	2,270,920	4,711,410
Without specialised psychiatric care	17,190	15,487	32,677	404,573	489,618	894,236	421,763	505,105	926,913
Total	**148,313**	**93,286**	**241,599**	**2,815,470**	**2,836,895**	**5,652,517**	**2,963,783**	**2,930,181**	**5,894,116**
Average length of stay									
With specialised psychiatric care	25.0	16.2	20.8	21.7	17.0	19.2	21.9	17	19.2
Without specialised psychiatric care	2.9	2.9	2.9	5.7	6.1	5.9	5.5	5.9	5.7
Total	**11.2**	**7.9**	**9.6**	**10.2**	**7.9**	**8.9**	**10.2**	**7.9**	**8.9**

(a) Data are from public and most private hospitals. Data exclude private hospitals in Tasmania, Northern Territory and ACT.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification in Health 2010); ICD–10–AM codes: Chapter IX Diseases of Mental, Behavioural Disorders (F00–F99) and other mental health-related conditions; ICD–10–AM codes: G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory only. These six jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Exclude care type 7.3,9,10, unknown Indigenous Status and unknown mental health flag.
2. Rate per 1000 Using the Australian 2001 standard population.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analyses

Time series data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations for all years from 1998–99 to 2009–10: Queensland, Western Australia, South Australia and the Northern Territory (Table 3.10.10). These four jurisdictions represent approximately 60% of the Indigenous Australian population. New South Wales and Victoria were identified as having adequate identification of Indigenous hospitalisations from 2004–05 onwards, and so they are included in a separate time series analysis (Table 3.10.11).

Note that changes in the level of accuracy of Indigenous identification in hospital records over this period will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all have an impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time because it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may reflect better hospital access rather than a worsening of health.

Hospitalisations of mental health-related conditions (1998–99 to 2009–10)

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for mental health-related conditions over the twelve year period 1998–99 to 2009–10 are presented in Table 3.10.10 and Figure 3.10.2.

- In Queensland, Western Australia, South Australia and the Northern Territory, there were significant increases in hospitalisation rates for mental health-related conditions among Indigenous females during the period 1998–99 to 2009–10. The fitted trend implies a 57% increase in the rate over the period.
- There were significant declines in hospitalisation rates for mental health-related conditions among non-Indigenous Australians males over the same period, with an average yearly decline in the rate of around 0.1 per 1,000. This is equivalent to a 6.7% decline in the rate over the period.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and non-Indigenous Australians over the period 1998–99 to 2009–10 (8.5% increase in the rate ratio and 21% increase in the rate difference for persons over the period). This reflects both a relative and absolute increase in the gap between hospitalisation rates of Indigenous and non-Indigenous Australians for mental health-related conditions over the period 1998–99 to 2009–10.

Table 3.10.10: Age-standardised hospitalisation rates, rate ratios and rate differences for mental health-related conditions, Qld, WA, SA and NT combined, 1998–99 to 2009–10(a)

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change(b)	Per cent change over period(c)
Indigenous separations														
Males	2,510	2,667	2,863	2,876	2,888	2,879	2,864	2,983	3,187	3,334	3,511	3,682	89.6*	39.2*
Females	2,018	2,051	2,433	2,564	2,731	2,765	2,855	2,805	2,822	2,964	3,136	3,371	104.8*	57.1*
Persons	4,528	4,718	5,296	5,440	5,620	5,644	5,719	5,788	6,009	6,298	6,647	7,053	194.3*	47.2*
Non-Indigenous separations														
Males	38,915	41,895	43,945	43,496	42,070	43,288	42,541	42,456	46,612	46,369	48,574	49,584	735.8*	20.8*
Females	41,986	49,274	50,879	49,835	52,372	54,144	55,252	54,308	54,291	54,157	60,081	59,947	1213.2*	31.8*
Persons	80,903	91,170	94,826	93,331	94,444	97,432	97,793	96,764	100,903	100,526	108,655	109,531	1948.8*	26.5*
Indigenous number per 1,000														
Males	24.4	24.6	26.1	24.8	24.3	23.7	23.2	24.0	24.4	25.0	25.5	26.4	0.1	3
Females	18.5	17.4	20.8	20.7	21.5	21.4	21.4	20.7	20.0	21.0	21.7	22.3	0.3*	15.9*
Persons	21.3	20.8	23.3	22.7	22.8	22.4	22.2	22.2	22.1	22.9	23.6	24.2	0.2*	8.7*
Non-Indigenous number per 1,000														
Males	11.9	12.4	12.8	12.4	11.8	11.9	11.5	11.2	11.9	11.5	11.8	11.8	–0.1*	–6.7*
Females	12.3	14.3	14.5	14.0	14.4	14.7	14.8	14.2	13.8	13.5	14.6	14.3	0.1	5.3
Persons	12.0	13.3	13.7	13.2	13.2	13.3	13.1	12.7	12.9	12.5	13.2	13.0	–0.01	–0.6
Rate ratio(d)														
Males	2.1	2.0	2.0	2.0	2.1	2.0	2.0	2.1	2.0	2.2	2.2	2.2	0.02*	9.8*
Females	1.5	1.2	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.6	1.5	1.6	0.01*	9.1*
Persons	1.8	1.6	1.7	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.9	0.01*	8.5*

(continued)

Table 3.10.10 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences for mental health-related conditions, Qld, WA, SA and NT combined, 1998–99 to 2009–10[(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(e)]														
Males	12.5	12.2	13.3	12.4	12.4	11.8	11.7	12.8	12.5	13.5	13.8	14.7	0.1*	12.2*
Females	6.2	3.1	6.3	6.7	7.1	6.7	6.6	6.5	6.1	7.5	7.1	8.0	0.2*	36.9*
Persons	9.3	7.5	9.6	9.4	9.7	9.1	9.1	9.6	9.2	10.4	10.3	11.2	0.2*	20.8*

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2001–02 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Tasmania, Northern Territory and ACT.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 2001–02 and 2009–10 based on the average annual change over the period.

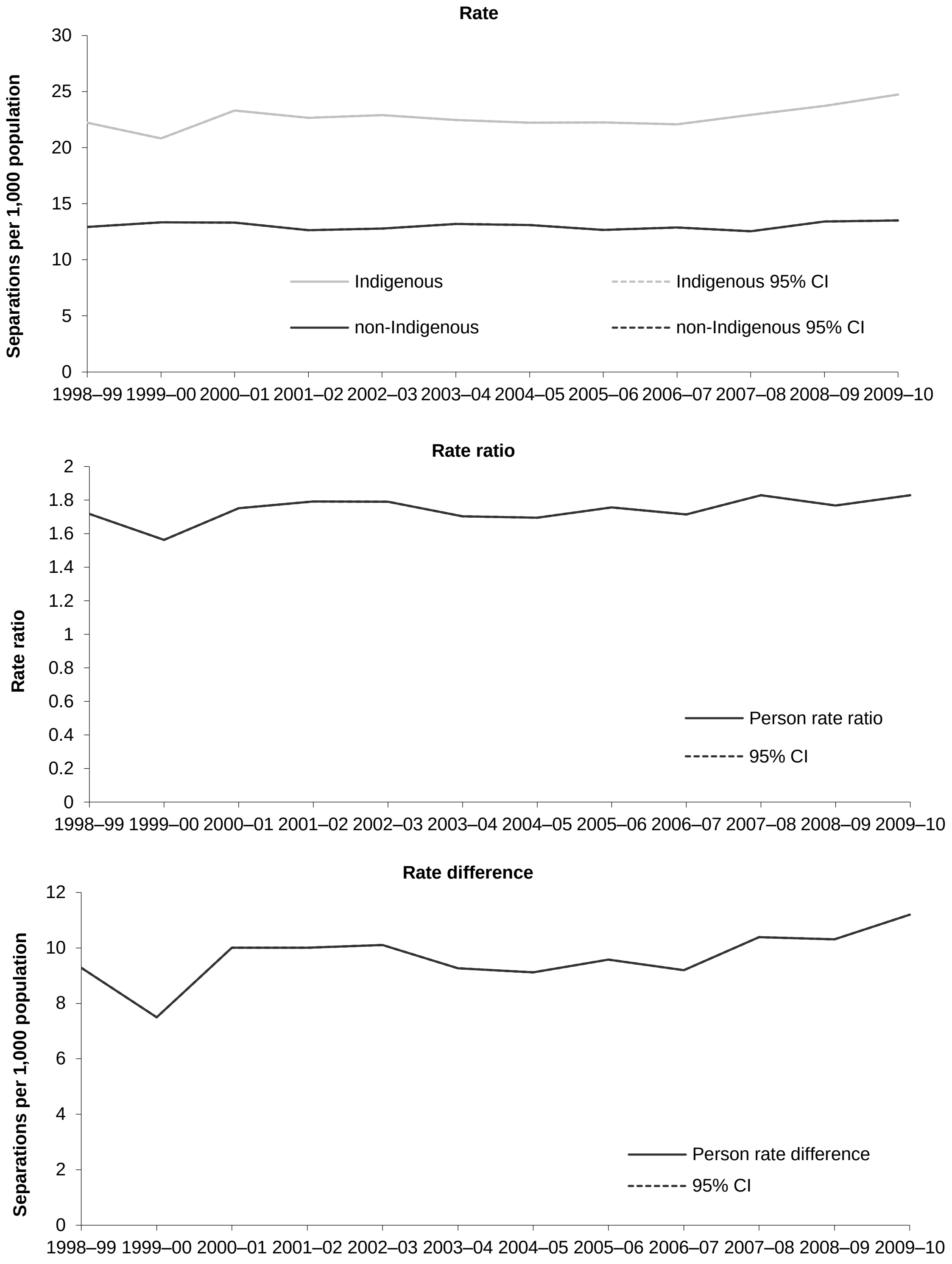
(d) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for non-Indigenous.

(e) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for non-Indigenous Australians.

Notes

1. Exclude care type 7.3,9,10, unknown Indigenous Status and unknown mental health flag.
2. Rate per 1000 using the Australian 2001 standard population.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.10.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from mental-health-related conditions, Qld, WA, SA and NT combined, 1998–99 to 2009–10

Hospitalisations of mental health-related conditions (2004–05 to 2009–10)

Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians for mental health-related conditions over the four year period 1998–99 to 2009–10 are presented in Table 3.10.11 and Figure 3.10.3.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for mental health-related conditions among Indigenous males during the period 2004–05 to 2009–10. The average yearly increase in the rate was 0.5 per 1,000, which is equivalent to a 9.5% increase over the period. There were also significant changes in hospitalisation rates for mental health-related conditions among Indigenous females over the same period (8.9% increase).
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and non-Indigenous persons over the period 2004–05 to 2009–10 (5.1% increase in the rate ratio and 17% increase in the rate difference over the period). This reflects both a relative and absolute increase in the gap between hospitalisation rates of Indigenous and non-Indigenous Australians for mental health-related conditions over the period 2004–05 to 2009–10.

Table 3.10.11: Age-standardised hospitalisation rates for mental-health related conditions, rate ratios and rate differences, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2009–10[(a)]

	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Indigenous separations								
Males	5,160	5,600	5,922	6,168	6,224	6,621	269*	26.1*
Females	4,850	4,852	5,119	5,385	5,654	5,828	216*	22.3*
Persons	10,010	10,452	11,041	11,553	11,878	12,449	485*	24.2*
Non-Indigenous separations								
Males	122,051	121,236	126,486	128,077	132,853	136,444	3,097*	12.7*
Females	154,710	157,371	158,308	161,933	169,662	182,731	5,160*	16.7*
Persons	276,762	278,607	284,794	290,014	302,521	319,203	8,262*	14.9*
Indigenous rate per 1,000								
Males	26.4	27.8	28.5	28.9	28.4	29.4	0.5*	9.5*
Females	23.3	22.2	22.9	24.0	24.5	24.7	0.4*	8.9*
Persons	24.8	24.8	25.5	26.4	26.4	27.0	0.5*	9.4*
Non-Indigenous rate per 1,000								
Males	12.9	12.6	12.9	12.8	13.0	13.1	0.04*	1.7*
Females	15.9	16.0	15.8	15.8	16.2	17.2	0.2*	6.1*
Persons	14.4	14.3	14.3	14.3	14.6	15.1	0.1*	4.1*
Rate ratio[(d)]								
Males	2.0	2.2	2.2	2.3	2.2	2.3	0.03*	7.7*
Females	1.5	1.4	1.5	1.5	1.5	1.4	0.01*	2.9*
Persons	1.7	1.7	1.8	1.8	1.8	1.8	0.02*	5.1*
Rate difference[(e)]								
Males	13.5	15.2	15.6	16.1	15.4	16.4	0.5*	17.0*
Females	7.4	6.3	7.1	8.2	8.3	7.5	0.2*	15.0*
Persons	10.4	10.5	11.2	12.0	11.8	11.9	0.4*	16.7*

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2004–05 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Tasmania, Northern Territory and ACT.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

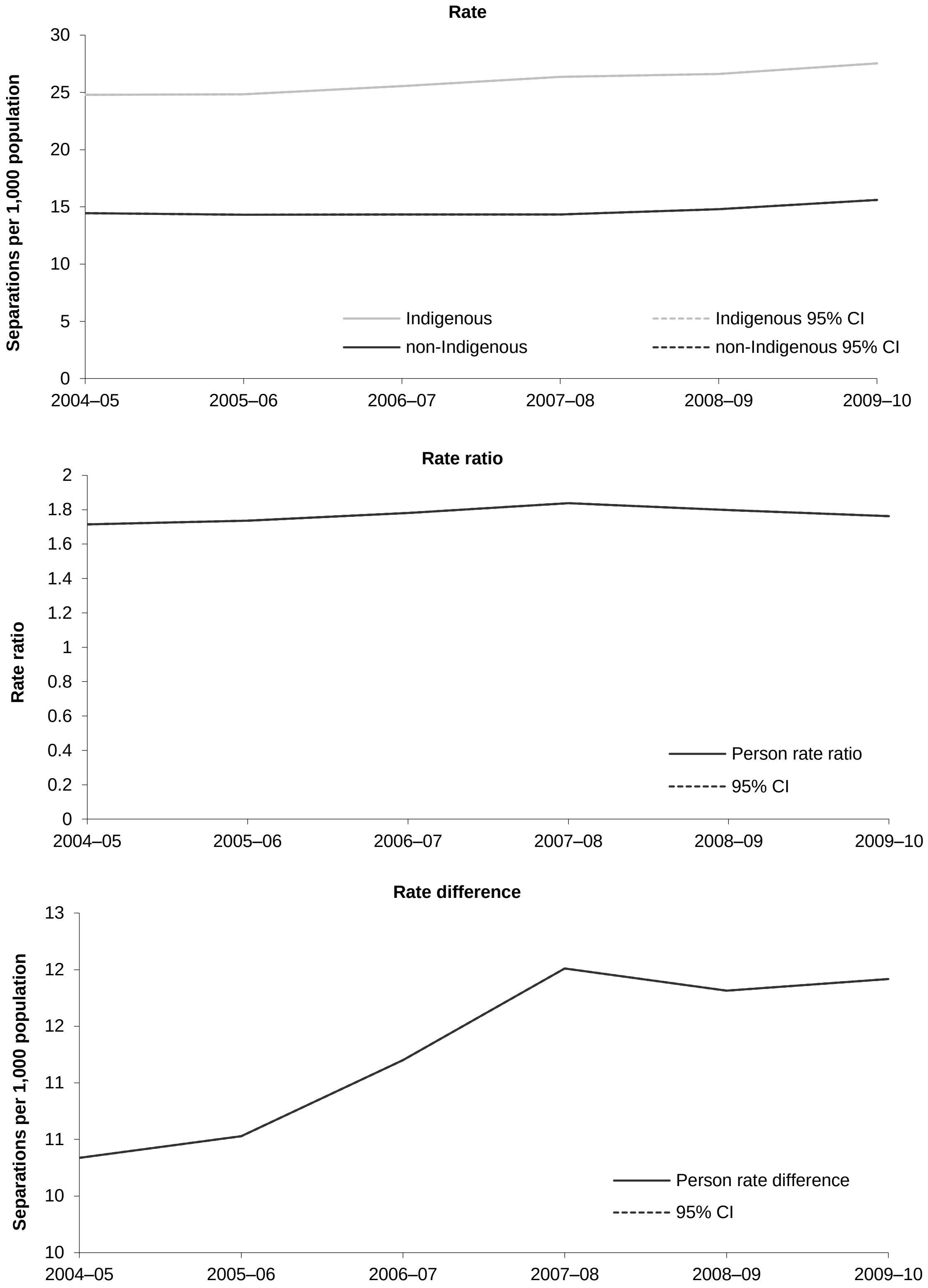
(c) Per cent change between 2004–05 and 2009–10 based on the average annual change over the period.

(d) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for non-Indigenous Australians.

Note: Rates have been directly age-standardised using the 2001 Australian standard population.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.10.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from mental-health-related conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2009–10

Public psychiatric hospitals

Information on the number of public psychiatric hospitals in Australia is available from the National Mental Health Establishments Database.

- In 2008–09, there were 16 public psychiatric hospitals in Australia with 2,029 available beds. The majority of hospitals were located in *Major cities* (75% or 12 hospitals) and *Inner regional* areas (19% or 3 hospitals). There were no public psychiatric hospitals located in *Remote* or *Very remote* areas (Table 3.10.12).
- Among jurisdictions, New South Wales reported the highest number of available beds in public psychiatric hospitals (911), although South Australia had the highest number of available beds per 100,000 population (21 beds).
- In 2008–09, there were 140 public acute hospitals with a specialised psychiatric unit or ward. New South Wales and Victoria had the largest number of public acute hospitals with specialised psychiatric units or wards (50 and 31, respectively), while Tasmania and Queensland had the highest number of beds per 100,000 population (26 and 24, respectively) (Table 3.10.8). The majority of public acute hospitals with specialised psychiatric units or wards were located in *Major cities* (67% or 94 hospitals) (Table 3.10.13).

Table 3.10.12: Public psychiatric hospitals[(a)] and available beds, by remoteness area and state/territory, 2008–09

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Public psychiatric hospitals									
Major cities	6	2	1	1	2	. .	. .	. .	12
Inner regional	2	. .	1	. .	. .	. .	. .	. .	3
Outer regional	. .	. .	1	. .	. .	. .	. .	. .	1
Remote and very remote	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total all regions	**8**	**2**	**3**	**1**	**2**	**. .**	**. .**	**. .**	**16**
Available psychiatric beds									
Major cities	658	154	192	246	343	. .	. .	. .	1,593
Inner regional	253	. .	156	. .	. .	. .	. .	. .	409
Outer regional	. .	. .	27	. .	. .	. .	. .	. .	27
Remote and very remote	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total all regions	**911**	**154**	**375**	**246**	**343**	**. .**	**. .**	**. .**	**2,029**
Available psychiatric beds per 100,000 population[(b)]									
Major cities	12.9	3.9	7.5	15.9	29.4	. .	. .	. .	10.8
Inner regional	17.8	. .	16.5	. .	. .	. .	. .	. .	9.6
Outer regional	. .	. .	4.1	. .	. .	. .	. .	. .	1.3
Remote and very remote	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total all regions	**13.0**	**2.9**	**8.7**	**11.3**	**21.4**	**. .**	**. .**	**. .**	**9.4**

(a) These figures differ from *Australian hospital statistics 2008–09* due to differences in definitions and jurisdictional reporting.

(b) Crude rate based on the preliminary Australian estimated resident population of the remoteness area (RA) as at June 2008, based on the location of the hospital. Some hospitals were split between two or more RAs. Where this was the case, the data were weighted according to the proportion of the population in each RA.

Source: AIHW analysis of the National Mental Health Establishments Database.

Table 3.10.13: Public acute hospitals with specialised psychiatric unit or ward[(a)] and available beds, by remoteness area, and state/territory, 2008–09

	NSW	Vic	Qld	WA[(b)]	SA	Tas	ACT	NT	Total
Public acute hospitals with psychiatric units or wards									
Major cities	34	24	15	11	8	. .	2	. .	94
Inner regional	15	6	7	2	. .	5	. .	. .	35
Outer regional	2	1	3	2	. .	1	. .	1	10
Remote and very remote	. .	. .	1	. .	. .	. .	. .	1	2
Total all regions	**50**	**31**	**26**	**15**	**8**	**6**	**2**	**2**	**140**
Available psychiatric beds									
Major cities	1,230	865	701	389	233	. .	63	. .	3,481
Inner regional	298	187	194	27	. .	110	. .	. .	816
Outer regional	14	12	126	16	. .	20	. .	26	214
Remote and very Remote	. .	. .	8	. .	. .	. .	. .	8	16
Total all regions	**1,542**	**1,064**	**1,029**	**432**	**233**	**130**	**63**	**34**	**4,527**
Available psychiatric beds per 100,000 population[(c)]									
Major cities	24.1	21.6	27.2	25.1	20.0	. .	18.2	. .	23.6
Inner regional	20.9	17.5	20.5	9.6	. .	34.1	. .	. .	19.3
Outer regional	3.0	4.7	19.3	8.0	. .	12.1	. .	21.3	10.6
Remote and very remote	. .	. .	5.7	. .	. .	. .	. .	8.1	3.2
Total all regions	**22.0**	**20.0**	**23.9**	**19.8**	**14.5**	**26.1**	**18.2**	**15.4**	**21.1**

(a) These figures differ from *Australian hospital statistics 2008–09* due to differences in definitions and jurisdictional reporting.

(b) Includes publicly funded private hospitals in Western Australia.

(c) Crude rate based on the preliminary Australian estimated resident population of the remoteness area (RA) as at June 2008, based on the location of the hospital. Some hospitals were split between two or more RAs. Where this was the case, the data were weighted according to the proportion of the population in each RA.

Source: AIHW analysis of the National Mental Health Establishments Database.

Residential mental health care services

Residential mental health care refers to care provided by a specialised mental health service that:

- employs mental health care-trained staff on–site
- provides rehabilitation, treatment or extended care to residents for whom the care is intended to be on an overnight basis and in a domestic–like environment
- encourages the resident to take responsibility for their daily living activities.

These services include those that employ mental health-trained staff on-site 24 hours per day and other services with less intensive staffing. However, all these services employ on-site mental-health-trained staff for some part of the day. There are no residential mental health care services in Queensland.

- In 2009–10, there were 3,964 residential mental-health-care service episodes provided in Australia, 121 of which (3%) were for Indigenous people (Table 3.10.14).
- Nationally, Indigenous people were 1.5 times more likely than non-Indigenous people to receive a residential mental-health-care service; however rate ratios were substantially higher in South Australia and New South Wales (4.9 and 4.0 respectively).

Table 3.10.14: Residential mental-health-care episodes per 10,000 population, by Indigenous status and state/territory, 2009–10

	NSW	Vic	Qld(a)	WA	SA	Tas	ACT	NT	Total
					Number				
Indigenous	18	27	. .	8	19	16	0	33	121
Non-Indigenous	196	2,200	. .	215	190	780	55	49	3,685
Not stated	0	13	. .	0	10	133	2	0	158
Total	**214**	**2,240**	**. .**	**223**	**219**	**929**	**57**	**82**	**3,964**
					Number per 10,000 population(b)				
Indigenous	1.2	9.8	. .	1.4	6.4	11.6	0.0	4.4	2.5
Non-Indigenous	0.3	4.0	. .	1.0	1.3	15.2	1.5	2.8	1.7
Ratio(c)	4.0	2.5	. .	1.4	4.9	0.8	0.0	1.6	1.5
Rate Difference(d)	0.9	5.8	. .	0.4	5.1	–3.6	–1.5	1.6	0.8
Total	**0.3**	**4.1**	**. .**	**1.0**	**1.4**	**17.7**	**1.6**	**3.4**	**1.8**

(a) Queensland does not report any government-operated residential mental health services.

(b) Rates were directly age-standardised using the Australian 2001 standard population

(c) Rate ratio—Indigenous: non-Indigenous.

(d) Rate difference is equal to Indigenous rate minus non-Indigenous.

Note: Shading indicates that the Indigenous identification in the National Community Mental Health Care Database (NCMHCD) in these jurisdictions is in need of improvement. This is based on information provided by state and territory health authorities on the quality of their data in the NCMHCD. Data from these states and territories should be interpreted with caution because of likely under identification of Indigenous Australians.

Source: AIHW analysis of National Residential Mental Health Care Database.

Self-reported data

Self-reported data from the 2004–05 NATSIHS on visiting a health professional for mental-health-related reasons are presented in Tables 3.10.15, 3.10.16 and 3.10.17 below.

- In 2004–05, approximately 12% of Indigenous Australians Persons reported visiting a health professional about their feelings in the four weeks prior to survey (Table 3.10.15).
- The Northern Territory had the highest proportion of Indigenous Australians reporting they visited a health professional about their feelings (17%) followed by Victoria (16%); New South Wales and Queensland had the lowest (both 10%).
- The highest proportion of Indigenous Australians, aged 18 years and over who scored greater than 1 on at least one of the K5 (Kesslor Psychological Distress Scale) items, who reported visiting a professional about their feelings were in *Very remote* areas (14%) followed by *Inner regional* areas (13%) (Table 3.10.16).
- A higher proportion of Indigenous Australians (20%) than non-Indigenous Australians reported visiting an ‘other health professional’ (13%) (Table 3.10.17).

Table 3.10.15: Whether saw a doctor or health professional about feelings in last 4 weeks, Indigenous Australians, by state/territory, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
					Per cent				
Yes	10	16	10	11	13	13	13	17	12
No	89	83	90	88	86	87	87	82	88
Don't know/not stated/refusal	1[(a)]	1[(a)]	—	1[(a)]	—[(a)]	—[(a)]	—	1[(a)]	1[(b)]
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number[(c)]	**63,317**	**13,405**	**58,068**	**28,676**	**11,793**	**8,345**	**1,966**	**23,073**	**208,643**

(a) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(b) Estimate has a relative standard error of between 25% and 50% and should be interpreted with caution.

(c) Persons who were asked whether they saw a doctor or other health professional about feelings.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 3.10.16: Whether saw a doctor or health professional about feelings in last 4 weeks, Indigenous Australians,[(a)] by remoteness, 2004–05

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
			Per cent			
Yes	11	13	10	12	14	12
No	88	86	90	87	86	88
Don't know/not stated/refused	—[(b)]	—[(b)]	n.p.	n.p.	n.p.	—[(c)]
Total[(d)]	**100**	**100**	**100**	**100**	**100**	**100**
Total number[(d)]	**65,915**	**43,047**	**46,086**	**17,160**	**35,177**	**207,384**

(a) Persons aged 18 years and over who scored greater than 1 on at least one of the K5 (Kesslor Psychological Distress Scale) items.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Estimate has a relative standard error of between 25% and 50% and should be interpreted with caution.

(d) Includes refusal.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 3.10.17: Type of other health professional consulted (selected), by Indigenous status and remoteness, 2004–05

	Non-remote		Remote[(a)]		Australia	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous[(b)]	Indigenous	Non-Indigenous
			Per cent			
Accredited counsellor[(c)]	1	—	—[(d)]	n.a.	1	—
Psychologist	1	—	—[(d)]	n.a.	1	—
Other health professional[(e)]	15	13	30[(d)]	n.a.	18	13
Total who saw other health professional[(f)(g)]	**16**	**13**	**32[(d)]**	**n.a.**	**20**	**13**
Total number	**348,315**	**19,061,481**	**125,995**	**n.a.**	**474,310**	**19,292,387**

(a) Respondents in non-remote areas were provided with a prompt card, which contained 'other health professional' categories whereas the question in remote areas was open-ended. Subsequently there may have been some under-reporting by remote respondents.

(b) Non-Indigenous data were not collected in Very Remote areas of Australia in the 2004–05 NHS.

(c) Persons in remote areas who saw a mental health worker were coded as having seen an accredited counsellor.

(d) Estimate has a relative standard error of between 25% and 50% and should be interpreted with caution.

(e) Persons who saw an 'other health professional' other than an accredited counsellor and/or psychologist.

(f) Includes ‘not stated’ and ‘not known if consulted other health professional’.

(g) Sum of components may add up to more than total as persons may have reported seeing more than one type of other health professional.

Note: Data are age-standardised.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Psychiatrists and psychologists employed in Australia

Information on the number of psychiatrists and psychologists employed in Australia comes from the National Health Workforce Data Set.

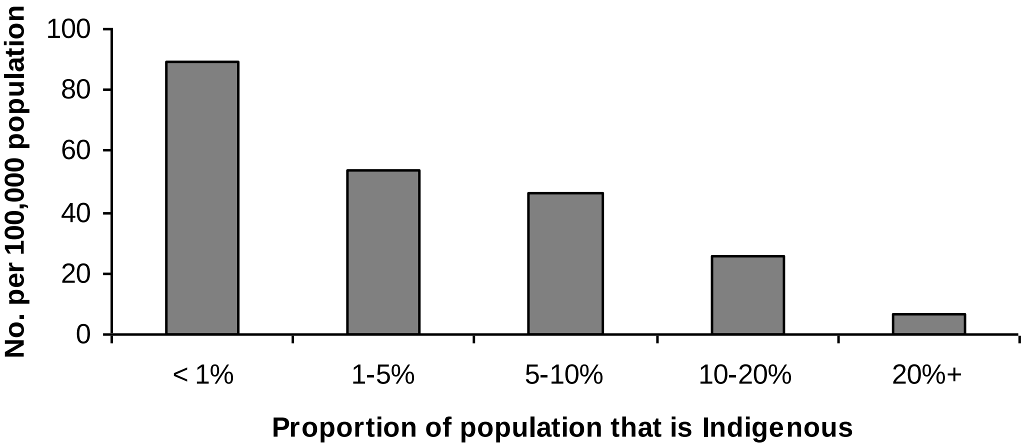
The AIHW Medical Labour Force Survey collected information on the number of psychiatrists in Australia.

- In 2009, it was estimated that 3,005 psychiatrists and 725 psychiatrists-in-training were working in Australia, which represents about one in twenty (5.1%) employed medical practitioners (AIHW 2011a).
- There were 18 FTE psychiatrists (including psychiatrists-in-training) per 100,000 population in Australia in 2009. The rate ranged from 11 FTE per 100,000 in the Northern Territory to 22 per 100,000 in Queensland.
- The rate of FTE psychiatrists per 100,000 population was much higher in *Major cities* (23 per 100,000) than in *Remote* and *Very remote* areas (3 per 100,000). In 2009, 89.5% of FTE psychiatrists (for whom region was reported) worked mainly in the *Major cities*. Once population sizes were taken into account, the FTE psychiatrists per 100,000 population was highest in *Major cities* (23) followed by *Inner regional* (7) and *Outer regional* (5) areas (AIHW 2011a).

Information on psychologists in Australia is available from the AIHW Psychologist Labour Force Survey, the latest of which was conducted in 2002.

The 2002 survey was conducted in five jurisdictions (New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory). The number of registered psychologists in these jurisdictions comprised around 86% of psychologists registered nationally. Coverage excludes those psychologists whose initial registration occurred during the 12 months preceding the survey. The overall response rate for the five jurisdictions was 56%.

- In 2003, there were 14,073 employed psychologists in the five jurisdictions included in the AIHW survey. The FTE rates of psychologists per 100,000 population for each jurisdiction were estimated to be: New South Wales, 88; Victoria, 95; Queensland, 64; South Australia, 54; and the Australian Capital Territory, 170 (AIHW 2006).
- The FTE rate of employed psychologists was highest in areas where less than 1% of the population was Indigenous (89 per 100,000) and lowest in areas where 20% or more of the population was Indigenous (7 per 100,000) (Table 3.10.18; Figure 3.10.4).



Notes

1. In 2002, 492 employed psychologists did not report the postcode they worked in. Hence the number of employed psychologists stated by region is an underestimate.
2. Data for New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory only.
3. FTE is based on 35 hours per week.

Source: AIHW analysis of Psychologist Labour Force Survey, 2002–03.

Figure 3.10.4: FTE employed psychologists per 100,000 population, by proportion of Indigenous population living in an area, 2002–03

Table 3.10.18: FTE employed psychologists per 100,000 population, by proportion of Indigenous population living in an area, 2002–03

Proportion of the population that is Indigenous	FTE per 100,000 population
< 1%	89
1–5%	54
5–10%	46
10–20%	26
20%+	7

Notes

1. In 2002, 492 employed psychologists did not report the postcode they worked in. Hence the number of employed psychologists stated by region is an underestimate.
2. Data for New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory only.
3. FTE is based on 35 hours per week.

Source: AIHW analysis of Psychologist Labour Force Survey, 2002–03.

Additional information

Supported Accommodation Assistance Program

In 2010–11, 12% of both Indigenous and non-Indigenous clients of the Supported Accommodation Assistance Program with mental health-related closed support periods were identified as Aboriginal or Torres Strait Islander Australians. After adjusting for differences in age, this was five times the rate for non-Indigenous Australians (Table 3.10.19).

Table 3.10.19: Supported Accommodation Assistance Program clients with mental health-related closed support periods by Indigenous status, 2010–11

	Clients			Closed support periods		
	Number[(a)(b)]	Per cent of clients[(b)]	Rate[(b)(c)] (per 100,000 population)	Number[(a)(b)]	Per cent of support periods[(b)]	Rate[(b)(c)] (per 100,000 population)
Indigenous status						
Indigenous Australians	2,107	11.8	399.4	2,605	11.0	501.5
Non-Indigenous Australians	15,715	88.2	73.4	21,089	89.0	98.5
Total number	**17,822**	**100**	**84.3**	**23,694**	**100.0**	**116.4**

(a) The number of clients for Indigenous status, and number of closed support periods for Indigenous status, were missing and/or not reported for nearly 3.5% of the total.

(b) The numbers, percentages and rates shown do not include those clients or closed support periods for which Indigenous identification was missing.

(c) Rates were calculated using population census 2006. Other population, which was equal total Australian population minus Indigenous population, were used to calculate rate for non-Indigenous Australia.

Source: Supported Accommodation Assistance Program Client Collection.

Data quality issues

Medicare data

MBS items

The MBS items included in this measure have been introduced over the last few years with the child health check item commencing in May 2006. The take-up of new MBS items is influenced by the speed at which practitioners and the population become aware of the new items and how to use them. Also take-up can be influenced by administrative processes and the time taken to change computer systems to incorporate these new items.

Standard Indigenous status question

In November 2002, the ABS standard question on Indigenous identification was included on Medicare enrolment forms. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Under-identification

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. There were around 339,310 people who had identified as Aboriginal and/or Torres Strait Islander in this database at May 2012; around 59% of the estimated Aboriginal and Torres Strait Islander population (AHMAC 2012). There has been a rapid expansion in the number of enrolees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

Readers should note the following caveats to the Medicare voluntary Indigenous Identifier (VII) adjustment methodology:

- Estimates generated by the adjustment methodology for a given period will vary according to the point in time at which they are calculated, as the adjustment factors will be updated regularly to account for the ongoing change in the population coverage of the VII sample.
- There are inherent uncertainties in the current ABS Indigenous population estimates, and they are therefore described by the ABS as ‘experimental estimates and projections’. The ABS Indigenous population estimates after 2006–07 are experimental projections, based on a number of assumptions about future levels of fertility, mortality and migration. The projections are not predictions or forecasts, but are illustrations of the growth and change in population that would occur if these assumptions were to prevail over the projection period. There can be no certainty that any particular outcome will be realised, or that future outcomes will necessarily fall within the projected ranges.
- The propensity to identify as Aboriginal and/or Torres Strait Islander varies according to the motivations of the individual and the perceived uses of the data in question. For example, it is possible that there are some Aboriginal and Torres Strait Islander people who are registered with the VII but who do not identify as Indigenous for the purposes of the Census, or vice versa.
- In some areas, particularly remote and very remote areas, there is a portion of the Indigenous population that does not ever use the Medicare system. It is therefore possible that the adjustment methodology could overestimate Medicare use by the Indigenous population.

- As the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could be biases in the data that are not addressed by the adjustment methodology.

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in *General practice in Australia, heath priorities and policies 1998 to 2008*, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

OATSIH Service Reporting (OSR) data collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012a).

National Community Mental Health Care Database

There is some variation in the types of service contacts included across jurisdictions. For example, some jurisdictions include written correspondence as service contacts while others do not. The Northern Territory estimates that there could be a deficit of between 25–35% of service contact records. Coverage for most other jurisdictions is estimated to be between 95–100%.

The numerator includes people who receive a service in one jurisdiction but normally reside in another. There will be some mismatch between numerator and denominator in areas with cross-border flows.

Indigenous under-identification

The Indigenous status data should be interpreted with caution due to the varying and, in some instances, unknown quality of Indigenous identification across jurisdictions. The Other Australians category includes contacts where Indigenous status was missing or not reported (around 7% of all contacts). All states and territories use the standard ABS question of Indigenous status.

National Hospital Morbidity Data

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

Residential Mental Health Care

The scope for this collection is all episodes of residential care for residents in all government-funded and operated residential mental health services in Australia, except those residential care services that are in receipt of funding under the *Aged Care Act 1997* and subject to Commonwealth reporting requirements (that is, they report to the System for the Payment of Aged Residential Care collection). The inclusion of government-funded, non-government-operated services and services that are not staffed for 24 hours a day is optional. Queensland does not have any in-scope government-operated residential mental health services and therefore does not report to this collection.

For the 2009–10 data collection, all but 8 of the facilities reported had mental health trained staff on-site 24 hours a day. Data from 11 non-government organisations were also included in the 2009–10 collection. All jurisdictions reported 100% data coverage in 2009–10.

Data from the NRMHCD on Indigenous status should be interpreted with caution because of the varying quality and completeness of Indigenous identification across all jurisdictions. No formal assessment of the level of under-identification has been conducted for this data collection, however Western Australia, South Australia, the Northern Territory and the Australian Capital Territory considered their Indigenous status data of acceptable quality in 2009–10. In Victoria and New South Wales, there has been an increasing focus on collecting Indigenous data more accurately in accordance with best practice guidelines. Tasmania reported that the quality of the Indigenous status data collected does require improvement and is being addressed with the implementation of a new mental health information system (AIHW 2011b).

National Health Workforce Data Set (NHWDS)

The Australian Health Practitioner Regulation Agency (AHPRA), in conjunction with the national boards, is responsible for the national registration process for 14 health professions. The data from this annual registration process, together with data from a workforce survey that is voluntarily completed at the time of registration, forms the National Health Workforce Dataset (NHWDS). Data in the NHWDS includes demographic and employment information (for example labour force status, location of main job, area of practice, work setting) for registered health professionals.

AIHW Medical Labour Force Survey

The AIHW Medical Labour Force Survey is conducted on an annual basis. Survey responses are weighted by state, age and sex to produce state and territory and national estimates of the total medical labour force. Benchmarks for weighting come from registration information provided by state and territory registration boards.

The response rates to this survey can vary from year to year and across jurisdictions, but have stayed fairly stable over the five years to 2004. Note that the questionnaires have varied over time and across jurisdictions. Mapping of data items has been undertaken to provide time series data. However, because of this, and the variation in response rates, some caution should be used in interpreting change over time and differences across jurisdictions.

More detailed information about how these surveys were conducted is available from the *Medical labour force 2009* (AIHW 2011a).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

Supported Accommodation Assistance Program (SAAP)

The SAAP collection is an administrative data collection and therefore cannot be used as an indicator for the Australian population. Due to the definition of homelessness for SAAP, there is no way to distinguish whether a person who receives SAAP support was at imminent risk of homelessness or was actually homeless. Therefore, SAAP cannot be used as an indicator for the Australian homeless population.

SAAP also requires valid consent to be given each time a client is supported (support period) in order to collect all the client level and support period level information. However, if consent is not given then only a limited about of information can be collected about the particular client and their support period and this client cannot be linked with any other support periods they may have had.

The Indigenous status question for SAAP requires consent to collect information and is answered by the client and must be recorded as stated by the client, irrespective of the workers perception based on appearance or other factors. This may lead to an undercount of Indigenous SAAP clients if the client does not give consent or does not identify as being of Aboriginal or Torres Strait Islander origin.

A weighting model has been developed to adjust for agency non-participation, client non-consent and client mixed consent in SAAP data. These weights are applied to the majority of SAAP tables and help reflect the true usage of SAAP services across Australia.

From July 2011, the SAAP NDC was replaced by the Specialist Homelessness Services Collection (SHSC). The SHSC was developed by the AIHW in collaboration with the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs and relevant departments of all state and territory governments.

Key differences between the SAAP NDC and SHSC include the expanded scope of agencies included in the SHSC, to agencies funded under the National Affordable Housing Agreement (NAHA) and National Partnership Agreement on Homelessness (NPAH); the inclusion of children as clients in their own right in SHSC (whereas accompanying children were recorded on their parent's form in SAAP NDC); and the monthly collection of client information and services provided for the SHSC (whereas SAAP NDC information was only collected at the end of a support period).

First results of the new SHSC from the first quarter of data collection—July to September 2011 were released in April 2012. This reported that almost one-fifth (19%) of clients who provided information on their Indigenous status were Aboriginal and/or Torres Strait Islander, while 12% of clients did not have information on Indigenous status recorded (AIHW 2012b). This is higher than the 5% of not stated responses reported for the last year of the SAAP NDC. However it should be noted that analysis of the September quarter 2011 SHSC data identified some implementation issues. In particular, the rate of invalid/'don't know'/missing responses was high for many data items. It is expected that rates of missing/not stated information will greatly reduce over the next few quarters of data collection as implementation issues are resolved.

With respect to agency participation rates in the new SHSC, 93% of relevant agencies returned support period data for at least one month in the September quarter 2011. This compares favourably with the SAAP agency participation rate, which was 90% in 2010–11 and 92% on average between 2001–02 and 2010–11.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.11 Access to alcohol and drug services

Access to alcohol and drug services by Indigenous Australians, expressed as percentages, rates, rate ratios and rate differences.

Data sources

Data related to access to alcohol and drug services come from the OATSIH Services Reporting data collection (OSR), the Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS-NMDS), the National Hospital Morbidity Database, the Bettering the Evaluation and Care of Health (BEACH) survey, and the National Opioid Pharmacotherapy Statistics Annual Data (NOPSAD) collection.

OATSIH Services Reporting data collection (OSR)

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS–NMDS)

The AODTS–NMDS is a collection of data from all publicly funded (at state, territory and/or Australian Government level) government and non-government agencies that provide one or more specialist alcohol and/or other drug treatment services. The National Minimum Data Set (NMDS) counts treatment episodes completed during the collection period.

There is a diverse range of alcohol and other drug treatment services in Australia and not all of these are in the scope of the AODTS–NMDS. Clients receiving services that are funded solely by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) as Indigenous Substance Use Services, Aboriginal primary health care services, Aboriginal medical services and community controlled health services are not currently included in the scope of the AODTS-NMDS.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Unit until 2008–09, and by the Family Medicine Research Centre, University of Sydney in collaboration with the AIHW in 2009–10 and 2010–11. On 30 June 2011, the AIHW ceased its involvement in the BEACH program and ceased publishing annual BEACH reports. The survey continues to be run and the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from a random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected from each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Before the late inclusion of a 'not stated' category of Indigenous status in 2001–02, 'not stated' responses were included with non-Indigenous encounters. Since then, GP encounters for which Indigenous status was not reported have been included with encounters for non-Indigenous people under the 'other' category.

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

National Opioid Pharmacotherapy Statistics Annual Data (NOPSAD)

The National Opioid Pharmacotherapy Statistics Annual Data (NOPSAD) collection is an administrative by-product collection (that is, secondary use). Data are collated in each jurisdiction from information already collected for the purposes of administering or providing a service (that is, primary use).

The main purpose of the current NOPSAD collection is to report jurisdictional data on the number of clients accessing pharmacotherapy for the treatment of opioid dependence, the number of prescribers participating in the delivery of pharmacotherapy treatment, and quantitative information about the prescribing sector. From the collection, national information on pharmacotherapy can be reported.

In 2005, the Australian Institute of Health and Welfare (AIHW) took on the responsibility for managing, analysing and reporting on the NOPSAD collection.

The collection includes information on client's Indigenous status. Currently Victoria, Western Australia, Tasmania and the Northern Territory are unable to provide data on the Indigenous status of clients receiving pharmacotherapy services.

Data Analyses

Aboriginal and Torres Strait Islander primary health-care services

- In 2010–11, almost 50% of Aboriginal and Torres Strait Islander primary health-care services offered drug and alcohol preventative health care programs (Table 3.11.1).
- Twenty six per cent of services offered group activities for the treatment or prevention of alcohol use, 34% offered group activities relating to tobacco use and 17% offered group activities for other types of substance use (Table 3.11.2).

Table 3.11.1: Proportion of Aboriginal and Torres Strait Islander primary health-care services that offered drug and alcohol preventative health care programs, 2010–11

Preventative health care programs	Per cent
Drug and alcohol programs	49.1
Total Number of Primary Health Care Services	**234**

Source: AIHW OSR data collection.

Table 3.11.2: Proportion[(a)] of Aboriginal and Torres Strait Islander primary health-care services that ran health promotion/prevention group activities during 2010–11

Health promotion/prevention group activities	Per cent
Alcohol use treatment/prevention groups	26.1
Tobacco use treatment/prevention groups	33.6
Other substance use treatment/prevention groups[(b)]	17.1

(a) Two hundred and eleven of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided information on group activities offered by the service. The percentages in the table are calculated as a proportion of these 211 services.

(b) Other groups activities refer to other health group activities provided by respondent Aboriginal and Torres Strait Islander primary health care services

Source: AIHW OSR data collection.

Programs/activities provided

Aboriginal and Torres Strait Islander stand- alone substance use services offer a range of programs and activities to support their communities. Information from the OSR on selected programs and activities provided is presented below.

- Of services that addressed drug and alcohol use, all provided information or education and around 90% provided case management or individual counselling. Other common services provided included: referrals, relationship or social skills training, support groups, group counselling, community education or activities, support for clients accessing mainstream services, cultural activities, and general living skills (Table 3.11.3).
- Of substance-use-specific services that ran selected group activities, 81% provided alcohol use groups, 62% offered tobacco use groups, and 70% provided other substance use groups. Seventy seven per cent of services ran men's groups, 66% provided women's groups and 34% offered groups for young people (Table 3.11.4).

Table 3.11.3: Proportion of Aboriginal and Torres Strait Islander primary health-care services conducting selected drug and alcohol service counselling approaches and cultural activities, 2010–11

Service	Per cent
Information/education	100.0
Case management	91.8
Individual counselling	91.8
General living skills	81.6
Cultural activities	79.6
Support for clients accessing mainstream services	87.8
Crisis intervention	67.3
Community education/activities	85.7
Group counselling	77.6
Support groups	73.5
Relationship/social skills training	77.6
Detoxification support & referral	55.1
Referral	71.4
Telephone counselling	61.2
School education & visits	55.1
Welfare/emergency relief	42.9
Management of Hepatitis C	30.6
Medication detox	24.5
Non-medicated detox	32.7
Tobacco control program	40.8
Mobile assistance program/night patrol	20.4
Needle exchange	4.1
Methadone management	8.2
Other substance use services	18.4
Total number of services addressing substance use	**49**

Source: AIHW OSR data collection.

Table 3.11.4: Proportion of Aboriginal and Torres Strait Islander substance-use-specific services that ran selected groups during 2010–11

Group	Per cent
Counselling groups	78.7
Support groups	76.6
Community based education & prevention groups	83.0
Cultural groups	85.1
Sport/recreation/physical education groups	74.5
Living skills groups	83.0
Alcohol use treatment/prevention groups	80.9
Tobacco use treatment/prevention groups	61.7
Other substance use treatment/prevention groups	70.2
Men's groups	76.6
Women's groups	66.0
Youth groups	34.0
Other	27.7
Total number of services that ran selected group	**47**

Source: AIHW OSR data collection.

Substance-use specific services

- In 2010–11, the most common types of program information provided by Indigenous substance-use specific services were community-based education and prevention and advocacy (all 84%) and non-residential counselling/rehabilitation (78%) (Table 3.11.5).
- Detoxification and sobering up centres and programs (both 25%), information on mobile assistance patrols (22%) and residential respite (12%) were the least likely to be provided by these services.

Table 3.11.5: Proportion of Aboriginal and Torres Strait Islander substance-use services providing specific program information, 2010–11

Services providing program information	Per cent
Residential treatment/rehabilitation	61.2
Residential respite	12.2
Detoxification	24.5
Sobering-up centre/program	24.5
Program for clients diverted from the legal system	73.5
Non-residential counselling/rehabilitation	77.6
Community-based education and prevention	83.7
Advocacy	83.7
Mobile assistance patrol/night patrol	22.4
Other	24.5
Total number of services[(a)]	**49**

(a) A service can provide more than one program therefore total number of service does not reflect the sum of above.

Source: AIHW OSR data collection.

Clients of alcohol and other drug treatment services

- In 2010–11, there were 19,628 treatment episodes involving Indigenous clients of alcohol and other drug treatment services (Table 3.11.6). This represented 13% of all clients, far exceeding the proportion of Indigenous people in the Australian population aged 10 years and over (2.2%) (AIHW 2012a).
- The proportion of treatment episodes was higher for Indigenous males (8%) than females (5%).
- Indigenous clients were generally younger than non-Indigenous clients. The proportion of episodes for Indigenous clients in the 10–19 and 20–29 year age groups was 21% and 30% respectively, compared with 11% and 27% for non-Indigenous clients. This may, in part, reflect the younger age structure of the Indigenous population (AIHW 2012a).

Clients of substance-use specific services

- In 2010–11, 3,634 residential treatment/rehabilitation episodes of care were provided to Indigenous and non-Indigenous clients by Aboriginal and Torres Strait Islander stand-alone substance use services. Approximately 85% (3,085) of these episodes were provided to Indigenous clients.
- Three out of four (71%) of the residential treatment/rehabilitation episodes of care in 2010–11 were provided to males. Indigenous males aged 19 years and over represented just over half (53%) of recipients of residential treatment/rehabilitation episodes of care (Table 3.11.7).
- In 2010–11, there were approximately 14,606 sobering-up/residential respite/short-term care episodes of care provided to Indigenous and non-Indigenous clients by Aboriginal and Torres Strait Islander stand- alone substance use services. Almost all (99%, 14,606) of these episodes were provided to Indigenous clients.
- Across all age groups, the majority of sobering-up/residential respite/short-term episodes of care were provided to males. Indigenous with unknown age represented the largest group (53%, 7,785) of recipients of sobering-up/residential respite/short-term episodes of care (Table 3.11.7).
- In 2010–11, 70,666 other episodes of care (non-residential/follow-up/aftercare), were provided to Indigenous and non-Indigenous clients by Aboriginal and Torres Strait Islander substance-use disorder specific services. Over three-quarters (74%, 52,465) of these episodes were provided to Indigenous clients.

Table 3.11.6: Treatment episodes by age group by Indigenous status and sex, 2010–11

	Indigenous			Non-Indigenous			Not stated			
Age group (years)	**Males**	**Females**	**Total(a)**	**Males**	**Females**	**Total(a)**	**Males**	**Females**	**Total(a)**	**Total episodes(b)**
					Number					
10–19	2,744	1,339	4,084	9,246	4,151	13,403	818	430	1,249	18,736
20–29	3,807	2,127	5,939	23,399	10,031	33,451	1,666	732	2,401	41,791
30–39	3,304	2,026	5,331	22,957	11,134	34,116	1,506	674	2,192	41,639
40–49	2,046	1,040	3,086	15,685	8,810	24,513	1,054	475	1,532	29,131
50–59	661	312	973	7,209	4,490	11,703	459	209	669	13,345
60+	93	64	157	2,985	1,941	4,935	174	99	273	5,365
Not stated	41	17	58	265	123	388	22	11	35	481
Total	**12,696**	**6,925**	**19,628**	**81,746**	**40,680**	**122,509**	**5,699**	**2,630**	**8,351**	**150,488**
					Per cent					
10–19	21.6	19.3	20.8	11.3	10.2	10.9	14.4	16.3	15	12.5
20–29	30	30.7	30.3	28.6	24.7	27.3	29.2	27.8	28.8	27.8
30–39	26	29.3	27.2	28.1	27.4	27.8	26.4	25.6	26.2	27.7
40–49	16.1	15	15.7	19.2	21.7	20	18.5	18.1	18.3	19.4
50–59	5.2	4.5	5	8.8	11	9.6	8.1	7.9	8	8.9
60+	0.7	0.9	0.8	3.7	4.8	4	3.1	3.8	3.3	3.6
Not stated	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Proportion of treatment episodes	**8.4**	**4.6**	**313**	**54.3**	**27**	**81.4**	**3.8**	**1.7**	**5.5**	**100**

(a) There were 7 episodes for Indigenous Australians where sex was 'not stated', 83 episodes for non-Indigenous people where sex was 'not stated' and 22 episodes where Indigenous status and sex were 'not stated'.

(b) Includes 'not stated' for sex.

Source: AIHW 2012a, Table 3.3.

Table 3.11.7: Residential treatment/rehabilitation, sobering-up/residential respite and non-residential/follow-up/aftercare episodes of care at Stand-alone Substance Use services by Indigenous status, age and sex, 2010–11

	0–18				19–35				36 years and over				Unknown age		Unknown Indigenous status
	Indig.		Non-Indig.		Indig.		Non-Indig.		Indig.		Non-Indig.		Indig.	Non-Indig.	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total	Total	Total
Residential treatment/rehabilitation episodes of care	215	109	15	8	1,154	414	198	59	780	309	223	46	104	0	11
Sobering-up/residential respite episodes of care	26	15	0	2	1,487	1,040	19	9	2,719	1,408	51	5	7,785	40	0
Non-residential/follow-up/aftercare episodes of care	3,499	2,312	813	699	10,485	10,188	4,051	4,516	12,531	9,098	4,580	3,531	4,352	11	5,290

Note: Thirty of the 49 respondent Aboriginal and Torres Strait Islander substance use services provided valid data for the number of residential treatment/rehabilitation episodes of care. Thirteen services provided valid data for the number of sobering-up/residential respite episodes of care. Forty services provided valid data for the number of non-residential/follow-up/aftercare episodes of care.

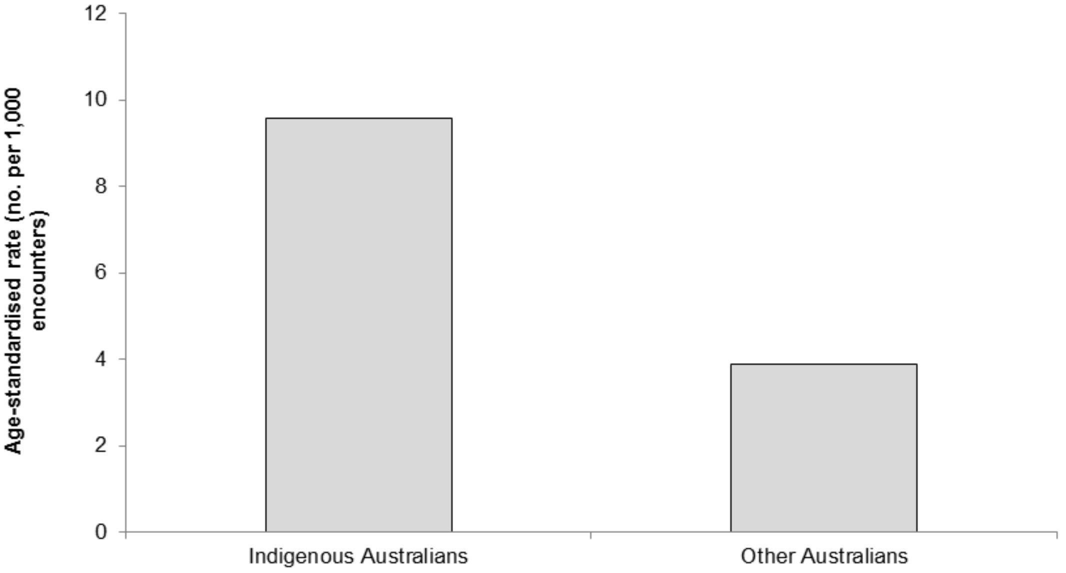
Source: Drug and Alcohol Service Report, 2008–09, 2009–10, 2010–11.

Hospitalisations due to alcohol or drug use

- Between June 2008 and June 2010, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 7,763 hospitalisations of Indigenous people with a principal diagnosis relating to alcohol use (See Indicator 2.16, Table 2.16.18).
- Indigenous people were hospitalised at 4 times the rate of non-Indigenous people for alcohol related conditions.
- Over the same period, in the jurisdictions highlighted above, there were 4,537 hospitalisations of Indigenous people with a principal diagnosis relating to drug use (See Indicator 2.17, Table 2.17.11).
- Indigenous people were 2.3 times more likely than non-Indigenous people to be hospitalised for drug related conditions.

Alcohol counselling provided by general practitioners

- In the five year period from April 2006–March 2007 to April 2010–March 2011, the rate of general practitioner encounters for alcohol advice or counselling for Indigenous people was 2.5 times the rate of encounters for non-Indigenous people (Figure 3.11.1 and Indicator 3.07, Table 3.07.4).

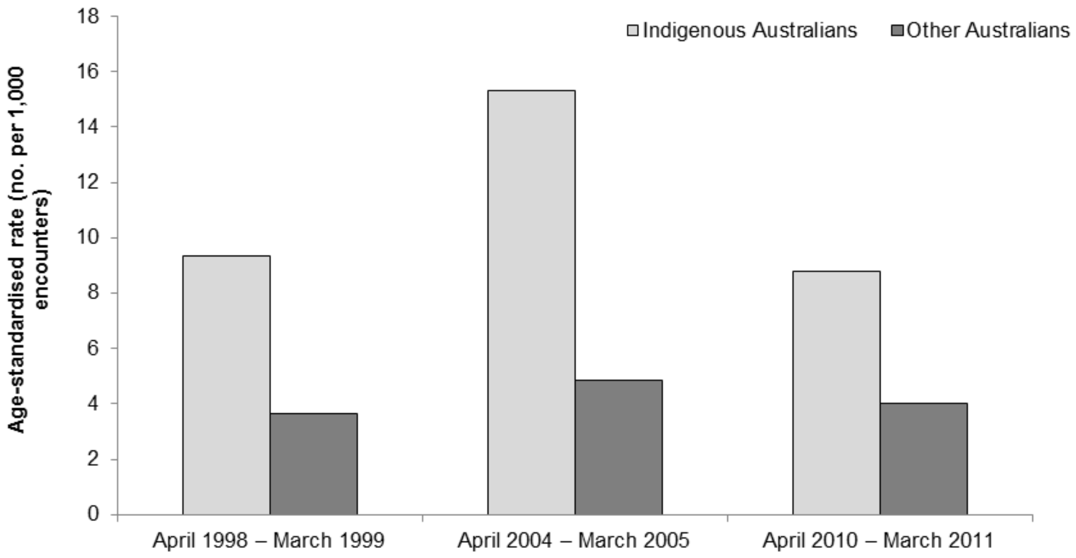


Note: IPCP-2 codes defining counselling/ advice alcohol P45005, P58009.

Source: The BEACH program, Family Medicine Research Centre, The University of Sydney.

Figure 3.11.1: Counselling/advice on alcohol provided by general practitioners, by Indigenous status, BEACH Years April 2006–March 2007 to April 2010–March 2011

- Data provided on three individual BEACH years between 1998–99 and 2010–11 for counselling/advice on alcohol shows a fluctuation in rates of GP encounters with both Indigenous and other patients. The rate of GP encounters for Indigenous patients was 9.3 per 1,000 in April 1998–March 1999, which increased to 15.3 per 1,000 in April 2004–March 2005, and then declined to 8.8 per 1,000 in April 2010–March 2011. A similar pattern was observed for Other Australians (Figure 3.11.2 and Indicator 3.07, Table 3.07.5).



Note: IPCP-2 codes defining counselling/ advice alcohol P45005, P58009.

Source: The BEACH program, Family Medicine Research Centre, The University of Sydney.

Figure 3.11.2: Counselling/advice on alcohol provided by general practitioners, by Indigenous status, BEACH years April 1998–March 1999, April 2004–March 2005 and April 2010–March 2011

Pharmacotherapy clients

- On a snapshot day in 2010, for jurisdictions where data on Indigenous status are available (New South Wales, Queensland, South Australia and the Australian Capital Territory), there were 2,591 Indigenous pharmacotherapy clients (clients receiving methadone, buprenorphine, and buprenorphine/naloxone). This represented 9% of all clients (Table 3.11.8).
- While the number of Indigenous clients has increased substantially since 2006 (from 1,662 to 2591 in 2010), the proportion has increased only marginally (rising from 8% in 2006 to 9% in 2010).

Table 3.11.8: Number of pharmacotherapy clients[(a)] on a 'snapshot/specified' day by Indigenous status and jurisdiction, NSW, Qld, SA, ACT, 2006–2010[(b)(c)(d)]

		2006[(e)]	2007	2008	2009	2010
				Number		
NSW	Indigenous	1,469	1,521	1,653	1,843	2,092
	Non-Indigenous	11,898	12,216	13,049	13,766	14,859
	Not stated	2,988	2,611	2,466	2,259	2,163
QLD	Indigenous	146	99	152	128	162
	Non-Indigenous	3,713	3,384	3,984	4,279	4,826
	Not stated	778	826	763	709	700
SA	Indigenous	—	113	234	224	268
	Non-Indigenous	—	873	2,501	2,643	2,931
	Not stated	—	1,848	317	284	11
ACT	Indigenous	47	35	47	57	69
	Non-Indigenous	743	730	739	718	700
	Not stated	—	—	—	17	42
NSW, QLD, SA & ACT	**Indigenous**	**1,662**	**1,768**	**2,086**	**2,252**	**2,591**
	Non-Indigenous	**16,354**	**17,203**	**20,273**	**21,406**	**23,316**
	Not stated	**3,766**	**5,285**	**3,546**	**3,269**	**2,916**

(a) "Pharmacotherapy client" includes those receiving Methadone, Buprenorphine, and Buprenorphine/naloxone.

(b) Each state and territory uses a different method to collect data on pharmacotherapy prescription and dosing. These differences may result in minor discrepancies if directly comparing one jurisdiction with another jurisdiction. Please refer to the National Opioid Pharmacotherapy Statistics Annual Data (NOPSAD) collection 2010 report for more information.

(c) Victoria, Western Australia, Northern Territory and Tasmania are currently unable to provide data on the Indigenous status of clients receiving pharmacotherapy services.

(d) In South Australia, where some clients identified as both Indigenous and non-Indigenous at different times, the most recent classification identified by the prescriber is to be used.

(e) Data in South Australia not available in 2006.

Source: National Opioid Pharmacotherapy Statistics Annual Data (NOPSAD) statistical report 2006 to 2010; Tables 2.4, 5.3, 8 and 10.

Data quality issues

OATSIH Services Reporting (OSR) data collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012b).

Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS–NMDS)

There is a diverse range of alcohol and other drug treatment services in Australia and not all of these are in the scope of the Alcohol and Other Drug Treatment Services National Minimum Data Set (AODTS–NMDS). Clients receiving services that are funded solely by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) as Indigenous Substance Use Services, Aboriginal primary health–care services, Aboriginal medical services and community-controlled health services are not included in the AODTS–NMDS (these services contribute to an alternative reporting mechanism).

Each jurisdiction has differing policy and administrative features that have an impact on the quality of data collected. National data are affected by variations in service structures and collection practices between states and territories and care should be taken when making comparisons between them. Also, the AODTS–NMDS has been implemented in stages, so comparisons across years, particularly the earlier years of the collection, need to be made with caution. Not all jurisdictions were able to provide data from the beginning of the collection and not all elements have been reported from the same time (see *Alcohol and other drug treatment services in Australia 2010–11: report on the National Minimum Data Set* (AIHW 2012a) for further information).

As a unit of measurement, the 'closed treatment episode' used in the AODTS–NMDS cannot provide information on the number of clients who access publicly funded alcohol and other drug treatment, nor can it provide information on the extent of concurrent, sequential or recurrent service use. This is because it is possible for a single individual to access more than one service at a time, for different treatments and for different substance use problems. A new data element called a statistical linkage key will be included in the 2012–13 collection. This new element will allow the number of clients accessing treatment to be estimated. A statistical linkage key would also facilitate a greater range of analysis to provide information on patterns of service use, treatment pathways and the characteristics of groups of clients and agencies.

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

Bettering the Evaluation and Care of Health (BEACH) survey

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample frame has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in *General practice in Australia, heath priorities and policies 1998 to 2008*, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

The National Opioid Pharmacotherapy Statistics Annual Data (NOPSAD) collection

In 2005, the Department of Health and Ageing (DoHA) commissioned the Australian Institute of Health and Welfare (AIHW) to manage the NOPSAD collection, including the analysis and reporting of pharmacotherapy treatment data. A set of agreed standards for reporting were developed in consultation with states and territories, and the NOPSAD collection was developed. While states and territories strive to report data consistent with agreed standards, the NOPSAD collection is not a national minimum data set and some discrepancies exist in the ways in which data are reported.

Each state and territory uses a slightly different method to collect data about the pharmacotherapy used to treat those with opioid dependence. These are driven by differences between the states and territories in relation to legislation, information technology systems and resources. The differences may result in discrepancies when comparing one state or territory with another. See the National Opioid Pharmacotherapy Statistics Annual Data collection: 2011 report (AIHW 2012c) for more information.

New South Wales is unable to differentiate between clients prescribed buprenorphine and buprenorphine–naloxone. Clients prescribed buprenorphine–naloxone are counted under buprenorphine.The collection includes information on client's Indigenous status. Currently Victoria, Western Australia, Tasmania and the Northern Territory are unable to provide data on the Indigenous status of clients receiving pharmacotherapy services.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.12 Aboriginal and Torres Strait Islander people in the health workforce

Number and proportion of Aboriginal and Torres Strait Islander Australians in the health workforce

Data sources

Census of Population and Housing

The Census of Population and Housing is conducted by the ABS at 5-yearly intervals, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question for each household member.

The 2011 Census is the most recent, however data for the Indigenous population were not released at the time of writing this report. Therefore data included in this report comes from the 2006 Census. In 2006, the ABS enhanced the sample for the Post-Enumeration Survey to include remote areas. The measured undercount for Indigenous Australians was 11.5%.

Analyses

Aboriginal and Torres Strait Islander health workforce

Data on the number and proportion of Indigenous Australians employed in health-related occupations in 1996, 2001 and 2006 are presented in Table 3.12.1 below.

- In 2006, there were 5,536 Indigenous Australians employed in health-related occupations, which represented 1% of the total health workforce (Table 3.12.2).

Health workforce by occupation

- During the period 1996 to 2006 the number of Indigenous health workers employed in most health occupations increased significantly. The largest increase was observed in health diagnostic and promotion professionals: in 1996 there were 164 Indigenous health workers; this increased to 638 by 2006 (a 289% increase over the period). The second largest increase was allied health professionals (for example psychologists and physiotherapists): 179 were employed in 1996; this increased to 441 in 2006 (a 146% increase over the period).
- In 2006, out of the combined total of Indigenous health workers (5,536), there were 1,736 Indigenous people working in occupations classified as ‘other’, including a substantial amount of nursing support workers and personal care workers. Following this, the next largest occupations were nurses (including midwives and mothercraft nurses) (1,449), and Aboriginal and Torres Strait Islander health workers (966). Aboriginal and Torres Strait Islander health workers may be employed as specialists in areas such as alcohol use, mental health, diabetes, eye and ear health, sexual health, or they may work as generalist members of primary care teams, or as hospital liaison officers.

Table 3.12.1: Employed persons aged 15+, by health-related occupation and Indigenous status, Australia, 1996, 2001 and 2006

Occupation	1996	2001	2006	Period linear % change[(a)]	Rate per 10,000 2006[(b)] Indigenous	Rate per 10,000 2006[(b)] Non-Indigenous	Rate difference (per 10,000)[(c)]
Aboriginal and Torres Strait Islander Health Worker	**667**	**853**	**966**	**44.8***	**21.5**	**n.a.**	**n.a.**
Nurses	**1,258**	**1,123**	**1,449**	**15.2***	**32.3**	**121.1**	**88.8**
Registered Nurses[(d)]	640	832	1,111	73.6*	24.7	94.5	69.8
Nurse Managers and Nursing Clinical Directors	20	38	56	180.0*	1.2	7.2	6.0
Midwives	27	40	50	85.2*	1.1	6.7	5.6
Enrolled and mothercraft nurses	564	202	215	–61.9*	4.8	10.5	5.7
Nurse Educators and Researchers	7	11	17	142.9*	0.4	2.1	1.7
Medical practitioners	**61**	**90**	**101**	**65.6***	**2.2**	**30.2**	**28.0**
Generalist medical practitioners	41	57	82	100*	1.8	19.7	17.9
General medical practitioner[(e)]	29	47	61	110.3*	1.4	16.4	15.0
Resident medical officer	12	10	21	75.0*	0.5	3.3	2.8
Other medical practitioners[(f)]	20	33	19	–0.5	0.4	10.5	10.1
Allied health professionals	**179**	**274**	**441**	**146.4***	**9.8**	**36.0**	**26.2**
Dietitians	n.p.	18	7	75.0*	0.2	1.4	1.3
Optometrists	n.p.	n.p.	8	166.7*	0.2	1.7	1.5
Psychologists[(g)]	13	19	43	230.8*	1.0	7.4	6.4
Physiotherapist	16	29	54	237.5*	1.2	6.7	5.5
Podiatrist	6	8	6	0	0.1	1.1	1.0
Speech professionals and audiologists	7	10	17	142.9*	0.4	2.7	2.3
Occupational therapist	n.p.	n.p.	13	160.0*	0.3	3.8	3.5
Social Worker	113	166	269	138.1*	6.0	6.7	0.7
Other health therapy professionals[(h)]	12	12	24	143.4*	0.5	4.6	4.0
Dental and dental allied workforce	**147**	**155**	**205**	**39.5***	**4.6**	**16.1**	**11.6**
Dental practitioner	12	13	15	25.0*	0.3	4.5	4.2
Dental hygenists, technicians and therapists	18	17	19	5.6	0.4	3.3	2.9
Dental assistant	117	125	171	46.2*	3.8	8.3	4.5
Health diagnostic and promotion professionals	**164**	**185**	**638**	**289.0***	**14.2**	**22.4**	**8.2**
Medical Imaging Professionals	7	14	19	171.4*	0.4	5.6	5.2
Pharmacists	6	10	9	50.0*	0.2	8.4	8.2
Occupational Health and Safety Adviser	22	25	50	127.3*	1.1	3.7	2.6
Health promotion officers[(i)]	n.a.	n.a.	438	n.a.	9.8	1.9	–7.9

(continued)

Table 3.12.1 (continued): Employed persons aged 15+, by health-related occupation and Indigenous status, Australia, 1996, 2001 and 2006

Occupation	1996	2001	2006	Period linear % change[(a)]	Rate per 10,000 2006[(b)] Indigenous	Rate per 10,000 2006[(b)] Non-Indigenous	Rate difference (per 10,000)[(c)]
Environmental health officer	122	114	98	–19.7*	2.2	2.1	–0.1
Other health diagnostic and promotion professionals[(j)]	7	22	24	242.9*	0.5	0.7	0.2
Other	**895**	**1324**	**1736**	**94.0***	**38.7**	**71.9**	**33.3**
Health service managers[(k)]	**21**	**n.p.**	**17**	**19.0***	**2.9**	**4.6**	**1.6**
Nursing support worker and personal care workers[(l)]	579	808	974	68.2*	21.7	31.0	9.3
Ambulance officers and paramedics	49	83	153	212.2*	3.4	4.6	1.2
Drug and alcohol counsellor	80	96	117	46.3*	2.6	0.7	–1.9
Other[(m)]	166	276	475	186.1*	8.0	31.0	23.0
Total health occupations[(n)]	**3,371**	**4,004**	**5,536**	**64.2***	**123.3**	**297.8**	**174.6**

* Represents results that are statistically significant at the p<0.05 level.

(a) Average period change determined using regression analysis. Per cent change between the reporting periods 1996 and 2006 based on the average annual change over the period.

(b) Rate per 10,000 measures the health workforce available (numerator) to service the population (denominator). Denominator used in rates is the 2006 total population by Indigenous status minus those where occupation is not stated.

(c) Rate difference is non-Indigenous rate minus the Indigenous rate.

(d) Both 2001 and 2006 figures include midwifery and nursing professional n.f.d.

(e) Generalist medical practitioner includes general medical practitioner and resident medical practitioner, and specialist physician (general medicine).

(f) The 2006 figure includes Anaesthetist, Pathologist, Psychologist, Neurosurgeon, Medical Practitioners n.f.d. 2001 figure includes Emergency Medical Specialist, Obstetrician and Gynaecologist, Pathologist, Radiologist, Psychiatrist, Surgeon (General), Medical Practitioners nfd, and 1996 figure includes Specialist Medical Practitioner.

(g) The 2006 figure includes clinical psychologist, psychotherapist, educational psychologist, organisational psychologist, psychologist n.f.d. and psychologist, n.e.c. However, both the 1996 and 2001 figures are clinical psychologist and psychotherapist combined.

(h) The 2006 figure includes chiropractor, osteopath, homeopath, naturopath, complementary health therapist n.e.c. 2001 figure includes chiropractor and naturopath and the 1996 figure includes chiropractor and natural therapy professional.

(i) Health promotion officer could not be identified separately in 2001 and 1996 due to different occupation classifications. These were included in community worker in 2001 and 1996 and not included in the table.

(j) Other health diagnostic and promotion professional includes health diagnostic and promotion professional, n.e.c. The 2006 figure also includes health professional n.f.d. and health diagnostic and promotion professional, n.f.d.

(k) The 2006 figure includes medical administrator only. Health and welfare services manager, n.e.c. and health and welfare services manager, n.f.d. were included in other. 2001 figure is for medical administrator but not published separately due to quality issues and has been included in other. The 1996 figure is for medical administrator.

(l) Nursing support worker and personal care worker includes therapy aide, in 2006 includes hospital orderly, which in 2001 and 1996 was grouped with nursing assistant and personal care assistant occupations because there was no such a category.

(m) The 2006 figure includes medical laboratory scientist, counsellor n.e.c., medical laboratory technician, anaesthetic technician, cardiac technician, operating theatre technician, pharmacy technician, medical technicians n.e.c., optical dispenser, optical mechanic, diversional therapist, massage therapist, personal carer and assistant n.f.d., special care worker n.f.d., natural remedy consultant.

(n) The 2001 figure includes health information manager, medical laboratory scientist, medical technical officer, primary products inspector, anatomist or physiologist, safety inspector, admissions clerk, weight loss consultant, massage therapist, natural remedy consultant.

Note: Numbers less than 10 are considered too unreliable for general use due to the impact of randomisation of small cell values to avoid the release of confidential data. Totals may differ and may not equal the sum of components because of randomisation.

Source: AIHW analysis of the ABS census data.

Health workforce by age and sex

- In 2006, the majority of Indigenous people employed in the health workforce were aged 35–44 years (1,673 people). The proportion of health workers who were Indigenous was highest among those aged 15–24 years (1.4%) and lowest among those aged 65 years and over (0.4%) (Table 3.12.2).
- Indigenous females represented a higher proportion of the health workforce than Indigenous males across all age groups (Table 3.12.3).

Table 3.12.2: Employed persons aged 15+, by health-related occupation[(a)] Indigenous status, age and sex, Australia, 2006

	Age group						
	15–24	25–34	35–44	45–54	55–64	65+	Total
Indigenous health workforce[(b)]							
				Number			
Male	131	333	447	358	132	17	1,418
Female	462	910	1,226	1,087	397	36	4,118
Total	**593**	**1,243**	**1,673**	**1,445**	**529**	**53**	**5,536**
				Proportion of Indigenous health workforce (%)[(c)]			
Male	2.4	6.0	8.1	6.5	2.4	0.3	25.6
Female	8.3	16.4	22.1	19.6	7.2	0.7	74.4
Total	**10.7**	**22.5**	**30.2**	**26.1**	**9.6**	**1.0**	**100.0**
				Proportion of total health workforce (%)[(d)]			
Male	1.9	1.2	1.3	1.0	0.6	0.3	1.1
Female	1.3	1.0	1.1	0.9	0.7	0.6	1.0
Total	**1.4**	**1.1**	**1.2**	**0.9**	**0.7**	**0.4**	**1.0**
Total health workforce							
				Number			
Male	6,909	27,714	34,913	36,361	20,995	6,478	133,370
Female	35,002	89,645	108,429	121,526	54,324	6,082	415,008
Total	**41,911**	**117,359**	**143,342**	**157,887**	**75,319**	**12,560**	**548,378**
				Proportion of total health workforce (%)(e)			
Male	1.3	5.1	6.4	6.6	3.8	1.2	24.3
Female	6.4	16.3	19.8	22.2	9.9	1.1	75.7
Total	**7.6**	**21.4**	**26.1**	**28.8**	**13.7**	**2.3**	**100.0**

(a) Occupation as defined by the Australian and New Zealand Classification of Occupations (ANZSCO). Health workforce defined by the client.

(b) Includes Aboriginal, Torres Strait Islander, and Both Aboriginal and Torres Strait Islander, employed in health-related occupations as defined by the client.

(c) Age/Sex as a proportion of total Indigenous health workforce.

(d) Age/Sex of Indigenous health workforce as a proportion of total health workforce.

(e) Age/Sex as a proportion of total health workforce.

Source: ABS and AIHW analysis of 2006 Census data.

Table 3.12.3: Indigenous and other Australian health workforce age-specific rates, by age and sex, per 1,000 population, 2006

		15–24	25–34	35–44	45–54	55–64	65+
Indigenous[(a)]	Indigenous male	2.6	9.3	14.4	16.5	11.5	2.5
	Indigenous female	9.5	24.5	36.2	46.8	31.3	3.9
Other	Other male	4.8	19.4	23.2	25.8	18.6	5.4
	Other female	25.3	63.0	71.2	85.1	48.3	4.1

(a) Includes Aboriginal, Torres Strait Islander, and Both Aboriginal and Torres Strait Islander, employed in health-related occupations as defined by the client.

Source: ABS and AIHW analysis of 2006 Census data.

Indigenous health workforce by state/territory

- In 2006, the proportion of Indigenous Australians aged 15+ who were employed in health-related occupations in 2006 ranged from 1.2% in Northern Territory to 2.4% in Victoria (Table 3.12.4).
- The proportion of Indigenous people in the health workforce was below the proportion of the population who were Indigenous in all states and territories.

Table 3.12.4: Employed persons aged 15+, by Indigenous status, health-related occupation[(a)] and state/territory of usual residence, 2006

	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Other	Australia
Indigenous persons employed in health workforce[(a)]	1,954	460	1,489	367	573	215	425	53	3	5,539
Indigenous health workforce as a proportion of total health workforce (%)	1.1	0.3	1.4	0.8	1.1	1.7	8.7	0.6	7.9	1.0
Indigenous health workforce as a proportion of the Indigenous population aged 15+ (%)	2.3	2.4	1.9	2.3	1.5	2.0	1.2	2.1	1.9	2.0
Proportion of state/territory population aged 15+ that is Indigenous (%)	1.6	0.5	2.5	1.3	2.4	2.8	24.1	0.9	9.2	1.8

(a) Occupation as defined by the Australian and New Zealand Classification of Occupations (ANZSCO). Health workforce defined by the client.

Source: ABS and AIHW analysis of 2006 Census data.

Time series analyses

Tables 3.12.5, 3.12.6 and 3.12.7 show the proportion of the Australian health workforce who were Aboriginal or Torres Strait Islander by health-related occupation for the 2006, 2001 and 1996 censuses.

- In 2006 there were approximately 5,536 Indigenous Australians employed in health-related occupations, representing 1.0% of the total health workforce. Of these, the largest numbers of Indigenous Australians (1,233) were employed as midwifery and nursing professionals representing 0.6% of the nursing and midwife workforce. This was followed by Aboriginal and Torres Strait Islander health workers (965), representing 96% of Aboriginal and Torres Strait Islanders health workers (similar to 1996 and 2001).
- In 2006, Indigenous Australians represented 11.2% of health promotion officers. Health promotion officer is a new health related occupation category introduced in 2006 (Table 3.12.5).
- In 2001, there were approximately 3,998 Indigenous Australians employed in health-related occupations, representing 0.9% of the total health workforce. The highest proportion of Indigenous health workers were employed as Aboriginal and Torres Strait Islander Health Workers (93.2%) (Table 3.12.6).
- In 1996, there were approximately 3,371 Indigenous Australians employed in health-related occupations, representing 0.8% of the total health workforce. Of these the largest number of Indigenous Australians were employed as Aboriginal and Torres Strait Islander Health Workers (669 persons) representing 94.9% of all Aboriginal and Torres Strait Islander health workers. This was significantly greater than all other occupations, such that environmental health officers had the second largest proportion of Indigenous workers, but only represented 2.4% of all environmental health officers (Table 3.12.7).
- Between 1996 and 2006 there was a drop in the proportion of Indigenous health workers in the 25–34 and 35–44 age groups, and an increase in the proportion in the 45–54 and 55–64 age groups (Table 3.12.8). A similar pattern can be observed for the total health workforce (Table 3.12.9).

Table 3.12.5: Employed persons aged 15+, by Indigenous status and health-related occupation[(a)], Australia, 2006

Health-related occupation[(a)]	Indigenous[(b)]	Non-Indigenous	Not stated	Total	Indigenous proportion[(c)]
		Number			Per cent
Aboriginal and Torres Strait Islander health worker	965	41	5	1,011	95.5
Health and welfare service manager	132	8,287	42	8,461	1.6
Psychologist	44	13,345	52	13,441	0.3
Environmental health officer	96	3,782	28	3,906	2.5
Health promotion officer	437	3,444	17	3,898	11.2
Other health diagnostic and promotion professional	49	23,136	101	23,286	0.2
Physiotherapist	51	12,178	57	12,286	0.4
Dental worker	202	29,208	213	29,623	0.7
Other health therapy professional	130	33,211	186	33,527	0.4
General medical practitioner	61	29,718	142	29,921	0.2
Other medical practitioner	41	25,001	102	25,144	0.2
Midwifery and nursing professional	1,233	200,229	1,276	202,738	0.6
Enrolled and mothercraft nurse	215	19,049	131	19,395	1.1
Nursing support and personal care worker	823	45,138	505	46,466	1.8
Ambulance officer and paramedic	153	8,366	30	8,549	1.8
Other health occupations	905	85,311	509	86,725	1.0
Total, health-related occupations	**5,537**	**539,444**	**3,396**	**548,377**	**1.0**

(a) Occupation as defined by the Australian and New Zealand Classification of Occupations (ANZSCO). Health workforce defined by the client.

(b) Includes Aboriginal, Torres Strait Islander, and Both Aboriginal and Torres Strait Islander (same for 1996 and 2001 data).

(c) Indigenous persons as a proportion of the total (same for 1996 and 2001 data).

Note: Numbers less than 10 are considered too unreliable for general use due to the impact of randomisation of small cell values to avoid the release of confidential data. Totals may differ and may not equal the sum of components because of randomisation.

Source: ABS and AIHW analysis of 2006 Census data.

Table 3.12.6: Employed persons aged 15+, by Indigenous status and health-related occupation[(a)], Australia, 2001

Health-related occupation[(a)]	Indigenous	Non-Indigenous	Not Stated	Total	Proportion who were Indigenous
		Number			Per cent
Aboriginal and Torres Strait Islander health worker[(b)]	853	59	3	915	93.2
Medical administrator[(c)]	61	3,652	8	3,721	1.6
Clinical psychologist[(d)]	19	7,519	32	7,570	0.3
Environmental health officer[(e)]	114	3,172	16	3,302	3.5
Other health diagnostic and promotion professional[(f)]	57	20,982	83	21,122	0.3
Physiotherapist[(g)]	29	10,192	27	10,248	0.3
Dental worker[(h)]	156	25,592	126	25,874	0.6
Other health therapy professional[(i)]	77	22,569	105	22,751	0.3
General medical practitioner[(j)]	44	28,988	97	29,129	0.2
Other medical practitioner[(k)]	39	14,418	66	14,523	0.3
Registered midwife[(l)]	40	11,574	35	11,649	0.3
Registered nurse[(m)]	832	148,349	755	149,936	0.6
Nurse educators and researcher[(n)]	11	2,596	7	2,614	0.4
Nurse manager and clinical director[(o)]	38	9,997	34	10,069	0.4
Enrolled nurse[(p)]	202	19,198	98	19,498	1
Nursing support and personal care worker[(q)]	793	49,380	482	50,655	1.6
Ambulance officer and paramedic[(r)]	83	6,597	26	6,706	1.2
Other health occupation[(s)]	550	61,283	238	62,071	0.9
Total	**3,998**	**446,117**	**2,238**	**452,353**	**0.9**

(continued)

Table 3.12.6 (continued): Employed persons aged 15+, by Indigenous status and , health-related occupation[(a)], Australia, 2001

(a) Occupation as defined by the Australian and New Zealand Classification of Occupations (ANZSCO 2006). Health workforce defined by the client.
(b) Includes 349311.
(c) Includes 129213.
(d) Includes 251411.
(e) Includes 254313.
(f) Includes ASCO V2 codes 239979, 239311, 238411, 238211, 238213, 238215.
(g) Includes 238511.
(h) Includes 639111, 349211, 349213, 349215, 349200, 238111, 238113.
(i) Includes 238711, 239411, 238311, 238611, 238811, 239911, 349411, 639513.
(j) Includes 231111.
(k) Includes 231181, 231225, 231215, 231217, 231223, 231227, 231229, 231231, 231200.
(l) Includes 232411.
(m) Includes 232000, 232311, 232511, 232611.
(n) Includes 232211, 232213.
(o) Includes 232111, 129211.
(p) Includes 341111.
(q) Includes 631411, 631413.
(r) Includes 349111, 349113.
(s) Includes 239111, 239117, 251111, 631319, 251313, 211511, 254311, 229911, 311111, 311100, 311179, 399111, 211311, 399211, 619113, 639515.

Note: Numbers less than 10 are considered too unreliable for general use due to the impact of randomisation of small cell values to avoid the release of confidential data. Totals may differ and may not equal to the sum of components because of randomisation.

Source: ABS and AIHW analysis of 2001 Census data.

Table 3.12.7: Employed persons aged 15+, by Indigenous status and health-related occupation[(a)], Australia, 1996

Health-related occupation[(a)]	Indigenous	Non Indigenous	Not stated	Total	Proportion who were Indigenous
		Number			Per cent
Aboriginal and Torres Strait Islander health worker[(b)]	669	36	0	705	94.9
Medical administrator[(c)]	21	1,888	11	1,920	1.1
Clinical psychologist[(d)]	13	5,221	21	5,255	0.2
Environmental health officer[(e)]	122	4,979	29	5,130	2.4
Other health diagnostic and promotion professional[(f)]	19	18,983	71	19,073	0.1
Physiotherapist[(g)]	16	8,844	36	8,896	0.2
Dental worker[(h)]	146	23,065	101	23,312	0.6
Other health therapy professional[(i)]	53	17,546	99	17,698	0.3
General medical practitioner [(j)]	29	26,271	101	26,401	0.1
Other medical practitioner[(k)]	32	17,502	76	17,610	0.2
Registered midwife[(l)]	27	10,842	33	10,902	0.2
Registered nurse[(m)]	640	139,614	818	141,072	0.5
Nurse educators and researcher[(n)]	5	2,052	6	2,063	0.2
Nurse manager and clinical director[(o)]	20	9,242	52	9,314	0.2
Enrolled nurse[(p)]	564	23,868	135	24,567	2.3
Nursing support and personal care worker[(q)]	569	41,758	320	42,647	1.3
Ambulance officer and paramedic[(r)]	49	5,878	32	5,959	0.8
Other health occupation[(s)]	377	47,450	219	48,046	0.8
Total	**3,371**	**405,039**	**2,160**	**410,570**	**0.8**

(continued)

Table 3.12.7 (continued): Employed persons aged 15+, by Indigenous status and health-related occupation[(a)], Australia 1996

(a) Occupation as defined by the Australian and New Zealand Classification of Occupations (ANZSCO 2006). Health workforce defined by the client.

(b) Includes 349311.

(c) Includes 129213.

(d) Includes 251411.

(e) Includes 254313.

(f) Includes ASCO V2 codes 239979, 239311, 238411, 238211, 238213, 238215.

(g) Includes 238511.

(h) Includes 639111, 349211, 349213, 349215, 349200, 238111, 238113.

(i) Includes 238711, 239411, 238311, 238611, 238811, 239911, 349411, 639513.

(j) Includes 231111.

(k) Includes 231181, 231225, 231215, 231217, 231223, 231227, 231229, 231231, 231200.

(l) Includes 232411.

(m) Includes 232000, 232311, 232511, 232611.

(n) Includes 232211, 232213.

(o) Includes 232111, 129211.

(p) Includes 341111.

(q) Includes 631411, 631413.

(r) Includes 349111, 349113.

(s) Includes 239111, 239117, 251111, 631319, 251313, 211511, 254311, 229911, 311111, 311100, 311179, 399111, 211311, 399211, 619113, 639515.

Note: Numbers less than 10 are considered too unreliable for general use due to the impact of randomisation of small cell values to avoid the release of confidential data. Totals may differ and may not equal the sum of components because of randomisation.

Source: ABS and AIHW analysis of 1996 Census data.

Table 3.12.8: Employed Indigenous persons aged 15+ in health-related occupations[(a)], by age and sex, 1996, 2001 and 2006

	Age group						
	15–24	25–34	35–44	45–54	55–64	65+	Total
				1996			
				Number			
Male	142	295	311	137	49	6	940
Female	321	674	824	471	120	7	2,417
Total	**463**	**969**	**1,135**	**608**	**169**	**13**	**3,357**
				Proportion of total health workforce (per cent)			
Male	4.2	8.8	9.3	4.1	1.5	0.2	28.0
Female	9.6	20.1	24.5	14.0	3.6	0.2	72.0
Total	**13.8**	**28.9**	**33.8**	**18.1**	**5.0**	**0.4**	**100.0**
				2001			
				Number			
Male	116	344	341	230	74	12	1,117
Female	310	727	928	716	172	25	2,878
Total	**426**	**1,071**	**1,269**	**946**	**246**	**37**	**3,995**
				Proportion of total health workforce (per cent)			
Male	2.9	8.6	8.5	5.8	1.9	0.3	28.0
Female	7.8	18.2	23.2	17.9	4.3	0.6	72.0
Total	**10.7**	**26.8**	**31.8**	**23.7**	**6.2**	**0.9**	**100.0**
				2006			
				Number			
Male	133	333	447	358	129	19	1,419
Female	461	911	1,226	1,087	397	34	4,116
Total	**594**	**1,244**	**1,673**	**1,445**	**526**	**53**	**5,535**
				Proportion of total health workforce (per cent)			
Male	2.4	6.0	8.1	6.5	2.3	0.3	25.6
Female	8.3	16.5	22.1	19.6	7.2	0.6	74.4
Total	**10.7**	**22.5**	**30.2**	**26.1**	**9.5**	**1.0**	**100.0**

(a) Occupation definitions as provided by the client.

Source: ABS and AIHW analysis of 1996, 2001 and 2006 Census data.

Table 3.12.9: All employed persons aged 15+ in health-related occupations[(a)], by age and sex, 1996, 2001 and 2006

	Age group						
	15–24	25–34	35–44	45–54	55–64	65+	Total
				1996			
				Number			
Male	6,865	26,930	34,315	24,598	11,883	4,453	109,044
Female	32,510	82,035	99,351	66,117	19,557	1,938	301,508
Total	**39,375**	**108,965**	**133,666**	**90,715**	**31,440**	**6,391**	**410,552**
				Proportion of total health workforce (per cent)			
Male	1.7	6.6	8.4	6.0	2.9	1.1	26.6
Female	7.9	20.0	24.2	16.1	4.8	0.5	73.4
Total	**9.6**	**26.5**	**32.6**	**22.1**	**7.7**	**1.6**	**100.0**
				2001			
				Number			
Male	6,086	25,429	32,760	29,465	14,585	4,770	113,095
Female	28,001	80,434	104,497	91,936	31,093	3,294	339,255
Total	**34,087**	**105,863**	**137,257**	**121,401**	**45,678**	**8,064**	**452,350**
				Proportion of total health workforce (per cent)			
Male	1.3	5.6	7.2	6.5	3.2	1.1	25.0
Female	6.2	17.8	23.1	20.3	6.9	0.7	75.0
Total	**7.5**	**23.4**	**30.3**	**26.8**	**10.1**	**1.8**	**100.0**
				2006			
				Number			
Male	6,912	27,715	34,913	36,359	20,995	6,479	133,373
Female	35,000	89,647	108,428	121,527	54,324	6,081	415,007
Total	**41,912**	**117,362**	**143,341**	**157,886**	**75,319**	**12,560**	**548,380**
				Proportion of total health workforce (per cent)			
Male	1.3	5.1	6.4	6.6	3.8	1.2	24.3
Female	6.4	16.3	19.8	22.2	9.9	1.1	75.7
Total	**7.6**	**21.4**	**26.1**	**28.8**	**13.7**	**2.3**	**100.0**

(a) Occupation definitions as provided by the client.

Source: ABS and AIHW analysis of 1996, 2001 and 2006 Census data.

Additional information

Indigenous doctors

- In 2009, there were an estimated 82,895 medical practitioners working in medicine in Australia (AIHW 2011a). The number of registered practitioners increased by 22.1% between 2005 and 2009.
- According to the Australian Indigenous Doctors' Association, there are currently an estimated 153 Indigenous doctors in Australia (AIDA 2011). This represents only about 0.2% of the medical profession—well below the proportion (2.5%) of the Australia population that is Indigenous. In 2009 there were 218 Indigenous medical students: this represents 0.9% of all medical students (AIDA 2011).

Indigenous nurses

- In 2009, there were an estimated 320,982 employed nurses, 1605 (0.6%) of whom identified themselves as Aboriginal or Torres Strait Islander Australians (AIHW 2011b).
- The number of registered and enrolled nurses in the labour force (that is, employed in or looking for work in nursing in Australia) increased by 14.2% between 2005 and 2009, from 254,956 to 291,246.

Health workforce in rural and regional Australia

A report by the Department of Health and Ageing on an audit of the health workforce in rural and regional Australia in 2008 found that:

- The supply of the medical workforce—when considered as the number of doctors in comparison to the population of the area in which those doctors practise—is low to very poor in many rural and regional areas of Australia.
- The nursing workforce—when considered as a ratio of nurses to population—is relatively evenly distributed throughout rural and regional Australia.
- The supply of other health professions—particularly dental practitioners—as a ratio of professional to population, is low to poor.
- The Aboriginal health workforce is relatively small—predominantly working in *Outer regional, Remote* and *Very remote* locations.
- The supply of medical and nursing professionals varies considerably across jurisdictions. The Northern Territory, Western Australia, and the Australian Capital Territory, have lower proportions of GPs in the population and Queensland and New South Wales have the lowest proportion of nurses.
- The supply and the distribution of health professionals—in particular throughout rural and regional areas—largely correspond with the distribution of state and territory-funded health services across Australia (DoHA 2008).

Aboriginal and Torres Strait Islander primary health-care services

In 2009–10, a total of 335 full-time equivalent (FTE) doctors were employed by Indigenous primary health-care services.

Of the 335 FTE doctors employed, 25% were located in *Very remote* areas, 22% in *Outer regional* areas, 20% in *Major cities,* 19% in *Inner regional* areas and 14% in *Remote* areas. As at 30 June 2010, more than half (57% or 2,745 FTE) positions paid for by Aboriginal and Torres

Strait Islander primary health care services, were occupied by Aboriginal and Torres Strait Islander people, while 2,090 FTE staff (43%) were non-Indigenous. These proportions were similar to the previous year.

- The majority of doctors, nurses, allied health professionals and dentists employed by Indigenous primary health-care services were non-Indigenous. Most traditional healers, Aboriginal and Torres Strait Islanders health workers, sexual health workers, Bringing them Home counsellors, environmental health workers, substance use workers and drivers/field officers were Indigenous Australians (OATSIH & NACCHO 2009).
- In 2007–08, there were a small number of FTE health staff positions in Indigenous primary health-care services that were not funded by the service. These positions may be funded by state/territory health departments or through programs such as More Allied Health Services (MAHS) Program and Community Development Employment Projects (CDEP). A very small proportion of the FTE Indigenous health worker positions were held by non-Indigenous staff, and a very small proportion of FTE medical specialist/allied health professional, doctor and nurse positions were held by Indigenous staff (OATSIH & NACCHO 2009).

Data quality issues

Census of Population and Housing

The Census uses the *National health data dictionary* standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplained growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and the limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself; for example, whether people are counted more than once, or are undercounted (ABS 1996).

Although the Census data are adjusted for undercounts at the person level to arrive at the estimated resident population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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List of tables

3.13 Competent governance

Measures of competent governance in mainstream and Indigenous-specific health services, including management of service delivery, compliance and accountability of services, and cultural responsiveness of service delivery for Indigenous clients

Data sources

Data related to competent governance come from the Office of the Registrar of Indigenous Corporations (ORIC), the OATSIH Services Reporting (OSR) data collection, the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS), and the Healthy for Life (HfL) data collection.

Office of the Registrar of Indigenous Corporations (ORIC)

The ORIC is set up to help administer the *Corporations (Aboriginal and Torres Strait Islander) Act 2006* (CATSI Act) and to support and regulate corporations for Indigenous people throughout Australia. The ORIC collects data from Indigenous corporations registered under the CATSI Act, including the number of corporations, compliance status and deregistration of corporations.

The CATSI Act replaced previous legislation, the *Aboriginal Councils and Associations Act 1976* (ACA), on 1 July 2007 (ORIC 2010).

In 2010–11, compliance analysis was able to be completed for 86 companies incorporated under the CATSI Act and registered with ORIC.

The Registrar's office supports and regulates the corporations that are incorporated under the Act. It does this in a variety of ways: by advising them on how to incorporate; by training directors, members and key staff in good corporate governance; by making sure they comply with the law; and by intervening when needed.

OATSIH Services Reporting data collection (OSR)

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in

earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of social issues including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Healthy for Life program

The Healthy for Life (HfL) program is an ongoing program funded by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) of the Australian Government Department of Health and Ageing (DoHA). The program aims to improve the capacity and performance of primary health-care services to deliver high-quality maternal, children's and chronic disease care to Aboriginal and Torres Strait Islander people. This is carried out through population health approaches using best-practice and quality improvement principles.

Services participating in the HfL program are required to submit de-identified, aggregate service data for 11 essential indicators. These indicators cover maternal health, child health and chronic disease care on a regular basis (6 and 12 months), as well as information about the characteristics of their service and organisational infrastructure.

The Commonwealth and the AIHW are working with the States and Territories to develop a national Key Performance Indicator (KPI) framework for Indigenous primary health care services. The new National KPIs will replace the *Healthy for Life* program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services. The national KPI data collection will be implemented in three stages, with rollout in 2012 and 2013.

Analyses

Office of the Registrar of Indigenous Corporations data

All corporations incorporated under the CATSI Act are required to submit certain documents to ORIC, including a list of members and financial reports.

- In 2010–11, compliance analysis was able to be completed for 86 companies incorporated under the CATSI Act and registered with ORIC. Of these 82, 95% were found to be compliant with providing these key documents (Table 3.13.1).
- Over the period 2000–01 to 2008–09, the proportion of Indigenous health corporations incorporated under the ACA or CATSI Act registered with ORIC that were fully or partially compliant with providing the key documents required remained between 94 and 99% (Table 3.13.2).

Table 3.13.1: Number and proportion of health corporations incorporated under the CATSI Act 2006 by compliance, 2010–11

	Number	Proportion
Compliant	82	95.3
Not compliant	4	4.7
Total	**86**	**100.0**

Source: AIHW analysis of the Office of the Registrar of Indigenous Corporations unpublished data.

Table 3.13.2: Number and proportion of health corporations incorporated under the ACA or CATSI Act by compliance, 2000–01 to 2010–11

	Number of corporations	Fully or partially compliant		Not fully or partially compliant	
	No.	No.	%	No.	%
2000–01	77	74	96.1	3	3.9
2001–02	79	76	96.2	5	6.3
2002–03	80	75	93.8	1	1.3
2003–04	81	80	98.8	5	6.2
2004–05	82	77	93.9	5	6.1
2005–06	85	83	97.6	2	2.4
2006–07	86	85	98.8	1	1.2
2007–08	84	82	97.6	2	2.4
2008–09	84	81	96.4	3	3.6
2009–10	86	85	98.8	1	1.2
2010–11	86	82	95.3	4	4.7

Source: AIHW analysis of The Office of the Registrar of Indigenous Corporations unpublished data.

OATSIH Service Reporting (OSR) data

Indigenous primary health care services

- In 2010–11, there were approximately 5,731 full-time equivalent (FTE) staff employed in Indigenous primary health-care services, 3,875 (68%) health staff and 1,856 (32%) administration and support staff. The majority of both health and administration staff were Indigenous (51% and 57%, respectively) (Table 3.13.3).
- In 2010–11, the majority of Indigenous primary health-care services had governing committees/boards that met regularly (95%), had detailed income and expenditure statements presented to them on at least two occasions (99%), consisted only of Indigenous members (74%), or received training (79%) (Table 3.13.4).
- In 2010–11, 39% of Indigenous primary health-care services had representatives on external boards (for example, hospitals); 59% participated in regional planning forums and 80% were involved in committees on health (for example, steering groups) (Table 3.13.5).

Table 3.13.3: Number and proportion of staff in Indigenous primary health-care services, by type of staff and Indigenous status, 2010–11

	Health staff		Admin and support staff		Other staff		Total staff	
	FTEs	**Per cent**	**FTEs**	**Per cent**	**FTEs**	**Per cent**	**FTEs**	**Per cent**
Paid staff								
Indigenous	1,956.9	53.1	1,051.4	56.6	0.0	. .	3,008.3	54.3
Non-Indigenous	1,691.2	45.9	795.1	42.8	0.0	. .	2,486.3	44.9
Unknown Indigenous status	34.7	0.9	9.5	0.5	0.0	. .	44.2	0.8
Total	**3,682.8**	**100.0**	**1,856.0**	**100.0**	**0.0**	**. .**	**5,538.7**	**100.0**
Visiting staff								
Indigenous	29.2	15.2	0.2	58.8	0.0	. .	35.3	18.3
Non-Indigenous	142.5	74.0	0.1	38.2	0.0	. .	142.7	73.9
Unknown Indigenous status	15.0	7.8	0.0	0.0	0.0	. .	15.0	7.7
Total	**192.6**	**100.0**	**0.3**	**100.0**	**0.0**	**. .**	**192.9**	**100.0**
Paid and visiting staff								
Indigenous	1,986.1	51.2	1,051.6	56.7	0.0	. .	3,043.6	53.1
Non-Indigenous	1,833.8	47.3	795.2	42.8	0.0	. .	2,629.0	45.9
Unknown Indigenous status	49.7	1.3	9.5	0.5	0.0	. .	59.2	1.0
Total	**3,875.4**	**100.0**	**1,856.3**	**100.0**	**0.0**	**. .**	**5,731.7**	**100.0**

Source: AIHW OSR data collection.

Table 3.13.4: Number and proportion of governing committee/board use, Aboriginal and Torres Strait Islander primary health-care services, 2010–11

	No.	**Per cent**
Governing committee or board met regularly	192	95.1
Income and expenditure statements were presented to committee or board on at least two occasions	191	99.5
All of the governing committee or board members were Aboriginal and/or Torres Strait Islander	141	73.8
Governing committee or board received training	151	78.7
Total number of services	**202**	**100.0**

Note: Relevant questions were not applicable for all services. Percentage was calculated based on the number of services that provided data for each question. Denominators used were 202, 191, 191 and 192 respectively.

Source: AIHW OSR data collection.

Table 3.13.5: Number and proportion of Aboriginal and Torres Strait Islander primary health-care services participating in mainstream processes, 2010–11

	No.	**Per cent**
Representation on external boards (e.g. hospitals)	92	39.3
Participation in regional planning forums (e.g. under the framework agreements)	138	59.0
Involvement in committees on health (e.g. steering groups)	186	79.5
Total number of services	**234**	**100.0**

Source: AIHW OSR data collection.

Substance use specific services

- In 2010–11, the majority of Aboriginal and Torres Strait Islander substance-use-specific services had governing committees/boards that; met regularly (98%), consisted only of Indigenous members (53%), or received training (75%) (Table 3.13.6).

Table 3.13.6: Number and proportion of governing committee/board use, Aboriginal and Torres Strait Islander substance-use services, 2010–11

	No.	Per cent
Governing committee or board met regularly	47	97.9
Income and expenditure statements were presented to committee or board on at least two occasions	47	100.0
All of the governing committee or board members were Aboriginal and/or Torres Strait Islander	25	53.2
Governing committee or board received training	35	74.5
Total number of services	**47**	**100.0**

Notes

1. Relevant questions were not applicable for all services. Percentage was calculated based on the number of services that provided data for each question. Denominators used were 48, 47, 47 and 47 respectively.
2. Service can provide more than one response therefore total of all response does not reflect the sum of above.

Source: AIHW OSR data collection.

Self-reported survey data

Barriers to accessing health-service providers

The 2004–05 NATSIHS collected data on whether Indigenous Australians did not access health services when needed and the reason why.

- In 2004–05, 15% of Indigenous Australian reported that they needed to but did not visit a doctor in the previous 12 month, 8% did not visit another health professional when needed and 7% did not visit a hospital when they needed to (see table 3.14.15 in Indicator 3.14 Access to services compared with need).
- Some of the reasons people didn't access services were: 10–16% did not attend services because they disliked the service/professional, felt embarrassed or afraid, another 5–6% felt the service would be inadequate (table 3.14.15 in Indicator 3.14 Access to services compared with need).

The 2008 NATSISS collected data on whether Indigenous Australians had problems accessing health services and the type of barriers they experienced, including discrimination.

- In 2008, 30% of Indigenous Australians aged 15 years and over reported that they had experienced problems accessing health-service providers. Of those who had problems accessing services, 5% identified the barrier to access the service was that the service was not culturally appropriate (Table 3.13.7).
- Further, 27% of Indigenous Australians aged 15 years and over felt that they had been discriminated against in the past 12 months, with regards to access to health services (Table 3.13.8).
- Of these Indigenous Australians, 15% (13,102) felt that they had been discriminated against by doctors, nurses or other staff at hospitals or surgeries (Table 3.13.8).
- Of the Indigenous Australians who did not feel discriminated against in the past 12 months, 0.6% (1,381 of 237,812) avoided situations with doctors, nurses or other staff

at hospitals or surgeries and 5% (11,265 of 237,812) avoided other situations (Table 3.13.8).

Indigenous persons who experienced barriers to accessing health services, by state/territory

- The Northern Territory had the highest proportion of Indigenous Australians over the age of 15 years reporting that they had experienced problems accessing services (40%) followed by Western Australia and New South Wales. The Australian Capital Territory had the lowest proportion (22%), followed by South Australia (24%) (Table 3.13.7).
- Victoria and the Australian Capital Territory had the highest proportion of Indigenous Australians who identified the barrier to accessing health services as the service being culturally inappropriate (both 7%). The Northern Territory and Queensland had the smallest proportion of Indigenous Australians reporting cultural inappropriateness as a barrier to accessing services (4%) (Table 3.13.7).

Table 3.13.7: Barriers to access health-service providers, Indigenous persons aged 15 years and over who had problems accessing services, by state/territory, 2008

Barriers accessing service providers	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Whether had problems accessing services					Number				
Had problems accessing services	29,621	5,908	22,948	14,660	4,265	3,466	630	16,413	97,911
Did not have problems accessing services	66,746	16,030	67,639	29,166	13,683	8,885	2,180	24,861	229,190
Total	**96,367**	**21,938**	**90,587**	**43,826**	**17,948**	**12,351**	**2,810**	**41,274**	**327,101**
Type of barrier(s) to accessing any service									
Services not culturally appropriate(a)	5,629	1,591	3,420	2,632	957	542(b)	203(b)	1,425	16,400
Other(c)	29,376	5,750	21,983	14,529	4,200	3,414	613	16,211	96,075
Total has problems accessing selected services(d)	*29,621*	*5,908*	*22,948*	*14,660*	*4,265*	*3,466*	*630*	*16,413*	*97,911*
Total number	**96,367**	**21,938**	**90,587**	**43,826**	**17,948**	**12,351**	**2,810**	**41,274**	**327,101**
Whether had problems accessing services					Per cent				
Had problems accessing services	30.7	26.9	25.3	33.5	23.8	28.1	22.4	39.8	29.9
Did not have problems accessing services	69.3	73.1	74.7	66.5	76.2	71.9	77.6	60.2	70.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Type of barrier(s) to accessing any service									
Services not culturally appropriate(a)	5.8	7.3	3.8	6.0	5.3	4.4(b)	7.2(b)	3.5	5.0
Other(c)	30.5	26.2	24.3	33.2	23.4	27.6	21.8	39.3	29.4
Total has problems accessing selected services(d)	*30.7*	*26.9*	*25.3*	*33.5*	*23.8*	*28.1*	*22.4*	*39.8*	*29.9*
Did not have problems accessing services	69.3	73.1	74.7	66.5	76.2	71.9	77.6	60.2	70.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes people who were treated badly/discrimination and who don't trust services.

(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(c) Includes access problems due to: transport/distance; cost of service; no services in the area; waiting time too long or not available at time required.

(d) Sum of components exceeds total because respondents may have provided more than one response.

Source: ABS analysis of 2008 NATSISS.

Table 3.13.8: Discrimination, Indigenous persons aged 15 years and over, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
					Number				
Felt discriminated against in last 12 months									
By doctors, nurses or other staff at hospitals/surgeries	3,259	799	3,770	2,295	650	41	100	2,188	13,102
Other situations	22,769	5,996	25,286	14,403	5,646	1,146	1,007	10,802	87,054
Total	*23,688*	*6,064*	*25,664*	*14,784*	*5,799*	*1,146*	*1,007*	*11,138*	*89,289*
Did not feel discriminated against in the past 12 months									
Types of situations avoided due to past discrimination									
Doctors, nurses or other staff at hospitals/surgeries	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	1,381
Other situations	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	11,265
Did not avoid situations(a)	70,442	14,709	61,503	26,719	11,128	10,837	1,662	28,508	225,507
Total	*72,679*	*15,874*	*64,923*	*29,042*	*12,149*	*11,205*	*1,803*	*30,136*	*237,812*
Total	**96,367**	**21,938**	**90,587**	**43,826**	**17,948**	**12,351**	**2,810**	**41,274**	**327,101**
					Per cent				
Whether felt discriminated against in last 12 months									
Felt discriminated against	24.6	27.6	28.3	33.7	32.3	9.3	35.8	27.0	27.3
Did not feel discriminated against	75.4	72.4	71.7	66.3	67.7	90.7	64.2	73.0	72.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Only asked of people who did not feel discriminated against.

Source: ABS analysis of 2008 NATSISS.

Barriers to accessing health-service providers, by remoteness

- In 2008, Indigenous Australians aged 15 years and over in remote areas were more likely than those in non-remote areas to report problems accessing health services (42% and 26%, respectively). Of those who reported problems, the most commonly identified barriers to accessing health services were distrust of services (12% in non-remote areas, 7.8% in remote areas) and the services not being culturally appropriate (8.8% in non-remote areas, 5.8% in remote areas) (Table 3.13.9).
- In 2008, the percentage of Indigenous Australians aged 15 years and over who had experienced discrimination in the previous 12 months was similar for those in non-remote (28%) and remote areas (26%). Of these, 14% of those in non-remote areas, and 17% of those in remote areas felt discriminated against by doctors, nurses, or other staff at hospitals/surgeries. Two per cent of Indigenous Australians in both non-remote and remote areas said that they avoided doctors, nurses, or other staff at hospitals/surgeries because of past discrimination (Table 3.13.10).

Table 3.13.9: Barriers to access health-service providers, Indigenous persons aged 15 years and over who had problems accessing services, by remoteness, 2008

Barriers accessing service providers	Non-remote	Remote	Total
		Per cent	
Whether had problems accessing services			
Had problems accessing services	25.9	42.0	29.9
Did not have problems accessing services	74.1	58.0	70.1
Total	**100.0**	**100.0**	**100.0**
Total number	**245,600**	**81,501**	**327,101**
Type of Barrier to accessing any service[(a)]			
Services not culturally appropriate	8.8	5.8	7.7
Don't trust services	11.8	7.8	10.4
Treated badly / Discrimination	4.9	3.4	4.4
Other[(b)]	97.7	98.9	98.1
Total has problems accessing selected services[(c)]	**100**	**100**	**100**
Total number	**63,699**	**34,212**	**97,911**

(a) Proportions of those who experienced barriers to accessing services.

(b) Includes access problems due to transport/distance; cost of service; no services in the area; waiting time too long or not available at time required; and other

(c) Components may add to greater than the total because respondents can choose more than one category.

Source: AIHW analyses of 2008 NATSISS.

Table 3.13.10: Discrimination, Indigenous persons aged 15 years and over, by remoteness, 2008

	Non-remote	Remote	Total
		Per cent	
Whether felt discriminated against in last 12 months			
Felt discriminated against	27.6	26.3	27.3
Did not feel discriminated against	72.4	73.7	72.7
Total	**100.0**	**100.0**	**100.0**
Situations or places felt discriminated against[(a)]			
By doctors, nurses or other staff at hospitals / surgeries	14.0	16.9	14.7
Types of situations avoided due to past discrimination[(a)]			
Doctors, nurses or other staff at hospitals / surgeries	1.5	1.6	1.5

(a) Proportions are of those who felt discriminated against.

Source: AIHW analysis of 2008 NATSISS.

Barriers to accessing health-service providers, by sex

- In 2008, Indigenous females aged 15 years and over in remote areas were more likely than their male counterparts to report problems accessing health services (33% and 27%, respectively) (Table 3.13.11). Of those who reported problems, the most commonly identified barrier to accessing health services was distrust of services (3.3% each for males and 3.0% for females) and the services not being culturally appropriate (1.8% for males, 2.8% for females).
- In 2008, the percentage of Indigenous Australians aged 15 years and over who had experienced discrimination in the previous 12 months was similar for males (28%) and females (27%). Of these, 11% of males, and 18% of females felt discriminated against by doctors, nurses, or other staff at hospitals/surgeries. 1.5% males and 1.6% females said that they avoided doctors, nurses, or other staff at hospitals/surgeries due to past discrimination (Table 3.13.12).

Table 3.13.11: Barriers to access health-service providers, Indigenous persons aged 15 years and over who had problems accessing services, by sex, 2008

Barriers accessing service providers	Males	Females	Persons
		Per cent	
Whether had problems accessing services			
Had problems accessing services	27.1	32.5	29.9
Did not have problems accessing services	72.9	67.5	70.1
Total	**100.0**	**100.0**	**100.0**
Total number	**156,052**	**171,049**	**327,101**
Type of barrier to accessing any service			
Services not culturally appropriate	1.8	2.8	2.3
Don't trust services	3.3	3.0	3.1
Treated badly / discrimination	1.2	1.4	1.3
Other(a)	26.4	32.0	29.4
Total has problems accessing selected services	**100.0**	**100.0**	**100.0**
Total number	**42,334**	**55,577**	**97,911**

(a) Includes access problems due to transport/distance; cost of service; no services in the area; waiting time too long or not available at time required; and other.

Source: AIHW analysis of 2008 NATSISS.

Table 3.13.12: Discrimination, Indigenous persons aged 15 years and over, by sex, 2008

	Males	Females	Persons
		Per cent	
Whether felt discriminated against in last 12 months			
Felt discriminated against	27.9	26.8	27.3
Did not feel discriminated against	72.1	73.2	72.7
Total	**100.0**	**100.0**	**100.0**
Situations or places felt discriminated against(a)			
By doctors, nurses or other staff at hospitals / surgeries	11.1	18.1	14.7
Types of situations avoided due to past discrimination(a)			
Doctors, nurses or other staff at hospitals / surgeries	1.5	1.6	1.5

(a) Proportions are of those who felt discriminated against.

Source: AIHW analysis of 2008 NATSISS.

Healthy for Life data

Information on involvement in service planning and quality improvement by services funded through the HfL program is available from the AIHW Healthy for Life data collection.

- In the reporting periods ending 30 June 2008, 30 June 2009 and 30 June 2010, the most common formal mechanism for input into planning was via meetings of reference groups or other advisory committees (90%, 84% and 85%, respectively) (Table 3.13.13).
- Over the same periods, the most common formal mechanism for dissemination of health service performance information was via verbal and/or written reports presented at meetings other than the Annual General Meeting (82%, 80% and 73%, respectively).
- Over the same periods, the most common formal mechanism for assessing client satisfaction or dissatisfaction was a complaints mechanism (90%, 78% and 89%, respectively).

Services funded through the HfL program undertook quality improvement activities. Data for these activities are available for the reporting periods ending 30 June 2008, 30 June 2009 and 30 June 2010 and these indicate that:

- The services participated in formal quality improvement processes that involved repeated cycles of 'plan–do–study–act' in maternal health (between 30 June 2008 and 30 June 2010) this ranged from 67% to 72% of services, child health (ranging from 70% to 76% of services) and chronic disease (ranging from 70% to 81% of services) (Table 3.13.14).
- Health service data were used to review quality in maternal health (ranging from 66% to 85% of services), child health (ranging from 69% to 87% of services) and chronic disease (ranging from 72% to 89% of services).
- Staff participated in the interpretation of health service data and service planning/goal setting in relation to maternal health (ranging from 75% to 81% of services), child health (ranging from 74% to 87% of services) and chronic disease (ranging from 78% to 89% of services).

Table 3.13.13: Service population involvement in service planning and feedback, reporting periods ending 30 June 2008 to 30 June 2010

HfL services had strategies to involve their service population in service planning and feedback that included:	Jun–08			Jun–09			Jun–10		
	% Yes	% No	% No response	% Yes	% No	% No response	% Yes	% No	% No response
1. Formal mechanisms for input into planning									
a. Meeting(s) of reference group(s) or other advisory committee(s)	89.6	6.0	4.5	83.8	4.1	12.2	84.8	6.3	8.9
b. Input received at an Annual General Meeting	67.2	26.9	6.0	67.6	17.6	14.9	74.7	13.9	11.4
c. Other	31.3	20.9	47.8	35.1	23.0	41.9	24.1	30.4	45.6
2. Formal mechanisms for dissemination of health service performance information									
a. A current formal communication strategy	71.6	19.4	9.0	67.6	17.6	14.9	72.2	16.5	11.4
b. Verbal and/or written report(s) presented at an Annual General Meeting	76.1	9.0	14.9	71.6	10.8	17.6	73.4	11.4	15.2
c. Verbal and/or written reports(s) presented at other meeting(s)	82.1	6.0	11.9	79.7	5.4	14.9	73.4	13.9	12.7
d. Health service newsletter(s)	61.2	31.3	7.5	59.5	28.4	12.2	65.8	22.8	11.4
e. ‘Column’ in the newsletter(s) of other agencies	35.8	50.7	13.4	41.9	41.9	16.2	35.4	53.2	11.4
f. Ad hoc information on our health service website	43.3	43.3	13.4	43.2	41.9	14.9	53.2	36.7	10.1
g. Other	19.4	29.9	50.7	16.2	31.1	52.7	15.2	39.2	45.6
3. Formal mechanisms for assessing client satisfaction									
a. Client satisfaction survey	53.7	35.8	10.4	52.7	31.1	16.2	73.4	17.7	8.9
b. Client focus group(s)	53.7	35.8	10.4	45.9	37.8	16.2	46.8	44.3	8.9
c. Suggestions box	70.1	19.4	10.4	64.9	18.9	16.2	70.9	20.3	8.9
d. Complaints mechanism	89.6	1.5	9.0	78.4	4.1	17.6	88.6	2.5	8.9

Source: AIHW, Healthy for Life data collection.

Table 3.13.14: Quality improvement, reporting periods ending 30 June 2008 to 30 June 2010

HfL services undertook quality improvement activities in relation to maternal and child health and chronic disease prevention and care that included:	Jun–08			Jun–09			Jun–10		
	% Yes	% No	% No response	% Yes	% No	% No response	% Yes	% No	% No response
1. Participation in formal quality improvement processes that involve repeated cycles of Plan-Do-Study-Act (PDSA)									
a. Maternal health	71.6	28.4	0.0	67.1	23.3	9.6	67.1	24.1	8.9
b. Child health	76.1	23.9	0.0	70.3	20.3	9.5	72.2	20.3	7.6
c. Chronic disease	80.6	19.4	0.0	70.3	20.3	9.5	74.7	17.7	7.6
d. Other	34.3	34.3	31.3	39.2	33.8	27.0	43.0	26.6	30.4
2. Quality improvement strategies included in current business plan	63.6	9.1	27.3	64.9	5.4	29.7	77.2	6.3	16.5
3. Health service data used to review quality									
a. Maternal health	65.7	20.9	13.4	67.6	8.1	24.3	84.8	7.6	7.6
b. Child health	74.6	11.9	13.4	68.9	8.1	23.0	87.3	5.1	7.6
c. Chronic disease	77.6	9.0	13.4	71.6	6.8	21.6	88.6	3.8	7.6
d. Other	23.9	26.9	49.3	31.1	28.4	40.5	39.2	29.1	31.6
4. Staff participation in interpretation of health service data and service planning/goal setting									
a. Maternal health	74.6	19.4	6.0	75.7	5.4	18.9	81.0	11.4	7.6
b. Child health	79.1	16.4	4.5	74.3	6.8	18.9	87.3	5.1	7.6
c. Chronic disease	85.1	10.4	4.5	78.4	4.1	17.6	88.6	3.8	7.6
d. Other	29.9	29.9	40.3	40.5	25.7	33.8	39.2	26.6	34.2

Source: AIHW, Healthy for Life data collection.

Data quality issues

Office of the Registrar of Indigenous Corporations (ORIC)

In 2010–11, compliance analysis was able to be completed for 86 companies incorporated under the ACA Act and registered with ORIC.

Over the period 2000–01 to 2007–08, the proportion of Indigenous health corporations incorporated under the ACA Act registered with ORIC that were fully or partially compliant with providing the key documents required remained between 95% and 99%.

OATSIH Services Reporting (OSR) data collection

The data were collected using the OSR questionnaire, (surveying all auspice services) which combined previously separate questionnaires for primary health, substance use, and Bringing Them Home and Link up counselling services.

OATSIH sent a paper copy of the 2008–09 OSR questionnaire to each participating service and asked the service to complete the relevant sections. The participating services sent their completed OSR questionnaires directly to the AIHW.

The AIHW examined all completed questionnaires received to identify any missing data and data quality issues. Where needed, AIHW staff contacted the relevant services to follow up and obtain additional or corrected data. After manually entering the data on the data repository system, staff conducted further data quality checks.

The AIHW identified three major problems with the data quality: missing data, inappropriate data provided for the question, and divergence of data from two or more questions. The majority of 2008–09 OSR questionnaires received had one or more of these data quality issues.

Further information can be found in the data quality statement in the Aboriginal and Torres Strait Islander Health Services Report, 2008–09 (AIHW 2010).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially ‘as reported’ by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the 2008 NATSISS User’s guide (ABS 2010).

Healthy for Life data

For the July 2008 to June 2009 reporting period, 72 services submitted data as part of the Healthy for Life Program.

Services started submitting their data through an electronic interface (OSCAR) for the February 2008 reporting period. This has improved the quality of data submitted.

Not all of the services were able to provide data for all of the essential indicators and service profile questions. The number of services who were able to provide data varies across the qualitative and quantitative indicators.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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List of tables

3.14 Access to services compared with need

Access to services by types of service compared with need (for example, primary care, hospital, dental and allied health and post-acute care and palliative care)

Data sources

Data for this measure come from Medicare data, DoHA general practice statistics, the OATSIH Services Reporting Data Collection, the National Hospital Morbidity Database, the 2004–05 National Aboriginal and Torres Strait Islander Health Survey, the 2008 National Aboriginal and Torres Strait Islander Social Survey, the National Health Workforce Data Set and AIHW health expenditure data.

Medicare Database

Medicare enrolment application forms are lodged by persons wishing to enrol with Medicare at Medicare offices in each state/territory or by mail. Information from these forms is entered directly into the Medicare database, which is held by the Department of Health and Ageing (DoHA).

In November 2002, the ABS standard question on Indigenous identification was included on this form. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete.

As at 1 May 2012, 339,310 Indigenous Australians were enrolled on the VII database. This represents 59% of the estimated total Indigenous population (AHMAC 2012).

Medicare data presented in this report have been adjusted for under-identification. There are a number of caveats to the VII adjustment methodology, including that as the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could therefore be biases in the data that are not addressed by the adjustment methodology.

DoHA general practice statistics

The Commonwealth Department of Health and Ageing holds data on the number of GPs in Australia by remoteness area and Statistical Local Area (SLA). As part of the Health and Ageing 2009–10 Budget Measure- Confronting the Rural Health Challenge the Government announced that from 1 July 2009, the Rural, Remote and Metropolitan Areas (RRMA) system was replaced by the Australian Standard Geographical Classification – Remoteness Areas (ASGC-RA) system.

OATSIH Services Reporting Data Collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2014.

The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including

family and culture, health, education, employment, income, financial stress, housing, and law and justice.

National Health Workforce Data Set: medical practitioners

The AIHW, in collaboration with Health Workforce Australia, is the custodian of the National Health Workforce Data Set (NHWDS) that describes these professionals and the work they do.

The NHWDS combines data from the National Registration and Accreditation Scheme (NRAS) with health workforce survey data collected when annual registrations are renewed. The mandatory registration process is administered by the Australian Health Practitioner Regulation Agency (AHPRA) and includes an optional survey that collects additional demographic and workforce information.

All practitioners in these professions must be registered with the AHPRA to practice in Australia, and this applies whether they trained in Australia or overseas. The AHPRA manages the NRAS, which replaced jurisdiction-based registration with a single national registration and accreditation system. As part of this scheme, the AHPRA supports National Health Practitioner Boards, which regulate registered health professions under nationally consistent legislation. Registration for each profession is granted by the relevant boards, subject to applicants meeting the standards and policies set by each.

At its introduction, the NRAS covered registration for 10 health professions, with another four scheduled for inclusion from 1 July 2012 (see below). In all, this represents more than 530,000 registered health professionals.

Since 1 July 2010, these professions have been regulated: chiropractors, dental practitioners (including dentists, dental hygienists, dental prosthetists and dental therapists), medical practitioners, nurses and midwives, optometrists, osteopaths, pharmacists, physiotherapists, podiatrists, and psychologists.

From 1 July 2012, these health professions are included: Aboriginal and Torres Strait Islander health practitioners, Chinese medicine practitioners, medical radiation practitioners, and occupational therapists

Medical practitioners

The National Health Workforce Data Set (NHWDS): medical practitioners is a combination of data collected through the medical practitioner registration renewal process. Medical practitioners can either renew their registration online via the Australian Health practitioner Regulation Agency (AHPRA) website or using a paper form provided by AHPRA. For initial registration, medical practitioners must use a paper form and provide supplementary supporting documentation. Registration data collected include demographic information such as age, sex, country of birth, and details of health qualification(s) and registration status.

When medical practitioners renew their registration online, they are also asked to complete an online version of the Medical Workforce Survey 2010 questionnaire. The questionnaire collects information on the employment characteristics, work locations and work activity of medical practitioners. AHPRA stores both the online registration data and the survey information in separate databases. They then send these two data sets to AIHW, where they are merged into a de-identified national data set.

Palliative care data

Data on palliative care are sourced from the Admitted Patient Palliative Care National Minimum Data Set which is a component of the National Hospital Morbidity Data Collection (see hospitalisations section above). This is the most developed data collection currently available for reporting on palliative care services.

Palliative care in the admitted patient setting may be provided in a hospice, in a dedicated palliative care ward or other wards within a hospital.

Health Expenditure Data

The AIHW reports biennially on expenditure on health for Aboriginal and Torres Strait Islander people. The latest report in the series, *Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09*, was released in 2011.

The AIHW draws upon both expenditure data and service use data to prepare Indigenous health expenditure estimates. The total expenditure and revenue data used to generate the tables are mainly administrative by-products of the accounting process, and are, as much as possible, produced on an accrual basis. Service use data, where available, provide demographic information about who is actually using the services provided.

Information obtained from Medicare Voluntary Indigenous Identifier (VII) data have been used to estimate MBS and PBS expenditure for Aboriginal and Torres Strait Islander people. The source of data used to estimate health expenditure for Indigenous and non-Indigenous Australians through Aboriginal Community Controlled Health Organisations (ACCHOs) comes from the OATSIH Service Report database.

Analyses

Age-standardised rates and ratios have been used to measure health care access in the Indigenous population relative to other Australians. Age-standardisation takes into account differences in age distributions between populations.

MBS Analysis: MBS services claimed

- In 2010-11, Medicare claims for Indigenous Australians were 5.8 million and for non-Indigenous Australians were 313 million. This was a slight increase from 2009-10 in which Medicare claims by Indigenous Australians were 5.4 million and for non-Indigenous Australians were 303 million. (Table 3.14.1).
- During 2010-11 a similar rate of service claims were made by Indigenous (14,275 per 1,000 population) and non-Indigenous (13,804 per 1,000) Australians. The largest number of claims for both Indigenous and non-Indigenous Australians were made for non-referred GP (6,376 and 5,462 per 1,000 population respectively) (Table 3.14.1).
- In 2010–11 there was an 8% difference between fees charged and benefits paid for all MBS services claimed among Indigenous Australians. This compares to a 22% difference for non-Indigenous Australians (Table 3.14.2).
- The largest difference between fees charged and benefits paid, during the same period, for both Indigenous and non-Indigenous Australians was for specialist's claims where the difference between fees charged and benefits paid was 33% for Indigenous Australians and 42% for non-Indigenous Australians (Table 3.14.2).

Table 3.14.1: MBS services claimed by selected categories, by Indigenous status, Australia, 2009–10 and 2010–11

	2009–10		2010–11		2009–10			2010–11		
	Number	Number	Number	Number	Age standardised services per 1,000 Population			Age standardised services per 1,000 Population		
MBS services claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate difference**	**Indigenous**	**Non-Indigenous**	**Rate difference**
Non-Referred GP	**2,738,411**	**121,002,775**	**2,833,990**	**122,492,005**	**6,059.38**	**5,401.63**	**657.75**	**6,376.00**	**5,462.00**	**914.02**
A Level	66,961	3,311,943	60,230	2,884,320	163.69	146.28	17.41	155	126	28.89
B Level	1,787,808	87,392,850	1,821,517	88,136,617	3,861.03	3,911.58	–50.55	3,970.00	3,942.00	27.75
C Level	276,484	10,022,494	306,393	10,669,033	701.47	441.65	259.82	778	470	308.06
D Level	36,170	949,241	40,660	986,480	96.08	41.86	54.22	108	43	64.57
Indigenous Health Check	47162	. .	71,369	—	92.71	. .	. .	154	0	154.18
4 year Health Check	682	19,911	901	30,497	—	—	—	6	11	–4.43
Other Health Assessment	2,441	492,578	3,172	500,273	10.68	21.15	–10.47	12	21	–9.35
GPMP	23,927	1,088,272	32,717	1,279,133	75.63	46.74	28.89	102	55	46.96
TCA	18,680	867,164	26,525	1,049,205	59.67	37.24	22.43	83	45	38.16
Other	200,566	9,463,766	228,031	11,094,989	420.84	428.87	–8.03	492	501	–9.04
Practice Nurse/AHW	277,530	7,394,556	242,473	5,861,460	577.58	326.26	251.32	522	257	264.43
Allied Health	**145,567**	**10,166,257**	**209,170**	**12,468,679**	**404.02**	**447.47**	**–43.45**	**599**	**547**	**51.84**
Allied Health other	25961	2628937	35,731	3,180,246	91.42	113.05	–21.63	125	136	–11.31
Allied Health AHW	640	. .	1,660	—	1.53	. .	. .	5	0	4.92
Dental	77,343	4,622,571	122,822	5,975,891	230.2	199.24	30.96	373	257	115.85
Psychologist	41,623	2,914,749	48,957	3,312,542	80.87	135.18	–54.31	96	153	–57.61

(continued)

Table 3.14.1 (continued): MBS services claimed by selected categories, by Indigenous status, Australia, 2009–10 and 2010–11

	2009–10		2010–11		2009–10			2010–11		
	Number	Number	Number	Number	Age standardised services per 1,000 Population			Age standardised services per 1,000 Population		
MBS services claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate difference**	**Indigenous**	**Non-Indigenous**	**Rate difference**
Specialist consult (A3)	83,650	9,906,079	*85,149*	*9,985,713*	248.29	431.65	–183.36	257	435	–177.54
Spec Con In	2,822	538,745	*2,725*	*557,487*	n.a.	n.a.	n.a.	9	24	–14.73
Spec Con Out	*80,828*	*9,367,334*	82,424	9,428,226	*n.a.*	*n.a.*	*n.a.*	*248*	*411*	*–162.8*
Consult Physician	93,453	9,278,076	95,434	9,640,825	257.06	402.3	–145.24	270	418	–147.67
Con Phys In	10,617	2,726,336	10,896	2,906,821	n.a.	n.a.	n.a.	46	123	–77.5
Con Phys Out	*82,836*	*6,551,740*	84,537	6,734,005	*n.a.*	*n.a.*	*n.a.*	*225*	*295*	*–70.17*
Psychiatrist	18,780	1,939,941	18,498	1,963,608	44.62	87.38	–42.76	46	88	–42.68
Psyc In	2,482	295,667	2,495	305,978	n.a.	n.a.	n.a.	6	14	–7.4
Psyc Out	*16,299*	*1,644,273*	16,003	1,657,630	*n.a.*	*n.a.*	*n.a.*	*39*	*75*	*–35.28*
Other Specialist	5234	410,835	2,345	284,462	11.99	18.1	–6.11	7	12	–5.32
Other Spec In	125	36,615	119	38,688	n.a.	n.a.	n.a.	0	2	–1.3
Other Spec Out	5,109	374,220	*2,226*	*245,774*	n.a.	n.a.	n.a.	7.00	11.00	–4.02
Specialist (Total)	**201,*118***	***21,534,930***	***201*,426**	**21,874,608**	**561.*96***	***939.43***	**–377.*47***	**580**	***953***	**–373.*2***
Specialist In	16,046	3,597,363	16,236	3,808,973	61.14	153.54	–92.40	62	162	–100.93
Specialist Out	185,072	17,937,567	**185,190**	**18,065,635**	500.82	785.89	–285.07	518	791	–272.27
Pathology	**1,757,572**	**101,960,543**	**1,921,962**	**106,910,139**	**4667.43**	**4449.46**	**217.97**	**5091**	**4664**	**426.21**
Path In	41,124	10,133,355	52,198	11,631,515	163.80	431.47	–267.67	211.00	495.00	–284.37
Path Out	1,716,448	91,827,188	1,869,764	95,278,624	4503.63	4017.99	485.64	4880	4169	710.58

(continued)

Table 3.14.1 (continued): MBS services claimed by selected categories, by Indigenous status, Australia, 2009–10 and 2010–11

	2009–10		2010–11		2009–10			2010–11		
	Number	Number	Number	Number	Age standardised services per 1,000 Population			Age standardised services per 1,000 Population		
MBS services claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate difference**	**Indigenous**	**Non-Indigenous**	**Rate difference**
Misc Diagnostics	**58,287**	**4,980,013**	**63,127**	**5,169,645**	**187.03**	**214.21**	**–27.18**	**200**	**222**	**–22.15**
Misc Diag In	1,804	411,597	1,801	436,218	8.06	17.25	–9.19	8	18	–10.47
Misc Diag Out	56,483	4,568,416	61,327	4,733,426	178.97	196.96	–17.99	192	204	–11.68
Imaging	**265,866**	**17,887,280**	**288,244**	**18,786,974**	**674.77**	**789.03**	**–114.26**	**731**	**828**	**–96.75**
Imag In	5,797	1,295,098	5,960	1,394,741	25.2	54.82	–29.62	24	59	–35.06
Imag Out	260,068	16,592,183	282,284	17,392,233	649.57	734.21	–84.64	707	769.00	–61.69
Other MBS items	**249,612**	**25,452,685**	**260,275**	**25,661,723**	**665.37**	**1116.82**	**–451.45**	**697**	**1126**	**–428.99**
Other MBS In	45,317	8,939,595	46,676	9,320,311	141.46	388.07	–246.61	146	404	–258.13
Other MBs Out	204,295	16,513,090	213,599	16,341,412	523.91	728.75	–204.84	551.00	722.00	–170.86
Total	**5,416,433**	**302,984,483**	**5,778,193**	**313,363,774**	**13,219.96**	**13,358.05**	**–138.09**	**14,275.00**	**13,804.00**	**470.98**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.
3. Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.2: MBS services claimed by selected categories, fees charged and benefits paid, by Indigenous status, Australia, 2010–11

	Indigenous			Non-Indigenous		
MBS services claimed	**Fess charged**	**Benefits paid**	**Per cent difference**	**Fess charged**	**Benefits paid**	**Per cent difference**
Non-Referred GP (Total)	**133,257,862**	**128,968,625**	**3.2**	**5,743,996,161**	**5,133,527,814**	**10.6**
A Level	985,222	956,824	2.9	50,633,452	47,128,190	6.9
B Level	65,531,039	62,045,120	5.3	3,551,658,438	3,073,252,241	13.5
C Level	20,551,376	20,173,644	1.8	780,117,601	712,955,953	8.6
D Level	3,996,426	3,916,114	2.0	113,204,460	96,727,847	14.6
Indigenous Health Check	14,202,589	14,201,879	—	—	—	—
4 year Health Check	107,603	107,603	0.0	3,418,669	3,412,885	0.2
Other Health Assessment	480,559	480,216	0.1	92,036,557	91,913,280	0.1
GPMP	4,426,002	4,423,685	0.1	173,255,555	173,013,114	0.1
TCA	2,842,607	2,841,978	0.0	112,551,487	112,452,090	0.1
Other	16,923,943	16,618,029	1.8	795,956,275	752,703,539	5.4
Practice Nurse/AHW	3,210,496	3,203,534	0.2	71,163,667	69,968,674	1.7
Allied Health (Total)	**21,672,546**	**20,689,719**	**4.5**	**1,384,728,748**	**1,268,280,051**	**8.4**
Allied Health	2,025,597	1,891,088	6.6	182,727,197	167,300,741	8.4
Allied Health AHW	84,075	84,075	—	—	—	—
Dental	14,402,771	14,106,738	2.1	800,280,875	772,077,546	3.5
Psychologist	5,160,103	4,607,818	10.7	401,720,676	328,901,764	18.1
Specialists (Total)	**20,538,490**	**16,206,259**	**21.1**	**2,358,754,792**	**1,617,720,152**	**31.4**
Specialist	6,937,353	4,603,308	33.6	910,489,791	526,224,187	42.2
Spec Con In	188,547	107,400	43.0	39,014,966	22,002,908	43.6
Spec Con Out	6,748,806	4,495,908	33.4	871,474,825	504,221,278	42.1

(continued)

Table 3.14.2 (continued): MBS services claimed by selected categories, fees charged and benefits paid, by Indigenous status, Australia, 2010–11

	Indigenous			Non-Indigenous		
MBS services claimed	**Fess charged**	**Benefits paid**	**Per cent difference**	**Fess charged**	**Benefits paid**	**Per cent difference**
Consultant Physician	10,400,789	8,899,967	14.4	1,073,283,972	796,240,900	25.8
Con Phys In	1,131,921	700,877	38.1	302,605,053	185,099,622	38.8
Con Phys Out	9,268,868	8,199,090	11.5	770,678,919	611,141,278	20.7
Psychiatrist	2,890,204	2,485,112	14.0	327,695,536	266,004,655	18.8
Psyc In	368,171	239,761	34.9	42,672,501	27,603,428	35.3
Psch Out	2,522,033	2,245,351	11.0	285,023,035	238,401,228	16.4
Other Specialist	310,144	217,872	29.8	47,285,494	29,250,410	38.1
Other Spec In	13,124	6,877	47.6	4,387,602	2,416,726	44.9
Other Spec Out	297,019	210,995	29.0	42,897,892	26,833,685	37.4
Pathology	**37,045,066**	**36,378,180**	**1.8**	**2,254,877,477**	**2,060,148,457**	**8.6**
Path In	1,736,662	1,093,641	37.0	389,701,900	242,166,393	37.9
Path Out	35,308,405	35,284,539	0.1	1,865,175,577	1,817,982,064	2.5
Misc Diagnostics	**4,312,857**	**3,901,332**	**9.5**	**429,664,745**	**352,885,572**	**17.9**
Misc Diag In	267,513	181,262	32.2	54,110,888	33,851,338	37.4
Misc Diag Out	4,045,344	3,720,070	8.0	375,553,857	319,034,234	15.0
Imaging	**32,968,471**	**30,552,998**	**7.3**	**2,668,583,196**	**2,265,581,274**	**15.1**
Imag In	1,154,444	731,380	36.6	271,966,791	166,556,985	38.8
Imag Out	31,814,027	29,821,618	6.3	2,396,616,405	2,099,024,290	12.4
Other MBS items	**52,880,406**	**40,629,018**	**23.2**	**5,715,478,124**	**3,401,948,550**	**40.5**
Other MBS In	17,461,592	7,646,878	56.2	3,388,351,800	1,490,935,051	56.0
Other MBs Out	35,418,814	32,982,140	6.9	2,327,126,324	1,911,013,499	17.9
Total MBS	**302,675,697**	**277,326,132**	**8.4**	**20,556,083,243**	**16,100,091,871**	**21.7**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

MBS services by age

Data on the number of MBS services claimed, fees charged and benefits paid by age in 2010-11 are presented in Tables 3.14.3 to 3.14.10.

- During 2010-11 for all MBS services claimed the greatest number of claims among Indigenous Australians was for those aged 60-64 years (age-standardised rate of 29,154 per 1,000 population). This was the equivalent of 17.8 million in fees charged and 15.9 million in benefits paid (Table 3.14.5, Table 3.14.7, Table 3.14.9).
- Further, during the same period among non-Indigenous Australians, the greatest number of MBS claims were also made among those 65 years and over (age standardised rate of 34,144 per 1,000 population). This was equivalent to 6,621 million in fees charged and 5,364 million in benefits paid (Table 3.14.5, Table 3.14.8, Table 3.14.10).
- Within the age ranges of 15–19 years, 20-24 years, 25-29 years, 40-44 years, 45-49 years, 50-54 years, 55-59 years and 60-64 years Indigenous Australians had a greater number of MBS claims than non-Indigenous Australians, however in the remaining age groups (<5 years, 5-9 years, 10-14 years and 65 years and over), a higher number of claims were made for non-Indigenous than Indigenous Australians (Table 3.14.5, Table 3.14.6).

Table 3.14.3: Indigenous MBS services claimed by selected categories, by age group, 2010–11

	<5 years	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+
Non-Referred GP	**375,735**	**174,707**	**153,120**	**249,293**	**234,281**	**205,451**	**190,028**	**190,639**	**205,834**	**197,984**	**186,077**	**155,149**	**122,129**	**193,564**
Allied Health	**1,109**	**5,104**	**11,540**	**11,690**	**10,533**	**12,835**	**14,801**	**16,428**	**19,706**	**22,223**	**23,631**	**21,645**	**16,625**	**21,299**
Specialist	**17,834**	**13,913**	**13,444**	**10,438**	**9,260**	**8,425**	**9,959**	**11,116**	**13,067**	**14,809**	**16,794**	**16,824**	**15,836**	**29,706**
Specialist - In	1,558	166	178	361	718	485	696	842	1,045	1,182	1,143	1,434	1,823	4,604
Specialist - Out	16,277	13,747	13,266	10,077	8,542	7,940	9,263	10,275	12,021	13,627	15,652	15,389	14,013	25,102
Pathology	**51,897**	**41,266**	**50,156**	**196,693**	**200,557**	**173,840**	**151,912**	**146,260**	**153,904**	**155,365**	**152,097**	**140,430**	**115,319**	**192,264**
Pathology - In	1,790	425	257	1,499	1,771	1,931	2,233	2,544	2,851	3,805	4,147	6,869	6,241	15,835
Pathology - Out	50,108	40,841	49,899	195,194	198,786	171,909	149,680	143,716	151,053	151,560	147,951	133,561	109,078	176,429
Misc Diagnostics	**2,622**	**3,527**	**2,533**	**2,884**	**2,425**	**2,559**	**2,812**	**3,589**	**4,656**	**5,974**	**6,651**	**6,777**	**5,548**	**10,570**
Misc Diagnostics - In	16	17	14	16	21	43	53	64	90	94	219	280	286	587
Misc Diagnostics - Out	2,605	3,510	2,519	2,869	2,404	2,515	2,759	3,525	4,566	5,880	6,432	6,497	5,262	9,984
Imaging	**8,716**	**7,849**	**15,990**	**30,489**	**29,704**	**24,948**	**21,208**	**20,671**	**21,346**	**21,613**	**22,638**	**21,240**	**16,252**	**25,580**
Imaging - In	198	42	65	236	183	140	200	212	276	467	585	786	820	1750
Imaging - Out	8,517	7,806	15,925	30,253	29,521	24,807	21,008	20,460	21,070	21,146	22,053	20,454	15,432	23,830
Other MBS	**5,809**	**11,671**	**11,814**	**25,387**	**25,056**	**22,554**	**18,846**	**16,883**	**17,595**	**18,999**	**19,348**	**21,496**	**15,928**	**28,889**
Other MBS - In	1,691	1,054	750	2,550	3,018	3,028	3,325	3,628	3,630	3,327	4,013	5,180	4,072	7,409
Other MBS - Out	4,118	10,617	11,064	22,837	22,039	19,526	15,521	13,255	13,965	15,672	15,335	16,317	11,856	21,480
Total	**463,723**	**258,036**	**258,597**	**526,875**	**511,817**	**450,611**	**409,566**	**405,587**	**436,107**	**436,967**	**427,237**	**383,561**	**307,637**	**501,872**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.4: Non-Indigenous MBS services claimed by selected categories, by age group, 2010–11

	<5 years	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+
Non-Referred GP	**8,900,105**	**4,289,174**	**3,514,776**	**4,684,005**	**5,846,943**	**6,519,937**	**6,745,023**	**7,260,670**	**7,368,535**	**7,791,292**	**8,257,671**	**8,267,332**	**8,891,899**	**34,154,642**
Allied Health	**59,196**	**222,307**	**407,552**	**482,581**	**348,932**	**466,291**	**563,254**	**698,649**	**777,139**	**883,304**	**994,868**	**1,052,502**	**1,185,388**	**4,326,717**
Specialist	**920,553**	**443,170**	**387,458**	**526,548**	**537,778**	**666,758**	**848,508**	**1,050,834**	**1,137,168**	**1,303,019**	**1,556,385**	**1,766,777**	**2,094,019**	**8,635,634**
Specialist - In	167,040	21,015	20,618	43,287	57,305	57,674	76,782	104,077	116,875	148,177	198,984	258,953	343,170	2,195,017
Specialist - Out	753,512	422,155	366,840	483,261	480,473	609,084	771,726	946,756	1,020,294	1,154,842	1,357,400	1,507,825	1,750,849	6,440,617
Pathology	**1,445,136**	**1,019,118**	**1,088,264**	**2,721,083**	**4,206,601**	**5,372,278**	**6,136,499**	**6,407,538**	**6,379,811**	**7,088,939**	**8,073,072**	**8,711,870**	**9,928,665**	**38,331,267**
Pathology - In	272,045	59,506	62,748	129,812	159,285	201,476	305,251	365,731	385,960	487,125	656,846	868,037	1,151,600	6,526,093
Pathology - Out	1,173,090	959,612	1,025,516	2,591,271	4,047,316	5,170,802	5,831,247	6,041,807	5,993,851	6,601,814	7,416,225	7,843,833	8,777,065	31,805,174
Misc Diagnostics	**158,279**	**130,707**	**72,382**	**79,148**	**81,601**	**95,766**	**119,996**	**167,175**	**218,078**	**287,272**	**365,966**	**445,282**	**562,948**	**2,385,045**
Misc Diagnostics - In	3938	1576	1032	2487	2739	3130	4772	7876	11556	17037	25723	36790	51493	266070
Misc Diagnostics - Out	154,342	129,131	71,350	76,660	78,862	92,637	115,224	159,299	206,522	270,235	340,243	408,492	511,455	2,118,974
Imaging	**287,000**	**300,989**	**618,104**	**670,997**	**746,405**	**949,736**	**1,093,033**	**1,174,678**	**1,183,452**	**1,324,951**	**1,491,725**	**1,565,194**	**1,743,155**	**5,637,555**
Imaging - In	34160	8525	10102	17067	16532	17721	25049	33868	39938	54819	78617	109093	147428	801822
Imaging - Out	252,841	292,465	608,002	653,930	729,873	932,016	1,067,984	1,140,809	1,143,514	1,270,132	1,413,108	1,456,101	1,595,727	4,835,733
Other MBS	**342,807**	**529,312**	**489,328**	**671,416**	**879,362**	**1,237,593**	**1,629,438**	**1,631,550**	**1,499,299**	**1,707,731**	**1,996,605**	**2,184,244**	**2,496,846**	**8,366,192**
Other MBS - In	212,714	122,105	86,541	204,396	249,844	298,179	446,469	528,539	522,273	572,511	727,024	860,665	1,025,081	3,463,971
Other MBS - Out	130,093	407,207	402,787	467,020	629,517	939,414	1,182,969	1,103,011	977,026	1,135,220	1,269,581	1,323,578	1,471,765	4,902,221
Total	**12,113,075**	**6,934,778**	**6,577,864**	**9,835,777**	**12,647,621**	**15,308,360**	**17,135,751**	**18,391,093**	**18,563,483**	**20,386,508**	**22,736,291**	**23,993,201**	**26,902,920**	**101,837,052**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, *see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.
3. Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.5: Indigenous MBS services claimed by selected categories, by age group, age-standardised per 1,000 population, 2010–11

MBS services claimed	<5	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+	Total
Non-Referred GP	**5,355**	**2,463**	**2,173**	**4,166**	**4,804**	**5,117**	**4,809**	**5,036**	**6,248**	**7,251**	**8,624**	**9,877**	**11,574**	**11,167**	**5,033**
Allied Health	**16**	**72**	**164**	**195**	**216**	**320**	**375**	**434**	**598**	**814**	**1,095**	**1,378**	**1,575**	**1,229**	**371**
Specialist	**254**	**196**	**191**	**174**	**190**	**210**	**252**	**294**	**397**	**542**	**778**	**1,071**	**1,501**	**1,714**	**358**
Specialist - In	22	2	3	6	15	12	18	22	32	43	53	91	173	266	29
Specialist - Out	232	194	188	168	175	198	234	271	365	499	725	980	1,328	1,448	329
Pathology	**740**	**582**	**712**	**3,287**	**4,112**	**4,330**	**3,844**	**3,864**	**4,671**	**5,690**	**7,049**	**8,940**	**10,929**	**11,092**	**3,413**
Pathology - In	26	6	4	25	36	48	56	67	87	139	192	437	591	914	93
Pathology - Out	714	576	708	3,262	4,076	4,282	3,788	3,796	4,585	5,550	6,857	8,503	10,337	10,179	3,320
Misc Diagnostics	**37**	**50**	**36**	**48**	**50**	**64**	**71**	**95**	**141**	**219**	**308**	**431**	**526**	**610**	**1,12**
Misc Diagnostics - In	0	0	0	0	0	1	1	2	3	3	10	18	27	34	3
Misc Diagnostics - Out	37	49	36	48	49	63	70	93	139	215	298	414	499	576	109
Imaging	**124**	**111**	**227**	**510**	**609**	**621**	**537**	**546**	**648**	**792**	**1,049**	**1,352**	**1,540**	**1,476**	**512**
Imaging - In	3	1	1	4	4	3	5	6	8	17	27	50	78	101	11
Imaging - Out	121	110	226	506	605	618	532	540	640	774	1,022	1,302	1,463	1,375	501
Other MBS	**83**	**165**	**168**	**424**	**514**	**562**	**477**	**446**	**534**	**696**	**897**	**1,368**	**1,510**	**1,667**	**462**
Other MBS - In	24	15	11	43	62	75	84	96	110	122	186	330	386	427	83
Other MBS - Out	59	150	157	382	452	486	393	350	424	574	711	1,039	1,124	1,239	379
Total	**6,609**	**3,637**	**3,671**	**8,805**	**10,495**	**11,223**	**10,365**	**10,714**	**13,237**	**16,003**	**19,801**	**24,418**	**29,154**	**28,955**	**10,261**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, *see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.
3. Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.6: Non-Indigenous MBS services claimed by selected categories, by age group, age-standardised per 1,000 population, 2010–11

MBS services claimed	<5	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+	Total
Non-Referred GP	6,339	3,314	2,632	3,211	3,606	3,970	4,545	4,559	4,894	4,989	5,703	6,315	7,398	11,451	5,608
Allied Health	42	172	305	331	215	284	380	439	516	566	687	804	986	1,451	571
Specialist	656	342	290	361	332	406	572	660	755	834	1,075	1,350	1,742	2,895	1,001
Specialist - In	119	16	15	30	35	35	52	65	78	95	137	198	286	736	174
Specialist - Out	537	326	275	331	296	371	520	594	678	739	937	1,152	1,457	2,159	827
Pathology	1,029	787	815	1,865	2,594	3,271	4,135	4,023	4,237	4,539	5,575	6,655	8,261	12,852	4,895
Pathology - In	194	46	47	89	98	123	206	230	256	312	454	663	958	2,188	533
Pathology - Out	835	741	768	1,776	2,496	3,148	3,929	3,794	3,981	4,227	5,121	5,991	7,303	10,664	4,362
Misc Diagnostics	113	101	54	54	50	58	81	105	145	184	253	340	468	800	237
Misc Diagnostics - In	3	1	1	2	2	2	3	5	8	11	18	28	43	89	20
Misc Diagnostics - Out	110	100	53	53	49	56	78	100	137	173	235	312	426	710	217
Imaging	204	233	463	460	460	578	737	738	786	848	1,030	1,196	1,450	1,890	860
Imaging - In	24	7	8	12	10	11	17	21	27	35	54	83	123	269	64
Imaging - Out	180	226	455	448	450	567	720	716	759	813	976	1,112	1,328	1,621	796
Other MBS	244	409	366	460	542	754	1,098	1,024	996	1,093	1,379	1,668	2,077	2,805	1,175
Other MBS - In	151	94	65	140	154	182	301	332	347	367	502	657	853	1,161	427
Other MBS - Out	93	315	302	320	388	572	797	693	649	727	877	1,011	1,225	1,644	748
Total	8,627	5,357	4,926	6,742	7,800	9,321	11,547	11,547	12,329	13,053	15,701	18,327	22,384	34,144	14,347

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, *see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.
3. Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.7: Indigenous MBS services claimed by selected categories, by age group, fees charged ($ million), 2010–11

MBS services claimed	<5	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+	Total
Non-Referred GP	**14.9**	**7.9**	**7.0**	**11.3**	**10.8**	**9.7**	**9.1**	**9.4**	**10.2**	**10.0**	**9.3**	**7.9**	**6.1**	**9.6**	**133.3**
Allied Health	**0.1**	**0.5**	**1.4**	**1.4**	**1.0**	**1.3**	**1.5**	**1.6**	**2.0**	**2.2**	**2.4**	**2.4**	**1.8**	**2.2**	**21.7**
Specialist	**1.9**	**1.5**	**1.4**	**1.1**	**1.0**	**0.9**	**1.0**	**1.2**	**1.4**	**1.5**	**1.7**	**1.6**	**1.6**	**2.7**	**20.5**
Specialist - In	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.5	1.7
Specialist - Out	1.8	1.5	1.4	1.1	0.9	0.8	0.9	1.1	1.3	1.3	1.6	1.5	1.4	2.3	18.8
Pathology	**1.0**	**0.8**	**1.0**	**3.9**	**4.0**	**3.5**	**3.0**	**2.9**	**3.0**	**3.0**	**2.9**	**2.6**	**2.1**	**3.4**	**37.0**
Pathology - In	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.5	1.7
Pathology - Out	1.0	0.8	1.0	3.8	3.9	3.4	3.0	2.8	2.8	2.8	2.7	2.4	1.9	3.0	35.3
Misc Diagnostics	**0.2**	**0.2**	**0.1**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	**0.3**	**0.4**	**0.5**	**0.5**	**0.4**	**0.7**	**4.3**
Misc Diagnostics - In	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Misc Diagnostics - Out	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.5	0.5	0.4	0.7	4.0
Imaging	**0.8**	**0.6**	**1.2**	**2.7**	**2.8**	**2.5**	**2.3**	**2.3**	**2.6**	**2.8**	**3.1**	**3.0**	**2.4**	**3.8**	**33.0**
Imaging - In	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	1.2
Imaging - Out	0.8	0.6	1.2	2.7	2.8	2.4	2.3	2.3	2.6	2.7	3.0	2.9	2.2	3.5	31.8
Other MBS	**3.6**	**2.2**	**2.1**	**3.4**	**3.5**	**3.8**	**4.3**	**4.2**	**4.1**	**3.6**	**3.7**	**4.4**	**3.5**	**6.4**	**52.9**
Other MBS - In	0.5	0.3	0.3	0.8	1.0	1.1	1.4	1.4	1.4	1.2	1.5	2.0	1.7	2.9	17.5
Other MBS - Out	3.1	1.9	1.8	2.7	2.5	2.7	2.9	2.8	2.7	2.4	2.2	2.4	1.8	3.4	35.4
Total	**22.5**	**13.7**	**14.2**	**23.9**	**23.2**	**21.8**	**21.4**	**21.8**	**23.6**	**23.5**	**23.7**	**22.5**	**17.8**	**28.9**	**302.7**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, *see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.8: Non-Indigenous MBS services claimed by selected categories, by age group, fees charged ($ million), 2010–11

MBS services claimed	<5	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+	Total
Non-Referred GP	**347.6**	**179.6**	**147.8**	**212.1**	**270.0**	**310.3**	**327.7**	**358.0**	**365.6**	**391.1**	**410.8**	**408.2**	**426.9**	**1,588.3**	**5,744.0**
Allied Health	**5.9**	**24.8**	**55.6**	**64.6**	**39.3**	**53.2**	**64.4**	**79.3**	**87.6**	**99.2**	**112.5**	**120.0**	**133.4**	**445.0**	**1,384.7**
Specialist	**114.9**	**54.6**	**46.7**	**64.9**	**67.2**	**82.0**	**103.2**	**128.2**	**137.0**	**152.6**	**178.0**	**196.3**	**221.3**	**812.1**	**2,358.8**
Specialist - In	16.2	2.1	1.9	4.8	6.7	6.5	8.6	11.5	12.7	15.7	20.7	26.4	34.6	220.3	388.7
Specialist - Out	98.7	52.5	44.7	60.2	60.5	75.5	94.6	116.7	124.3	136.8	157.3	169.8	186.6	591.8	1,970.1
Pathology	**31.0**	**21.1**	**23.0**	**57.0**	**89.9**	**119.5**	**141.9**	**148.5**	**144.0**	**156.5**	**176.3**	**186.9**	**208.9**	**750.3**	**2,254.9**
Pathology - In	6.4	1.8	2.1	4.6	6.2	8.1	12.3	15.5	17.2	21.4	27.9	34.6	43.4	188.1	389.7
Pathology - Out	24.7	19.3	20.9	52.4	83.7	111.3	129.6	133.0	126.8	135.1	148.4	152.2	165.6	562.2	1,865.2
Misc Diagnostics	**9.5**	**7.5**	**4.6**	**5.8**	**6.4**	**8.2**	**11.2**	**16.2**	**21.8**	**28.6**	**35.9**	**42.5**	**50.9**	**180.6**	**429.7**
Misc Diagnostics - In	1.4	0.9	0.4	0.6	0.6	0.8	1.4	2.2	3.1	4.0	5.0	6.0	6.6	21.2	54.1
Misc Diagnostics - Out	8.1	6.6	4.2	5.3	5.8	7.4	9.8	14.0	18.7	24.6	30.9	36.5	44.3	159.4	375.6
Imaging	**28.6**	**23.0**	**45.6**	**65.0**	**80.6**	**113.2**	**143.0**	**161.0**	**167.8**	**194.4**	**225.5**	**244.5**	**278.5**	**897.9**	**2,668.6**
Imaging - In	3.6	1.0	1.2	2.6	2.8	3.1	4.7	6.7	8.2	11.6	16.4	22.8	30.8	156.3	272.0
Imaging - Out	25.1	22.0	44.4	62.4	77.8	110.0	138.3	154.3	159.6	182.8	209.0	221.7	247.7	741.5	2,396.6
Other MBS	**121.3**	**83.6**	**73.0**	**118.7**	**149.0**	**257.9**	**444.1**	**469.9**	**372.9**	**321.4**	**378.2**	**442.4**	**536.4**	**1,946.7**	**5,715.5**
Other MBS - In	54.6	34.7	27.4	73.2	89.6	124.5	198.9	215.4	191.5	203.9	253.6	305.8	370.3	1,244.8	3,388.4
Other MBS - Out	66.7	48.9	45.6	45.5	59.3	133.4	245.2	254.5	181.3	117.5	124.6	136.6	166.1	701.9	2,327.1
Total	**658.8**	**394.2**	**396.4**	**588.2**	**702.3**	**944.3**	**1,235.3**	**1,361.1**	**1,296.6**	**1,343.8**	**1,517.3**	**1,640.7**	**1,856.3**	**6,620.9**	**20,556.1**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, *see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.9: Indigenous MBS services claimed by selected categories, by age group, benefits paid ($ million), 2010–11

MBS services claimed	<5	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+	Total
Non-Referred GP	**14.6**	**7.8**	**6.9**	**10.9**	**10.4**	**9.3**	**8.7**	**9.0**	**9.9**	**9.7**	**9.0**	**7.5**	**5.9**	**9.4**	**129.0**
Allied Health	**0.1**	**0.4**	**1.3**	**1.3**	**0.9**	**1.2**	**1.4**	**1.5**	**1.9**	**2.2**	**2.3**	**2.3**	**1.8**	**2.2**	**20.7**
Specialist	**1.6**	**1.3**	**1.3**	**0.9**	**0.7**	**0.7**	**0.8**	**0.9**	**1.1**	**1.2**	**1.3**	**1.2**	**1.2**	**2.1**	**16.2**
Specialist - In	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	1.1
Specialist - Out	1.5	1.3	1.3	0.9	0.7	0.6	0.7	0.8	1.0	1.1	1.3	1.1	1.1	1.8	15.2
Pathology	**1.0**	**0.8**	**1.0**	**3.9**	**4.0**	**3.5**	**3.0**	**2.9**	**2.9**	**2.9**	**2.8**	**2.5**	**2.0**	**3.3**	**36.4**
Pathology - In	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.3	1.1
Pathology - Out	1.0	0.8	1.0	3.8	3.9	3.4	3.0	2.8	2.8	2.8	2.7	2.4	1.9	3.0	35.3
Misc Diagnostics	**0.2**	**0.2**	**0.1**	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	**0.3**	**0.4**	**0.5**	**0.5**	**0.3**	**0.7**	**3.9**
Misc Diagnostics - In	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Misc Diagnostics - Out	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.6	3.7
Imaging	**0.7**	**0.6**	**1.1**	**2.6**	**2.6**	**2.2**	**2.1**	**2.1**	**2.4**	**2.6**	**2.9**	**2.8**	**2.2**	**3.6**	**30.6**
Imaging - In	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.7
Imaging - Out	0.7	0.6	1.1	2.5	2.6	2.2	2.0	2.1	2.4	2.6	2.8	2.7	2.1	3.4	29.8
Other MBS	**3.2**	**2.0**	**1.9**	**3.0**	**2.9**	**2.8**	**2.9**	**2.9**	**3.0**	**2.8**	**2.8**	**3.2**	**2.5**	**4.7**	**40.6**
Other MBS - In	0.2	0.1	0.1	0.4	0.4	0.5	0.6	0.6	0.6	0.5	0.7	0.9	0.7	1.4	7.6
Other MBS - Out	3.0	1.9	1.8	2.6	2.4	2.3	2.3	2.3	2.4	2.3	2.2	2.3	1.8	3.3	33.0
Total	**21.4**	**13.1**	**13.6**	**22.6**	**21.6**	**19.8**	**19.1**	**19.5**	**21.5**	**21.8**	**21.6**	**20.0**	**15.9**	**25.8**	**277.3**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, *see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.10: Non-Indigenous MBS services claimed by selected categories, by age group, benefits paid ($ million), 2010–11

MBS services claimed	<5	5–9	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65+	Total
Non-Referred GP	**323.2**	**166.6**	**136.3**	**188.1**	**236.7**	**267.4**	**281.1**	**306.5**	**313.1**	**335.7**	**350.1**	**348.3**	**372.2**	**1,508.3**	**5,133.5**
Allied Health	**4.3**	**19.2**	**50.1**	**58.5**	**33.2**	**44.4**	**54.7**	**68.8**	**77.7**	**90.1**	**103.6**	**111.7**	**125.9**	**426.0**	**1,268.3**
Specialist	**83.0**	**38.8**	**33.5**	**44.2**	**45.4**	**54.9**	**69.7**	**87.4**	**93.4**	**103.5**	**119.9**	**130.6**	**146.8**	**566.8**	**1,617.7**
Specialist - In	10.1	1.3	1.2	2.9	4.2	4.1	5.3	7.1	7.9	9.7	12.7	16.1	21.0	133.5	237.1
Specialist - Out	72.9	37.5	32.3	41.2	41.2	50.8	64.4	80.3	85.5	93.8	107.2	114.4	125.8	433.3	1,380.6
Pathology	**28.3**	**20.2**	**22.0**	**54.4**	**86.1**	**113.3**	**131.9**	**137.3**	**133.3**	**144.2**	**160.8**	**168.2**	**186.9**	**673.2**	**2,060.1**
Pathology - In	4.4	1.3	1.4	2.9	4.0	5.1	7.5	9.5	10.5	13.0	17.1	21.2	26.6	117.8	242.2
Pathology - Out	23.9	19.0	20.6	51.4	82.1	108.2	124.4	127.8	122.8	131.2	143.7	147.0	160.4	555.4	1,818.0
Misc Diagnostics	**7.4**	**5.7**	**3.8**	**4.9**	**5.3**	**6.9**	**9.3**	**13.4**	**17.9**	**23.4**	**29.0**	**33.9**	**40.7**	**151.3**	**352.9**
Misc Diagnostics - In	0.8	0.5	0.2	0.3	0.4	0.5	0.9	1.4	1.9	2.5	3.1	3.7	4.2	13.2	33.9
Misc Diagnostics - Out	6.6	5.2	3.5	4.5	5.0	6.4	8.4	12.0	16.0	20.9	25.8	30.1	36.6	138.1	319.0
Imaging	**24.3**	**20.5**	**40.9**	**56.7**	**68.7**	**89.9**	**108.6**	**127.0**	**138.6**	**162.3**	**188.1**	**203.8**	**235.7**	**800.4**	**2,265.6**
Imaging - In	2.5	0.7	0.8	1.6	1.6	1.9	2.8	4.0	4.9	6.9	9.8	13.5	18.3	97.3	166.6
Imaging - Out	21.8	19.8	40.1	55.1	67.0	88.1	105.9	123.0	133.7	155.4	178.3	190.3	217.4	703.1	2,099.0
Other MBS	**88.2**	**61.0**	**55.2**	**71.1**	**85.9**	**138.1**	**221.6**	**247.4**	**214.1**	**188.5**	**221.5**	**256.8**	**315.0**	**1,237.5**	**3,401.9**
Other MBS - In	25.1	13.6	11.2	28.8	35.6	51.2	81.9	88.8	79.9	86.7	110.5	134.5	164.3	578.9	1,490.9
Other MBS - Out	63.1	47.4	44.0	42.4	50.3	86.9	139.8	158.6	134.2	101.8	111.1	122.3	150.7	658.6	1,911.0
Total	**558.8**	**332.1**	**341.9**	**477.8**	**561.2**	**714.8**	**877.0**	**987.8**	**988.1**	**1,047.7**	**1,173.0**	**1,253.3**	**1,423.2**	**5,363.5**	**16,100.1**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, *see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

MBS services by remoteness

Data on the number of MBS services claimed, fees charged and benefits paid by remoteness in 2010-11 are presented in Tables 3.14.11 to 3.14.17.

- The total number of MBS service claims among Indigenous Australians decreased with remoteness, such that the largest number of claims per 1,000 population were within *Major Cities* (17,440 per 1,000 population) and the smallest number of claims were within *Very Remote* areas (9,648 per 1,000 population) (Table 3.14.13).
- During 2010-11 the total number of MBS claims made by Indigenous Australians in *Major Cities* (17,440 per 1,000 population) was the equivalent of 127.0 million in fees charged and 112.8 million in benefits paid. This was compared to non-Indigenous Australians (14,550 per 1,000 population) whose claims in *Major Cities* were equal to 14,973.2 million in fees charged and 11,693.4 million in benefits paid (Table 3.14.14, Table 3.14.15, Table 3.14.16 and Table 3.14.17).
- Within *Very Remote* areas the total number of MBS claims made by Indigenous Australians was 9,648 per 1,000 population, equivalent of 25.4 million in fees charged and 25.1 million in benefits paid. This was compared to non-Indigenous Australians (8,782 per 1,000 population) whose claims in *Very Remote* areas were equal to 52.3 million in fees charged and 39.5 million in benefits paid (Table 3.14.14, Table 3.14.15, Table 3.14.16 and Table 3.14.17).
- Despite that in *Remote* areas Indigenous Australians made more MBS claims (11,436 per 1,000 population) than in *Very Remote* areas (9,648 per 1,00 population) there was a smaller amount of fees charged (18.4 million) and benefits paid (17.9 million) in *Remote* areas (Table 3.14.14, Table 3.14.15, Table 3.14.16 and Table 3.14.17).

Table 3.14.11: Indigenous MBS services claimed by selected categories, by ASGC remoteness, 2010–11

MBS services claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**1,133,466**	**647,409**	**594,398**	**193,973**	**264,401**	**2,833,990**
Allied Health	**107,595**	**58,259**	**35,396**	**4,709**	**3,198**	**209,170**
Specialists	**94,497**	**55,595**	**35,771**	**6,347**	**9,191**	**201,426**
Specialist - In	9,846	4,216	1,824	197	152	16,236
Specialist - Out	84,651	51,378	33,947	6,149	9,039	185,190
Pathology	**666,272**	**392,088**	**388,939**	**165,543**	**308,848**	**1,921,962**
Pathology - In	32,473	11,339	6,890	771	708	52,198
Pathology - Out	633,799	380,748	382,049	164,772	308,140	1,869,764
Misc Diagnostics	**25,764**	**15,593**	**12,403**	**3,684**	**5,675**	**63,127**
Misc Diagnostics - In	907	532	272	28	62	1,801
Misc Diagnostics - Out	24,858	15,061	12,131	3,656	5,613	61,327
Imaging	**122,660**	**72,151**	**58,254**	**15,487**	**19,653**	**288,244**
Imaging - In	3,238	1,526	1005	108	84	5,960
Imaging - Out	119,422	70,625	57,249	15,379	19,570	282,284
Other MBS items	**107,872**	**67,553**	**52,563**	**13,365**	**18,886**	**260,275**
Other MBS - In	26,076	11,795	6,626	1061	1107	46,676
Other MBS - Out	81,797	55,757	45,937	12,303	17,779	213,599
Total MBS	**2,258,126**	**1,308,647**	**1,177,724**	**403,108**	**629,853**	**5,778,193**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.12: Non-Indigenous MBS services claimed by selected categories, by ASGC remoteness, 2010–11

MBS services claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**88,025,872**	**23,132,164**	**9,806,913**	**1,122,413**	**334,615**	**122,492,005**
Allied Health	**9,647,058**	**2,123,290**	**639,185**	**44,169**	**8,910**	**12,468,679**
Specialists	**16,429,077**	**3,918,084**	**1,352,171**	**123,039**	**36,941**	**21,874,608**
Specialist - In	2,839,754	715,809	218,820	24,168	7,139	3,808,973
Specialist - Out	13,589,323	3,202,275	1,133,351	98,871	29,801	18,065,635
Pathology	**75,980,713**	**20,913,702**	**8,639,838**	**1,013,592**	**295,055**	**106,910,139**
Pathology - In	8,618,589	2,165,411	733,843	81,397	23,269	11,631,515
Pathology - Out	67,362,125	18,748,291	7,905,994	932,195	271,786	95,278,624
Misc Diagnostics	**3,691,595**	**1,034,250**	**393,586**	**36,359**	**10,654**	**5,169,645**
Misc Diagnostics - In	300,895	92,914	36,915	3,763	1,337	436,218
Misc Diagnostics - Out	3,390,701	941,336	356,671	32,595	9,318	4,733,426
Imaging	**13,408,315**	**3,679,486**	**1,479,522**	**160,164**	**47,065**	**18,786,974**
Imaging - In	998,104	282,278	99,045	11,112	3,099	1,394,741
Imaging - Out	12,410,211	3,397,208	1,380,477	149,052	43,966	17,392,233
Other MBS items	**18,058,265**	**5,174,938**	**2,092,198**	**239,254**	**77,402**	**25,661,723**
Other MBS - In	6,793,688	1,754,399	661,867	76,949	25,338	9,320,311
Other MBS - Out	11,264,577	3,420,539	1,430,331	162,305	52,064	16,341,412
Total MBS	**225,240,896**	**59,975,916**	**24,403,414**	**2,738,990**	**810,641**	**313,363,774**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.13: Indigenous MBS services claimed by selected categories, age-standardised per 1,000 population by ASGC remoteness, 2010–11

	Major cities		Inner regional		Outer regional		Remote		Very remote		Australia	
MBS services claimed	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Non-Referred GP	**7,681**	**5,727**	**6,930**	**5,043**	**6,133**	**4,693**	**5,277**	**3,984**	**3,946**	**3,734**	**6,376**	**5,462**
Allied Health	**968**	**623**	**772**	**451**	**465**	**298**	**171**	**158**	**65**	**104**	**599**	**547**
Specialist	**916**	**1,059**	**719**	**807**	**438**	**616**	**204**	**433**	**164**	**405**	**580**	**953**
Specialist - In	129	182	70	139	27	96	8	85	3	79	62	162
Specialist - Out	787	877	648	668	411	520	196	347	161	325	518	791
Pathology	**5,680**	**4,872**	**5,100**	**4,386**	**4,667**	**4,014**	**4,817**	**3,563**	**4,756**	**3,091**	**5,091**	**4,664**
Pathology - In	436	551	210	420	126	320	27	287	15	255	211	495
Pathology - Out	5,244	4,322	4,890	3,966	4,540	3,694	4,790	3,276	4,741	2,836	4,880	4,169
Misc Diagnostics	**267**	**237**	**237**	**205**	**171**	**174**	**131**	**127**	**107**	**116**	**200**	**222**
Misc Diagnostics - In	14	19	11	17	4	16	1	13	2	14	8	18
Misc Diagnostics - Out	253	218	226	188	167	158	130	114	105	101	192	204
Imaging	**979**	**866**	**889**	**788**	**659**	**700**	**441**	**565**	**301**	**507**	**731**	**828**
Imaging - In	42	64	31	54	18	43	4	39	2	34	24	59
Imaging - Out	937	803	858	734	641	657	437	526	299	473	707	769
Other MBS	**951**	**1,164**	**855**	**1,091**	**603**	**979**	**395**	**841**	**310**	**826**	**697**	**1,126**
Other MBS - In	265	436	179	358	86	302	33	269	22	267	146	404
Other MBS - Out	686	729	676	733	517	678	361	572	287	559	551	722
Total	**17,440**	**14,550**	**15,502**	**12,771**	**13,137**	**11,474**	**11,436**	**9,671**	**9,648**	**8,782**	**14,275**	**13,804**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07).
2. In/Out refers to in and out of hospital.
3. Rates are age-standardised to Australian 2001 population.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.14: Indigenous MBS services claimed by selected categories, fees charged ($ million), by ASGC remoteness, 2010–11

MBS services claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**52.1**	**29.9**	**28.4**	**9.8**	**12.9**	**133.3**
Allied Health	**11.6**	**5.8**	**3.6**	**0.4**	**0.3**	**21.7**
Specialist	**10.3**	**5.6**	**3.3**	**0.6**	**0.8**	**20.5**
Specialist – In	1.0	0.4	0.2	0.0	0.0	1.7
Specialist - Out	9.3	5.1	3.1	0.6	0.8	18.8
Pathology	**13.5**	**7.7**	**7.3**	**3.0**	**5.5**	**37.0**
Pathology - In	1.1	0.4	0.2	0.0	0.0	1.7
Pathology - Out	12.4	7.3	7.1	3.0	5.5	35.3
Misc Diagnostics	**2.0**	**1.1**	**0.8**	**0.2**	**0.2**	**4.3**
Misc Diagnostics - In	0.1	0.1	0.1	0.0	0.0	0.3
Misc Diagnostics - Out	1.9	1.1	0.7	0.2	0.2	4.0
Imaging	**14.3**	**8.4**	**6.5**	**1.7**	**2.1**	**33.0**
Imaging - In	0.6	0.3	0.2	0.0	0.0	1.2
Imaging - Out	13.7	8.2	6.3	1.6	2.0	31.8
Other MBS	**23.2**	**13.2**	**10.3**	**2.7**	**3.5**	**52.9**
Other MBS - In	9.9	4.2	2.6	0.4	0.4	17.5
Other MBS - Out	13.3	9.0	7.7	2.3	3.1	35.4
Total	**127.0**	**71.7**	**60.1**	**18.4**	**25.4**	**302.7**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.15: Non-Indigenous MBS services claimed by selected categories, fees charged ($ million), by ASGC remoteness, 2010–11

MBS services claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**4,139.6**	**1,078.6**	**452.9**	**53.0**	**16.4**	**5,744.0**
Allied Health	**1,088.8**	**221.4**	**67.9**	**4.9**	**1.0**	**1,384.7**
Specialist	**1,811.1**	**395.8**	**133.6**	**12.7**	**3.8**	**2,358.8**
Specialist - In	293.5	70.7	21.1	2.4	0.7	388.7
Specialist - Out	1,517.6	325.1	112.5	10.3	3.1	1,970.1
Pathology	**1,619.9**	**430.8**	**175.9**	**20.6**	**6.1**	**2,254.9**
Pathology - In	287.6	72.4	25.6	2.9	0.9	389.7
Pathology - Out	1,332.3	358.4	150.3	17.7	5.3	1,865.2
Misc Diagnostics	**310.5**	**83.3**	**31.6**	**3.0**	**0.9**	**429.7**
Misc Diagnostics - In	38.4	10.3	4.7	0.5	0.2	54.1
Misc Diagnostics - Out	272.2	73.0	26.9	2.5	0.7	375.6
Imaging	**1,904.9**	**525.4**	**206.9**	**22.8**	**6.8**	**2,668.6**
Imaging - In	196.6	53.0	19.3	2.3	0.6	272.0
Imaging - Out	1,708.2	472.5	187.6	20.5	6.2	2,396.6
Other MBS	**4,098.4**	**1,094.6**	**447.8**	**52.8**	**17.2**	**5,715.5**
Other MBS - In	2,449.9	638.5	255.8	30.8	10.4	3,388.4
Other MBS - Out	1,648.5	456.2	192.0	22.0	6.8	2,327.1
Total	**14,973.2**	**3,829.9**	**1,516.7**	**169.7**	**52.4**	**20,556.1**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.16: Indigenous MBS services claimed by selected categories, benefits paid ($ million), by ASGC remoteness, 2010–11

MBS services claimed	Major city	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**50.1**	**28.7**	**27.6**	**9.7**	**12.9**	**129.0**
Allied Health	**11.0**	**5.5**	**3.4**	**0.4**	**0.3**	**20.7**
Specialists	**7.8**	**4.4**	**2.7**	**0.5**	**0.8**	**16.2**
Specialist - In	0.6	0.3	0.1	0.0	0.0	1.1
Specialist - Out	7.1	4.1	2.6	0.5	0.7	15.2
Pathology	**13.0**	**7.5**	**7.2**	**3.1**	**5.6**	**36.4**
Pathology - In	0.7	0.2	0.1	0.0	0.0	1.1
Pathology - Out	12.3	7.3	7.0	3.0	5.6	35.3
Misc Diagnostics	**1.8**	**1.0**	**0.7**	**0.2**	**0.2**	**3.9**
Misc Diagnostics - In	0.1	0.1	0.0	0.0	0.0	0.2
Misc Diagnostics - Out	1.7	1.0	0.7	0.2	0.2	3.7
Imaging	**13.1**	**7.8**	**6.1**	**1.6**	**2.0**	**30.6**
Imaging - In	0.4	0.2	0.1	0.0	0.0	0.7
Imaging - Out	12.7	7.6	5.9	1.6	2.0	29.8
Other MBS items	**16.1**	**10.3**	**8.5**	**2.4**	**3.4**	**40.6**
Other MBS - In	4.2	1.8	1.1	0.2	0.2	7.6
Other MBS - Out	11.8	8.4	7.3	2.2	3.1	33.0
Total MBS	**112.8**	**65.3**	**56.2**	**17.9**	**25.1**	**277.3**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.17: Non-Indigenous MBS services claimed by selected categories, benefits paid ($ million), by ASGC remoteness, 2010–11

MBS services claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**3,721.2**	**951.6**	**397.9**	**46.0**	**13.9**	**5,133.5**
Allied Health	**995.9**	**203.9**	**62.4**	**4.5**	**1.0**	**1,268.3**
Specialists	**1,243.9**	**269.9**	**91.6**	**8.6**	**2.6**	**1,617.7**
Specialist - In	179.0	43.2	12.9	1.4	0.4	237.1
Specialist - Out	1,064.9	226.8	78.7	7.1	2.2	1,380.6
Pathology	**1,476.6**	**394.3**	**162.9**	**19.3**	**5.7**	**2,060.1**
Pathology - In	179.0	45.0	15.8	1.8	0.5	242.2
Pathology - Out	1,297.6	349.3	147.2	17.5	5.2	1,818.0
Misc Diagnostics	**255.9**	**68.4**	**25.4**	**2.3**	**0.7**	**352.9**
Misc Diagnostics - In	23.7	6.6	3.1	0.3	0.1	33.9
Misc Diagnostics - Out	232.2	61.8	22.3	2.0	0.6	319.0
Imaging	**1,614.9**	**450.1**	**175.1**	**18.6**	**5.5**	**2,265.6**
Imaging - In	119.9	33.1	11.7	1.3	0.4	166.6
Imaging - Out	1,494.9	417.1	163.4	17.2	5.1	2,099.0
Other MBS items	**2,385.0**	**690.9**	**281.0**	**32.4**	**10.1**	**3,401.9**
Other MBS - In	1,072.8	287.3	111.8	13.3	4.4	1,490.9
Other MBS - Out	1,312.2	403.6	169.2	19.1	5.8	1,911.0
Total MBS	**11,693.4**	**3,029.2**	**1,196.2**	**131.5**	**39.5**	**16,100.1**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

MBS services by sex

Data on the number of MBS services claimed, fees charged and benefits paid by sex in 2010-11 are presented in Tables 3.14.18 to 3.14.21.

- During 2010–11, a comparable number of MBS claims were made among Indigenous (11,390 per 1,000 population) and non-Indigenous (11,542 per 1,000 population) males. This was equal to 117 million in fees charged and 1 million in benefits paid among Indigenous males, and 8,565 million in fees charges and 6,788 million in benefits paid among non-Indigenous males (Table 3.14.18, Table 3.14.19, Table 3.14.20, Table 3.14.21).
- During the same period there was also a comparable number of MBS claims made among Indigenous (17,003 per 1,000 population) and non-Indigenous (16,048 per 1,000 population) females. This was equal to 186 million in fees charged and 170 million in benefits paid among Indigenous females, and 11,991 million in fees charged and 9,312 in benefits paid among non-Indigenous females (Table 3.14.18, Table 3.14.19, Table 3.14.20, Table 3.14.21).

Table 3.14.18: MBS services claimed by selected categories, by Indigenous status, by sex, 2010–11

	Males		Females		Persons	
MBS services claimed	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Non-Referred GP	**1,153,646**	**52,407,634**	**1,680,344**	**70,084,371**	**2,833,990**	**122,492,005**
Allied Health	**85,999**	**5,215,390**	**123,170**	**7,253,290**	**209,170**	**12,468,679**
Specialist	**86,215**	**9,673,531**	**115,211**	**12,201,077**	**201,426**	**21,874,608**
Specialist - In	6,628	1,731,131	9,608	2,077,842	16,236	3,808,973
Specialist - Out	79,587	7,942,400	105,603	10,123,235	185,190	18,065,635
Pathology	**639,887**	**43,668,195**	**1,282,075**	**63,241,944**	**1,921,962**	**106,910,139**
Pathology - In	20,925	5,579,790	31,274	6,051,724	52,198	11,631,515
Pathology - Out	618,962	38,088,405	1,250,801	57,190,220	1,869,764	95,278,624
Misc Diagnostics	**27,838**	**2,524,488**	**35,290**	**2,645,156**	**63,127**	**5,169,645**
Misc Diagnostics - In	967	242,158	834	194,060	1,801	436,218
Misc Diagnostics - Out	26,871	2,282,330	34,456	2,451,096	61,327	4,733,426
Imaging	**102,242**	**7,475,751**	**186,002**	**11,311,223**	**288,244**	**18,786,974**
Imaging - In	2,594	704,202	3,366	690,539	5,960	1,394,741
Imaging - Out	99,647	6,771,550	182,637	10,620,683	282,284	17,392,233
Other MBS	**87,938**	**11,060,396**	**172,336**	**14,601,328**	**260,275**	**25,661,723**
Other MBS - In	17,823	4,222,547	28,853	5,097,764	46,676	9,320,311
Other MBS - Out	70,115	6,837,849	143,484	9,503,563	213,599	16,341,412
Total	**2,183,765**	**132,025,385**	**3,594,428**	**181,338,389**	**5,778,193**	**313,363,774**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.19: MBS services claimed by selected categories, by Indigenous status, by sex, age-standardised per 1,000 population, 2010–11

	Males		Females		Persons	
MBS services claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Non-Referred GP	**5,269**	**4,672**	**7,421**	**6,250**	**6,376**	**5,462**
Allied Health	**505**	**457**	**685**	**636**	**599**	**547**
Specialist	**499**	**837**	**656**	**1,067**	**580**	**953**
Specialist - In	54	146	69	179	62	162
Specialist - Out	445	691	587	888	518	791
Pathology	**3,829**	**3,750**	**6,289**	**5,572**	**5,091**	**4,664**
Pathology - In	183	467	238	523	211	495
Pathology - Out	3,646	3,283	6,051	5,049	4,880	4,169
Misc Diagnostics	**180**	**216**	**219**	**228**	**200**	**222**
Misc Diagnostics - In	9	20	7	16	8	18
Misc Diagnostics - Out	171	196	212	212	192	204
Imaging	**548**	**655**	**904**	**1,000**	**731**	**828**
Imaging - In	22	59	26	59	24	59
Imaging - Out	525	596	878	941	707	769
Other MBS	**560**	**954**	**830**	**1,296**	**697**	**1,126**
Other MBS - In	124	361	167	447	146	404
Other MBS - Out	436	593	663	849	551	722
Total	**11,390**	**11,542**	**17,003**	**16,048**	**14,275**	**13,804**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.
3. Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.20: MBS services claimed by selected categories, by Indigenous status, by sex, fees charged ($ million), 2010–11

	Male		Female		Persons	
MBS services claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Non-Referred GP	**54.0**	**2,405.3**	**79.3**	**3,338.7**	**133.3**	**5,744.0**
Allied Health	**8.8**	**583.2**	**12.8**	**801.5**	**21.7**	**1,384.7**
Specialists	**8.9**	**1,032.3**	**11.7**	**1,326.4**	**20.5**	**2,358.8**
Specialist – In	0.7	173.9	1.0	214.8	1.7	388.7
Specialist - Out	8.2	858.4	10.7	1,111.6	18.8	1,970.1
Pathology	**12.2**	**904.5**	**24.8**	**1,350.4**	**37.0**	**2,254.9**
Pathology - In	0.7	181.2	1.1	208.5	1.7	389.7
Pathology - Out	11.5	723.3	23.8	1,141.9	35.3	1,865.2
Misc Diagnostics	**1.9**	**210.8**	**2.4**	**218.9**	**4.3**	**429.7**
Misc Diagnostics - In	0.1	31.3	0.1	22.8	0.3	54.1
Misc Diagnostics - Out	1.8	179.4	2.3	196.1	4.0	375.6
Imaging	**11.9**	**1,114.3**	**21.0**	**1,554.3**	**33.0**	**2,668.6**
Imaging - In	0.5	140.3	0.7	131.6	1.2	272.0
Imaging - Out	11.4	973.9	20.4	1,422.7	31.8	2,396.6
Other MBS items	**19.0**	**2,314.7**	**33.9**	**3,400.8**	**52.9**	**5,715.5**
Other MBS - In	6.5	1,501.6	10.9	1,886.8	17.5	3,388.4
Other MBS - Out	12.4	813.1	23.0	1,514.0	35.4	2,327.1
Total MBS	**116.7**	**8,565.0**	**185.9**	**11,991.1**	**302.7**	**20,556.1**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.21: MBS services claimed by selected categories, by Indigenous status, by sex, benefits paid ($ million), 2010–11

	Males		Females		Persons	
MBS services claimed	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Non-Referred GP	**52.3**	**2,158.9**	**76.7**	**2,974.6**	**129.0**	**5,133.5**
Allied Health	**8.4**	**539.6**	**12.3**	**728.7**	**20.7**	**1,268.3**
Specialists	**7.1**	**712.6**	**9.1**	**905.1**	**16.2**	**1,617.7**
Specialist - In	0.4	105.6	0.6	131.5	1.1	237.1
Specialist - Out	6.7	607.0	8.5	773.6	15.2	1,380.6
Pathology	**11.9**	**818.9**	**24.4**	**1,241.2**	**36.4**	**2,060.1**
Pathology - In	0.4	112.8	0.7	129.4	1.1	242.2
Pathology - Out	11.5	706.1	23.8	1,111.9	35.3	1,818.0
Misc Diagnostics	**1.7**	**171.4**	**2.2**	**181.4**	**3.9**	**352.9**
Misc Diagnostics - In	0.1	19.7	0.1	14.2	0.2	33.9
Misc Diagnostics - Out	1.6	151.8	2.1	167.2	3.7	319.0
Imaging	**11.2**	**963.9**	**19.4**	**1,301.7**	**30.6**	**2,265.6**
Imaging - In	0.3	85.6	0.4	80.9	0.7	166.6
Imaging - Out	10.9	878.2	18.9	1,220.8	29.8	2,099.0
Other MBS items	**14.9**	**1,422.5**	**25.7**	**1,979.4**	**40.6**	**3,401.9**
Other MBS - In	2.9	670.7	4.8	820.2	7.6	1,490.9
Other MBS - Out	12.1	751.8	20.9	1,159.2	33.0	1,911.0
Total MBS	**107.6**	**6,787.9**	**169.7**	**9,312.2**	**277.3**	**16,100.1**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

MBS services by state

Data on the number of MBS services claimed, fees charged and benefits paid by state/territory in 2010-11 are presented in Tables 3.14.22 to 3.14.27.

- During 2010-11 New South Wales had the largest number of all MBS service claims made among Indigenous Australians (age standardised rate of 17,145 per 1,000 population) and non-Indigenous Australians (age standardised rate of 14,878 per 1,000 population). This was equal to 114 million in fees charged and 103 million in benefits paid among Indigenous Australians and 7,342 million in fees charged and 5,839 million in benefits paid to non-Indigenous Australians in New South Wales (Table 3.14.22, Table 3.14.23, Table 3.14.24, Table 3.14.26, Table 3.14.27).
- During 2010-11 the smallest number of all MBS service claims made among Indigenous Australians was in Western Australia (age standardised rate of 11,437 per 1,000 population). This was equal to 30 million in fees charged and 27 million in benefits paid (Table 3.14.22, Table 3.14.24, Table 3.14.26).
- During the same period, the smallest number of all MBS service claims made among non-Indigenous Australians was in the Northern Territory (age standardised rate of 8,534 per 1,000 population). This was equal to 83 million in fees charged and 60 million in benefits paid (Table 3.14.23, Table 3.14.25, Table 3.14.27).

Table 3.14.22: Indigenous MBS services claimed by selected categories, age-standardised per 1,000 population, by state/territory, 2010–11

MBS services claimed	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Australia
Non-Referred GP	**7,433**	**7,556**	**6,273**	**7,128**	**5,069**	**6,787**	**6,595**	**4,410**	**6,376**
Allied Health	**968**	**686**	**584**	**598**	**242**	**502**	**459**	**91**	**599**
Specialist	**922**	**844**	**422**	**693**	**242**	**788**	**811**	**152**	**580**
Specialist - In	80	118	55	91	32	74	27	6	62
Specialist - Out	842	726	366	602	209	714	784	146	518
Pathology	**5,653**	**5,402**	**4,296**	**5,110**	**4,807**	**4,595**	**5,520**	**5,683**	**5,091**
Pathology - In	350	275	157	210	130	208	159	16	211
Pathology - Out	5,303	5,127	4,139	4,900	4,677	4,387	5,361	5,667	4,880
Misc Diagnostics	**277**	**250**	**178**	**194**	**115**	**186**	**246**	**119**	**200**
Misc Diagnostics - In	9	14	10	7	3	7	8	2	8
Misc Diagnostics - Out	268	236	168	187	112	179	238	117	192
Imaging	**1,003**	**971**	**624**	**764**	**504**	**860**	**800**	**354**	**731**
Imaging - In	36	39	18	24	12	46	26	3	24
Imaging - Out	967	932	606	739	492	814	774	350	707
Other MBS items	**889**	**895**	**658**	**686**	**459**	**1,022**	**905**	**354**	**697**
Other MBS - In	186	233	136	165	81	258	317	34	146
Other MBS - Out	702	663	522	521	379	764	588	320	551
Total MBS	**17,145**	**16,605**	**13,035**	**15,173**	**11,437**	**14,740**	**15,336**	**11,162**	**14,275**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.
3. Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.23: Non-Indigenous MBS services claimed by selected categories, age-standardised per 1,000 population, by state/territory, 2010–11

MBS services claimed	NSW	Vic	Qld	SA	WA	Tas	ACT	NT	Australia
Non-Referred GP	**5,813**	**5,527**	**5,491**	**5,464**	**4,531**	**4,944**	**4,378**	**3,352**	**5,462**
Allied Health	**688**	**592**	**457**	**541**	**257**	**333**	**285**	**128**	**547**
Specialist	**1,051**	**1,047**	**832**	**991**	**696**	**826**	**776**	**389**	**953**
Specialist - In	125	202	212	152	116	148	98	57	162
Specialist - Out	927	845	620	838	579	678	678	332	791
Pathology	**5,003**	**4,649**	**4,589**	**4,392**	**4,236**	**3,913**	**4,467**	**3,282**	**4,664**
Pathology - In	557	485	537	399	391	295	376	175	495
Pathology - Out	4,446	4,164	4,052	3,993	3,845	3,619	4,091	3,107	4,169
Misc Diagnostics	**257**	**231**	**208**	**206**	**158**	**164**	**174**	**93**	**222**
Misc Diagnostics - In	15	19	28	19	11	10	10	7	18
Misc Diagnostics - Out	241	212	180	188	146	154	164	87	204
Imaging	**923**	**839**	**790**	**782**	**679**	**722**	**649**	**477**	**828**
Imaging - In	66	63	55	52	49	49	36	21	59
Imaging - Out	857	776	735	731	630	674	613	456	769
Other MBS items	**1,143**	**1,083**	**1,244**	**1,062**	**1,046**	**1,090**	**969**	**812**	**1,126**
Other MBS - In	377	427	441	398	399	356	353	230	404
Other MBS - Out	767	656	803	664	647	733	616	583	722
Total MBS	**14,878**	**13,968**	**13,612**	**13,439**	**11,603**	**11,992**	**11,699**	**8,534**	**13,804**

Notes

1. In/Out refers to in and out of hospital.
2. Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.24: Indigenous MBS services claimed by selected categories, fees charged ($ million), by state/territory, 2010–11

MBS services claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Non-Referred GP	**45.5**	**10.6**	**36.8**	**8.2**	**14.3**	**4.7**	**1.2**	**12.0**	**133.3**
Allied Health	**10.7**	**1.8**	**5.7**	**1.0**	**1.2**	**0.8**	**0.2**	**0.3**	**21.7**
Specialist	**10.2**	**2.1**	**4.1**	**1.2**	**1.1**	**0.9**	**0.3**	**0.7**	**20.5**
Specialist - In	0.7	0.2	0.4	0.1	0.1	0.1	0.0	0.0	1.7
Specialist - Out	9.5	1.9	3.6	1.1	1.0	0.9	0.2	0.6	18.8
Pathology	**12.2**	**2.7**	**8.6**	**1.9**	**4.7**	**1.3**	**0.3**	**5.4**	**37.0**
Pathology - In	0.8	0.2	0.4	0.1	0.2	0.1	0.0	0.0	1.7
Pathology - Out	11.4	2.5	8.1	1.8	4.5	1.2	0.3	5.4	35.3
Misc Diagnostics	**2.0**	**0.4**	**1.0**	**0.2**	**0.3**	**0.2**	**0.1**	**0.2**	**4.3**
Misc Diagnostics - In	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3
Misc Diagnostics - Out	1.9	0.4	0.9	0.2	0.3	0.1	0.1	0.2	4.0
Imaging	**13.6**	**3.0**	**7.7**	**1.8**	**3.0**	**1.5**	**0.4**	**2.0**	**33.0**
Imaging - In	0.5	0.1	0.2	0.0	0.1	0.1	0.0	0.0	1.2
Imaging - Out	13.1	2.9	7.5	1.8	2.9	1.4	0.3	2.0	31.8
Other MBS	**19.6**	**4.5**	**13.7**	**3.0**	**5.1**	**2.7**	**0.7**	**3.5**	**52.9**
Other MBS - In	6.8	1.6	4.5	0.9	1.6	1.0	0.4	0.6	17.5
Other MBS - Out	12.8	2.9	9.2	2.0	3.6	1.6	0.3	2.9	35.4
Total	**113.7**	**25.2**	**77.7**	**17.3**	**29.6**	**12.0**	**3.1**	**24.1**	**302.7**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.25: Non-Indigenous MBS services claimed by selected categories, fees charged ($ million), by state/territory, 2010–11

MBS services claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Non-Referred GP	**1,967**	**1,486**	**1,124**	**439**	**487**	**122**	**87**	**28**	**5,744**
Allied Health	**598**	**369**	**219**	**102**	**63**	**18**	**13**	**2**	**1,385**
Specialist	**878**	**641**	**410**	**173**	**176**	**42**	**32**	**6**	**2,359**
Specialist - In	99	125	95	30	27	8	3	1	389
Specialist - Out	780	516	315	143	148	34	28	5	1,970
Pathology	**797**	**559**	**451**	**149**	**207**	**46**	**34**	**10**	**2,255**
Pathology - In	132	96	89	24	36	7	5	1	390
Pathology - Out	665	463	362	125	171	39	29	9	1,865
Misc Diagnostics	**165**	**103**	**82**	**30**	**35**	**8**	**6**	**1**	**430**
Misc Diagnostics - In	14	14	15	5	5	1	0	0	54
Misc Diagnostics - Out	151	89	67	25	30	7	6	1	376
Imaging	**968**	**672**	**489**	**190**	**247**	**52**	**38**	**11**	**2,669**
Imaging - In	92	72	53	19	27	5	3	1	272
Imaging - Out	876	599	436	171	220	47	35	10	2,397
Other MBS	**1,969**	**1,370**	**1,179**	**407**	**549**	**124**	**88**	**26**	**5,715**
Other MBS - In	1,147	812	703	241	340	72	56	15	3,388
Other MBS - Out	822	558	476	166	208	52	32	11	2,327
Total	**7,342**	**5,200**	**3,955**	**1,490**	**1,763**	**411**	**297**	**84**	**20,556**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.26: Indigenous MBS services claimed by selected categories, benefits paid ($ million), by state/territory, 2010–11

MBS services claimed	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Non-Referred GP	**44.2**	**10.2**	**35.8**	**7.9**	**13.8**	**4.4**	**11.7**	**1.0**	**129.0**
Allied Health	**10.3**	**1.7**	**5.5**	**1.0**	**1.1**	**0.7**	**0.3**	**0.1**	**20.7**
Specialist	**8.0**	**1.7**	**3.2**	**1.0**	**0.8**	**0.7**	**0.6**	**0.2**	**16.2**
Specialist - In	0.4	0.1	0.3	0.1	0.1	0.1	0.0	0.0	1.1
Specialist - Out	7.6	1.5	2.9	0.9	0.7	0.7	0.6	0.2	15.2
Pathology	**11.9**	**2.6**	**8.4**	**1.9**	**4.6**	**1.2**	**5.5**	**0.3**	**36.4**
Pathology - In	0.5	0.1	0.3	0.0	0.1	0.1	0.0	0.0	1.1
Pathology - Out	11.4	2.5	8.1	1.8	4.5	1.1	5.5	0.3	35.3
Misc Diagnostics	**1.8**	**0.3**	**0.9**	**0.2**	**0.3**	**0.1**	**0.2**	**0.0**	**3.9**
Misc Diagnostics - In	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Misc Diagnostics - Out	1.7	0.3	0.8	0.2	0.3	0.1	0.2	0.0	3.7
Imaging	**12.7**	**2.8**	**7.3**	**1.7**	**2.7**	**1.3**	**1.9**	**0.3**	**30.6**
Imaging - In	0.3	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.7
Imaging - Out	12.4	2.7	7.1	1.6	2.7	1.2	1.9	0.3	29.8
Other MBS items	**14.7**	**3.4**	**10.7**	**2.3**	**4.1**	**2.0**	**3.1**	**0.4**	**40.6**
Other MBS - In	2.9	0.8	2.0	0.4	0.7	0.4	0.3	0.1	7.6
Other MBS - Out	11.8	2.6	8.6	1.9	3.4	1.5	2.8	0.2	33.0
Total	**103.6**	**22.6**	**71.7**	**16.0**	**27.3**	**10.4**	**23.4**	**2.4**	**277.3**

Notes

1. Indigenous rates should be interpreted with caution due to small population numbers in some jurisdictions. This also impacts on comparisons between jurisdictions and over time. Medicare data presented by Indigenous status have been adjusted for under-identification in the Medicare Australia Voluntary Indigenous Identifier (VII) database. The methodology for this adjustment was developed and verified by the AIHW and the Department of Health and Ageing for assessment of MBS and PBS service use and expenditure for Indigenous Australians (For an explanation of the methodology, see *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07*).
2. In/Out refers to in and out of hospital.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.14.27: Non-Indigenous MBS services claimed by selected categories, benefits paid ($ million), by state/territory, 2010–11

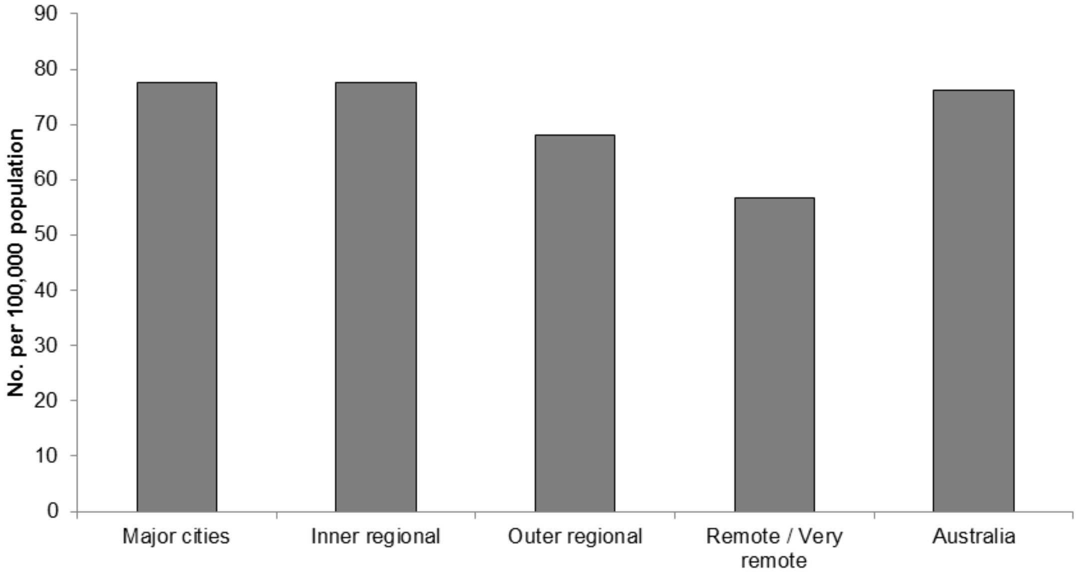
MBS services claimed	NSW	Vic	Qld	SA	WA	Tas	NT	ACT	Australia
Non-Referred GP	**1,812.7**	**1,324.7**	**996.9**	**395.7**	**410.8**	**106.1**	**21.0**	**62.6**	**5,133.5**
Allied Health	**554.9**	**334.1**	**200.8**	**95.7**	**53.8**	**16.0**	**1.7**	**10.7**	**1,268.3**
Specialist	**602.2**	**448.9**	**271.4**	**126.6**	**113.6**	**29.7**	**3.8**	**20.3**	**1,617.7**
Specialist - In	61.6	75.4	58.2	17.4	16.7	5.2	0.5	2.0	237.1
Specialist - Out	540.6	373.5	213.2	109.2	96.9	24.5	3.4	18.3	1,380.6
Pathology	**733.8**	**508.7**	**409.4**	**140.1**	**186.4**	**39.9**	**9.5**	**31.0**	**2,060.1**
Pathology - In	84.3	60.4	54.2	15.6	19.8	4.1	0.7	3.0	242.2
Pathology - Out	649.5	448.3	355.2	124.5	166.6	35.9	8.9	28.0	1,818.0
Misc Diagnostics	**138.6**	**87.2**	**64.4**	**25.6**	**25.4**	**6.1**	**0.9**	**4.4**	**352.9**
Misc Diagnostics - In	8.9	8.8	9.4	3.0	2.8	0.7	0.1	0.2	33.9
Misc Diagnostics - Out	129.7	78.5	55.0	22.6	22.6	5.4	0.8	4.3	319.0
Imaging	**851.8**	**568.0**	**419.1**	**159.5**	**186.6**	**44.5**	**7.9**	**26.7**	**2,265.6**
Imaging - In	58.9	45.5	30.6	11.9	14.4	3.2	0.3	1.6	166.6
Imaging - Out	792.8	522.6	388.5	147.7	172.2	41.3	7.6	25.1	2,099.0
Other MBS items	**1,145.4**	**835.5**	**705.7**	**256.1**	**317.2**	**80.5**	**15.2**	**43.8**	**3,401.9**
Other MBS - In	475.3	386.0	304.6	114.8	149.3	33.1	6.3	20.2	1,490.9
Other MBS - Out	670.1	449.4	401.1	141.3	167.9	47.4	8.9	23.6	1,911.0
Total	**5,839.4**	**4,107.0**	**3,067.7**	**1,199.5**	**1,293.7**	**322.9**	**60.2**	**199.5**	**16,100.1**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

General practitioners

Information on the number of GPs working in Australia is available from DoHA. Data in Table 3.14.28 and Figure 3.14.1 present the number of full-time equivalent GPs per 100,000 population by ASGC remoteness areas.

- In 2010–11, there were 16,927 GPs registered and working in Australia. 70% of these GPs practiced in *Major cities*, where approximately 69% of the population resided. Around 291, or 1.7%, practiced in *Remote* and *Very remote* areas, where 2.3% of the Australian population resided.
- The number of GPs per 100,000 head of population was greatest in *Major cities* (78 per 100,000) and lowest in *Remote* and *Very remote* areas (57 per 100,000).



Source: DoHA 2012.

Figure 3.14.1: Number of full-time equivalent GPs per 100,000 population, by remoteness, 2010–11

Table 3.14.28: Number of FTE GPs, and number per 100,000 population, by remoteness, 2010–11

	Major cities	Inner regional	Outer regional	Remote / Very remote	Australia
Number of GPs	11,917	3,338	1,381	291	16,927
GPs per 100,000	77.7	77.5	68.1	56.7	76.3

Source: DoHA 2010.

GPs who bulk bill

No data are currently available on the number of GPs who bulk bill by remoteness area. Data on the proportion of medical services that bulk bill are available by electoral roll and state and territory. State and territory data are presented below.

- In 2009–10, approximately 80% of general practitioner attendances were bulk billed. This ranged from 47% in the Australian Capital Territory to 84% in New South Wales (Table 3.14.29).

Table 3.14.29: Proportion of medical services that bulk bill, by state/territory, 2009–10

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Bulk billing per cent	84.4	78.2	78.9	72.5	78.7	74.3	47.1	65.6	79.5

Source: AIHW analysis of Medicare data.

Aboriginal and Torres Strait Islander health services

Data on Indigenous primary health-care services are available from the OSR data collection collected by the AIHW.

Primary health-care services

Episodes of health care

Episodes of health care are defined in the OSR data collection as 'contact between an individual client and a service by one or more staff to provide health care, such as for sickness, injury, counselling, health education or screening'. Episodes of care data includes:

- health care provided to clients through all sources of funding
- outreach visits (e.g. homelands/outstation visits, park clinics and satellite clinics)
- health care provided to clients over the telephone
- visitors/transients episodes of care.

Tables 3.14.30 and 3.14.31 show the total estimated number of episodes of health care provided by respondent Indigenous primary health-care services by remoteness area in each state and territory.

- In 2010–11, the number of episodes of health care provided across each state and territory varied. The majority of the estimated episodes of health care reported were provided in *Remote* and *very remote* areas.

Table 3.14.30: Total episodes of health care provided by respondent Aboriginal and Torres Strait Islander primary health-care services, by remoteness and Indigenous status, 2010–11

	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
Aboriginal and Torres Strait Islander	350,579	314,300	409,990	438,012	593,257	2,106,138
Non-Indigenous	42,774	85,224	74,791	42,312	59,561	304,662
Unknown Indigenous status	5,650	13,808	10,872	52,037	4,900	87,267
Total	**399,003**	**413,332**	**495,653**	**532,361**	**657,718**	**2,498,067**

Source: AIHW OSR data collection.

Table 3.14.31: Total episodes of health care provided by respondent Aboriginal and Torres Strait Islander primary health-care services, by state/territory and Indigenous status, 2010–11

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total
Aboriginal and Torres Strait Islander	25,832	427,736	607,823	229,782	203,463	31,661	161,725	418,116	2,106,138
Non-Indigenous	3,476	80,523	48,078	63,559	16,822	5,801	37,668	48,735	304,662
Unknown Indigenous status	424	13,494	47,849	16,348	1,524	205	1,142	6,281	87,267
Total	**29,732**	**521,753**	**703,750**	**309,689**	**221,809**	**37,667**	**200,535**	**473,132**	**2,498,067**

Source: AIHW OSR data collection.

Health staff

- At June 2011, a total of 362 FTE doctors and 789 FTE nurses were employed by Indigenous primary health-care services. The majority of doctors, nurses, allied health professionals and dentists were non-Indigenous (93%, 90%, 76% and 87%, respectively). The majority of Indigenous health workers, social and emotional wellbeing staff, traditional healers, environmental health workers, substance-use workers, sexual health workers, dental support workers and drivers/field officers were Aboriginal and Torres Strait Islander Australians (Table 3.14.32).

Table 3.14.32: Number of full-time equivalent health staff employed by respondent Aboriginal and Torres Strait Islander primary health-care services, by Indigenous status, as at 2010–11

	Aboriginal and Torres Strait Islander staff	Non-Indigenous staff	Unknown status	Total FTE
AHW[(a)] male	261.1	4.3	1.0	266.4
AHW[(a)] female	638.3	9.7	2.0	650.0
Doctors	26.0	335.4	0.2	361.6
Nurses	72.9	710.7	5.5	789.1
Medical specialists	0.2	13.0	0.0	13.2
SEWB[(b)]	279.9	186.7	0.5	467.1
AHP[(c)]	24.2	134.4	0.0	176.0
Dentists/Dental therapists	7.4	48.7	0.0	56.1
Dental support	43.9	35.1	0.0	79.1
Traditional healers	28.8	12.1	0.0	40.9
Substance use workers	101.2	50.7	3.0	154.9
Sexual health workers	46.7	17.6	0.0	64.3
EHW[(d)]	23.8	13.3	0.0	37.1
Drivers/field officers	252.6	42.4	2.0	296.9
Other health staff[(e)]	149.9	77.2	20.6	230.3

(a) AHW - Aboriginal health worker.

(b) SEWB - Social and emotional wellbeing staff, includes counsellors, social workers, psychologists.

(c) AHP - allied health professionals.

(d) EHW - environmental health workers.

(e) Other health staff - all other health related staff not included above.

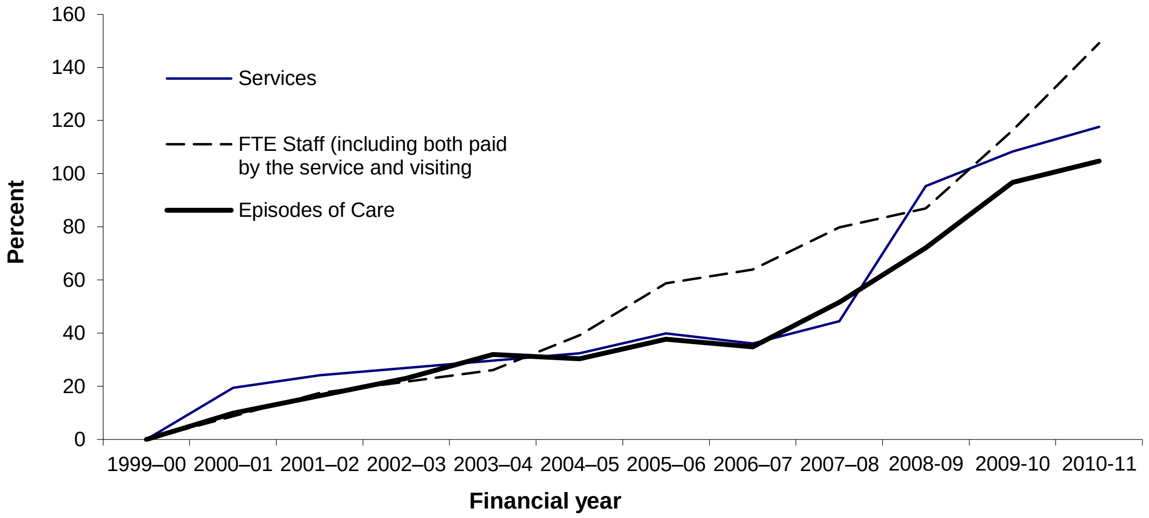
Source: AIHW OSR data collection.

Episodes of health care and health staff—time series analyses

Data presented below include those services that have been included in the SAR data collection (1999–00 to 2007–08) and OSR data collection (2008-09 to 2010-11).

- Over the period 1999–00 to 2010–11, there has been a rise of 104% in the number of Aboriginal and Torres Strait Islander primary health-care services (Figure 3.14.2; Table 3.14.33).
- Over the same period, there was a steady increase of 96% in the total number of estimated episodes of health care provided to Indigenous and non-Indigenous Australians.

- There was a 135% rise in full-time equivalent staff employed by Indigenous primary health-care services between 1999–00 and 2010–11.



Notes

1. 2008–09 OSR data counts all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods.
2. Eligible services only for 2007–08 services.

Sources: AIHW SAR and OSR data collections.

Figure 3.14.2: Cumulative per cent changes to Aboriginal and Torres Strait Islander primary health-care services, 1999–00 to 2009–10

Table 3.14.33: Number of services, FTE staff and episodes of care in Aboriginal and Torres Strait Islander primary health-care services, 1999–00 to 2010–11

	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	2010–11	Per cent change	Annual change
Services	108	129	134	137	140	143	151	147	156	211	225	235	104.1*	10.2*
FTE staff (included both paid by the service and visiting)	2,300	2,500	2,700	2,800	2,900	3,200	3,650	3,770	4,135	4,300	4,975	5,732	135.4*	283.1*
Episodes of care	1,220,000	1,340,000	1,420,000	1,500,000	1,610,000	1,590,000	1,680,000	1,644,000	1,850,000	2,100,000	2,400,000	2,498,067	95.5*	10,5946.6*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the 6 reporting periods.

Notes

1. Average period change determined using regression analysis.
2. Per cent change between 1999–00 and 2010–11based on the average annual change over the period.
3. 2008–09 OSR data counts all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods.
4. Eligible services only for 2007–08 services.

Source: AIHW SAR and OSR data collections.

Programs/activities provided

Aboriginal and Torres Strait Islander primary health-care services offer a range of programs and activities to support their communities.

Drug and alcohol programs

- In 2010–11, 89% (209) of the 234 services that reported in the OSR provided alcohol and other drug programs (AIHW 2012a).

Further detail can be found in 3.11: Access to alcohol and drug services.

Palliative care, funeral assistance and deceased transportation

- In 2010–11, the majority (47%) of Indigenous primary health-care services reported in the OSR provided funeral assistance, although just under half (46%) provided palliative care and one in seven (14%) provided transportation for the deceased (Table 3.14.34).

Table 3.14.34: Proportion of Aboriginal and Torres Strait Islander primary health-care services providing palliative care, funeral assistance and transportation for the deceased, 2010–11

	Total number	Per cent
Palliative care	107	45.7
Funeral assistance	111	47.4
Deceased transportation	33	14.1
Total primary health care services	**234**	**100.0**

Note: All of the 234 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health related activities provided by the service. The percentages in the table above are calculated as a proportion of these 234 services.

Source: AIHW OSR data collection.

Hospitalisations

- In the 2-year period July 2008 to June 2010 there were a total of 13,598,800 hospitalisations for Indigenous and non-Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Of these, 331,383 or 2.4% were hospitalisations of Indigenous Australians.

An analysis of hospitalisations, excluding those for routine dialysis, is presented in measure 1.02: Top reasons for hospitalisation.

Hospitalisations by age group

- For the period 2008–09 to 2009–10, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined had higher hospitalisation rates than non-Indigenous Australians across all age groups except 65 years and above (Table 3.14.35).
- The greatest difference in rates occurred in the 35–44 and 45–54 year age groups (154.2 and 174.3), where Indigenous Australians were hospitalised at almost two times the rate of non-Indigenous Australians in these age groups.

Table 3.14.35: Age-specific hospitalisation rates (excluding dialysis), by Indigenous status and age group, NSW, Vic, Qld, WA, SA and NT combined, July 2008 to June 2010[(a)(b)(c)]

	Indigenous		Non-Indigenous Australians			
Age group	Number	Number per 1,000	Number	Number per 1,000	Ratio[(d)]	Rate difference[(e)]
0–4	42,113	326.2	583,795	224.5	1.5*	101.7*
5–14	25,676	103.6	423,634	83.7	1.2*	19.9*
15–24	55,210	258.3	957,699	166.7	1.5*	91.6*
25–34	53,031	362.0	1,400,994	240.2	1.5*	121.8*
35–44	53,295	406.4	1,493,048	252.3	1.6*	154.2*
45–54	44,262	462.6	1,635,621	288.2	1.6*	174.3*
55–64	30,541	556.3	2,063,823	440.2	1.3*	116.1*
65+	27,255	793.7	4,708,803	844.9	0.9*	–51.3*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(d) Rate ratio Indigenous: non-Indigenous Australians.

(e) Rate difference Indigenous minus non-Indigenous Australians.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Table 3.14.36 presents hospitalisations for all diagnoses for the two-year period July 2008 to June 2010 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- Over the period July 2008 to June 2010, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised at 1.3 times the rate of non-Indigenous Australians.
- Indigenous Australians in Victoria were hospitalised at similar rates to non-Indigenous Australians. Indigenous Australians in New South Wales and Queensland were hospitalised at 1.2 times and 1.3 times the rate of non-Indigenous Australians. In Western Australia and South Australia, Indigenous Australians were hospitalised at 1.5 and 1.6 times the rate of non-Indigenous Australians; and in the Northern Territory, Indigenous Australians were hospitalised at 2.2 times the rate of non-Indigenous Australians (Table 3.14.36).

Table 3.14.36: Hospitalisations (excluding dialysis), by Indigenous status, sex and jurisdiction, July 2008–June 2010(a)(b)(c)(d)

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000(e)	Number	Rate per 1,000(e)	Ratio(f)	Difference(g)
NSW						
Males	39,098	325.9	1,925,382	272.7	1.2*	53.2*
Females	49,662	377.9	2,296,119	304.8	1.2*	73.1*
Persons	88,760	351.6	4,221,521	287.8	1.2*	63.8*
Vic						
Males	7,825	307.9	1,709,785	316.3	1.0	8.4
Females	10,908	377.7	2,112,171	365.1	1.0*	12.5*
Persons	18,733	341.7	3,822,026	339.2	1.0	2.5
Qld						
Males	39,165	392.5	1,267,345	298.1	1.3*	94.4*
Females	53,455	446.4	1,500,474	340.7	1.3*	105.7*
Persons	92,620	417.7	2,767,819	318.3	1.3*	99.4*
WA						
Males	24,840	437.9	635,379	296.0	1.5*	142.0*
Females	32,391	525.0	744,146	338.5	1.6*	186.5*
Persons	57,232	480.8	1,379,526	315.2	1.5*	165.6*
SA						
Males	9,478	441.9	463,355	275.5	1.6*	166.4*
Females	12,662	516.1	555,644	314.2	1.6*	201.8*
Persons	22,141	478.2	1,019,026	293.3	1.6*	184.9*
NT						
Males	22,084	426.1	29,193	206.2	2.1*	212.0*
Females	29,814	491.0	28,308	206.8	2.4*	284.2*
Persons	51,898	457.1	57,501	207.3	2.2*	249.8*
NSW, Vic, Qld, WA, SA and NT(h)						
Males	142,490	378.3	6,030,439	291.4	1.3*	86.9*
Females	188,892	440.4	7,236,862	331.6	1.3*	108.8*
Persons	331,384	408.5	13,267,419	310.2	1.3*	8.3*
Tas						
Males	2,041	161.0	76,968	150.6	1.1*	10.5*
Females	3,022	183.2	86,392	167.5	1.1*	15.7*
Persons	5,063	172.2	163,363	158.8	1.1*	13.4*
ACT						
Males	718	192.9	48,656	152.6	1.3*	40.2*
Females	970	262.7	59,347	170.9	1.5*	91.8*
Persons	1,688	227.0	108,003	161.5	1.4*	65.5*

(continued)

Table 3.14.36 (continued): Hospitalisations (excluding dialysis), by Indigenous status, sex and jurisdiction, July 2008–June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
Australia[(i)]						
Males	**146,077**	**369.4**	**6,181,883**	**286.8**	**1.3***	**82.6***
Females	**193,505**	**430.7**	**7,406,410**	**326.3**	**1.3***	**104.4***
Persons	**339,584**	**399.3**	**13,588,414**	**305.3**	**1.3***	**94.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(i) Includes all separations in all eight states and territories, including the Australian Capital Territory and Tasmania; Other Territories and Residence State not applicable (e.g. overseas, at sea, no fixed address).

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented by Australian Standard Geographical Classification (ASGC) in Table 3.14.37, covering the period July 2008 to June 2010.

- Rates of hospitalisations per 1,000 population were highest for Indigenous Australians living in *Remote* areas, at 597 per 1,000. The rate was highest for non-Indigenous Australians who lived in *inner regional* areas, at 316 per 1,000. The lowest rates were observed in *Major cities* for Indigenous Australians (319 per 1,000) and *Remote* areas for non-Indigenous Australians (292 per 1,000).
- Indigenous Australians were more likely to be hospitalised than non-Indigenous Australians across all remoteness areas. Indigenous Australians were hospitalised at twice the rate of non-Indigenous Australians in *Remote* areas of Australia. *Major cities*, had the lowest ratio (1.02). Nationally, the rate ratio was 1.3 times.

Table 3.14.37: Hospitalisations (excluding dialysis) by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)(f)]

	Indigenous				Non-Indigenous					
	Number	No. per 1,000	LCL 95%[(g)]	UCL 95%[(h)]	Number	No. per 1,000	LCL 95%[(g)]	UCL 95%[(h)]	Ratio[(i)]	Difference[(j)]
Major cities	81,860	318.6	315.9	321.3	9,256,937	311.4	311.2	311.6	1.02*	7.2*
Inner regional	61,388	384.4	380.7	388.2	2,658,353	316.2	315.8	316.6	1.2*	68.2*
Outer regional[(k)]	75,878	436.7	433.0	440.4	1,141,938	299.4	298.8	299.9	1.5*	137.3*
Remote[(l)]	49,063	596.5	590.2	602.7	153,660	291.9	290.4	293.4	2.0*	304.6*
Very remote	62,515	434.7	430.7	438.7	48,962	297.4	294.7	300.2	1.5*	137.3*
Total[(m)]	**331,384**	**404.0**	**402.3**	**405.6**	**13,267,419**	**310.3**	**310.1**	**310.5**	**1.3***	**93.7***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification of Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: non-Indigenous.

(j) Rate difference Indigenous- non-Indigenous.

(k) Includes remote Victoria.

(l) Excludes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analyses

Time series data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations for all years from 1998–99 to 2009–10: Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period 1998–99 to 2009–10 are presented in Table 3.14.38 and Figure 3.14.3.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous Australians during the 11-year period from 1998–99 to 2009–10. The fitted trend implies an average yearly increase in the rate of around 2.2 per 1,000 which is equivalent to a 6% increase in the rate over this period.
- There were also significant increases in hospitalisation rates among non-Indigenous Australians during the same period, with an average yearly increase in the rate of 3.0 per 1,000 for non-Indigenous Australians. This is equivalent to a 14% increase in the rate over this period.
- There were significant increases in the hospitalisation rate ratios and rate differences between Indigenous and non-Indigenous Australians. The fitted trend implies an average yearly decline of 0.01 in the rate ratio (7% decline over the period) and 1 per 1,000 in the hospitalisation rate differences between Indigenous and non-Indigenous Australians over this period (8% decline). This indicates a relative and absolute decline in the gap between hospitalisation rates for Indigenous and non-Indigenous Australians.

Note that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all have an impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time because it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rate at which Indigenous Australians are hospitalised. An increase in hospitalisation rates may also reflect better access to hospitals, rather than a worsening of health.

Table 3.14.38: Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), Qld, WA, SA and NT, 1998–99 to 2009–10[(a)]

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09	2009–10	Annual change[(b)]	Per cent change[(c)]
Indigenous separations	85,757	86,376	88,150	90,430	90,369	93,278	94,152	98,966	100,957	106,723	109,266	114,625	2,562*	32.9*
Non-Indigenous separations	1,786,068	1,875,839	1,951,602	2,015,076	2,041,318	2,073,113	2,119,152	2,272,720	2,363,485	2,451,624	2,569,541	2,654,331	76,142*	46.9*
Indigenous rate (separations per 1,000)	426.1	424.1	419.1	422.4	418.4	427.6	415.5	430.8	425.3	445.4	440.3	450.6	2.2*	5.8*
Non-Indigenous rate (separations per 1,000)	269.8	278.5	284.3	287.4	284.7	282.8	282.6	295.8	299.9	302.9	309.2	311.2	3.3*	13.7*
Rate ratio[(d)]	1.6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4	1.4	–0.01*	–6.6*
Rate difference[(e)]	156.3	145.6	134.8	135.1	133.7	144.8	132.9	135.0	125.4	142.5	131.2	139.4	–1.1	–7.8

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2009–10.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

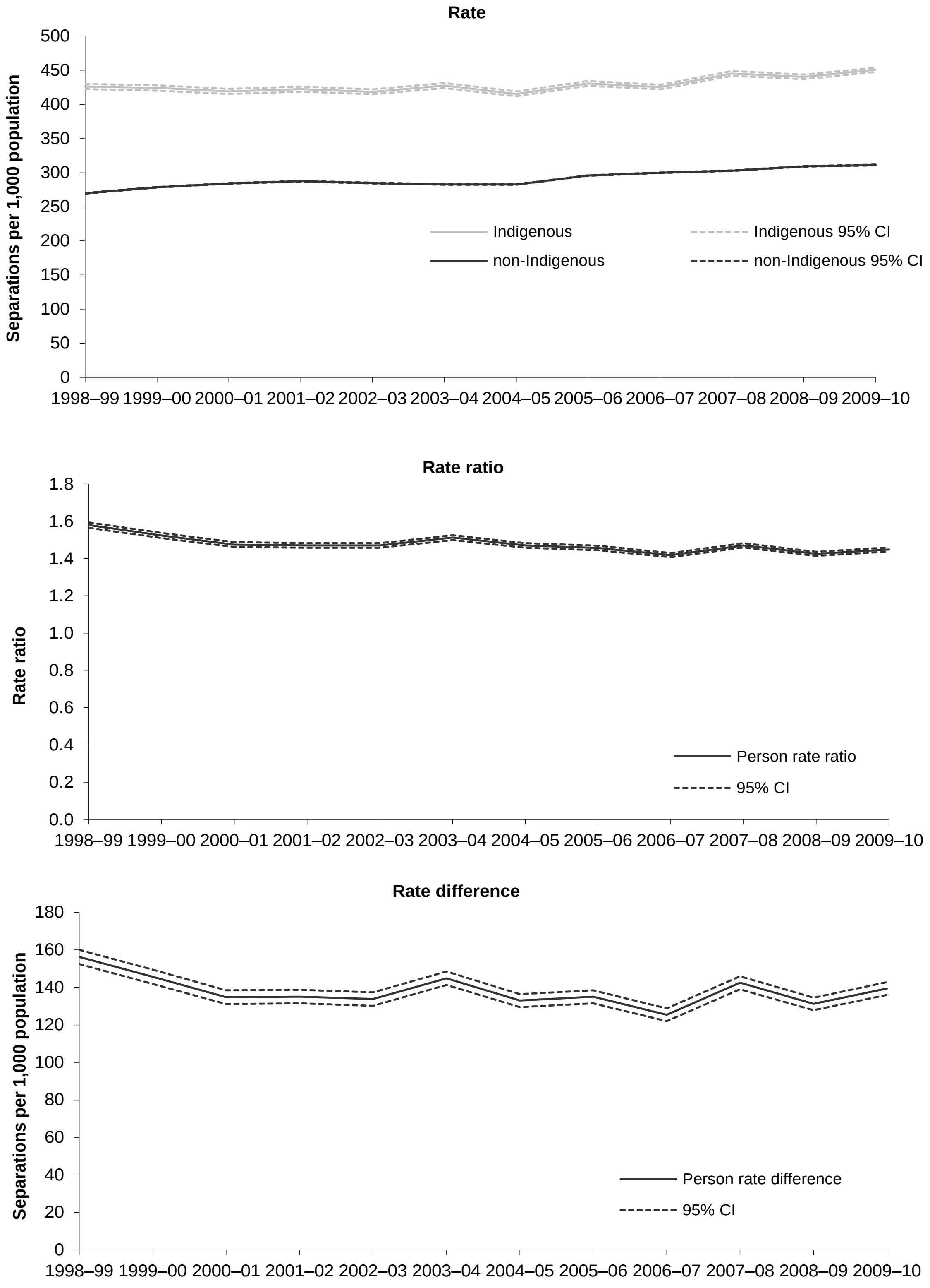
(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for non-Indigenous Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for non-Indigenous Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on 2006 census.
3. Separations with a principal diagnosis of dialysis excluded.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.14.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians (excluding dialysis), Qld, WA, SA and NT combined, 1998–99 to 2009–10

Hospitalisations for palliative care data

Data on palliative care are sourced from the Admitted Patient Palliative Care National Minimum Data Set, which is a component of the National Hospital Morbidity Data Collection.

Information on hospitalisations for palliative care is presented in Table 3.14.39 and 3.14.40.

Hospitalisations for the two-year period July 2008 to June 2010 are presented for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Over this period, Indigenous Australians in these jurisdictions combined were hospitalised for palliative care at around 1.6 times the rate of non-Indigenous Australians.

- Over the period July 2008 to June 2010, Indigenous Australians in Victoria, Queensland and Western Australia were hospitalised for palliative care at about twice the rate of non-Indigenous Australians. In Queensland, Indigenous females were hospitalised for palliative care at higher rates than non-Indigenous females. In the Northern Territory, Indigenous Australians were hospitalised for palliative care at lower rates than non-Indigenous Australians. The number of hospitalisations for palliative care for Indigenous Australians in most jurisdictions was very small and thus the rates should be interpreted with caution (Table 3.14.39).

Hospitalisation rates for palliative care in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 3.06.52, covering the period July 2008 to June 2010. Due to the small numbers of hospitalisations of Indigenous Australians recorded in theses jurisdictions, caution should be exercised when interpreting these rates.

- Indigenous Australians in all ASGC areas were more likely to be hospitalised for palliative care than non-Indigenous Australians. The ratio of hospitalisations of Indigenous Australians compared with non-Indigenous Australians was higher and the difference was statistically significant for all ASGC areas except for *very remote* areas.
- Rates of hospitalisations for palliative care per 1,000 populations were highest for Indigenous Australians living in *Major cities*, *Inner regional* and *Outer regional* areas, at 2.1 per 1,000. The rate was highest for non-Indigenous Australians who lived in *Major cities*, at 0.6 per 1,000. The lowest rates of hospitalisations for palliative care per 1,000 population were observed in *Very remote* areas for Indigenous Australians (1.0 per 1,000) and *Remote* areas for other Australians (0.8 per 1,000).
- Indigenous Australians were hospitalised for palliative care at a rate of 2.4 times that of non-Indigenous Australians in *Remote* areas of Australia. In *Very remote* areas, where the lowest ratio was observed, Indigenous Australians were hospitalised at 1.2 times the rate to that of non-Indigenous Australians. For all ASGC areas combined, the rate ratio was 1.5.

Table 3.14.39: Hospitalisations for palliative care, by Indigenous status, sex and state/territory, NSW, Vic, Qld, WA, SA, and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
NSW						
Males	103	1.8	10,586	1.5	1.2	0.3
Females	127	1.6	9,604	1.1	1.4*	0.5*
Persons	230	1.7	20,190	1.3	1.3*	0.4*
Vic						
Males	24	2.4	7,010	1.3	1.8*	1.1*
Females	24	1.6	5,827	0.9	1.8*	0.7*
Persons	48	1.9	12,837	1.1	1.8*	0.9*
Qld						
Males	127	2.8	7,808	1.9	1.5*	0.9*
Females	170	2.7	6,221	1.3	2.0*	1.3*
Persons	297	2.7	14,029	1.6	1.7*	1.1*
WA						
Males	83	3.0	3,450	1.8	1.7*	1.3*
Females	112	2.1	3,033	1.3	1.6*	0.8*
Persons	195	2.5	6,483	1.5	1.6*	1.0*
SA						
Males	10	1.1	1,782	1.0	1.1	0.1
Females	12	0.8	1,468	0.7	1.2	0.1
Persons	22	0.9	3,250	0.8	1.1	0.1
NT						
Males	37	1.3	386	3.9	0.3*	–2.6*
Females	63	1.6	187	2.4	0.7*	–0.8*
Persons	100	1.4	573	3.2	0.4*	–1.8*
NSW, Vic, Qld, WA, SA and NT[(h)]						
Males	**384**	**2.2**	**31,022**	**1.5**	**1.4***	**0.7***
Females	**508**	**1.9**	**26,340**	**1.1**	**1.8***	**0.8***
Persons	**892**	**2.0**	**57,362**	**1.3**	**1.6***	**0.8***
Tas						
Males	n.p.	n.p.	324	0.6	n.p.	n.p.
Females	n.p.	n.p.	261	0.4	n.p.	n.p.
Persons	11	0.5	585	0.5	1.0	0.0

(continued)

Table 3.14.39 (continued): Hospitalisations for palliative care, by Indigenous status, sex and state/territory, NSW, Vic, Qld, WA, SA, and NT, July 2008 to June 2010[(a)(b)(c)(d)]

	Indigenous		Non-Indigenous			
	Number	Rate per 1,000[(e)]	Number	Rate per 1,000[(e)]	Ratio[(f)]	Difference[(g)]
ACT						
Males	n.p.	n.p.	499	1.8	n.p.	n.p.
Females	n.p.	n.p.	552	1.7	n.p.	n.p.
Persons	n.p.	n.p.	1,051	1.7	n.p.	n.p.

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Financial year reporting.

(c) Data are reported by state/territory of usual residence of the patient hospitalised.

(d) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by 5 year age groups to 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by 5 year age group to 65+.

(e) Directly age-standardised using the Australian 2001 standard population.

(f) Rate ratio Indigenous: non-Indigenous.

(g) Rate difference Indigenous minus non-Indigenous.

(h) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.
3. n.p. indicates not available for publication, due to small numbers (less than 5) but included in totals where applicable.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.14.40: Hospitalisations for palliative care, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2008 to June 2010[(a)(b)(c)(d)(e)(f)]

	Indigenous				Non-Indigenous					
	Number	**No. per 1,000[(g)]**	**LCL 95%[(h)]**	**UCL 95%[(i)]**	**Number**	**No. per 1,000[(g)]**	**LCL 95%[(h)]**	**UCL 95%[(i)]**	**Ratio[(j)]**	**Difference[(k)]**
Major cities	275	2.1	1.8	2.4	39,127	1.3	1.3	1.3	1.6*	0.8*
Inner regional	177	2.1	1.7	2.4	12,108	1.3	1.2	1.3	1.6*	0.8*
Outer regional[(l)]	200	2.1	1.8	2.4	5,566	1.3	1.3	1.4	1.6*	0.8*
Remote[(m)]	95	1.9	1.5	2.3	408	0.8	0.7	0.9	2.4*	1.1*
Very remote	145	1.2	1.0	1.5	142	1.0	0.8	1.2	1.2	0.2
Total[(n)]	**892**	**1.9**	**1.8**	**2.1**	**57,362**	**1.3**	**1.3**	**1.3**	**1.5***	**0.6***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD–10–AM sixth edition (National Centre for Classification of Health 2010).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised.

(e) Age standardised rates for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory and Australia have been calculated using the direct method, age standardised by five year age group to 65+.

(f) New South Wales, Victoria, Western Australia, South Australia, the Northern Territory and Queensland are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(g) Directly age-standardised using the Australian 2001 standard population, by 5 year age groups to 65+.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: non-Indigenous Australians.

(k) Rate difference Indigenous minus non-Indigenous.

(l) Includes remote Victoria.

(m) Excludes remote Victoria.

(n) Total includes hospitalisations where ASGC is missing.

Notes

1. Rates are calculated using the remoteness distribution by Indigenous status, age and sex based on the 2006 ERP and applied to the 2008–10 population projections (Series B) based on the 2006 Census.
2. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

National Aboriginal and Torres Strait Islander Health Survey—access to health care

The 2004–05 NATSIHS collected information on Indigenous Australians' access to health services. These data are presented in Tables 3.14.41–3.14.48.

- In 2004–05, approximately 42% of Indigenous Australians had accessed health care in the last 12 months (Table 3.14.41).
- After adjusting for differences in age structure, approximately 47% of Indigenous Australians reported they had accessed health care in the last two weeks or were admitted to hospital in the last 12 months, compared with 42% of non-Indigenous Australians.
- Approximately 25% of Indigenous Australians reported they had visited a doctor or specialist in the last two weeks, 20% had been admitted to hospital in the last 12 months and 20% had consulted with other health professionals in the last two weeks.
- Indigenous Australians were twice as likely to have visited casualty or consulted with another health professional than non-Indigenous Australians.
- Indigenous and non-Indigenous Australians aged 55 years and over were most likely to have accessed health care in the last two weeks (66% and 57%, respectively) (Table 3.14.41).
- A higher proportion of Indigenous Australians aged 15 years and over with reported fair/poor health status accessed health care in the last 12 months than Indigenous Australians with excellent/very good or good health status (64% compared with 44%) (Table 3.14.42).
- Indigenous Australians aged 15 years and over with fair/poor health status were twice as likely to have visited casualty in the last 12 months than non-Indigenous Australians.
- Approximately 60% of Indigenous Australians and 56% of non-Indigenous Australians with three or more long-term health conditions reported they accessed health care in the last 12 months (Table 3.14.43).
- In 2004–05, a higher proportion of Indigenous females had accessed health care in the last two weeks (45%) than Indigenous males (38%) (Table 3.14.44).
- In 2004–05, approximately 42% of Indigenous Australians reported they had accessed some type of health care in the last two weeks. The proportion who had accessed health care ranged from 35% in the Australian Capital Territory to 52% in the Northern Territory (Table 3.14.45).
- Indigenous Australians living in *Very remote* areas of Australia were more likely to have accessed health services than Indigenous Australians in *Major cities* (55% compared with 44%) (Table 3.14.46).
- In non-remote areas of Australia, Indigenous Australians accessed health care at similar rates to non-Indigenous Australians (46% compared with 43%) (Table 3.14.47).
- Between 2001 and 2004–05, there was little change in the proportion of Indigenous and non-Indigenous Australians accessing health care (Table 3.14.48).

Access to health care by selected population characteristics

- In 2004–05, Indigenous Australians were more likely to have accessed health care by visiting casualty/outpatients than the non-Indigenous Australians (Table 3.14.49).

- Indigenous Australians in the lowest quintile of equivalent household income were six times more likely to have accessed health care by visiting casualty/outpatients than the non-Indigenous Australians those in the lowest quintile (Table 3.14.49).
- Indigenous Australians who completed year 12 were more likely to have accessed health care than non-Indigenous Australians who had completed year 12.
- In 2004–05, Indigenous Australians who are employed accessed health services by visiting casualty/outpatients at approximately seven times the rate of non-Indigenous Australians who are employed (Table 3.14.49).

Table 3.14.41: Accessing health care, by Indigenous status and age group, 2004–05

	0–14		15–24		25–34		35–44		45–54		55 and over		Total	Total (age-standardised)(a)	
Accessing health care(b)	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Indig.**	**Non-Indig.**
								Per cent							
Admitted to hospital	12*	9*	16*	12*	19	18	18*	13*	19*	14*	31*	21*	16	20*	15*
Visited casualty/outpatients	3*	2*	5*	2*	6*	2*	4*	2*	7*	2*	9*	4*	5	6*	3*
Doctor consultation (GP and/or specialist)	16	15	15	17	19	20	24*	20*	28*	23*	43*	37*	20	25*	23*
Dental consultation(c)	5*	7*	3*	6*	3	4	3*	5*	4(d)	6	4(d)	6	4	4*	6*
Consultation with other health professionals	13*	9*	13	11	23*	15*	22*	14*	23*	14*	25*	17*	17	20*	13*
Total accessing health care(e)	**35**	**33**	**36**	**36**	**47***	**42***	**45***	**39***	**50***	**43***	**66***	**57***	**42**	**47***	**42***
Total not accessing health care	**65**	**67**	**64**	**64**	**53***	**58***	**55***	**61***	**50***	**57***	**34***	**43***	**58**	**53***	**58***
Total number of persons (‘000)	**180.7**	**3,760.0**	**92.1**	**2,636.2**	**69.8**	**2,761.4**	**59.1**	**2,899.6**	**39.6**	**2,705.6**	**33.2**	**4,529.7**	**474.3**	**474.3**	**19,292.4**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Totals are directly age-standardised.

(b) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(c) Persons aged 2 years and over.

(d) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(e) Components may not add to total because persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 3.14.42: Persons aged 15 years and over accessing health care, by self-assessed health status and Indigenous status, 2004–05

	Excellent/very good/good				Fair/poor				Total			
Accessing health care[a]	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**
	Per cent				**Per cent**				**Per cent**			
Admitted to hospital	17	14	1.2*	3	30	27	1.1	3	22	16	1.3*	6
Visited casualty/outpatients	4	2	2.1*	2	11	6	2.0*	5	6	3	2.5*	3
Doctor consultation (GP and/or specialist)	22	21	1.0	1	40	42	0.9	–2	27	24	1.1*	3
Dental consultation	3	6	0.6*	–3	4[b]	6	0.7	–2	3	6	0.6*	–3
Consultation with other health professional	20	13	1.5*	7	28	22	1.3*	6	22	15	1.5*	7
Total accessing health care[c]	**44**	**41**	**1.1**	**3**	**64**	**62**	**1.0**	**2**	**51**	**45**	**1.1***	**6**
Total not accessing health care	**56**	**59**	**0.9**	**–3**	**36**	**38**	**1.0**	**–2**	**49**	**55**	**0.9***	**–6**
Total number	**229,335**	**13,079,626**	**. .**	**. .**	**64,236**	**2,452,751**	**. .**	**. .**	**293,641**	**15,532,377**	**. .**	**. .**

* Differences between Indigenous and non-Indigenous data are statistically significant.

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Components may not add to total because persons may have reported more than one type of action.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 3.14.43: Accessing health care, by number of long-term conditions and Indigenous status, 2004–05

	Number of long-term health conditions																
	0			1			2			3 or more			Total (age-standardised)			Total	
Accessing health care(a)	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.
	Per cent			Per cent			Per cent			Per cent			Per cent			Per cent	
Admitted to hospital	10(b)	9	1.2	17	10	1.7*	17	14	1.2	26	20	1.3*	20	15	1.3*	16*	15*
Visited casualty/ outpatients	2(b)	1(b)	2.3	5(b)	2	2.7*	5	2	2.1*	8	4	2.0*	6	3	2.3*	5*	3*
Doctor consultation (GP and/or specialist)	11(b)	10	1.0	16	15	1.1	25	21	1.2	34	31	1.1	25	23	1.1*	20*	23*
Dental consultation(c)	3(b)	6	0.5	3(b)	6	0.4*	3	5	0.5*	4	7	0.6*	4	6	0.6*	4*	6*
Consultation with other health professional	13(b)	5	2.5*	18	9	1.9*	19	13	1.4*	28	23	1.2*	20	13	1.5*	17*	13*
Total accessing health care(d)	**29**	**26**	**1.1**	**40**	**33**	**1.2***	**46**	**41**	**1.1**	**60**	**56**	**1.1***	**47**	**42**	**1.1***	**42**	**42**
Total not accessing health care	**71**	**74**	**1.0**	**60**	**67**	**0.9***	**54**	**59**	**0.9**	**40**	**44**	**0.9***	**53**	**58**	**0.9***	**58**	**58**
Total number ('000)	**167.7**	**4,441.8**	**. .**	**100.6**	**3,951.0**	**. .**	**68.2**	**3,101.6**	**. .**	**137.8**	**7,797.9**	**. .**	**474.3**	**19,292.4**	**. .**	**474.3**	**19,292.4**

* Differences between Indigenous and non-Indigenous data are statistically significant.

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Persons aged 2 years and over.

(d) Components may not add to total because persons may have reported more than one type of action.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 3.14.44: Indigenous Australians accessing health care, by sex, 2004–05

Accessing health care[(a)]	Males	Females	Persons
		Per cent	
Admitted to hospital	14	18	16
Visited casualty/outpatients	4	5	5
Doctor consultation (GP and/or specialist)	18	22	20
Dental consultation[(b)]	4	4	4
Consultation with other health professional	15	20	17
Total accessing health care[(c)]	**38**	**45**	**42**
Total not accessing health care	**62**	**55**	**58**
Total number	**232,362**	**241,948**	**474,310**

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last two weeks, doctor consultation in last two weeks, visited casualty/outpatient in last two weeks or consulted with other health professional in last two weeks.

(b) Persons aged two years and over.

(c) Components may not add to total because persons may have reported more than one type of action.

Source: ABS and AIHW Analysis of 2004–05 NATSIHS.

Table 3.14.45: Indigenous Australians accessing health care, by state/territory, 2004–05

Accessing health care[(a)]	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**	**Australia**
					Per cent				
Admitted to hospital	15.2	14.1	14.6	18.6	17.6	14.1	13.5	22.4	16.4
Visited casualty/ outpatients	4.0	3.4	5.6	7.0	4.6	2.8	2.3(b)	4.0	4.8
Doctor consultation (GP and/or specialist)	19.7	28.0	19.2	19.0	18.4	22.3	13.1	20.6	20.1
Dental consultation(c)	2.9	3.4	5.0	3.0	3.7	3.6(d)	4.6	4.1	3.8
Consultation with other health professional	13.7	14.7	16.0	16.0	17.4	11.2	16.0	33.5	17.3
Total accessing health care(e)	**38.6**	**45.1**	**40.7**	**43.4**	**40.0**	**38.3**	**34.7**	**51.6**	**41.9**
Total not accessing health care	**61.4**	**54.9**	**59.3**	**56.6**	**60.0**	**61.7**	**65.3**	**48.4**	**58.1**
Total number	**139,570**	**29,334**	**130,856**	**67,548**	**26,534**	**18,072**	**4,162**	**58,234**	**474,310**

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Persons aged 2 years and over.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Components may not add to total because persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 3.14.46: Accessing health care, by Indigenous status and remoteness, 2004–05

Accessing health care[(b)]	Indig.	Non-Indig.	Rate ratio	Rate difference
	Per cent			
		Major cities		
Admitted to hospital	17.1	14.3	1.2	2.8
Visited casualty/outpatients	3.1	2.4	1.3	0.7
Doctor consultation (GP and/or specialist)	25.6	23.7	1.1	1.9
Dental consultation[(c)]	4.0	6.2	0.7*	–2.2
Consultation with other health professional	14.1	12.9	1.1	1.2
Total accessing health care[(e)]	**43.8**	**42.7**	**1.0**	**1.1**
Not accessing/not stated	**56.2**	**57.3**	**1.0**	**–1.1**
Total number (‘000)	**144.2**	**13,095.4**	**. .**	**. .**
		Inner regional		
Admitted to hospital	21.3	15.7	1.4*	5.6
Visited casualty/outpatients	4.9	2.3	2.1*	2.6
Doctor consultation (GP and/or specialist)	25.1	19.8	1.3*	5.3
Dental consultation[(c)]	3.8	6.1	0.6*	–2.3
Consultation with other health professional	19.5	14.1	1.4*	5.4
Total accessing health care[(e)]	**48.2**	**41.0**	**1.2***	**7.2**
Not accessing/not stated	**51.8**	**59.0**	**0.9***	**–7.2**
Total number (‘000)	**95.6**	**3,904.4**	**. .**	**. .**
		Outer regional		
Admitted to hospital	17.9	15.4	1.2	2.5
Visited casualty/outpatients	7.6	3.5	2.2*	4.1
Doctor consultation (GP and/or specialist)	26.1	20.8	1.3*	5.3
Dental consultation[(c)]	3.6	5.0	0.7	–1.4
Consultation with other health professional	16.1	14.8	1.1	1.3
Total accessing health care[(e)]	**45.2**	**40.6**	**1.1**	**4.6**
Not accessing/not stated	**54.8**	**59.4**	**0.9**	**–4.6**
Total number (‘000)	**108.5**	**2,061.8**	**. .**	**. .**
		Remote		
Admitted to hospital	20.4	13.1	1.6*	7.3
Visited casualty/outpatients	9.6	3.4	2.8*	6.2
Doctor consultation (GP and/or specialist)	20.5	17.3	1.2	3.2
Dental consultation[(c)]	3.2[(d)]	6.3[(d)]	0.5	–3.1
Consultation with other health professional	19.0	13.0	1.5	6.0
Total accessing health care[(e)]	**48.3**	**39.2**	**1.2***	**9.1**
Not accessing/not stated	**51.7**	**60.8**	**0.9**	**–9.1**
Total number (‘000)	**41.3**	**n.a.**	**. .**	**. .**

(continued)

Table 3.14.46 (continued): Accessing health care, by Indigenous status and remoteness, 2004–05

Accessing health care[b]	Indig.	Non-Indig.	Rate ratio	Rate difference
	Per cent			
		Very remote[a]		
Admitted to hospital	23.6	n.a.	n.a.	n.a.
Visited casualty/outpatients	6.7	n.a.	n.a.	n.a.
Doctor consultation (GP and/or specialist)	24.8	n.a.	n.a.	n.a.
Dental consultation[c]	3.3	n.a.	n.a.	n.a.
Consultation with other health professional	35.0	n.a.	n.a.	n.a.
Total accessing health care[e]	**55.1**	**n.a.**	**n.a.**	**n.a.**
Not accessing/not stated	**44.9**	**n.a.**	**n.a.**	**n.a.**
Total number ('000)	**84.7**	**n.a.**	**. .**	**. .**
		Australia		
Admitted to hospital	19.6	14.7	1.3*	4.9
Visited casualty/outpatients	5.7	2.5	2.3*	3.2
Doctor consultation (GP and/or specialist)	25.0	22.5	1.1*	2.5
Dental consultation[c]	3.7	6.0	0.6*	–2.3
Consultation with other health professional	19.9	13.4	1.5*	6.5
Total accessing health care[e]	**47.5**	**42.1**	**1.1***	**5.4**
Not accessing/not stated	**52.5**	**57.9**	**0.9***	**–5.4**
Total number ('000)	**474.3**	**19,292.4**	**. .**	**. .**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) The 2004–05 NHS did not collect data in Very Remote areas.
(b) Health-related actions in last 2 weeks except hospital admissions (in last 12 months).
(c) Persons aged 2 years and over.
(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(e) Components may not add to total because persons may have reported more than one type of action.

Note: Data have been age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 3.14.47: Accessing health care, by Indigenous status (non-remote only), 2004–05

Accessing health care[(a)]	Indigenous	Non-Indigenous	Rate ratio	Rate difference
	Per cent			
Admitted to hospital	18.5	14.7	1.3*	3.8
Visited casualty	1.7	0.9	1.9*	0.8
Visited outpatients	4.0	1.8	2.2*	2.2
Visited day clinic	2.4	2.5	1.0	–0.1
Doctor consultation (GP)	23.5	19.6	1.2*	3.9
Specialist consultation	5.2	5.3	1.0	–0.1
Dental consultation[(b)]	3.9	6.0	0.6*	–2.1
Consultation with other health professional	16.2	13.4	1.2*	2.8
Total accessing health care[(c)]	**45.6**	**42.5**	**1.1***	**3.1**
Not accessing/not stated	**54.4**	**57.5**	**0.9***	**–3.1**
Total number	**348,315**	**19,061,481**	**. .**	**. .**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Health-related actions in last 2 weeks except hospital admissions (in last 12 months).

(b) Persons aged 2 years and over.

(c) Components may not add to total because persons may have reported more than one type of action.

Note: Data have been age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 3.14.48: Accessing health care, by Indigenous status, 2001 and 2004–05

	2001				2004–05			
Accessing health care[(a)]	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**
	Per cent				**Per cent**			
Admitted to hospital	19	12	1.6*	7	20	15	1.3*	5
Visited casualty/ outpatients	6	3	2.2*	3	6	3	2.3*	3
Doctor consultation (GP and/or specialist)	26	25	1.1	1	25	23	1.1*	2
Dental consultation(b)	5	6	0.7*	–1	4	6	0.6*	–2
Consultation with other health professional	15	13	1.2	2	20	13	1.5*	7
Total accessing health care(c)	**46**	**42**	**1.1***	**4**	**47**	**42**	**1.1***	**5**
Did not access health care	**54**	**58**	**0.9***	**–4**	**53**	**58**	**0.9***	**–5**
Total number	**374,354**	**18,545,583**	. .	. .	**474,310**	**19,292,387**	. .	. .

* Differences between Indigenous and non-Indigenous data are statistically significant.

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(b) Persons aged 2 years and over.

(c) Components may not add to total because persons may have reported more than one type of action.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement), 2004–05 NATSIHS and 2004–05 NHS.

Table 3.14.49: Accessing health care[(a)(b)], by selected population characteristics and Indigenous status, 2004–05

		Admitted to hospital[(c)]			Visited casualty/ outpatients[(d)]			Consulted doctor[(d)]			Consulted dentist[(d)(e)]			Consulted other health professional(s)[(c)]		
	Selected population characteristic	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio
		Per cent			Per cent			Per cent			Per cent			Per cent		
Household income[(f)]	First quintile (lowest)	26.0*	18.9*	1.4*	8.3*	1.4*	5.8*	29.1	31.4	0.9	2.9*	5.0*	0.6*	22.4*	14.9*	1.5*
	Fourth & fifth quintiles (highest)	15.0	14.5	1.0	3.8*	0.7*	5.2*	22.1	20.9	1.1	3.9	6.8	0.6*	18.4	14.6	1.3
	Rate ratio (lowest/ highest quintile)	1.7	1.3	. .	2.2	2.0	. .	1.3	1.5	. .	0.7	0.7	. .	1.2	1.0	. .
Highest year of school completed	Year 9 or below[(g)]	26.0*	20.2*	1.3*	6.4	1.0	6.2*	29.6	27.1	1.1	2.3	3.7	0.6	22.9	12.5	1.8
	Year 12	18.7	14.9	1.3	4.3*	0.7*	6.2*	23.4	23.9	1.0	8.9	6.4	1.4	22.9	15.6	1.5
	Rate ratio (Year 9 or below/ year 12**)**	1.4	1.4	. .	1.5	1.4	. .	1.3	1.1	. .	0.3	0.6	. .	1.0	0.8	. .
Labour force status	Employed	16.3*	13.1*	1.2*	4.4*	0.6*	7.3*	22.9	20.3	1.1	5.0	5.8	0.9	20.3*	13.9*	1.5*
	Unemployed	22.3	19.2	1.2	4.7	0.9	5.4	18.0	26.8	0.7	5.3	5.3	1.0	18.5	16.3	1.1
	Not in the labour force	27.0*	22.5*	1.2*	7.5*	1.3*	5.5*	30.8	31.2	1.0	2.3*	6.2*	0.4*	22.9*	15.8*	1.4*
	Rate ratio (Employed/Not in the labour force**)**	0.7*	0.6*	. .	0.6*	0.5*	. .	0.7	0.7	. .	2.2*	0.9*	. .	0.9*	0.9*	. .
Housing tenure	Renter	23.3*	18.3*	1.3*	7.5*	1.2*	6.4*	29.0	26.5	1.1	2.6*	4.1*	0.6*	23.7*	15.3*	1.5*
	Owner/purchaser[(h)]	17.7	16.4	1.1	3.1*	0.7*	4.7*	23.8	24.1	1.0	5.4	5.9	0.9	17.8	15.1	1.2
	(Renter/ Owner/purchaser)	1.3	1.1	. .	2.4*	1.7*	. .	1.2	1.1	. .	0.5	0.7	. .	1.3	1.0	. .

(continued)

Table 3.14.49 (continued): Accessing health care[(a)(b)], by selected population characteristics and Indigenous status, 2004–05

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Proportions calculated on total population in each cell not on total Australian population.

(b) Health-related actions in last two weeks except hospital admissions (in last 12 months).

(c) In the last 12 months.

(d) In the last two weeks.

(e) Persons aged two years and over.

(f) Gross weekly equivalised cash income of household.

(g) Includes persons who never attended school.

(h) Comprises persons in dwellings where there was an owner without a mortgage, an owner with a mortgage, or a participant in a rent/buy scheme.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Time since last consulted a doctor or dentist

- In 2004–05, after adjusting for differences in age structure, approximately 36% of Indigenous Australians reported that it had been two years or more since their last dental consultation. This compared with 29% of non-Indigenous Australians (Table 3.14.50).
- Approximately 25% of Indigenous Australians reported it had been two weeks or less since their last visit to a doctor (GP or specialist) compared with 23% of non-Indigenous Australians, and for 26% of Indigenous Australians it had been two weeks to three months since their last doctor consultation compared with 28% of non-Indigenous Australians.
- There was little change in the time since last doctor consultation for Indigenous and non-Indigenous Australians between 2001 and 2004–05. For dental visits, there was a reduction in the two years or more categories over this time period.

Table 3.14.50: Time since last consulted a dentist or doctor, by Indigenous status, 2001 and 2004–05

	2001				2004–05			
	Indig.	**Non-Indig.**	**Rate ratio**	**Rate difference**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Rate difference**
	Per cent				**Per cent**			
Dentist/dental professional								
Less than 6 months	22	30	0.7	–8	20	29	0.7	–9
6 months to less than 2 years	26	34	0.8	–8	29	37	0.8	–8
2 years or more	43	31	1.4	12	36	29	1.2	7
Never	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Total[(a)]	**100**	**100**	. .	. .	**100**	**100**	. .	. .
GP/specialist								
2 weeks or less	27	25	1.1	2	25	23	1.1	2
2 weeks to three months	26	29	0.9	–3	26	28	0.9	–2
3 months to 6 months	13	16	0.8	–3	14	17	0.8	–3
6 months to 12 months	12	14	0.8	–2	14	16	0.9	–2
12 months to 2 years	19	16	1.2	3	19	16	1.2	3
Never	2	—	6.5	2	1	—	—	1
Total[(a)]	**100**	**100**	. .	. .	**100**	**100**	. .	. .

(a) Includes 'time since last consultation' not known.

Note: Data are age-standardised.

Source: ABS 2006.

Indigenous Australians who did not access health care when needed and why

Table 3.14.51 presents data on whether Indigenous Australians needed to access a dentist, doctor, other health professional or hospital in the last 12 months, but didn't, and the reasons why they didn't access these health services.

- In 2004–05, approximately 21% of Indigenous Australians reported they needed to go to a dentist in the last 12 months, but didn't, 15% needed to go to a doctor, 8% needed to go to another health professional and 7% needed to go to hospital, but didn't.
- Indigenous Australians in non-remote areas were more likely to report that they needed to access a dentist, doctor or other health professional, but didn't, than Indigenous Australians in remote areas.
- Indigenous females were more likely to report they needed to go to a dentist or doctor, but didn't (23% and 17%, respectively) compared with Indigenous males (19% and 13%, respectively).
- Indigenous Australians aged 15–44 and 45 years and over were more likely to report they needed access to these services, but didn't go, than Indigenous Australians aged 0–14 years.
- The most common reasons why Indigenous Australians did not go to a dentist when needed were cost (29%), waiting time was too long or not available at the time required (22%) and feeling afraid, embarrassed or a dislike of the service (21%).
- The most common reasons why Indigenous Australians did not go to a doctor when needed were that they decided not to seek care (26%), too busy (24%), transport/distance difficulties (14%) and waiting time too long or not available at time required (14%).
- The most common reasons why Indigenous Australians did not go to another health professional when needed was cost (28%) and too busy (26%).
- The most common reasons why Indigenous Australians did not visit a hospital when needed was that they decided not to seek care for their health problem (25%) and transport/distance issues (19%).
- A higher proportion of Indigenous Australians living in remote areas reported transport/ distance as a reason for not accessing health services than Indigenous Australians in non-remote areas.

Table 3.14.51: Indigenous Australians who did not access health services when needed, and why, by remoteness, sex and age, 2004–05

	Remoteness		Sex		Age group			
	Non-remote	Remote	Male	Female	0–14	15–44	45+	Total
				Per cent				
Whether needed to go to dentist in last 12 months, but didn't(a)								
Yes	23	16	19	23	7	29	26	21
No	77	84	81	77	93	71	74	79
Total persons(b)	331,272	121,086	222,020	230,338	158,717	220,896	72,745	452,358
Reasons didn't go to a dentist								
Cost	32	15	27	30	22	30	30	29
Too busy (including work, personal or family responsibilities)	15	11	15	13	6(c)	16	13	14
Dislikes (service/professional/ afraid/embarrassed)	21	20	19	22	13(c)	23	19	21
Waiting time too long or not available at time required	21	23	18	24	28	20	22	22
Decided not to seek care	14	8	16	10	10(c)	13	15	13
Transport/distance	7	28	11	11	18	10	11	11
Not available in area	3	28	9	8	10(c)	8	9	8
Felt it would be inadequate	2(c)	2(d)	3(c)	2(c)	3(d)	1(c)	4(c)	2(c)
Discrimination/not culturally appropriate/language problems	—(d)	1(d)	1(d)	—(d)	—	— d)	1(c)	—(c)
Other	9	7(c)	9	7	23	7	5	8
Total who needed to visit dentist, but didn't(a)	**74,062**	**18,871**	**40,501**	**52,432**	**10,495**	**63,729**	**18,709**	**92,933**
Whether needed to visit doctor in last 12 months, but didn't								
Yes	17	10	13	17	4	22	22	15
No	83	90	87	83	96	78	78	85
Total persons(b)	348,315	125,995	232,362	241,948	180,669	220,896	72,745	474,310
Reasons why didn't visit the doctor when needed to								
Cost	14	4(c)	11	13	12(c)	13	10(c)	12
Too busy (including work, personal or family responsibilities)	26	17	21	26	11(c)	26	24	24
Dislikes (service/professional/ afraid/embarrassed)	10	11	15	6	8(c)	10	9	10
Waiting time too long or not available at time required	14	15	14	14	18(c)	13	14(c)	14
Decided not to seek care	27	22	30	24	24	27	26	26
Transport/distance	11	28(c)	12	15	20	12	17	14
Not available in area	2(d)	13(c)	3(c)	4(c)	8(d)	3	5(d)	4(c)
Felt it would be inadequate	5	7(c)	5	5	3(d)	5	7(c)	5
Discrimination/not culturally appropriate/language problems	1	1(d)	—(d)	1(c)	n.p.	1(c)	1	1(c)
Other	12	5	10	11	15(c)	10	11	11

(continued)

Table 3.14.51 (continued): Indigenous Australians who did not access health services when needed, and why, by remoteness, sex and age, 2004–05

	Remoteness		Sex		Age group			
	Non-remote	Remote	Male	Female	0–14	15–44	45+	Total
					Per cent			
Total who needed to visit doctor, but didn’t(b)	**57,653**	**12,012**	**29,428**	**40,237**	**7,010**	**47,054**	**15,601**	**69,665**
Whether needed to go to other health professional in last 12 months, but didn't								
Yes	9	5	7	8	2	11	10	8
No	91	95	93	92	97	89	90	92
Total persons(b)	348,315	125,995	232,362	241,948	180,669	220,896	72,745	474,310
Why didn’t go to other health professional (OHP)								
Cost	33	5(d)	26	30	22(c)	31	24	28
Too busy (including work, personal or family responsibilities)	27	20	24	26	14(c)	29	21(c)	26
Dislikes (service/professional/ afraid/embarrassed)	12	11(c)	14	11	11(c)	14	7(c)	12
Waiting time too long or not available at time required	7(c)	19	9(c)	9	24(c)	6	9	9
Decided not to seek care	18	16	19	16	13(c)	16	23	17
Transport/distance	7(c)	15(c)	7(c)	9	7(c)	8(c)	8(c)	8
Not available in area	2(c)	30	7	7	9(c)	6	10(c)	7
Felt it would be inadequate	5(c)	5(d)	5(c)	5(c)	10(d)	4(c)	7(c)	5
Discrimination/not culturally appropriate/language problems	2(d)	2(d)	2(d)	1(d)	0(d)	2(c)	n.p.	2
Other	11	10(c)	11	10	14(c)	10	11(c)	11
Total who needed to visit OHP but didn’t(b)	**29,699**	**5,971**	**15,968**	**19,702**	**4,200**	**24,085**	**7,385**	**35,670**
Whether needed to go to hospital in the last 12 months, but didn’t								
Yes	7	7	7	7	2	9	12	7
No	93	93	93	93	98	91	88	93
Total persons(b)	348,315	125,995	232,362	241,948	180,669	220,896	72,745	474,310
Why didn’t visit hospital								
Cost	5(c)	3(c)	4(c)	5(c)	4(d)	4(c)	5(c)	4
Too busy (including work, personal or family responsibilities)	17	16	12(c)	20	8(d)	20	12	16
Dislikes (service/professional/ afraid/embarrassed)	18	9(c)	20	11	6(d)	17	17	16
Waiting time too long or not available at time required	18	10(c)	17	15	16(c)	16	15(c)	16
Decided not to seek care	25	26	28	23	22(c)	22	34	25
Transport/distance	13	34	14	23	27	17	20	19
Not available in area	2(c)	8(c)	3(c)	4(c)	4(d)	3(c)	6(c)	4(c)
Felt it would be inadequate	6	7(c)	6(c)	7(c)	14(c)	4(c)	8(c)	6
Discrimination/not culturally appropriate/language problems	2(c)	2(d)	1(d)	2(c)	1(d)	2(c)	1(d)	2(c)

(continued)

Table 3.14.51 (continued): Indigenous Australians who did not access health services when needed and why, by remoteness, sex and age, 2004–05

	Remoteness		Sex		Age group			
	Non-remote	Remote	Male	Female	0–14	15–44	45+	Total
	Per cent							
Other	15	9	15[(c)]	12	17[(c)]	15	8[(c)]	14
Total who needed to visit hospital, but didn't[(b)]	**22,982**	**8,840**	**15,430**	**16,392**	**3,873**	**19,382**	**8,567**	**31,822**

(a) Persons aged two years and over.

(b) Total includes 'not stated'.

(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Note: Components may not add to total because persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Co-payment and private health insurance

Information on co-payment and private health insurance was collected in non-remote areas of Australia only, and is presented in Tables 3.14.52 and 3.14.53.

- In 2004–05, approximately 15% of Indigenous Australians in non-remote areas required co-payment for their last visit to the doctor, 37% required co-payment for their last visit to a specialist and 17% required co-payment for their last visit to other health professionals (Table 3.14.52).
- In 2004–05, a much higher proportion of Indigenous Australians in non-remote areas reported they were not currently covered by private health insurance than non-Indigenous Australians (83% compared with 49%) (Table 3.14.53).
- The most common reasons for why Indigenous Australians had private health insurance were security, protection or peace of mind (43%), a shorter wait for treatment or concern over public hospital waiting lists (20%), and provision of benefits for ancillary services or extras (18%). Similar proportions of non-Indigenous Australians reported these reasons for also having private health insurance.
- The most common reasons for Indigenous Australians not having private health insurance were that they could not afford it (65%), and that they felt that Medicare cover was sufficient (19%).

Table 3.14.52: Indigenous Australians in non-remote areas requiring co-payment for last visit to GP/specialist or other health professional, 2004–05

Co-payment required(a)	Proportion (%)
GP(b)	
Yes	15
No	82
Not stated/not known	3.0(c)
Total	**100**
Total number	**72,801**
Specialist(b)	
Yes	37
No	62
Not stated/not known	1.0(c)
Total	**100**
Total number	**13,724**
Other health professional(d)	
Yes	17
No	80
Not stated/not known	2.0(c)
Total(e)	**100**
Total number	**54,327**

(a) Last consultation in the two weeks before the interview.

(b) Consultations information is essentially as reported by respondents. In some cases respondents may have reported consultations with health practitioners other than doctors because they consider them to be doctors. Conversely, some consultations reported as being with other health professionals should have been reported as being a GP/specialist consultation (regardless of the type of treatment provided at the consultation).

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Excludes dentists. For the full list of other health professionals, refer to *National Aboriginal and Torres Strait Islander Health Survey: Users Guide* (ABS cat. no. 4715.0.55.004).

(e) Total may not add up to 100% because of rounding effects.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 3.14.53: Private health insurance (non-remote areas only), by Indigenous status, 2004–05

	Indigenous	Non-Indigenous	Ratio	Rate difference
	Per cent			
Whether currently covered by private health insurance				
With private health insurance	15	51	0.3*	–36
Without private health insurance	83	49	1.7*	34
Not stated/not known	2.0[(a)]	—	—	2
Total[(b)]	**100**	**100**	. .	. .
Total number	**213,422**	**15,344,756**	. .	. .
Reasons for private health insurance				
Security or protection or peace of mind	43	42	1.0	1
Shorter wait for treatment or concerned over public hospital waiting lists	20	22	0.9	–2
Provides benefits for ancillary services or extras	18	22	0.8	–4
Allows treatment as private patient in hospital	16	21	0.8	–5
Always had it or parents pay it or condition of job	16	23	0.7*	–7
Choice of doctor	14	20	0.7*	–6
Has condition that requires treatment	11	8	1.4	3
Elderly or getting older or likely to need treatment	8.0[(a)]	6	1.3*	2
To gain government benefits or avoid extra Medicare levy	7	10	0.7	–3
Lifetime cover or avoid age surcharge	6.0[(a)]	5	1.2	1
Other financial reasons	4.0[(a)]	4	1.0	0
Other reason	7.0[(a)]	6	1.2	1
Total[(b)]	**100**	**100**	. .	. .
Total number	**28,843**	**7,847,957**	. .	. .
Reasons not covered by private health insurance				
Cannot afford it/too expensive	65	64	1.0	1
Medicare cover sufficient	19	14	1.4*	5
Pensioner/Veteran's Affairs/health concession card	8	6	1.3	2
Not high priority/previously included in parents' cover	6	7	0.9	–1
Lack of value for money/not worth it	6	11	0.5*	–5
Do not need medical care/in good health/have no dependants	5	12	0.4	–7

(continued)

Table 3.14.53 (continued): Private health insurance (non-remote areas only), by Indigenous status, 2004–05

	Indigenous	Non-Indigenous	Ratio	Rate difference
	Per cent			
Disillusionment about having to pay out-of-pocket costs/gap fees	2	4	0.5*	–2
Prepared to pay cost of private treatment from own resources	—[(a)]	1	—	—
Will not pay Medicare levy and private health insurance premium	1.0[(a)]	3	0.3*	–2
High risk category	—[(a)]	—	—	—
Other	7	7	1.0	0
Total[(b)]	**100**	**100**	. .	. .
Total numbers	**180,376**	**7,432,057**	. .	. .

* Represents statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) The sum of the components may add to more than 100% because persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Treatment when seeking health care

- In 2004–05, about 4% of Indigenous people reported that when they sought health care in the last 12 months they were treated worse than non-Indigenous people, 77% reported they were treated the same as non-Indigenous people, and 5% reported they were treated better than non-Indigenous people (Table 3.14.54).
- A higher proportion of Indigenous people in remote areas reported they were treated better than non-Indigenous people (11% compared with 3%).
- Approximately 16% of Indigenous people felt that they were treated badly when they sought health care because they were Indigenous.
- The most common feeling felt when Indigenous people thought they had been treated badly when seeking health care was anger (67%). Approximately 31% of Indigenous people reported they felt sorry for the persons who had treated them badly and 28% of Indigenous people felt sad as a result of being treated badly.
- Approximately 38% of Indigenous people who reported being treated badly when seeking health care reported that they talked to friends or family about the situation, 33% reported they try to avoid the situation or person involved and 30% try to do something about the people involved.

Table 3.14.54: Treatment of Indigenous Australians when seeking health care in the last 12 months, by remoteness, 2004–05

	Remote	Non-remote	Total
		Per cent	
Treatment when seeking health care			
Worse than non-Indigenous people	5	3	4
The same as non-Indigenous people	71	79	77
Better than non-Indigenous people	11	3	5
Only encountered Indigenous people	2	1(b)	2
Did not seek health care in last 12 months	4	6	5
Don't know/not sure	7	7	7
Total persons(a)	**185,515**	**72,782**	**258,297**
Whether felt treated badly because Aboriginal or Torres Strait Islander			
Yes	16	15	16
No	83	84	84
Total persons(a)	**185,515**	**72,782**	**258,297**
How usually feel when treated badly			
Feel angry	71	66	67
Feel sorry for the person who did it	28	32	31
Feel sad	35	25	28
Feel ashamed or worried about it	32	10	17
Feel sick	15	10	12
Other feeling	15	11	12
No feeling	6(b)	6(b)	6
Total persons(a)	**28,723**	**11,650**	**40,373**
What usually do when treated badly			
Talk to family or friends about it	49	33	38
Try to avoid the person/situation	34	32	33
Try to do something about the people who did it	36	27	30
Just forget about it	27	28	28
Keep it to yourself	15	19	18
Try to change the way you are or things that you do	12	8	9
Do anything else	5(b)	6	5
No action	3(b)	5(b)	4
Total persons(a)	**28,723**	**11,650**	**40,373**

(a) Total includes 'not stated' and refusal to answer.

(b) Estimate has a relative standard error between 25% and 50% and is subject to sampling variability too high for most practical purposes.

Note: Components may not add to total because persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

National Aboriginal and Torres Strait Islander Social Survey data

Data from the 2008 NATSISS is presented in Tables 3.14.55 to 3.14.59.

Problems accessing health services

- The 2008 NATSISS showed that 26% of Indigenous Australians aged 15 years and over had problems accessing health services (Table 3.14.55).
- Indigenous Australians aged 15 years and over in remote areas had a higher proportion of having problems accessing health services than those in non-remote areas (36% compared to 23%).
- Around 52% of Indigenous Australians aged 15 years and over who had problems accessing health services were because that waiting time was too long or service was not available at time required. 42% were because not enough services in the area and 34% were because transport/distance.
- Nationally, around 20% Indigenous Australians aged 15 years and over had problems accessing dentists and 10% had problems accessing doctors. In remote areas, the proportions of having problems accessing dentists and doctors were 27% and 12% respectively.

Table 3.14.55: Barriers to accessing health service providers, Indigenous Australians aged 15 years and over who had problems accessing health services, by type of services and remoteness, 2008

	Remote	Non remote	Australia	Remote	Non remote	Australia
	Per cent					
	Aboriginal and Torres Strait Islander health workers			**Dentists**		
Total had problem accessing health services(a)	5.7	5.5	5.6	27.4	16.9	19.5
Types of selected services had problems accessing(b)						
Transport / Distance	53.7	42.2	45.1	47.6	25.2	33.0
Cost of service	27.2(c)	36.7	34.3	19.8	48.4	38.4
No services in the area	70.9(c)	46.5	52.7	62.0	33.2	43.2
Not enough services in the area	66.0	42.1	48.2	58.1	37.8	44.9
Waiting time too long or not available at time required	44.4	48.8	47.6	41.3	58.8	52.7
Services not culturally appropriate	12.3(c)	13.5	13.2	6.1	7.0	6.7
Don't trust services	14.5(c)	19.8	18.5	7.2	11.3	9.9
	Hospitals			**Mental health services**		
Total had problem accessing health services(a)	14.5	4.0	6.6	5.5	2.8	3.5
Types of selected services had problems accessing(b)						
Transport / Distance	71.5	52.4	62.9	46.9	46.6	46.8
Cost of service	18.2	35.5	26.0	30.7	36.0	33.9
No services in the area	60.7	# 28.6	46.1	88.3	43.8	61.5
Not enough services in the area	41.6	32.6	37.5	63.2	54.3	57.8
Waiting time too long or not available at time required	39.3	59.6	48.5	61.4	59.4	60.2
Services not culturally appropriate	7.1(c)	11.7	9.2	16.1	18.2(c)	17.3
Don't trust services	8.8	20.2	14.0	17.9	25.1	22.2
	Medicare			**Total Health Services**		
Total had problem accessing health services(a)	3.8	1.7	2.2	36.4	23.0	26.4
Types of selected services had problems accessing(b)						
Transport / Distance	55.9	68.6	63.2	47.8	25.1	33.5
Cost of service	22.2(c)	36.6(c)	30.4	17.5	39.7	32.0
No services in the area	77.4	23.4(c)	46.7	57.4	30.1	39.5
Not enough services in the area	60.6(c)	22.6(c)	39.0	51.8	36.3	41.7
Waiting time too long or not available at time required	49.6(c)	42.0(c)	45.3	39.7	58.1	51.8
Services not culturally appropriate	7.2(c)	12.1(c)	10.0(c)	6.1	7.4	7.0
Don't trust services	13.3(c)	21.8(c)	18.1(c)	7.7	11.3	10.0

(a) Proportion of total population.

(b) Proportion of respondents who reported problems accessing health service by remoteness.

(c) Estimate has a relative standard of error of 25% to 50% and should be used with caution.

Source: AIHW analyses of 2008 NATSISS.

Problems accessing services

- In 2008, 30% of Indigenous Australians aged 15 years and over reported they had a problem accessing services. The greatest problem was with accessing dentists (20% reported problems accessing), followed by accessing doctors (10%). The greatest barriers to accessing services were that the waiting time was too long or that the service was not available at the time required (15%).
- Table 3.14.56 shows that the Indigenous Australians in the Northern Territory (40%) had the highest rate of problems accessing services. The rate was lowest in South Australia (24%).
- Table 3.14.57 reports data on problems accessing services for Indigenous Australians aged 15 years and over by the remote and non-remote categories. Respondents in remote areas had greater problems accessing services (42%) than their non-remote counterparts (26%), and reported greater problems accessing every type of service identified in the table, except for other services. The largest disparities regarding the barriers to accessing these services was with 'no services in the area', 'not enough services in the area' or 'transport/distance'.
- A difference was also evident when problems accessing services for Indigenous males aged 15 years and over was compared with their female counterparts. One third (33%) of females reported they had problems accessing services, compared with 27% of males (Table 3.14.58).
- Of Indigenous Australians aged 15 years and over, the age group with the greatest percentage reporting problems accessing services was those aged 35–44 years (35%), while the lowest was for 15–24 year olds (23%) (Table 3.14.59).

Table 3.14.56: Problems accessing services, Indigenous Australians aged 15 years and over, by state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas/ACT	NT	Total
Whether had problems accessing services				**Per cent**				
Had problems accessing services	30.3	27.2	25.9	32.4	23.6	26.8	40.4	29.9
Did not have problems accessing services	69.7	72.8	74.1	67.6	76.4	73.2	59.6	70.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Selected types of services had problems accessing								
Aboriginal and Torres Strait Islander health workers	6.4	6.3	5.2	6.5	5.1	4.9	3.7	5.6
Dentists	22.1	16.0	17.2	20.5	13.3	14.9	24.1	19.5
Doctors	10.9	8.3	6.1	11.1	8.7	12.9	12.0	9.5
Other health workers	3.0	2.8	1.4	2.4	1.4	3.0	4.5	2.6
Hospitals	5.5	4.5	4.1	8.4	3.3	5.7	15.6	6.6
Legal services	5.1	4.6	5.0	6.5	3.1	4.0	8.2	5.5
Employment services	4.3	2.6	2.7	3.0	2.3	2.9	6.1	3.6
Phone companies	2.4	3.9	2.5	4.7	1.7	4.4	6.4	3.4
Centrelink	6.2	5.7	4.6	5.9	5.9	6.4	8.5	6.0
Banks and other financial places	3.6	3.7	3.7	6.1	2.6	2.2	9.8	4.7
Medicare	1.8	2.1	2.0	2.6	1.0	2.5	3.3	2.2
Mental health services	3.8	3.2	2.3	4.1	2.9	2.6	5.5	3.5
Other services	0.3	0.8	0.7	0.7	0.0	0.8	0.8	0.6
No problems	69.7	72.8	74.1	67.6	76.4	73.2	59.6	70.1
Type of barrier to accessing any services								
Transport/distance	8.9	9.7	5.9	12.1	7.2	8.2	17.4	9.5
Cost of service	10.9	11.9	7.6	9.2	6.0	10.3	5.6	8.9
No services in the area	9.4	6.2	9.5	15.6	7.5	10.3	21.3	11.5
Not enough services in the area	11.8	7.4	9.3	15.0	9.0	10.6	16.7	11.7
Waiting time too long or not available at time required	16.8	14.4	12.8	14.5	13.2	15.6	15.3	14.8
Services not culturally appropriate	2.3	3.8	2.1	2.6	2.7	1.2	2.0	2.3
Don't trust services	4.4	4.1	1.5	3.4	4.2	4.5	1.8	3.1
Treated badly/discrimination	1.5	2.9	0.6	2.1	1.1	0.6	1.3	1.3
Other	3.7	4.9	3.1	3.7	3.2	4.0	1.4	3.3
Did not have problems accessing services	69.7	72.8	74.1	67.6	76.4	73.2	59.6	70.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**96,158**	**21,830**	**90,328**	**44,097**	**17,938**	**15,292**	**41,459**	**327,101**

Source: 2008 NATSISS.

Table 3.14.57: Problems accessing services, Indigenous Australians aged 15 years and over, by remoteness, 2008

	Remote	Non-remote	Total
Whether had problems accessing services		**Per cent**	
Had problems accessing services	42.0	25.9	29.9
Did not have problems accessing services	58.0	74.1	70.1
Total	100.0	100.0	100.0
Selected types of services had problems accessing			
Aboriginal and Torres Strait Islander health workers	5.7	5.5	5.6
Dentists	27.4	16.9	19.5
Doctors	12.3	8.6	9.5
Other health workers	4.2	2.1	2.6
Hospitals	14.5	4.0	6.6
Legal services	9.0	4.3	5.5
Employment services	5.7	2.9	3.6
Phone companies	6.2	2.5	3.4
Centrelink	8.6	5.1	6.0
Banks and other financial places	11.3	2.4	4.7
Medicare	3.8	1.7	2.2
Mental health services	5.5	2.8	3.5
Other services	0.6	0.6	0.6
No problems	58.0	74.1	70.1
Type of barrier to accessing any services			
Transport/distance	18.7	6.5	9.5
Cost of service	6.6	9.6	8.9
No services in the area	23.7	7.4	11.5
Not enough services in the area	20.5	8.7	11.7
Waiting time too long or not available at time required	15.9	14.4	14.8
Services not culturally appropriate	2.5	2.3	2.3
Don't trust services	3.3	3.1	3.1
Treated badly/discrimination	1.4	1.3	1.3
Other	1.7	3.8	3.3
Did not have problems accessing services	58.0	74.1	70.1
Total	**100.0**	**100.0**	**100.0**
Total number	**81,501**	**245,600**	**327,101**

Source: 2008 NATSISS.

Table 3.14.58: Problems accessing services, Indigenous Australians aged 15 years and over, by sex, 2008

	Males	Females	Total
Whether had problems accessing services		**Per cent**	
Had problems accessing services	27.1	32.5	29.9
Did not have problems accessing services	72.9	67.5	70.1
Total	**100.0**	**100.0**	**100.0**
Selected types of services had problems accessing			
Aboriginal and Torres Strait Islander health workers	4.9	6.2	5.6
Dentists	17.4	21.6	19.5
Doctors	8.5	10.5	9.5
Other health workers	2.6	2.6	2.6
Hospitals	6.1	7.1	6.6
Legal services	5.3	5.7	5.5
Employment services	3.9	3.3	3.6
Phone companies	3.8	3.0	3.4
Centrelink	5.7	6.2	6.0
Banks and other financial places	5.0	4.3	4.7
Medicare	2.1	2.3	2.2
Mental health services	3.1	3.8	3.5
Other services	0.6	0.6	0.6
No problems	72.9	67.5	70.1
Type of barrier to accessing any services			
Transport/distance	8.4	10.5	9.5
Cost of service	7.8	9.9	8.9
No services in the area	10.6	12.3	11.5
Not enough services in the area	10.5	12.7	11.7
Waiting time too long or not available at time required	12.6	16.8	14.8
Services not culturally appropriate	1.8	2.8	2.3
Don't trust services	3.3	3.0	3.1
Treated badly/discrimination	1.2	1.4	1.3
Other	3.3	3.3	3.3
Did not have problems accessing services	72.9	67.5	70.1
Total	**100.0**	**100.0**	**100.0**
Total number	**156,052**	**171,049**	**327,101**

Source: 2008 NATSISS.

Table 3.14.59: Problems accessing services, Indigenous Australians aged 15 years and over, by age group, 2008

	15–24	25–34	35–44	45–54	55+	Total
Whether had problems accessing services			**Per cent**			
Had problems accessing services	22.7	33.9	34.8	33.3	30.2	29.9
Did not have problems accessing services	77.3	66.1	65.2	66.7	69.8	70.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Selected types of services had problems accessing						
Aboriginal and Torres Strait Islander health workers	3.4	5.9	6.8	8.4	5.5	5.6
Dentists	14.5	24.6	21.1	21.3	19.3	19.5
Doctors	6.7	10.0	11.8	11.6	10.1	9.5
Other health workers	1.8	2.4	2.7	3.3	3.9	2.6
Hospitals	4.9	7.8	6.8	7.7	7.2	6.6
Legal services	4.0	5.8	6.7	6.9	5.3	5.5
Employment services	3.4	4.3	4.1	4.5	1.5	3.6
Phone companies	2.4	3.6	4.0	4.2	3.8	3.4
Centrelink	5.8	7.0	6.3	5.4	4.7	6.0
Banks and other financial places	3.3	5.4	5.8	4.8	4.8	4.7
Medicare	2.0	2.7	1.8	3.0	1.5	2.2
Mental health services	2.5	3.1	4.8	4.3	3.7	3.5
Other services	0.3	0.5	0.9	0.4	1.1	0.6
No problems	77.3	66.1	65.2	66.7	69.8	70.1
Type of barrier to accessing any services						
Transport/distance	7.5	11.1	10.6	10.0	9.7	9.5
Cost of service	6.7	9.5	10.2	11.2	8.5	8.9
No services in the area	8.4	13.6	12.7	13.5	11.6	11.5
Not enough services in the area	8.5	14.8	12.8	12.8	11.1	11.7
Waiting time too long or not available at time required	10.0	17.8	15.7	18.7	15.8	14.8
Services not culturally appropriate	1.2	2.4	3.8	2.8	2.2	2.3
Don't trust services	2.2	3.4	3.8	4.4	2.4	3.1
Treated badly/discrimination	0.8	1.6	1.4	2.1	1.1	1.3
Other	1.5	3.8	4.8	5.0	2.7	3.3
Did not have problems accessing services	77.3	66.1	65.2	66.7	69.8	70.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**103,780**	**69,931**	**63,851**	**46,912**	**42,627**	**327,101**

Source: 2008 NATSISS.

Barriers to accessing services

Aboriginal and Torres Strait Islander people face a number of barriers to accessing services, including lack of transport (particularly in remote areas), financial difficulties and proximity of culturally appropriate services. The proportion of Aboriginal and Torres Strait Islander people involved in health-related professions can also affect use of health services by Indigenous Australians.

See measure 3.12: Aboriginal and Torres Strait Islander people in the health workforce for further information.

Transport

Although distance to various health services provides one measure of access, lack of transport can often mean that comparatively short distances are an impediment to service use. Data are available from the 2006 Census and the 2008 NATSISS on access to motor vehicles and difficulties with transport.

- In 2006, households with Indigenous Australians were less likely than non-Indigenous households to have at least one motor vehicle. Approximately 78% of Indigenous and 86% of non-Indigenous households had at least one motor vehicle.
- In 2008, Indigenous Australians in every state and territory, apart from Tasmania, were less likely to report having access to a motor vehicle(s) than other Australians. The Northern Territory had the lowest proportion of Indigenous households with access to at least one motor vehicle (68%) and Tasmania had the highest proportion (89%) (see Table 2.13.9).
- In 2008, around 11% of Indigenous Australians reported that they could not get, or often had difficulty getting, to places needed, compared with only 4.2% of other Australians (Table 3.14.60).

Table 3.14.60: Transport access for persons aged 18 years and over, by Indigenous status, 2008

	Indigenous			**Non-Indigenous**		
	Remote	**Non-remote**	**Total**	**Remote**	**Non-remote**	**Total**
			Per cent			
Difficulty with transport						
Can easily get to places needed	66.0	77.4*	74.4	. .	84.4*	84.2
Cannot get, or often has difficulty getting, to places needed	18.3	8.2*	10.8	. .	4.1*	4.2
Sometimes has difficulty getting to places needed	14.8	14.1*	14.3	. .	11.4*	11.5
Total number[(a)]	**100.0**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**
			Number			
Difficulty with transport						
Can easily get to places needed	49,623	166,914	216,538	. .	12,640,052	12,796,031
Cannot get, or often has difficulty getting, to places needed	13,747	17,755	31,502	. .	608,764	635,927
Sometimes has difficulty getting to places needed	11,123	30,430	41,552	. .	1,711,711	1,741,625
Total number[(a)]	**75,149**	**215,788**	**290,937**	**. .**	**14,979,759**	**15,192,945**

* Difference between rates for Indigenous and non-Indigenous Australians are statistically significant at the $p < 0.05$ level for these categories.

(a) Total includes those who never go out/housebound.

Source: 2008 NATSISS and 2006 GSS.

The data on vehicles per household and per person suggest that other Australians have better access to personal transport than Indigenous Australians and would therefore be more readily able to reach a health facility or service. Public transportation may compensate for the lack of personal transport, and some clinics may provide a transport service for their patients, but this service are not available everywhere.

For more information on transport see measure 2.13: Transport.

Affordability

Data on the financial stress of Indigenous Australians were collected in the 2008 NATSISS.

- In 2008, about half (46%) of all Indigenous Australians aged 15 years and over reported they were living in households in which they could not raise $2,000 within a week in a time of crisis.
- Indigenous Australians living in remote areas of Australia were more likely to have financial difficulties, with 51% unable to raise $2,000 compared with 31% in non-remote areas.

This information suggests that many Indigenous Australians suffer financial difficulties of some kind, especially those living in remote areas of Australia. Financial difficulties are an important barrier to accessing services where costs are involved.

Many privately provided health services involve direct out-of-pocket payments by patients. These have a greater impact on people with limited economic means and, given the generally poorer economic position of Aboriginal and Torres Strait Islander people, the effect is likely to be greater on them than on other Australians. Examples of this are services provided by dentists, physiotherapists and other health professionals that are not covered by Medicare, and pharmaceuticals that are not covered by the Pharmaceutical Benefits Scheme (PBS). These do not attract subsidies from governments and, therefore, patients meet out-of-pocket fees when these services are accessed. Other services, such as medical services covered by Medicare and pharmaceuticals covered by the PBS, although subsidised, can also involve out-of-pocket expenditure, which restrict the access of people in lower socioeconomic groups.

Medical services subsidised under Medicare can attract copayments if they are not bulk-billed. In the June quarter 2012, 76% of GP attendances were bulk-billed (DoHA 2012). Patients who are not bulk billed are usually required to pay the full fee at the time of service and can then seek a refund from Medicare. This, however, means that they must first be able to pay for the service. This difficulty is further exacerbated by the fact that some practitioners charge fees above the Medicare Benefits Schedule fee, requiring larger gap payments, which are generally borne by the patients. Medicare benefits are payable for services provided by Aboriginal Community Controlled Health Services and patients of these services are bulk billed.

People who are prescribed pharmaceuticals under the PBS are also required to make out-of-pocket copayments. The amount that a patient needs to find is adjusted to some extent in accordance with the patient’s ability to pay. Different copayments apply to concession card holders, pensioners and general patients. The PBS also has safety net provisions that protect individuals and families from large overall expenses for PBS medicines.

Telephone and Internet use

Access to a working telephone in the home is often considered a necessity in cases of emergency so that health services, such as hospitals, ambulances and doctors, can be contacted quickly. People without a working telephone in the home are less equipped to seek medical help when required. Internet access is becoming an increasingly important vector of communication, and a means of transacting with government and non-government agencies, as well as being a source of information and opinion.

The 2008 NATSISS collected information on whether Indigenous Australians had access to the internet in their household, as well as data on the types of telephones used by household members in the past month.

- In 2008, 98% of households had a member who had used a telephone in the last month. The most common types of telephone used in the past month were pre-paid mobile phones and landlines in the home (68% and 67%), followed by contract mobiles (39%). Landlines in neighbours houses and other phones were the least likely to have been used (6.1% and 1.3%).
- That same year, 62% of households had at least one computer in working order. Of those households with a working computer, 77% also had an internet connection.

Health labour force

Information on the health labour force is available from the National Health Workforce Data Set (NHWDS) and the AIHW Nursing and midwifery labour force survey.

Clinical medical practitioners

- In 2010, there were 52,497 medical practitioners employed in medicine in Australia. Most employed medical practitioners in Australia in 2010 were working as clinicians (93.6%). The rate of FTE employed clinical medical practitioners in Australia was 345 per 100,000. Clinical medical practitioners are comprised of primary care practitioners (35%), specialists (36%), specialists-in-training (16%) and hospital non-specialists (10%) (Table 3.14.61; Figure 3.14.6; AIHW 2012b).
- The greatest regional disparity among clinicians was observed among specialists, where there were four times the rate of specialists present in Major cities than in Remote and Very remote areas (147 and 40 per 100,000, respectively). Major cities had double the rate of specialists as Inner regional areas (75 per 100,000).

Table 3.14.61: Full time employed medical practitioners by main occupation and geographic region of main job, 2010[(a)]

Main occupation	Region of main job Major cities	Inner regional	Outer regional	Remote / Very remote[(b)]	Australia[(c)]
	Full-time equivalent rate per 100,000 population				
Clinicians	375.7	244.9	174.5	242.0	345.0
General Practitioner[(d)]	105.2	108.2	103.1	124.0	109.6
Hospital non-specialist	41.7	27.9	18.3	50.3	38.7
Specialist	147.0	75.2	29.8	39.8	126.7
Specialist-in-training	72.5	28.8	17.8	19.5	61.4
Other clinician	8.9	4.7	5.6	8.4	8.3
Non-clinicians	25.0	7.9	10.5	17.2	21.4
Total	**400.4**	**253.3**	**185.0**	**259.2**	**366.1**

(a) 2010 data exclude Queensland and Western Australia due to their registration period closing after the national registration deadline of 30 September 2010. Data include employed medical practitioners who did not state or adequately describe their state or territory of principal practice and employed medical practitioners who reside overseas.

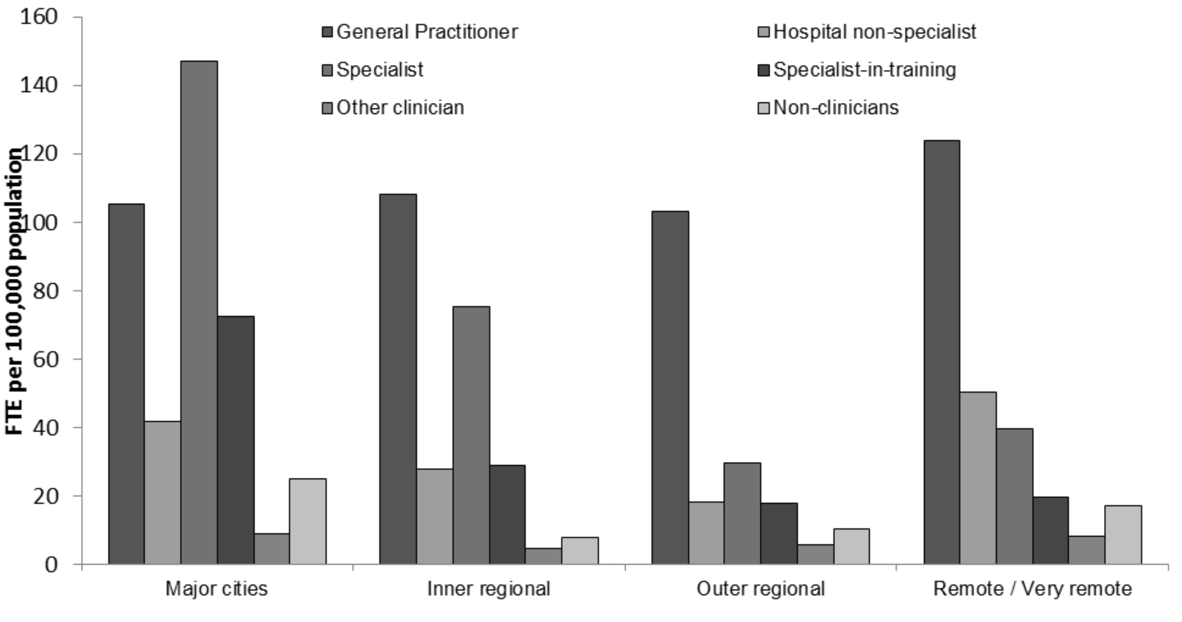
(b) Includes Migratory.

(c) Includes remoteness area not stated.

(d) In 2010, primary care practitioners who did not self-identify as general practitioners may be included in 'Other clinician' rather than 'General practitioner'.

Note: FTE is based on 40 hours per week.

Source: National Health Workforce Data Set: medical practitioners 2010.



Notes

1. Remote/very remote includes Migratory.
2. FTE is based on 40 hours per week.

Source: AIHW Medical Workforce, 2010.

Figure 3.14.4: Full time employed medical practitioners by main occupation and geographic region of main job, 2010

Nurses and midwives

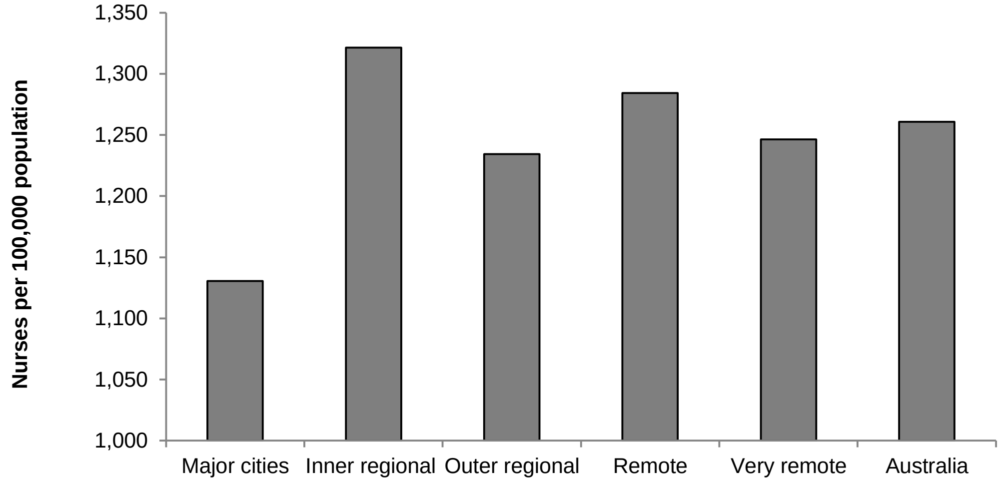
This section presents information on nurses and midwives in Australia based on data from the 2009 AIHW Nursing and Midwifery Labour Force Survey. This survey collected information on the demographic and employment characteristics of nurses who were registered or enrolled in Australia at the time of the survey. The survey was done annually until 2009 by state and territory health authorities, with the questionnaire administered by the registration boards (or councils) in each jurisdiction, usually in conjunction with the registration renewal process.

- There were more nurses per 100,000 population in *Inner regional* areas than any other remoteness area (1,322 per 100,000). *Major cities* had the lowest rate of nurses per 100,000 population, followed by *Outer regional* (1,131 and 1235 per 100,000, respectively) (Table 3.14.62; Figure 3.14.7).

Table 3.14.62: Number of employed registered and enrolled nurses, by remoteness, 2009

	Major cities	Inner regional	Outer regional	Remote	Very remote	Not stated	Australia
Number	170,316	57,144	25,465	4,162	2,145	17,518	276,751
Nurses per 100,000 population	1,130.5	1,321.5	1,234.5	1,284.3	1,246.3	. .	1,260.7

Source: Nursing and midwifery labour force 2009 (AIHW 2011e).



Source: Nursing and midwifery labour force 2009.

Figure 3.14.5: Number of employed registered and enrolled nurses, by remoteness, 2009

Community housing

The 2006 CHINS collected information on health services from 1,187 discrete Indigenous communities. Information on distance to the nearest health facility, health professionals working within communities and access to medical emergency air services is presented below.

Distance to nearest health facility

- Of the 1,078 discrete Indigenous communities in 2006 that reported distance to the nearest health facility, 755 (70%) were located 100 kilometres or more from the nearest hospital (Table 3.14.63), compared with 841 (69%) in 2001. In 2006, these communities represented 56% of the reported population living in these discrete Indigenous communities compared with 53% in 2001.
- Aboriginal primary health-care centres and other (state-funded) community health centres were more likely to be located near or within Indigenous communities than were hospitals. In addition to the 9% of communities located with a hospital either in or within 10 kilometres of the community, 211 (20%) had an Aboriginal primary health-care centre located either in or within 10 kilometres of the community, and 217 (21%) had an other (state-funded) community health centre.
- Over half (56%) of the reported population living in discrete Indigenous communities that reported distance to the nearest health facility had an Aboriginal primary health-care centre in or within 10 kilometres of their community.

Table 3.14.63: Discrete Indigenous communities access to medical facilities, by reported usual population, 2006

	Hospital				Aboriginal primary health-care centre				Other (state-funded) community health centre			
	Communities		Reported usual population		Communities		Reported usual population		Communities		Reported usual population	
Distance to nearest health facility	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**	**No.**	**Per cent**
Located within community	10	0.9	14,090	15.3	107	10.2	41,450	47.0	104	9.9	35,737	42.9
Less than 10 km	89	8.3	7,743	8.4	104	9.9	7,743	8.8	113	10.7	8,101	9.7
10–24 km	69	6.4	5,634	6.1	110	10.4	3,402	3.9	125	11.9	6,358	7.6
25–49 km	72	6.7	4,766	5.2	156	14.8	3,572	4.1	173	16.4	4,442	5.3
50–99 km	83	7.7	7,968	8.6	160	15.2	6,464	7.3	165	15.7	5,441	6.5
100–249 km	308	28.6	21,080	22.9	268	25.4	12,552	14.2	171	16.3	8,505	10.2
250 km or more	447	41.5	30,912	33.5	149	14.1	12,934	14.7	201	19.1	14,803	17.8
Total no. of communities[(a)]	**1,078**	**100.0**	**92,193**	**100.0**	**1,054**	**100.0**	**88,117**	**100.0**	**1,052**	**100.0**	**83,387**	**100.0**
Total no. of communities[(b)]	**1,187**	**. .**	**92,960**	**. .**	**1,187**	**. .**	**92,960**	**. .**	**1,187**	**. .**	**92,960**	**. .**

(a) Excludes 'distance to nearest health facility' not stated.

(b) Includes 'distance to nearest health facility' not stated.

Source: ABS 2007 (2006 Community Housing and Infrastructure Needs Survey).

Health professionals within communities

- In 2006, over half (56%) of people living in discrete Indigenous communities located 10 kilometres or more from a hospital who completed the long community questionnaire had a male Indigenous health worker visit or work in their community on a daily basis, and almost three quarters (74%) had a female Indigenous health worker visit or work in their community on a daily basis (Table 3.14.64).
- Approximately 55,723 (91%) of these people had a registered nurse visiting or working in their community and 53,201 (87%) had a doctor visiting or working in their community (Table 3.14.64).
- Almost three quarters (73%) of these people had a registered nurse visit or work in the community on a daily basis and 19% had a doctor visit or work in the community on a daily basis (Table 3.14.64).
- Of the people living in discrete Indigenous communities with a population of fewer than 50 that are not self-administered, 32% had a male Indigenous health worker, 30% had a female Indigenous health worker, 32% had a registered nurse and 23% had a doctor visiting or working in their community.

Table 3.14.64: Selected medical professionals working in the community: discrete Indigenous communities who completed the long community questionnaire[(a)], located 10 kilometres or more from a hospital, 2006

	Communities		Reported usual population	
Type of health professional and frequency of visit or work	**Number**	**Per cent**	**Number**	**Per cent**
Male Indigenous health worker				
Daily	75	26.0	34,300	56.0
Weekly or fortnightly	47	16.3	4,991	8.1
Monthly	10	3.5	1,331	2.2
Three monthly	5	1.7	448	0.7
Less than three monthly	11	3.8	1,906	3.1
Total with male Indigenous health worker visiting or working in community	*148*	*51.4*	*42,976*	*70.2*
Female Indigenous health worker				
Daily	121	42.0	45,587	74.4
Weekly or fortnightly	38	13.2	3,256	5.3
Monthly	14	4.9	1,355	2.2
Three monthly	4	1.4	119	0.2
Less than three monthly	3	1.0	820	1.3
Total with female Indigenous health worker visiting or working in community	*180*	*62.5*	*51,137*	*83.5*
Total with no Indigenous health worker visiting or working in community	*95*	*33.0*	*8,463*	*13.8*
Registered nurse				
Daily	120	41.7	44,923	73.3
Weekly or fortnightly	64	22.2	8,054	13.1
Monthly	17	5.9	1,663	2.7
Three monthly	2	0.7	150	0.2
Less than three monthly	8	2.8	933	1.5
Total with registered nurse visiting or working in community	*211*	*73.3*	*55,723*	*91.0*
No registered nurse visiting or working in community	*77*	*26.7*	*5,525*	*9.0*
Doctor				
Daily	14	4.9	11,344	18.5
Weekly or fortnightly	104	36.1	25,969	42.4
Monthly	58	20.1	11,478	18.7
Three monthly	6	2.1	2,550	4.2
Less than three monthly	10	3.5	1,860	3.0
Total with doctor working in community	*192*	*66.7*	*53,201*	*86.9*
No doctor visiting or working in community	*96*	*33.3*	*8,047*	*13.1*
Total communities[(a)]	**288**	**100.0**	**61,248**	**100.0**

(a) All discrete Indigenous communities with a reported usual population of 50 persons or more, or which have a reported usual population of fewer than 50 persons, but which are not administered by a larger discrete Indigenous community or resource agency, and are located 10 kilometres or more from a hospital.

Source: AIHW analysis of 2006 CHINS.

Access to medical emergency air service

- In 2006, 316 (27%) discrete Indigenous communities had access to a medical emergency air service, accounting for 57% (52,936) of people living in discrete Indigenous communities (Table 3.14.65).
- Approximately half (49%) of communities with access to a medical emergency air service were located 250 kilometres or more from the nearest hospital.

Table 3.14.65: Discrete Indigenous communities: access to medical emergency air services, by number of communities and reported usual population, 2006

	Access to medical emergency air service				No access to medical emergency air service				Total			
	Communities		Reported usual population		Communities		Reported usual population		Communities		Reported usual population	
Distance to nearest hospital	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
10–24 km	10	3.2	1,789	3.4	59	8.9	3,845	22.1	69	7.0	5,634	8.0
25–49 km	9	2.8	1,857	3.5	63	9.5	2,909	16.7	72	7.4	4,766	6.8
50–99 km	29	9.2	6,635	12.5	54	8.1	1,333	7.7	83	8.5	7,968	11.3
100–249 km	114	36.1	15,932	30.1	194	29.3	5,148	29.5	308	31.5	21,080	30.0
250 km or more	154	48.7	26,723	50.5	293	44.2	4,189	24.0	447	45.7	30,912	43.9
All communities 10 km or more from nearest hospital(a)	**316**	**100.0**	**52,936**	**100.0**	**663**	**100.0**	**17,424**	**100.0**	**979**	**100.0**	**70,360**	**100.0**
All communities(b)	**316**	**. .**	**52,936**	**. .**	**871**	**. .**	**40,024**	**. .**	**1,187**	**. .**	**92,960**	**. .**

(a) Excludes ‘Distance to nearest hospital not stated’.

(b) Includes communities located less than 10 kilometres from nearest hospital. Includes ‘Distance to nearest hospital not stated’.

Source: ABS 2007 (ABS 2006 CHINS).

Expenditure on health services

- It should be noted that the definition of health expenditure has changed from the 2008 HPF report and now excludes high-care residential aged care expenditure, which is instead classified as welfare expenditure (AIHW 2009). However, for the purposes of comparison information on high-care residential aged care is also presented.
- Expenditure on health and high-care residential aged care goods and services for Aboriginal and Torres Strait Islander people in 2008–09 was estimated at $3,700 million (Table 3.14.66). About 61% of this was for two areas of expenditure—services provided to admitted patients in public hospitals ($1,431 million) and community health services ($823 million).
- On a per person basis, estimated expenditure on health and high care aged care for Aboriginal and Torres Strait Islander people averaged $6,787, compared with $4,876 for non-Indigenous people—a ratio of 1.39:1.
- Per person expenditure on community health services for Indigenous Australians was nearly seven times that for non-Indigenous Australians. The per person ratio of Indigenous to non-Indigenous expenditure was also much higher for both patient transport and public health. Conversely, per person expenditure on aids and appliances for Indigenous was 20% of non-Indigenous per person expenditure. Expenditure on medications for Indigenous Australians was 50% of that of the non-Indigenous people.

Table 3.14.66: Total expenditure on health for Indigenous and non-Indigenous Australians, by area of expenditure, current prices, 2008–09

	Total expenditure ($ million)			Expenditure per person ($)		
Area of expenditure	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**	**Indigenous**	**Non-Indigenous**	**Ratio**
Hospitals	1,868.1	39,906.6	4.5	3,426.5	1,884.0	1.8
Public hospital services[(a)]	1,828.2	31,594.3	5.5	3,353.3	1,491.6	2.2
Admitted patient services[(b)]	1,430.6	24,476.8	5.5	2,624.0	1,155.6	2.3
Non-admitted patient services	397.6	7,117.4	5.3	729.3	336.0	2.2
Private hospitals[(c)]	39.9	8,312.3	0.5	73.1	392.4	0.2
Patient transport	159.8	2,228.1	6.7	293.2	105.2	2.8
Medical services	266.4	19,553.6	1.3	488.7	923.1	0.5
Medicare services	218.4	15,535.8	1.4	400.6	733.5	0.5
Other	48.0	4,017.8	1.2	88.1	189.7	0.5
Dental services	68.2	6,646.7	1.0	125.1	313.8	0.4
Community health services[(d)]	823.1	4,617.8	15.1	1,509.8	218.0	6.9
Other professional services	28.6	3,397.8	0.8	52.5	160.4	0.3
Public health services[(d)]	139.5	2,129.5	6.1	255.8	100.5	2.5
Medications	171.9	15,034.5	1.1	315.2	709.8	0.4
Aids and appliances	19.5	3,248.2	0.6	35.8	153.3	0.2
Research	100.6	3,574.3	2.7	184.6	168.7	1.1
Health administration	54.5	2,946.6	1.8	100.0	139.1	0.7
Total health[(e)]	**3,700.3**	**103,283.6**	**3.5**	**6,787.0**	**4,876.1**	**1.4**

(a) Excludes dental services, patient transport services, community health services, public health and health research undertaken by the hospital.

(b) Admitted patient expenditure estimates adjust for Aboriginal and Torres Strait Islander under-identification, except for Tasmania.

(c) Includes state/territory government expenditure for services provided for public patients in private hospitals.

(d) Includes other recurrent expenditure on health, not elsewhere classified, such as family planning previously reported under 'Other health services (n.e.c.)'.

(e) Expenditure estimates include depreciation (capital consumption).

Source: AIHW 2011b.

Data quality issues

Medicare data

MBS items

The MBS items included in this measure have been introduced over the last few years with the child health check item commencing in May 2006. The take-up of new MBS items is influenced by the speed at which practitioners and the population become aware of the new items and how to use them. Also take-up can be influenced by administrative processes and the time taken to change computer systems to incorporate these new items.

Standard Indigenous status question

In November 2002, the ABS standard question on Indigenous identification was included on Medicare enrolment forms. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Under-identification

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. There were around 339,310 people who had identified as Aboriginal and/or Torres Strait Islander in this database at May 2012; around 59% of the estimated Aboriginal and Torres Strait Islander population (AHMAC 2012). There has been a rapid expansion in the number of enrolees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

Readers should note the following caveats to the Medicare voluntary Indigenous Identifier (VII) adjustment methodology:

- Estimates generated by the adjustment methodology for a given period will vary according to the point in time at which they are calculated, as the adjustment factors will be updated regularly to account for the ongoing change in the population coverage of the VII sample.
- There are inherent uncertainties in the current ABS Indigenous population estimates, and they are therefore described by the ABS as 'experimental estimates and projections'. The ABS Indigenous population estimates after 2006–07 are experimental projections, based on a number of assumptions about future levels of fertility, mortality and migration. The projections are not predictions or forecasts, but are illustrations of the growth and change in population that would occur if these assumptions were to prevail over the projection period. There can be no certainty that any particular outcome will be realised, or that future outcomes will necessarily fall within the projected ranges.
- The propensity to identify as Aboriginal and/or Torres Strait Islander varies according to the motivations of the individual and the perceived uses of the data in question. For example, it is possible that there are some Aboriginal and Torres Strait Islander people who are registered with the VII but who do not identify as Indigenous for the purposes of the Census, or vice versa.
- In some areas, particularly remote and very remote areas, there is a portion of the Indigenous population that does not ever use the Medicare system. It is therefore possible that the adjustment methodology could overestimate Medicare use by the Indigenous population.

As the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could be biases in the data that are not addressed by the adjustment methodology.

DoHA general practice statistics

Care must be taken in using and interpreting the data provided. There are two issues to note which have an effect on the quality of the data. First, the data include only those services claimed through the Medicare system. Consequently the full-time equivalent for doctors in remote areas, which are more likely to have high proportions of Indigenous population, will be understated. This is because some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system. This results in further understating the full-time equivalent for doctors in areas with high Indigenous populations.

Second, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall than a second group of SLAs, there will be a number of individual SLAs in the first group with far more people per doctor than in some individual SLAs in the second group.

OATSIH Service Reporting (OSR) data collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012a).

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of Newborn episodes that did not include qualified days, and records for Hospital boarders and Posthumous organ procurement have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in Major cities to 97% in Remote and Very remote areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011-12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021 (ABS 2009).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It has therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities, Inner regional, Outer regional* and *Remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Surveys.

In remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas, interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors.

Care has been taken to ensure that the results of this survey are as accurate as possible. All interviews were conducted by trained ABS officers. However, some factors may affect the reliability of the data. Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However, not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, so care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared with other ABS surveys. There was also an increase in under-coverage compared with previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *2008 NATSISS user's guide* (ABS 2010).

Medical practitioners

The NHWDS: medical practitioners contains information sourced from registration data and workforce survey data.

The 2010 data collection is the first data release from the new national registration scheme. The data set is comprised of registration (including demographic) information provided by the Australian Health Practitioner Regulation Agency (AHPRA) and workforce details obtained by the Medical Workforce Survey. The survey instrument varies significantly in some areas from previous years, however, is now nationally consistent.

The 2010 collection excludes the workforce survey records of medical practitioners whose principal state of practice was Queensland and Western Australia, because not all registrations in Queensland and Western Australia expired on 30 September 2010, the date prescribed by AHPRA as the official closing data for registration renewal.

Estimates published from the Medical Workforce Survey 2010 are not directly comparable with estimates derived from the earlier AIHW Medical Labour Force Survey data. This is due to a change in the data collection methodology; including the survey design and questionnaire. For further information, refer to the Data Quality Statement and the online User guide for the NHWDS: medical practitioners 2010, available from the AIHW website.

AIHW Medical Labour Force Survey

The AIHW Medical Labour Force Survey is conducted on an annual basis. Survey responses are weighted by state, age and sex to produce state and territory and national estimates of the total medical labour force. Benchmarks for weighting come from registration information provided by state and territory registration boards.

The response rates to this survey can vary from year to year and across jurisdictions, but have stayed fairly stable over the five years to 2004. Note that the questionnaires have varied over time and across jurisdictions. Mapping of data items has been undertaken to provide time series data. However, because of this, and the variation in response rates, some caution should be used in interpreting change over time and differences across jurisdictions.

More detailed information about how these surveys were conducted is available from the report *Medical labour force 2009* (AIHW 2011d).

Community Housing and Infrastructure Needs Survey (CHINS)

The 2006 CHINS collected information on a variety of topics from discrete Aboriginal and Torres Strait Islander communities throughout Australia and on Indigenous organisations that provide rental housing to Indigenous people. In 2006, CHINS information was collected on 496 Indigenous organisations, which managed a total of 21,854 permanent dwellings. The majority of those dwellings were located in the Northern Territory (6,448), Queensland (6,230), New South Wales (4,176) and Western Australia (3,462) (ABS 2007).

The CHINS survey covers only discrete Indigenous communities. In 2006, the CHINS collected information from 1,187 discrete indigenous communities. This included approximately 92,960 Aboriginal and Torres Strait Islanders or 18% of the total Indigenous population. CHINS data are collected every five years. The data are collected from key personnel in Indigenous communities and housing organisations that are knowledgeable about housing and infrastructure issues.

The estimates are not subject to sampling error because the CHINS was designed as a complete enumeration of discrete Indigenous communities. However, data could not be obtained from a small number of communities. In addition, the community population was often estimated by community representatives without reference to records. Therefore, the data are subject non-sampling error.

Further information on the CHINS can be found in the publication *Housing and infrastructure in Aboriginal and Torres Strait Islander communities, Australia 2006* (ABS 2007).

Health Expenditure Data

The AIHW draws upon both expenditure data and service use data to prepare Indigenous health expenditure estimates.

The quality of Indigenous service use data is of varying quality, as there is widespread non-reporting of Indigenous status or under-identification in administration records. Although the quality of Indigenous service use data such as admitted patient data is improving, under-identification of Aboriginal and Torres Strait Islander people in these data sets remains a major issue.

The source of data used to estimate health expenditure for Indigenous and non-Indigenous Australians through Aboriginal Community Controlled Health Organisations (ACCHOs) has changed slightly for 2008-09 estimates. Past estimates for 2004-05 and 2006-07 used information from the Service Activity Report database, which was a joint project of the Office for Aboriginal and Torres Strait Islander Health (OATSIH) and the National Aboriginal Community Controlled Health Organisation. The database collected service level data on health care through an annual questionnaire completed by every Australian Government-funded Aboriginal and Torres Strait Islander primary health care service. In 2008–09, however, it was replaced with the new OATSIH Service Report database, which also includes data previously collected under the Drug and Alcohol Service Report, and Bringing Them Home and Link Up Counsellors data collections.

Under-identification

Estimates of the level of Indigenous under-identification were used to adjust admitted patient expenditure estimates for New South Wales, Victoria, Queensland, South Australia, Western Australia and the Northern Territory (public hospitals only). In some states and territories, a single state-wide average under-identification adjustment factor was applied. In others, differential under-identification factors were used, depending on the region in which particular service(s) were located (AIHW 2011b).

As the AIHW studies on Indigenous identification in hospitalisation data did not include private hospitals, an adjustment factor of 54% for private hospitals was derived from the analysis of linked hospital morbidity data from New South Wales.

Expenditure estimates

Some of the expenditure patterns in this report may be influenced by variations in the completeness of Indigenous identification, despite the adjustments made for under-identification. The use of scaled up MBS and PBS data based on the level of VII enrolment is one such example. It is possible that health expenditure estimates for Aboriginal and Torres Strait Islander people may slightly overestimate or underestimate the actual level of health expenditure. As a result, estimating health expenditure for Indigenous Australians is an evolving field, and conclusions should be drawn with caution.

In addition, while every effort has been made to ensure consistent reporting and categorisation of expenditure on health goods and services, in some cases there are inconsistencies across expenditure data providers. These result from limitations of financial reporting systems and/or different reporting mechanisms.

Time series estimate comparisons

The definition of health expenditure changed in 2007 to exclude high-care residential aged care, which was instead classified as welfare expenditure. For the purpose of comparison, high-care residential aged care expenditure has been omitted from all of the years' estimates to allow for the comparison of health expenditure estimates over time.

There was a change in the method for estimating MBS and PBS expenditure for the 2006–07 and 2008–09 reports in this series. The revised method involves the use of Medicare VII data to estimate expenditure on medical services, such as general practitioner, specialist services, pathologist services, imaging services, and prescription pharmaceuticals provided to Aboriginal and Torres Strait Islander people. Prior to this, data from the Bettering the Evaluation and Care of Health (BEACH) survey data were used in these estimates. This change may have contributed to the increase in MBS and PBS expenditure estimates in 2006–07 and 2008–09 reports compared with those in the 2001–02 and 2004–05 reports (AIHW 2011b).

Palliative care data

Data on palliative care are sourced from the Admitted Patient Palliative Care National Minimum Data Set (NMDS). The NMDS is a component of the National Hospital Morbidity Data Collection (NHMD). This is the most developed data collection currently available for reporting on palliative care services. Further details on the Admitted Patient Care NMDS methodology presented here can be found in the 2011 publication *Identifying palliative care hospitalisations in admitted patient data: technical paper* (AIHW 2011c) and the *Trends in palliative care in Australian hospitals* publication (AIHW 2011f).

Palliative care in the admitted patient setting may be provided in a hospice, in a dedicated palliative care ward or other wards within a hospital.

A palliative care separation is defined as an episode of admitted patient care for which the principal clinical intent was palliation during all or part of that episode. Two NHMD data items — 'Care type' and 'Diagnosis' capture information on palliative care, such that if either (or both) has a code of Palliative care, that separation is included. As such, it is important to note that this means that although there may also be other separations within the NHMD which include palliative care services, these separations are not counted due to the fact that palliative care is not recorded as the main care type and/or diagnosis during the separation.

Hospital data on palliative care is likely to include similar data quality problems to those outlined in the hospital separations data section above.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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3.15 Access to prescription medicines

This measure has two components:

- **Pharmaceutical Benefits Scheme expenditure per capita for Indigenous Australians**
- **Pharmacy labour force.**

Data sources

Data for this measure come from AIHW health expenditure data and the AIHW Pharmacists Labour Force Survey

Health expenditure data

The AIHW reports biennially on expenditure on health for Aboriginal and Torres Strait Islander people. The latest report in the series, *Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09,* was released in 2011.

The AIHW draws upon both expenditure data and service use data to prepare Indigenous health expenditure estimates. The total expenditure and revenue data used to generate the tables are mainly administrative by-products of the accounting process, and are, as much as possible, produced on an accrual basis. Service use data, where available, provide demographic information about who is actually using the services provided.

Information obtained from Medicare Voluntary Indigenous Identifier (VII) data have been used to estimate MBS and PBS expenditure for Aboriginal and Torres Strait Islander people. The source of data used to estimate health expenditure for Indigenous and non-Indigenous Australians through Aboriginal Community Controlled Health Organisations (ACCHOs) comes from the OATSIH Service Report database.

AIHW Pharmacists Labour Force Survey

The AIHW runs a number of surveys of the health labour force including the Pharmacy Labour Force Survey (AIHW 2003). The AIHW is the data custodian of this collection. The survey is of registered pharmacists and is drawn from the registration files maintained by each state and territory pharmacy registration board. Each pharmacy board conducts an annual renewal of registration and, in some years, questionnaires are sent to pharmacists on renewal of their registration. It covered all pharmacists registered with the pharmacy board in each state and territory, but may have excluded pharmacists who registered for the first time in the survey year. In 2003 the survey was conducted in all jurisdictions except the Northern Territory. The response rate to the survey was 76.3% (AIHW 2003).

There is currently no data source for statistics on not filling prescriptions because of cost for Indigenous Australians.

Analyses

Pharmaceuticals expenditure

- Expenditure on medications provided by the Australian Government for Aboriginal and Torres Strait Islander people in 2008–09 was estimated at $143.9 million, which represented 1.8% of total expenditure on pharmaceuticals in Australia by the Australian Government (Table 3.15.1). Non-government expenditure on pharmaceuticals for Indigenous people was estimated at $27.9 million, which represented 0.4% of total expenditure on pharmaceuticals by non-government organisations.
- The majority of expenditure on these pharmaceuticals was for benefit-paid pharmaceuticals ($133.6 million of Australian Government expenditure and $5.3 million of non-government expenditure).
- Per capita expenditure on pharmaceuticals by the Australian Government for 2008–09 was estimated at $264 for Indigenous people and $362 for non-Indigenous people—a ratio of 0.7:1. Per capita non-government expenditure on pharmaceuticals was estimated at $51 for Indigenous people and $298 for non-Indigenous people—a ratio of 0.1:1.

Table 3.15.1: Total and per person expenditure (current prices) on pharmaceuticals by the Australian Government and non-government organisations, by Indigenous status, 2008–09

	Total expenditure ($ million)			Expenditure per person ($)		
PBS	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Australian Government						
Benefit-paid pharmaceuticals[(a)]	133.6	6,956.5	1.9	245.1	328.4	0.7
Other pharmaceuticals	10.3	705.0	1.4	18.9	33.3	0.6
Total pharmaceuticals	**143.9**	**7,661.5**	**1.8**	**264.0**	**361.7**	**0.7**
Non-Government						
Benefit-paid pharmaceuticals[(a)]	5.3	1,446.50	0.4	9.8	68.3	0.1
Other pharmaceuticals	22.6	5,926.50	0.4	41.5	279.8	0.2
Total pharmaceuticals	**27.9**	**7373**	**0.4**	**51.3**	**348.1**	**0.1**
Total						
Benefit-paid pharmaceuticals	138.9	8,403.0	1.6	254.9	396.7	0.6
Other pharmaceuticals	32.9	6,631.5	0.5	60.4	313.1	0.2
Total pharmaceuticals	**171.8**	**15,034.5**	**1.1**	**315.3**	**709.8**	**0.4**

(a) Includes the Repatriation Pharmaceutical Benefits Scheme (RPBS) as well as the PBS.

Source: AIHW 2011.

PBS expenditure

- In 2008–09, benefits to Indigenous Australians through the Pharmaceutical Benefits Scheme were estimated at $136 million. Pharmaceutical benefits expenditures per person for Indigenous Australians were 70% of the non-Indigenous average (Table 3.15.2). The average per person share of expenditure on mainstream pharmaceutical benefits was also lower, at 60%.

- In 1999, special provisions were introduced under Section 100 of the *National Health Act 1953* for Indigenous Australians in remote areas where access to private pharmacies was poor. Clients of approved remote area Aboriginal Health Services (AHS) were able to receive PBS medicines directly from the AHS at the time of medical consultation without the need for a normal prescription form, and without charge. Estimated expenditure on Indigenous Australians in 2008–09 on drugs dispensed under this Act was $29.5 million. The estimated ratio of Indigenous to non-Indigenous expenditure per person under the scheme was 259:1.

Table 3.15.2: Total and per person expenditures through the Pharmaceutical Benefits Scheme, by Indigenous status, 2008–09[(a)][(b)]

	Total expenditure ($ million)			Expenditure per person ($)		
Pharmaceutical benefits	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**	**Indigenous**	**Non-Indigenous**	**Ratio[(c)]**
Mainstream PBS	97.5	6,481.0	1.5	178.8	306.0	0.6
Section 100	29.5	4.4	87.0	54.2	0.2	259.4
Other PBS special supply	9.4	668.5	1.4	17.2	31.6	0.5
Total PBS	**136.4**	**7,154.0**	**1.9**	**250.2**	**337.7**	**0.7**

(a) Includes Australian Government Department of Health and Ageing expenditure only.

(b) Excludes RPBS, and highly specialised drugs dispensed from public and private hospitals.

(c) Ratio calculation is based on unrounded numbers.

Source: AIHW 2011.

PBS expenditure by remoteness

- In 2008–09, PBS pharmaceutical expenditures on Indigenous people were greater in *Remote* and *Very remote* areas, where the Section 100 arrangements apply, ($304 per person) than in *Inner regional* ($252 per person) (Table 3.15.3).

Table 3.15.3: Estimated average health expenditures per person on pharmaceutical benefits, for Aboriginal and Torres Strait Islander people, by remoteness, 2008–09

	Expenditure per person ($)				
	Major cities	**Inner regional**	**Outer regional**	**Remote and very remote**	**All regions**
PBS pharmaceuticals	250.6	252.3	189.3	304.2	250.2

Note: PBS drugs include $19.4 million of Section 100 Remote Area Health Services expenditure. Almost all of this expenditure occurs in remote and very remote areas.

Source: AIHW 2011.

PBS expenditure over time

Changes in expenditure over time should be interpreted with caution because of differences in methodology used to calculate some Indigenous expenditure estimates for different time periods. The following estimates are presented in constant 2008–09 dollars.

- The estimates of average expenditure per person for the Indigenous population by the Australian Government on the PBS between 2001–02 and 2004–05 increased by 85% from an estimated $74.3 in 2001–02 to $137.8 in 2004–05. Expenditure increased by another

28% between 2004–05 and 2006–07 (from $137.8 to $176.2) and by another 42% between 2006–07 and 2008–09 (from $176.2 to $250.2).

- The Indigenous to non-Indigenous expenditure ratios were higher in 2008–09 than in 2001–02 (0.7 compared with 0.3) (Table 3.15.4). Average annual growth for Indigenous Australians was 19 per cent for Indigenous Australians and nearly 6 per cent for non-Indigenous Australians.

Table 3.15.4: Average PBS(a) health expenditure (constant prices(b)) per person(c) by the Australian Government, 2001–02 to 2008–09

	Indigenous(d)	**Non-Indigenous**	**Ratio**	**Rate Difference**
2001–02	74.3	226.9	0.3	–152.7
2004–05	137.8	275.7	0.5	–137.9
2006–07	176.2	292.0	0.6	–115.8
2008–09	250.2	337.7	0.7	–87.6
Average annual growth (per cent)	18.9	5.8	. .	. .
Growth 2001–02 to 2008–09 (per cent)(e)	236.9	48.8	. .	. .

(a) Excludes RPBS, and highly specialised drugs dispensed from public and private hospitals.

(b) Constant price health expenditure for 2001–02 to 2008–09 is expressed in terms of 2008–09 prices.

(c) Indigenous population estimates used to estimate the expenditure figures are all derived from 2006-census base.

(d) 2001–02 and 2004–05 estimates for Indigenous population are based on BEACH survey, while estimates for following years are based on Medicare's Voluntary Indigenous Identifier data.

(e) Per cent change between 2001 and 2009 based on the average annual change over the period.

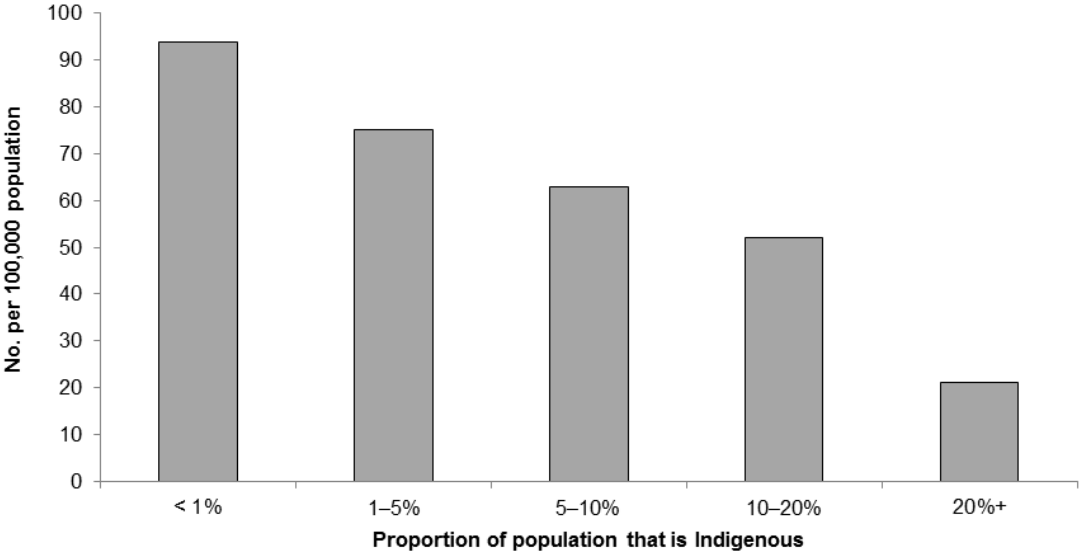
Source: AIHW.

Pharmacy labour force

Information on pharmacists in Australia is available from the AIHW Pharmacy Labour Force Survey. Response to the Pharmacy Labour Force Survey in 2003 represented 76.3% of pharmacist registrations in all participating jurisdictions. The overall response rate is an approximation because some pharmacists were registered in more than one state or territory. The AIHW uses data collected in the Pharmacy Labour Force Survey to derive estimates of the total pharmacy labour force. Survey responses are weighted to account for non-response (AIHW 2003).

Data presented below shows the FTE rate of employed pharmacists per 100,000 population by areas of low through to high proportions of Indigenous populations. Using population data from the 2001 Census, Statistical Local Areas (SLAs) were grouped according to the proportion of the population living in these areas that was Indigenous.

- In 2003, there were 15,673 employed pharmacists in Australia. The FTE rate of employed pharmacists was around 85 per 100,000 (Table 3.15.5).
- The number of full-time equivalent pharmacists per 100,000 population declined with remoteness, from 92 per 100,000 in major cities to 39 per 100,000 in very remote areas (Table 3.15.5).
- The FTE rate of employed pharmacists was highest in areas where less than 1% of the population was Indigenous (94 per 100,000) and lowest in areas where 20% or more of the population were Indigenous (21 per 100,000) (Figure 3.15.1 and Table 3.15.6).



Notes

1. In 2003, 808 employed pharmacists did not report the postcode they worked in. Hence the number of employed pharmacists stated by region is an underestimate.
2. Data do not include Northern Territory.
3. FTE is based on 35 hours per week.
4. Data from Victoria are based on 2004 survey data weighted to 2005 registration data.

Source: AIHW analysis of 2003 Pharmacy Labour Force Survey data.

Figure 3.15.1: FTE employed pharmacists per 100,000 population, by areas of low through to high proportions of Indigenous population, 2003

Table 3.15.5: FTE employed pharmacists per 100,000 population, by remoteness, 2003

	Major cities	Inner regional	Outer regional	Remote	Very remote	Not stated	Australia
Number	11,333	2,479	979	107	41	733	15,673
FTE per 100,000 population	91.6	64.1	56.8	45.4	38.9	. .	84.9

Notes

(a) In 2003, 808 employed pharmacists did not report the postcode they worked in. Hence the number of employed pharmacists stated by region is an underestimate.

(b) Data do not include Northern Territory.

(c) FTE is based on 35 hours per week.

(d) Data from Victoria are based on 2004 survey data weighted to 2005 registration data.

Source: AIHW analysis of 2003 Pharmacy Labour Force Survey data.

Table 3.15.6: FTE employed pharmacists per 100,000 population, by areas of low through to high proportions of Indigenous population, 2003

Indigenous SLA group	FTE per 100,000 population
< 1%	94
1–5%	75
5–10%	63
10–20%	52
20%+	21

Notes

1. In 2003, 808 employed pharmacists did not report the postcode they worked in. Hence the number of employed pharmacists stated by region is an underestimate.
2. Data do not include Northern Territory.
3. FTE is based on 35 hours per week.
4. Data from Victoria are based on 2004 survey data weighted to 2005 registration data.

Source: AIHW analysis of 2003 Pharmacy Labour Force Survey data.

Data quality issues

Health Expenditure Data

The AIHW draws upon both expenditure data and service use data to prepare Indigenous health expenditure estimates.

The quality of Indigenous service use data is of varying quality, as there is widespread non-reporting of Indigenous status or under-identification in administration records. Although the quality of Indigenous service use data such as admitted patient data is improving, under-identification of Aboriginal and Torres Strait Islander people in these data sets remains a major issue.

The source of data used to estimate health expenditure for Indigenous and non-Indigenous Australians through Aboriginal Community Controlled Health Organisations (ACCHOs) has changed slightly for 2008–09 estimates. Past estimates for 2004–05 and 2006–07 used information from the Service Activity Report database, which was a joint project of the Office for Aboriginal and Torres Strait Islander Health (OATSIH) and the National Aboriginal Community Controlled Health Organisation. The database collected service level data on health care through an annual questionnaire completed by every Australian Government-funded Aboriginal and Torres Strait Islander primary health care service. In 2008–09, however, it was replaced with the new OATSIH Service Report database, which also includes data previously collected under the Drug and Alcohol Service Report, and Bringing Them Home and Link Up Counsellors data collections.

Under-identification

Estimates of the level of Indigenous under-identification were used to adjust admitted patient expenditure estimates for New South Wales, Victoria, Queensland, South Australia, Western Australia and the Northern Territory (public hospitals only). In some states and territories, a single state-wide average under-identification adjustment factor was applied. In others, differential under-identification factors were used, depending on the region in which particular service(s) were located (AIHW 2011).

As the AIHW studies on Indigenous identification in hospitalisation data did not include private hospitals, an adjustment factor of 54% for private hospitals was derived from the analysis of linked hospital morbidity data from New South Wales.

Expenditure estimates

Some of the expenditure patterns in this report may be influenced by variations in the completeness of Indigenous identification, despite the adjustments made for under-identification. The use of scaled up MBS and PBS data based on the level of VII enrolment is one such example. It is possible that health expenditure estimates for Aboriginal and Torres Strait Islander people may slightly overestimate or underestimate the actual level of health expenditure. As a result, estimating health expenditure for Indigenous Australians is an evolving field, and conclusions should be drawn with caution.

In addition, while every effort has been made to ensure consistent reporting and categorisation of expenditure on health goods and services, in some cases there are inconsistencies across expenditure data providers. These result from limitations of financial reporting systems and/or different reporting mechanisms.

Time series estimate comparisons

The definition of health expenditure changed in 2007 to exclude high-care residential aged care, which was instead classified as welfare expenditure.

For the purpose of comparison, high-care residential aged care expenditure has been omitted from all of the previous years' estimates to allow for the comparison of health expenditure estimates over time.

There was a change in the method for estimating MBS and PBS expenditure for the 2006–07 and 2008–09 reports in this series. The revised method involves the use of Medicare VII data to estimate expenditure on medical services, such as general practitioner, specialist services, pathologist services, imaging services, and prescription pharmaceuticals provided to Aboriginal and Torres Strait Islander people. Prior to this, data from the Bettering the Evaluation and Care of Health (BEACH) survey data were used in these estimates. This change may have contributed to the increase in MBS and PBS expenditure estimates in 2006–07 and 2008–09 reports compared with those in the 2001–02 and 2004–05 reports (AIHW 2011).

AIHW Pharmacists Labour Force Survey

Pharmacists may register in more than one state or territory. In estimating the pharmacy labour force, it is therefore important to reduce as much as possible the consequent duplication in statistics.

The estimation of the number and characteristics of currently employed pharmacists in each state and territory was based on the responses of those pharmacists employed solely or mainly in the state or territory of registration. Pharmacists who were on leave for three months or more, although employed, were excluded from most tables of employed pharmacists because not all states and territories collected data on pharmacists who were on leave.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

AIHW (Australian Institute of Health and Welfare) 2003. Pharmacy labour force to 2001. National Health Labour Force Series no.25. Cat.no. HWL 25. Canberra: AIHW.

AIHW 2011. Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09. Health and welfare expenditure series no. 44. Cat. no. HWE 53.Canberra: AIHW.

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3.16 Access to after-hours primary health care

Access to after-hours primary health care by Aboriginal and Torres Strait Islander people

Data sources

Data for this measure come from the Bettering the Evaluation and Care of Health (BEACH) survey, the OATSIH Services Reporting (OSR) Data Collection, Medicare data and the Non-admitted Patient Emergency Department Care National Minimum Data Set.

Bettering the Evaluation and Care of Health (BEACH) Survey

Information about encounters in general practice is available from the BEACH survey, which was conducted by the AIHW Australian General Practice Statistics and Classification Centre, in the Family Medicine Research Centre (FMRC) at the University of Sydney until March 2012, when the AIHW ceased its involvement in the BEACH program . The FMRC continues to run BEACH the results are now published by the University of Sydney. The most recent annual reports can be found at http://ses.library.usyd.edu.au/handle/2123/7771.

Information is collected from every changing random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive GP–patient encounters is collected by each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated because some GPs might not ask the question on Indigenous status, or the patient may choose not to identify themselves (AIHW 2002).

Data are presented for the 5-year period 2006–07 to 2010–11, during which there were around 6,000 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.2% of total GP encounters.

OATSIH Services Reporting data collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in

earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Medicare database

Medicare enrolment application forms are lodged by persons wishing to enrol with Medicare at Medicare offices in each state/territory or by mail. Information from these forms is entered directly into the Medicare database, which is held by the Department of Health and Ageing (DoHA).

In November 2002, the ABS standard question on Indigenous identification was included on this form. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete.

As at 1 May 2012, 339,310 Indigenous Australians were enrolled on the VII database. This represents 59% of the estimated total Indigenous population (AHMAC 2012).

Medicare data presented in this report have been adjusted for under-identification. There are a number of caveats to the VII adjustment methodology, including that as the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could therefore be biases in the data that are not addressed by the adjustment methodology.

National Non-admitted Patient Emergency Department Care Database

The National Non-admitted Patient Emergency Department Care Database (NAPEDCD) is a national collection of de-identified data on emergency department episodes held at the AIHW. The database includes episode-level data on non-admitted patients treated in the emergency departments of public hospitals. These hospitals are classified in the public hospital peer groups of principal referral and specialist women's and children's hospitals and large hospitals. Data excludes patients who were admitted or arrived at the hospital by ambulance.

The NAPEDCD includes data on the type and length of emergency department visit, triage category, waiting times, patient demographics, arrival mode and departure status.

This data set includes the standard Indigenous status question. The identification of Indigenous patients is not considered complete and varies among jurisdictions.

It is recommended that these data only be reported as numbers and proportions and not rates, because the denominator would include Indigenous Australians not covered in this collection. The quality of the data reported for Indigenous status in emergency departments has not been formally assessed; most states and territories advised that the Indigenous status data collected in an emergency department setting could be less accurate than the data collected for admitted patients (AIHW 2012a).

Analyses

General practitioner data (BEACH)

The BEACH Survey collected information on the after-hours arrangements of GPs surveyed. GPs can have more than one type of after-hours arrangement.

- For the BEACH reporting period April 2010–March 2011, around 99% of GPs surveyed worked in practices with after-hours arrangements in place. For 30% of GPs, the practice had its own after-hours arrangements; 14% of GPs had cooperative arrangements with other practices regarding after-hours care; 52% employed a deputising service for after-hours patient care, and 10% had other after-hours arrangements (Britt et al. 2011).

The BEACH survey also collected information on GP encounters with Indigenous patients and other patients. Table 3.16.1 and Figure 3.16.1 present the rate of GP encounters with Indigenous and other patients by whether the GP visited had after-hours arrangements in place at their practice.

- Over the five year BEACH period April 2006–March 2007 to April 2010–March 2011, 90% of encounters with Indigenous patients, and 98% of encounters with other patients, were with GPs with after-hours arrangements (Table 3.16.1).
- At approximately 34% of GP encounters with Indigenous patients, the GP visited had their own after-hours arrangements for patient care; for 13% the GP had cooperative arrangements with other practices; for 25% the GP employed a deputising service for after-hours patient care; for 34% the GP had other after-hours arrangements in place. For nearly 10% of encounters with Indigenous patients, the GP visited had no after-hours arrangements in place (Table 3.16.1).
- The proportion of encounters with GPs at practices that employed other after-hours arrangements including referred to another service for after-hours patient care was higher for encounters with Indigenous patients than for encounters with other patients (27% compared with 15% respectively). Fewer encounters with Indigenous patients were with GPs at practices that employed a deputising service for after-hours patient care than other patient encounters (25% compared with 53%) (Table 3.16.1; Figure 3.16.1).

Table 3.16.1: GP encounters by whether the GP has after-hours arrangements, by Indigenous status, BEACH years April 2006–March 2007 to April 2010–March 2011[a]

	Number		Per cent (no. per 100 encounters)							
After-hours arrangements	**Indig.**	**Other[b]**	**Indig.**	**95% LCL[c]**	**95% UCL[d]**	**Other[b]**	**95% LCL[c]**	**95% UCL[d]**	**Rate ratio[e]**	**Rate difference[f]**
Practice does its own	2,050	147,550	34.4	27.8	41.0	31.0	29.7	32.3	1.1	3.4
Cooperative with other practices	798	73,702	13.4	8.9	17.9	15.5	14.5	16.5	0.9	–2.1
Deputising service	1,495	250,305	25.1	19.7	30.5	52.6	51.2	54.0	0.5*	–27.5*
Other arrangement[g]	1,584	73,516	26.6	19.6	33.6	15.4	14.4	16.5	1.7*	11.1*
Total after-hours arrangements[h]	*5,383*	*466,617*	90.3	84.1	96.6	98.0	97.7	98.4	0.9*	–7.7*
No after-hours arrangements	575	9,325	96.5	34.1	158.9	19.6	15.7	23.5	4.9*	76.9*
Total encounters[i]	**5,971**	**478,029**	**100.0**	. .	. .	**100.0**	. .	. .	. .	. .

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p < 0.05 level.

(a) Data from five combined BEACH years April 2006–March 2007 to April 2010–March 2011 inclusive.

(b) Other includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(c) LCL = lower confidence interval.

(d) UCL = upper confidence interval.

(e) Rate ratio Indigenous: Other.

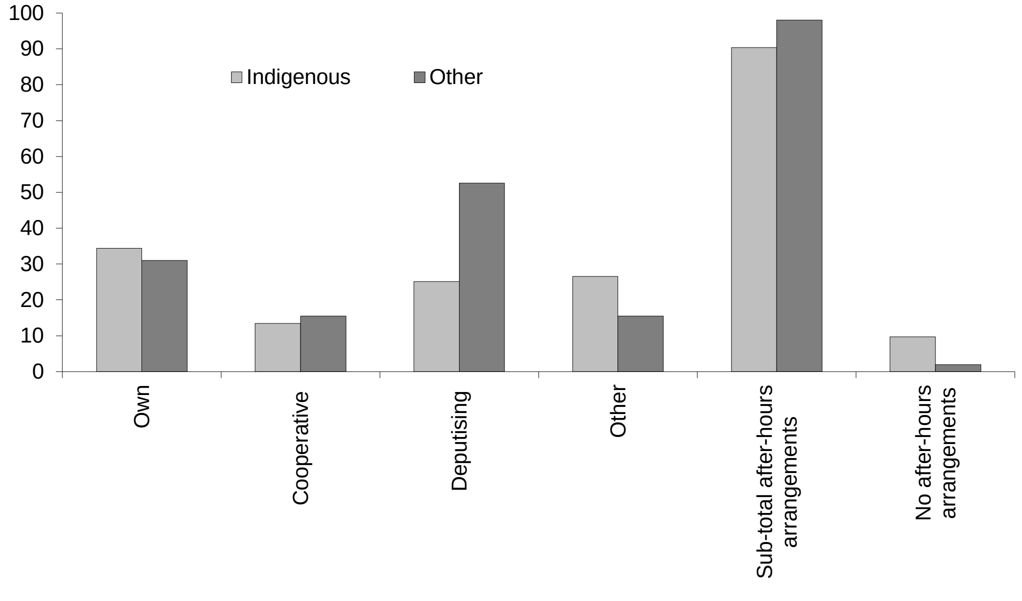
(f) Rate difference Indigenous rate minus Other (non-Indigenous) rate.

(g) Other arrangements also includes 'Referral to other services' which was removed as an option from Apr09 onwards.

(h) Subtotal is less than the sum of the components as GPs can have more than one type of after-hours arrangement.

(i) There were 2,100 encounters with after-hours arrangements missing (13 with Indigenous patients and 2,087 with Other patients).

Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.



Source: Family Medicine Research Centre, University of Sydney analysis of BEACH data.

Figure 3.16.1: Rate of GP encounters, by whether the GP has after-hours arrangements in place, by Indigenous status of the patient, BEACH years April 2006–March 2007 to April 2010–March 2011

After-hours services provided by GPs (Medicare data)

Information on the number of after-hours services provided by GPs working in Australia is available from the DoHA using the MBS items for after-hours services (1, 2, 97–98, 500–5067, 5200–5267, 601–602, 697 and 698).

A service refers to a claim for a single MBS item. There may be more than one service provided for each patient episode of care.

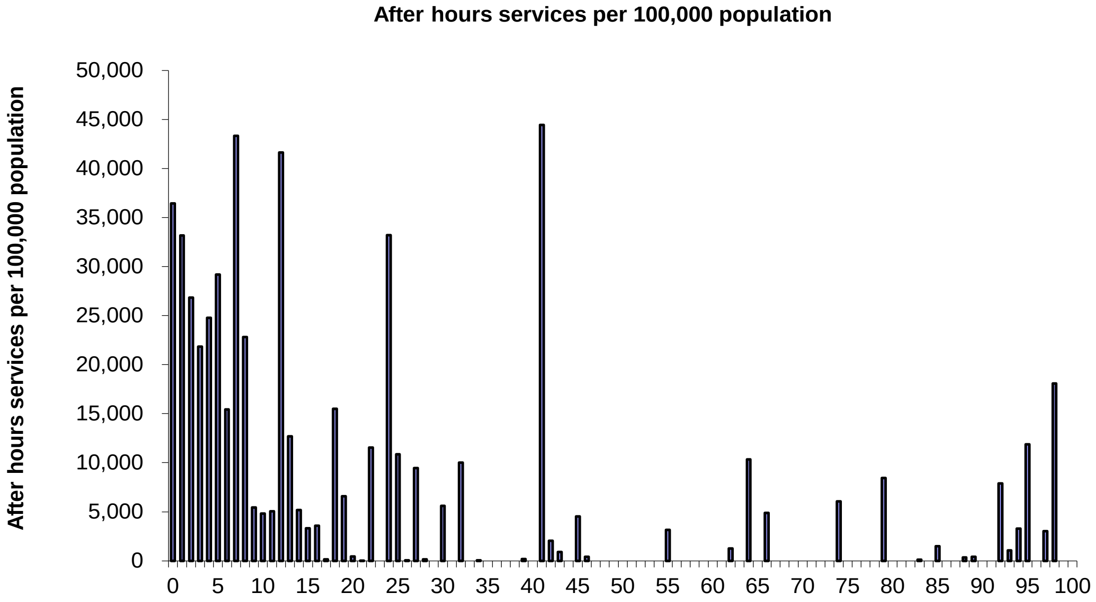
Data in Figure 3.16.2 present the number of after-hours services provided by full-time equivalent GPs per 100,000 population by areas of low through to high proportions of Indigenous people in the population. Using population data from the 2001 Census, Statistical Local Areas (SLAs) were grouped according to the proportion of the population living in these areas that was Indigenous. Note that the use of proportions of Indigenous populations does not show the number of Indigenous persons actually claiming after-hours services.

- In 2010–11, there were 16,926 full-time equivalent GPs working in Australia who provided 6,167,513 after-hours services to patients.
- Across Australia, the rate of after-hours services provided by GPs was around 29,798 per 100,000 population. The provision of after-hours services tends to be lower in regions where Indigenous Australians are a higher proportion of the population (Figure 3.16.2).

Care must be taken in using and interpreting the data provided. There are three issues to note that have an effect on the quality of the data. First, the data include only those services claimed through the Medicare system. Consequently, the full-time equivalent (FTE) for doctors in remote areas, which are more likely to have high proportions of Indigenous population, will be understated because some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system—further understating the FTE for doctors in areas with high Indigenous populations.

Secondly, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall than a second group of SLAs, there will be a number of individual SLAs in the first group with far more people per doctor than some of the individual SLAs in the second group.

Thirdly, these data do not measure Indigenous Australians use of after-hours MBS items. They are a substitute measure based on after-hours MBS claims for the whole population in relation to the size of the Indigenous population in each SLA.



Note: Results for SLAs where the number of after-hours services is less than three have been suppressed.

Source: AIHW analysis of Medicare Database.

Figure 3.16.2: Rate of after-hours services provided by FTE GPs in areas of low through to high proportions of Indigenous people in the population, 2010–11

Aboriginal and Torres Strait Islander primary health-care services

Information on Aboriginal and Torres Strait Islander primary health-care services that provided care outside of normal operating hours is available from the 2010–11 OSR database.

- In 2010–11, 55% of OATSIH funded Aboriginal and Torres Strait Islander Primary health care services provided health care services outside of normal operating hours.
- The most common types of service provided outside of normal operating hours by Indigenous primary health-care services were emotional and social well-being/mental health services (69%) and transport (68%). Other services include: transfer/ admission to hospital (66%); diagnosis and treatment of illness /disease (58%); antenatal /maternal care (53%); treatment of injury (53%); hospital inpatient/ outpatient care (28%); and care in police station/lock-up/prison(24%) (Table 3.16.2).

Table 3.16.2: Number and proportion of Aboriginal and Torres Strait Islander primary health care services that provided care outside of normal operating hours, by type of service, 2010–11

Provider of after-hours services	No. services	Per cent
Provided after-hours services[(a)]	129	55.4
Did not provide after-hours services[(a)]	104	44.6
Type of after-hour service[(b)]		
Transport	88	68.2
Transmission/admission to hospital	85	65.9
Emotional and social wellbeing/ mental health	89	69.0
Diagnosis and treatment of illness/disease	75	58.1
Treatment of injury	68	52.7
Antenatal/maternal care	68	52.7
Hospital inpatient/outpatient care	36	27.9
Care in police station/ lock-up/ prison	31	24.0
Other	25	19.4
Provided after-hours services[(b)]	**129**	**55.4**
Not stated whether provide after-hours services	2	. .
Reported whether provide after-hours services	233	. .
Total primary health care services	**235**	**100.0**

(a) Two hundred and thirty three of the 235 respondent Aboriginal and Torres Strait Islander primary health-care services provided information on whether they provided after hours care.

(b) 129 of the 233 respondent Aboriginal and Torres Strait Islander primary health-care services provided information on the type of after-hours care their service provided. These percentages are calculated as a proportion of these 129 services.

Source: AIHW OSR data collection.

Emergency department episodes

Information on non-admitted patients treated in the emergency departments of public hospitals that were classified in the public hospitals is available from the AIHW NAPEDCD. Note that this data set only includes hospitals that were classified in the public hospital peer groups of 'principal referral' as 'specialist women's and children's hospitals' or 'large hospitals'. These hospitals are predominantly in *Major cities*. Therefore, the episodes of care reported underestimate the level of use of emergency department services by Indigenous Australians nationally.

- In 2008–09 to 2009–10, there were 11,687,722 episodes of care provided by emergency departments, 533,170,115 (4.6%) of which were for patients identified as Aboriginal or Torres Strait Islander (Table 3.16.3).
- In 2008–09 to 2009–10, there were 6,818,526 episodes of care provided by emergency departments for triage categories 4 (semi-urgent) and 5 (non-urgent), of which 335,796 (4.9%) were for patients identified as Indigenous (Table 3.16.4).
- In 2008–09 to 2009–10, there were 6,544,546 episodes of care provided after-hours in emergency departments, of which 307,001 (4.7%) were for patients identified as Indigenous. Over half of all presentations to emergency departments by Indigenous and non-Indigenous patients were for after-hours care (58% and 56%, respectively) (Table 3.16.5).
- Around one-quarter of all presentations to emergency departments by Indigenous patients were after-hours on weekends, 15% were on Sundays and 11% were before 8 am or after 1 pm on Saturdays (Table 3.16.5).
- In 2008–09 to 2009–10, there were 3,699,896 episodes of care provided after-hours in emergency departments for triage categories 4 (semi-urgent) and 5 (non-urgent), of which 185, 864 (5%) were for patients identified as Indigenous. Around half of all presentations to emergency departments for triage categories 4 (semi-urgent) and 5 (non-urgent) by Indigenous and non-Indigenous patients were for after-hours care (both 46%) (Table 3.16.6).
- Around one-quarter of all presentations to emergency departments for triage categories 4 (semi-urgent) and 5 (non-urgent) by Indigenous patients were after-hours on weekends, 16% were on Sundays and 11% were before 8 am or after 1 pm on Saturdays (Table 3.16.6).
- The proportion of presentations to emergency departments after hours by Indigenous patients varied by jurisdiction, South Australia had the highest proportion (61%) and Tasmania the lowest (55%) (Table 3.16.7). The Australian Capital Territory and New South Wales had the highest proportion (58%) of Indigenous presentations to emergency departments after hours for semi-urgent and non-urgent triage categories and Tasmania the lowest (52.3%) (Table 3.16.8).

Table 3.16.3: Emergency Department presentations by time of day and Indigenous status, Australia, 2008–09 to 2009–10

	Number			Per cent		
Time	Indig.	Non-Indig.	Not stated	Indig.	Non-Indig.	Not stated
0:00	15,587	257,477	16,637	2.9	2.4	2.9
1:00	12,595	211,933	14,022	2.4	2.0	2.4
2:00	10,397	179,055	11,608	2.0	1.7	2.0
3:00	8,513	157,585	9,983	1.6	1.5	1.7
4:00	6,781	139,946	8,740	1.3	1.3	1.5
5:00	5,882	135,114	8,175	1.1	1.3	1.4
6:00	6,275	166,576	9,509	1.2	1.6	1.6
7:00	10,273	275,188	13,967	1.9	2.6	2.4
8:00	19,218	467,721	21,280	3.6	4.4	3.7
9:00	28,148	630,290	29,447	5.3	6.0	5.1
10:00	32,450	689,969	34,465	6.1	6.5	5.9
11:00	33,031	686,876	36,206	6.2	6.5	6.2
12:00	31,316	647,482	34,946	5.9	6.1	6.0
13:00	30,608	631,425	34,042	5.7	6.0	5.9
14:00	29,664	613,103	33,473	5.6	5.8	5.8
15:00	29,656	595,492	31,838	5.6	5.6	5.5
16:00	30,591	599,752	31,972	5.7	5.7	5.5
17:00	31,027	588,537	31,519	5.8	5.6	5.4
18:00	31,310	590,636	32,310	5.9	5.6	5.6
19:00	31,028	580,913	32,260	5.8	5.5	5.6
20:00	29,898	543,319	31,329	5.6	5.1	5.4
21:00	27,005	467,575	28,249	5.1	4.4	4.9
22:00	23,082	396,598	24,424	4.3	3.8	4.2
23:00	18,835	320,916	20,673	3.5	3.0	3.6
Total	**533,170**	**10,573,478**	**581,074**	**100.0**	**100.0**	**100.0**

Notes

1. The non-admitted patient emergency department care data are required to be reported for hospitals categorised as peer group A or B in the previous year's Australian hospital statistics. In addition, data are provided for some smaller hospitals by some states and territories.
2. The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 80% of records for 2008–09 and 81% for 2009–10. Therefore this data will only cover a subset of after-hours emergency department presentations.
3. The quality of the identification of Indigenous patients in National Non-admitted Patient Emergency Department Care Database has not been assessed. Identification of Indigenous patients is not considered to be complete, and completeness may vary among the states and territories’.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 3.16.4: Emergency Department presentations for triage categories 4 (semi-urgent) and 5 (non-urgent) by time of day and Indigenous status, Australia, 2008–09 to 2009–10

	Number			Per cent		
Time	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**
0:00	8,619	132,131	8,868	2.6	2.1	2.7
1:00	6,695	106,715	7,142	2.0	1.7	2.1
2:00	5,437	88,967	5,774	1.6	1.4	1.7
3:00	4,434	77,222	4,972	1.3	1.3	1.5
4:00	3,434	67,504	4,282	1.0	1.1	1.3
5:00	3,062	65,618	4,026	0.9	1.1	1.2
6:00	3,570	88,078	4,863	1.1	1.4	1.5
7:00	6,791	174,732	8,546	2.0	2.8	2.6
8:00	13,996	320,835	13,773	4.2	5.2	4.1
9:00	20,428	420,280	18,774	6.1	6.8	5.6
10:00	22,930	437,701	21,265	6.8	7.1	6.4
11:00	22,484	417,883	21,741	6.7	6.8	6.5
12:00	20,525	379,663	20,400	6.1	6.2	6.1
13:00	19,839	370,107	19,744	5.9	6.0	5.9
14:00	18,997	360,658	19,430	5.7	5.9	5.8
15:00	19,032	350,199	18,453	5.7	5.7	5.5
16:00	19,188	348,917	18,126	5.7	5.7	5.4
17:00	19,357	336,457	17,701	5.8	5.5	5.3
18:00	19,539	334,708	17,974	5.8	5.4	5.4
19:00	19,205	330,005	18,416	5.7	5.4	5.5
20:00	18,302	303,732	17,886	5.5	4.9	5.4
21:00	15,912	256,612	16,035	4.7	4.2	4.8
22:00	13,391	212,770	13,228	4.0	3.5	4.0
23:00	10,629	168,537	11,280	3.2	2.7	3.4
Total	**335,796**	**6,150,031**	**332,699**	**100.0**	**100.0**	**100.0**

Notes

1. The non-admitted patient emergency department care data are required to be reported for hospitals categorised as peer group A or B in the previous year's Australian hospital statistics. In addition, data are provided for some smaller hospitals by some states and territories.
2. The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 80% of records for 2008–09 and 81% for 2009–10. Therefore this data will only cover a subset of after-hours emergency department presentations.
3. The quality of the identification of Indigenous patients in National Non-admitted Patient Emergency Department Care Database has not been assessed. Identification of Indigenous patients is not considered to be complete, and completeness may vary among the states and territories'.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 3.16.5: Emergency Department presentations after hours[(a)], by Indigenous status, 2008–09 to 2009–10

	Number				Per cent			
Time of presentation	**Indig.**	**Non-Indig.**	**Not stated**	**Total**	**Indig.**	**Non-Indig.**	**Not stated**	**Total**
On Sundays	77,680	1,631,318	88,775	1,797,773	14.6	15.4	15.3	15.4
Before 8am or after 12pm on Saturday	61,699	1,186,682	67,979	1,316,360	11.6	11.2	11.7	11.3
After hours[(a)] weekday	167,622	3,081,612	181,179	3,430,413	31.4	29.1	31.2	29.4
Total after hours	*307,001*	*5,899,612*	*337,933*	*6,544,546*	*57.6*	*55.8*	*58.2*	*56.0*
Between 8am and 12pm on Saturday	14,590	333,954	16,086	364,630	2.7	3.2	2.8	3.1
Between 8am and 6pm on a weekdays	211,579	4,339,912	227,055	4,778,546	39.7	41.0	39.1	40.9
Not after hours	*226,169*	*4,673,866*	*243,141*	*5,143,176*	*42.4*	*44.2*	*41.8*	*44.0*
Total	**533,170**	**10,573,478**	**581,074**	**11,687,722**	**100.0**	**100.0**	**100.0**	**100.0**

(a) After hours is defined by the MBS definition for GP services (excluding consideration of public holidays): on Sunday, before 8am or after 12pm on a Saturday, or at any time other than 8am to 6pm on a weekday.

Notes

1. The non-admitted patient emergency department care data are required to be reported for hospitals categorised as peer group A or B in the previous year's Australian hospital statistics. In addition, data are provided for some smaller hospitals by some states and territories.
2. The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 80% of records for 2008–09 and 81% for 2009–10. Therefore this data will only cover a subset of after-hours emergency department presentations.
3. The quality of the identification of Indigenous patients in National Non-admitted Patient Emergency Department Care Database has not been assessed. Identification of Indigenous patients is not considered to be complete, and completeness may vary among the states and territories'.
4. Excludes patients who were admitted or arrived at the hospital by ambulance.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 3.16.6: Emergency Department presentations after hours[a] for triage categories 4 (semi-urgent) and 5 (non-urgent), by Indigenous status, 2008–09 to 2009–10

	Number				Per cent			
Time of presentation	**Indig.**	**Non-Indig.**	**Not stated**	**Total**	**Indig.**	**Non-Indig.**	**Not stated**	**Total**
On Sundays	50,042	978,340	52,394	1,080,776	14.9	15.9	15.7	15.9
Before 8am or after 12pm on Saturday	37,587	675,707	38,358	751,652	11.2	11.0	11.5	11.0
After hours[a] weekday	98,235	1,670,191	99,042	1,867,468	29.3	27.2	29.8	27.4
Total after hours	*185,864*	*3,324,238*	*189,794*	*3,699,896*	*55.4*	*54.1*	*57.0*	*54.3*
Between 8am and 12pm on Saturday	10,392	216,657	10,228	237,277	3.1	3.5	3.1	3.5
Between 8am and 6pm on a weekdays	139,540	2,609,136	132,677	2,881,353	41.6	42.4	39.9	42.3
Not after hours	*149,932*	*2,825,793*	*142,905*	*3,118,630*	*44.6*	*45.9*	*43.0*	*45.7*
Total	**335,796**	**6,150,031**	**332,699**	**6,818,526**	**100.0**	**100.0**	**100.0**	**100.0**

(a) After hours is defined by the MBS definition for GP services (excluding consideration of public holidays): on Sunday, before 8am or after 12pm on a Saturday, or at any time other than 8am to 6pm on a weekday.

Notes

1. The non-admitted patient emergency department care data are required to be reported for hospitals categorised as peer group A or B in the previous year's Australian hospital statistics. In addition, data are provided for some smaller hospitals by some states and territories.
2. The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 80% of records for 2008–09 and 81% for 2009–10. Therefore this data will only cover a subset of after-hours emergency department presentations.
3. The quality of the identification of Indigenous patients in National Non-admitted Patient Emergency Department Care Database has not been assessed. Identification of Indigenous patients is not considered to be complete, and completeness may vary among the states and territories'.
4. Excludes patients who were admitted or arrived at the hospital by ambulance.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 3.16.7: Presentations to emergency departments which were after hours, by Indigenous status of the patient and state/territory, 2008–09 to 2009–10

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
After hours presentations					**Number**				
Indigenous	83,818	21,513	67,684	50,772	11,059	5,363	2,465	64,327	307,001
Non-Indigenous	1,935,649	1,531,071	1,151,695	598,225	361,179	135,791	111,865	74,137	5,899,612
Not stated	267,916	7,382	19,198	3,460	33,494	4,644	1,722	117	337,933
Total	**2,287,383**	**1,559,966**	**1,238,577**	**652,457**	**405,732**	**145,798**	**116,052**	**138,581**	**6,544,546**
Total emergency department presentations					**Number**				
Indigenous	142,568	37,124	121,124	87,734	18,242	9,756	4,222	112,400	533,170
Non-Indigenous	3,435,664	2,735,693	2,069,610	1,073,267	655,778	252,983	201,324	149,159	10,573,478
Not stated	459,040	12,967	34,434	5,994	57,097	8,187	3,166	189	581,074
Total	**4,037,272**	**2,785,784**	**2,225,168**	**1,166,995**	**731,117**	**270,926**	**208,712**	**261,748**	**11,687,722**
					Proportion of after-hours presentations out of all presentations to ED				
Indigenous	58.8	57.9	55.9	57.9	60.6	55.0	58.4	57.2	57.6
Non-Indigenous	56.3	56.0	55.6	55.7	55.1	53.7	55.6	49.7	55.8
Not stated	58.4	56.9	55.8	57.7	58.7	56.7	54.4	61.9	58.2
Total	**56.7**	**56.0**	**55.7**	**55.9**	**55.5**	**53.8**	**55.6**	**52.9**	**56.0**

Notes

1. After hours is defined by the MBS definition for GP services (excluding consideration of public holidays): on Sunday, before 8am or after 12pm on a Saturday, or at any time other than 8am to 6pm on a weekday.
2. The quality of the identification of Indigenous patients in National Non-admitted Patient Emergency Department Care Database has not been assessed. Identification of Indigenous patients is not considered to be complete, and completeness may vary among the states and territories'.
3. The Non-admitted Patient Emergency Department Care data is required to be reported for hospitals categorised as peer group A or B in the previous year's Australian hospital statistics. In addition, data are provided for some smaller hospitals by some states and territories.
4. The coverage of the National Non-admitted Patient Emergency Department Care Database (all peer group A and B hospitals) was 100% and it provided detailed information for about 80% of all public hospital emergency occasions of service in 2008–09 and 81% in 2009–10.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 3.16.8: Presentations to emergency departments which were after hours for triage categories 4 (semi-urgent) and 5 (non-urgent), by Indigenous status and state/territory, 2008–09 to 2009–10

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
After hours presentations					**Number**				
Indigenous	55,913	13,628	37,450	30,142	5,494	3,121	1,528	38,588	185,864
Non-Indigenous	1,163,770	902,592	559,173	333,212	179,332	75,743	65,268	45,148	3,324,238
Not stated	158,911	3,247	7,159	1,508	15,490	2,461	947	71	189,794
Total	**1,378,594**	**919,467**	**603,782**	**364,862**	**200,316**	**81,325**	**67,743**	**83,807**	**3,699,896**
Total emergency department presentations					**Number**				
Indigenous	96,470	24,258	71,214	54,495	9,509	5,967	2,634	71,249	335,796
Non-Indigenous	2,106,479	1,673,374	1,043,134	620,224	341,417	147,986	119,482	97,935	6,150,031
Not stated	276,088	5,929	13,656	2,788	27,768	4,572	1,776	122	332,699
Total	**2,479,037**	**1,703,561**	**1,128,004**	**677,507**	**378,694**	**158,525**	**123,892**	**169,306**	**6,818,526**
					Proportion of after-hours presentations out of all presentations to ED				
Indigenous	58.0	56.2	52.6	55.3	57.8	52.3	58.0	54.2	55.4
Non-Indigenous	55.2	53.9	53.6	53.7	52.5	51.2	54.6	46.1	54.1
Not stated	57.6	54.8	52.4	54.1	55.8	53.8	53.3	58.2	57.0
Total	**55.6**	**54.0**	**53.5**	**53.9**	**52.9**	**51.3**	**54.7**	**49.5**	**54.3**

Notes

1. After hours is defined by the MBS definition for GP services (excluding consideration of public holidays): on Sunday, before 8am or after 12pm on a Saturday, or at any time other than 8am to 6pm on a weekday.
2. The quality of the identification of Indigenous patients in National Non-admitted Patient Emergency Department Care Database has not been assessed. Identification of Indigenous patients is not considered to be complete, and completeness may vary among the states and territories'.
3. The Non-admitted Patient Emergency Department Care data is required to be reported for hospitals categorised as peer group A or B in the previous year's Australian hospital statistics. In addition, data are provided for some smaller hospitals by some states and territories.
4. The coverage of the National Non-admitted Patient Emergency Department Care Database (all peer group A and B hospitals) was 100% and it provided detailed information for about 80% of all public hospital emergency occasions of service in 2008–09 and 81% in 2009–10.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Data quality issues

General Practitioner Data (BEACH)

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. Although the questionnaire contains an Indigenous identifier, it is unknown whether all GPs ask their patients this question. In the BEACH survey, 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners. Further detailed analyses of this issue are covered in *General practice in Australia, heath priorities and policies 1998 to 2008*, (Britt & Miller 2009:101):

'The findings of a BEACH substudy confirmed this suspected under-identification. In the data period reported here, 1.4% of patients encountered identified themselves as Indigenous. In contrast, in a BEACH substudy that asked 9,245 patients a complete set of questions about their cultural background (including Indigenous status) 2.2% (95% CI: 1.6–2.9) of respondents identified themselves as Indigenous (Britt et al. 2007). This rate is similar to the ABS estimates of Indigenous Australians as a proportion of the total population (ABS 2006).

However, the BEACH substudy included Indigenous Australians seen at Community Controlled Health Services funded through Medicare claims, and the estimate of 2.2% could have been an overestimate for the proportion of encounters that are with Indigenous patients in general practice as a whole. Deeble et al. (2008) conducted further investigations on this data and estimated that the BEACH encounter identification was an underestimate of about 10%, and that a more reliable estimate of the Indigenous population would be about 1.6% of all encounters (Deeble et al. 2008).

The findings of these studies are that some GPs are not routinely asking patients at the encounter about their Indigenous status, even when this is a variable specifically collected for each patient encountered, as it is in BEACH encounter data.'

OATSIH Service Reporting (OSR) data collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012b).

Medicare data

MBS items

The MBS items included in this measure have been introduced over the last few years with the child health check item commencing in May 2006. The take-up of new MBS items is influenced by the speed at which practitioners and the population become aware of the new items and how to use them. Also take-up can be influenced by administrative processes and the time taken to change computer systems to incorporate these new items.

Standard Indigenous status question

In November 2002, the ABS standard question on Indigenous identification was included on Medicare enrolment forms. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Under-identification

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. There were around 339,310 people who had identified as Aboriginal and/or Torres Strait Islander in this database at May 2012; around 59% of the estimated Aboriginal and Torres Strait Islander population (AHMAC 2012). There has been a rapid expansion in the number of enrolees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

Readers should note the following caveats to the Medicare voluntary Indigenous Identifier (VII) adjustment methodology:

- Estimates generated by the adjustment methodology for a given period will vary according to the point in time at which they are calculated, as the adjustment factors will be updated regularly to account for the ongoing change in the population coverage of the VII sample.
- There are inherent uncertainties in the current ABS Indigenous population estimates, and they are therefore described by the ABS as 'experimental estimates and projections'. The ABS Indigenous population estimates after 2006–07 are experimental projections, based on a number of assumptions about future levels of fertility, mortality and migration. The projections are not predictions or forecasts, but are illustrations of the growth and change in population that would occur if these assumptions were to prevail over the projection period. There can be no certainty that any particular outcome will be realised, or that future outcomes will necessarily fall within the projected ranges.
- The propensity to identify as Aboriginal and/or Torres Strait Islander varies according to the motivations of the individual and the perceived uses of the data in question. For example, it is possible that there are some Aboriginal and Torres Strait Islander people who are registered with the VII but who do not identify as Indigenous for the purposes of the Census, or vice versa.
- In some areas, particularly remote and very remote areas, there is a portion of the Indigenous population that does not ever use the Medicare system. It is therefore possible that the adjustment methodology could overestimate Medicare use by the Indigenous population.
- As the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could be biases in the data that are not addressed by the adjustment methodology.

National Non-admitted Patient Emergency Department Care Database

The National Non-admitted Patient Emergency Department Care Database is a national collection of de-identified data on emergency department episodes based on the Non-admitted Emergency Department Care National Minimum Data Set. The non-admitted patient emergency department care data are required to be reported for hospitals categorised as peer group A or B in the previous year's Australian hospital statistics. In addition, data are provided for some smaller hospitals by some states and territories.

For 2009–10, all states and territories provided episode-level data to the NNAPEDCD for all public hospitals in peer groups A and B that had emergency departments (that is 100% of hospitals that were required to report episode-level data). Data excludes patients who were admitted or arrived at the hospital by ambulance.

Indigenous status question

This data set includes the standard Indigenous status question.

Under-identification

The quality of the data provided for Indigenous status in 2007–08 for emergency department presentations varied by jurisdiction. Most states and territories advised that the Indigenous status data collected in an emergency department setting could be less accurate than the data collected for admitted patients; the data should therefore be used with caution (AIHW 2010). It is recommended that these data only be reported as numbers, and not rates, because the denominator would include Indigenous Australians not covered in this collection.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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3.17 Regular GP or health service

Number and proportion of individuals who have a regular general practitioner (GP) or health service

Data sources

Data for this measure come from the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

Analyses

Self-reported data

Whether visited same doctor/health service

- In 2004–05, 91% of all Aboriginal and Torres Strait Islander people surveyed reported that they usually went to the same GP or medical service (Table 3.17.1).
- If they had a problem with their health, the majority (60%) of Indigenous Australians went to a doctor/GP outside of Aboriginal medical services (AMSs) and hospitals. The next highest proportion attended an Aboriginal medical service (30%). Approximately 7.0% of Indigenous people reported that they went to hospital for their regular health care.

Whether visited same doctor/health service by age and sex

- A slightly higher proportion of Indigenous Australians aged 0–14 years and 55 years and over reported they usually went to the same GP or medical service than those of other ages (93% and 94%, respectively) (Table 3.17.1; Figure 3.17.1).
- Similar proportions of Indigenous males and females reported they usually went to the same GP or medical service (90% and 91%, respectively) (Table 3.17.2).

- Approximately 3.0% of Indigenous males reported they did not seek health care if they had a problem with their health, compared with 1.0% of Indigenous females (Table 3.17.2).

Table 3.17.1: Types of regular health care used by Indigenous Australians, by age, 2004–05

	0–14 years	15–24 years	25–34 years	35–44 years	44–54 years	55 years and over	Total
				Per cent			
Where usually go if problem with health							
Doctor/GP (outside AMS/ hospital)	62	62	54	56	61	62	60
Aboriginal medical service	30	28	33	31	30	30	30
Hospital	7	6	8	6	7	7	7
Don’t seek health care	1[(a)]	2	3	3[(a)]	2[(a)]	—[(b)]	2
Total[(c)]	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Whether usually go to same GP/medical service							
Yes	93	89	89	90	89	94	91
No	7	11	11	10	11	6	9
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**180,669**	**82,067**	**69,772**	**59,057**	**39,578**	**33,167**	**474,310**

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Total includes ‘traditional healer’, ‘other health care’ and ‘not stated’.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

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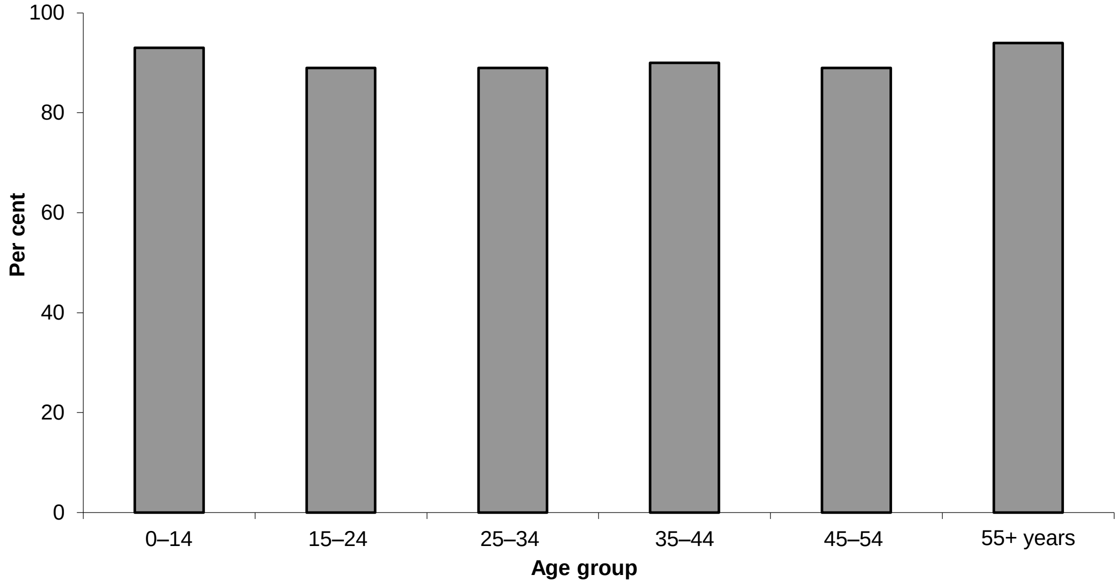


Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Figure 3.17.1: Whether Indigenous Australians usually go to the same GP/medical service, by age group, 2004–05

Table 3.17.2: Types of regular health care used by Indigenous Australians, by sex, 2004–05

	Males	Females	Persons
		Per cent	
Where usually go if problem with health			
Doctor/GP (outside AMS/ hospital)	60	59	60
Aboriginal medical service	29	31	30
Hospital	6	7	7
Don't seek health care	3	1	2
Total[(a)]	**100**	**100**	**100**
Whether usually go to same GP/medical service			
Yes	90	91	91
No	10	8	9
Total[(a)]	**100**	**100**	**100**
Total number	**232,362**	**241,948**	**474,310**

(a) Total includes 'traditional healer', 'other health care' and 'not stated'.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Whether visited same doctor/health service by state/territory and remoteness

- A high proportion of Indigenous people used a doctor/GP (outside of AMSs and hospitals) for their regular health care across all jurisdictions, with the exception of the Northern Territory where only 14% reported using a doctor/GP, and 82% reported using an Aboriginal medical service. Nevertheless, significant differences existed between jurisdictions with regard to the type of service Indigenous people used for regular health care. The majority of Indigenous people (about two-thirds and over) in the Australian Capital Territory, South Australia, Victoria, New South Wales and Tasmania used a doctor (outside of AMSs and hospitals) for their regular health care (Table 3.17.3).
- A higher proportion of Indigenous persons used hospitals for regular health care in Queensland and Western Australia (12% and 14%, respectively) compared with other jurisdictions (Table 3.17.3).
- The proportion of Indigenous Australians using Aboriginal medical services for their regular health care increased with remoteness from 15% in *Major cities* to 76% in *Very remote* areas. The proportion of Indigenous Australians using a doctor/GP (outside of AMSs and hospitals) for their regular health care decreased with remoteness from 80% in *Major cities* and *Inner regional* areas to 6% in *Very remote* areas. Hospital use, however, was higher in *Remote* and *Very remote* areas (Table 3.17.4; Figure 3.17.2).

Table 3.17.3: Types of regular health care used by Indigenous Australians, by state/territory, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Where usually go if problem with health									
Doctor/GP (outside AMS/ hospital)	80	75	56	48	68	89	64	14	60
Aboriginal medical service	13	19	30	34	26	6	32	82	30
Hospital	3[(a)]	3[(a)]	12	14	3[(a)]	3[(a)]	1[(b)]	2[(a)]	7
Don't seek health care	3	2[(a)]	2[(a)]	1[(a)]	2[(a)]	—[(a)]	2[(a)]	2[(a)]	2
Total(c)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**139,570**	**29,334**	**130,856**	**67,548**	**26,534**	**18,072**	**4,162**	**58,234**	**474,310**
Whether usually go to same GP/medical service									
Yes	88	92	90	90	96	96	95	94	91
No	11	8[(a)]	10	10	4	4	5[(a)]	6[(a)]	9
Total(c)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**139,570**	**29,334**	**130,856**	**67,548**	**26,534**	**18,072**	**4,162**	**58,234**	**474,310**

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Total includes 'traditional healer', 'other health care' and 'not stated'.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

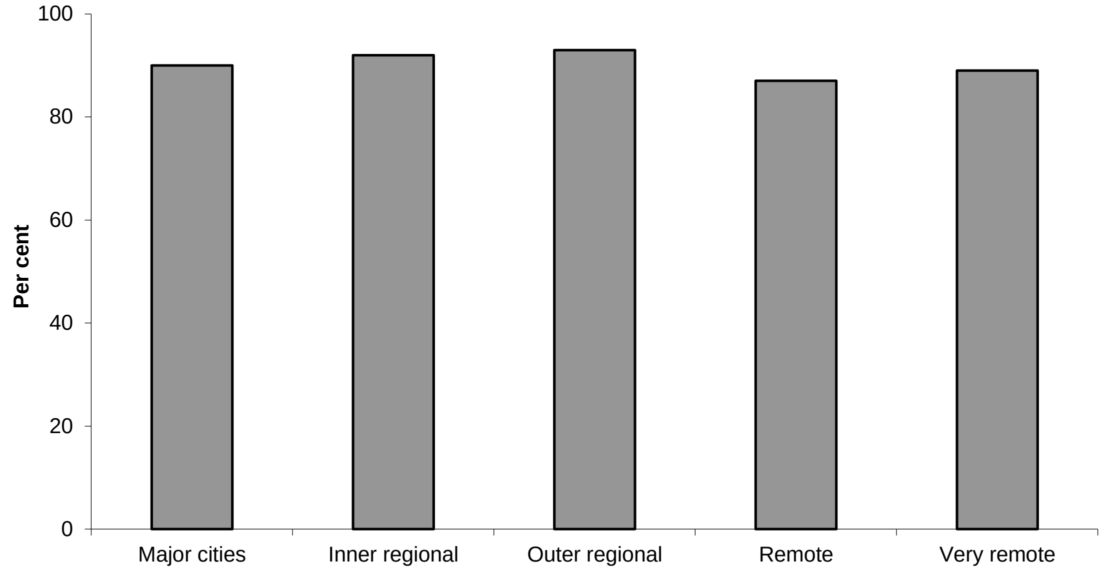
Table 3.17.4: Types of regular health care used by Indigenous Australians, by remoteness, 2004–05

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
			Per cent			
Where usually go if problem with health						
Doctor/GP (outside AMS/ hospital)	80	80	67	34	6[(a)]	60
Aboriginal medical service	15	11	26	45	76	30
Hospital	1	6	5[(a)]	15[(a)]	16	7
Don’t seek health care	3	2[(a)]	1[(a)]	1[(a)]	34[(a)]	2
Total[(b)]	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**144,157**	**95,609**	**108,549**	**41,306**	**84,689**	**474,310**
Whether usually go to same GP/medical service						
Yes	90	92	93	87	89	91
No	9	8	7	12	10	9
Total[(b)]	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**144,157**	**95,609**	**108,549**	**41,306**	**84,689**	**474,310**

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Total includes ‘traditional healer’, ‘regular health care’ and ‘not stated’.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.



Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Figure 3.17.2: Whether Indigenous Australians usually go to the same GP/medical service, by remoteness, 2004–05

Whether visited same doctor/health service by selected population and health characteristics

- The proportion of Indigenous Australians who reported they usually went to the same GP or medical service was similar irrespective of language spoken at home or household income but was slightly higher among those in the 5th quintile (highest relative advantage) of the Socioeconomic Indexes of Areas (SEIFA) index of disadvantage (95%), those in non-remote areas (92%) and those with private health cover (93%) (Table 3.17.5).
- The proportion of Indigenous Australians who reported they usually went to the same GP or medical service was similar (around 90%) for those with reported excellent/very good/good health and those with fair/poor health, and for those with any number of long-term conditions (Table 3.17.6).

Table 3.17.5: Whether Indigenous Australians usually go to the same GP/medical service, by selected population characteristics, 2004–05

	Yes	No	Total
		Per cent	
Main language spoken at home[(a)]			
English	89	11	100
Language other than English	90	9	100
Total[(b)]	89	10	100
Household income			
1st quintile (lowest income)	91	9	100
5th quintile (highest income)	90	10	100
Total[(c)]	91	9	100
SEIFA Index of disadvantage			
1st quintile (lowest relative disadvantage)	91	9	100
5th quintile (highest relative advantage)	95	5[(d)]	100
Total[(c)]	91	9	100
Location			
Remote	89	11	100
Non-remote	92	8	100
Total	91	9	100
Private health insurance[(e)]			
With private cover	93	7[(d)]	100
Without private cover	90	10	100
Total[(c)]	90	10	100

(a) Persons aged 18 years and over.

(b) Total includes ‘not stated’, ‘inadequately described’ and ‘non-verbal languages’.

(c) Total includes ‘not stated’ and ‘not known’ where applicable.

(d) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(e) Persons aged 15 years and over, non-remote areas only.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 3.17.6: Type of regular health care used by Indigenous Australians, by summary health characteristics, 2004–05

	Self-assessed health status(a)			Number of long-term conditions(b)				
Regular health care	**Excellent/very good/good**	**Fair/poor**	**Total(c)**	**0**	**1**	**2**	**3+**	**Total**
				Per cent				
Where usually go if problem with health								
Doctor/GP (outside AMS/ hospital)	59	58	59	58	58	59	65	60
Aboriginal medical service	30	31	30	31	31	33	27	30
Hospital	7	7	7	7	7	6(d)	6	7
Don't seek health care	2	2(d)	2	2	3(d)	1(e)	1(d)	2
Total(f)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Whether usually go to same GP/ medical service								
Yes	89	90	89	90	91	91	92	91
No	10	9	10	9	9	8	8	9
Total(c)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**229,335**	**64,236**	**293,641**	**321,338**	**24,767**	**27,714**	**100,386**	**474,310**

(a) Persons aged 15 years and over.

(b) All persons. Includes conditions identified as a national health priority area.

(c) Total includes 'not stated'.

(d) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(f) Total includes 'traditional healer', 'other health care' and 'not stated'.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Discrimination/treatment when visited doctor/health service

- Indigenous people who usually went to the same GP or medical service were more likely to report that they were treated the same as non-Indigenous people when seeking health care over the last 12 months (78%) than those without a usual GP or medical service (70%). A similar proportion reported that they were treated worse (4%) or better (5%) than non-Indigenous people (Table 3.17.7).
- Sixteen per cent of Indigenous Australians reported that they felt they were treated badly because they were Indigenous.
- Of the people who reported that they felt they were treated badly because they were Indigenous, the majority felt angry (68%). Others reported feeling sad (26%), sorry for the person who treated them badly (32%), ashamed or worried about it (16%) or sick (12%).
- Of the people who reported that they felt they were treated badly because they were Aboriginal or Torres Strait Islander, 38% talked to family or friends about it, 34% reported that they tried to avoid the person/situation, and 27% just forgot about it.

Table 3.17.7: Whether Indigenous Australians usually go to the same GP/medical service, by treatment when seeking health care, 2004–05

	Whether usually go to same GP/ medical service		
	Yes	**No**	**Total[(a)]**
	Per cent		
Treatment when seeking health care in last 12 months compared with non-Indigenous people			
Worse than non-Indigenous people	4	5[(b)]	4
The same as non-Indigenous people	78	70	77
Better than non-Indigenous people	5	4[(b)]	5
Only encountered Indigenous people	2	—[(c)]	2
Did not seek health care in last 12 months	4	13	5
Don't know/not sure	7	7	7
Total[(d)]	**100**	**100**	**100**
Total number[(a)(d)]	**230,491**	**26,946**	**258,297**
Whether felt treated badly because Aboriginal or Torres Strait Islander in last 12 months			
Yes	16	15	16
No	84	84	84
Total[(d)(a)]	**100**	**100**	**100**
Total number[(a)(d)]	**230,491**	**26,946**	**258,297**
How usually feel when treated badly because Aboriginal/Torres Strait Islander			
Feel angry	68	64	67
Feel sad	26	39	28
Feel sorry for the person who did it	32	25[(b)]	31
Feel ashamed or worried about it	16	18[(b)]	17
Feel sick	12	10[(b)]	12
Other feeling	12	11[(b)]	12
No feeling	5[(b)]	14[(b)]	6
Total[(a)(e)(f)]	**100**	**100**	**100**
Total number[(a)(f)]	**36,239**	**4,088**	**40,373**
What usually do when treated badly because Aboriginal/Torres Strait Islander			
Try to avoid the person/situation	34	24[(b)]	33
Try to change the way you are or things that you do	9	9[(b)]	9
Try to do something about the people who did it	30	23[(b)]	30
Talk to family or friends about it	38	38	38
Keep it to yourself	17	26[(b)]	18
Just forget about it	27	33[(b)]	28
Do anything else	5	7[(b)]	5
No action	4[(b)]	6[(b)]	4
Total[(a)(e)(f)]	**100**	**100**	**100**
Total number[(a)(f)]	**36,239**	**4,088**	**40,373**

(continued)

Table 3.17.7 (continued): Whether usually goes to the same GP/medical service, by discrimination, Indigenous Australians, 2004–05

(a) Includes refusal to answer and ‘not stated’.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Total persons aged 18 years and over.

(e) Components may not add to total because persons may have reported more than one type of action.

(f) Persons who answered yes to ‘whether treated badly in the last 12 months because Aboriginal/Torres Strait Islander’.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Data quality issues

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It has therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in Major cities and Inner and outer regional and Remote and very remote areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.

In remote communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

Doctor/health service

The NATSIHS does not separately identify whether persons would go to this doctor/health service if they are sick or need advice about their health; if they had new health problems; if they needed preventative health care; or if they needed referrals. In the United States, persons are determined to have a usual primary care provider if they reported that they would usually go the same health professional for all four of these situations.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat. no. 4715.0. Canberra: ABS

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3.18 Care planning for chronic diseases

The use of care planning for the management of chronic disease among the Aboriginal and Torres Strait Islander population.

Data sources

Data on care planning come from the Medicare database, the Healthy for Life (HfL) data collection, the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), and the OATSIH Services Reporting (OSR) data collection.

Note that these data sources only provide part of the picture of the use of care planning for the management of chronic disease among the Indigenous population. Data on care-planning Medicare items will provide a more complete picture of care planning once the voluntary Indigenous identifier is more complete.

Medicare Database

Medicare enrolment application forms are lodged by persons wishing to enrol with Medicare at Medicare offices in each state/territory or by mail. Information from these forms is entered directly into the Medicare database, which is held by the Department of Health and Ageing (DoHA).

In November 2002, the ABS standard question on Indigenous identification was included on this form. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete.

As at 1 May 2012, 339,310 Indigenous Australians were enrolled on the VII database. This represents 59% of the estimated total Indigenous population (AHMAC 2012).

Medicare data presented in this report have been adjusted for under-identification. There are a number of caveats to the VII adjustment methodology, including that as the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could therefore be biases in the data that are not addressed by the adjustment methodology.

Healthy for Life

The Healthy for Life (HfL) program is an ongoing program funded by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) of the Australian Government Department of Health and Ageing (DoHA). The program aims to improve the capacity and performance of primary health-care services to deliver high-quality maternal, children’s and chronic disease care to Aboriginal and Torres Strait Islander people. This is carried out through population health approaches using best-practice and quality improvement principles.

Services participating in the HfL program are required to submit de-identified, aggregate service data for 11 essential indicators. These indicators cover maternal health, child health and chronic disease care on a regular basis (6 and 12 months), as well as information about the characteristics of their service and organisational infrastructure.

The Commonwealth and the AIHW are working with the states and territories to develop a national Key Performance Indicator (KPI) framework for Indigenous primary health care services. The new National KPIs will replace the *Healthy for Life* program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services. The national KPI data collection will be implemented in three stages, with rollout in 2012 and 2013.

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included information on health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

It is planned to repeat the NATSIHS at 6-yearly intervals, with the next survey to be conducted during 2012–13 as part of the Australian Health Survey (will be called the Australian Aboriginal and Torres Strait Islander Health Survey (ATSIHS)).

OATSIH Services Reporting data collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Analyses

MBS services claimed

Chronic disease management plans

From 1 July 2005, the Australian Government introduced chronic disease management Medicare items, including MBS items 721 and 723.

General Practitioner Management Plan (MBS item 721)

General Practitioner Management Plans (GPMPs) are for patients with a chronic or terminal medical condition who will benefit from a structured approach to management of their care needs. A rebate can be claimed once the patient's GP has prepared GPMP. The recommended frequency of GPMPs is once every 2 years. The GP may be assisted by their practice nurse, Aboriginal health worker or other health professional in the GP's medical practice or health service. The service must include a personal attendance by the GP with the patient.

Team Care Arrangement (MBS item 723)

Chronic disease management plans Team Care Arrangement (TCA) provide a rebate for a GP to coordinate the preparation of TCAs for a patient with a chronic or terminal medical condition who also requires ongoing care from a multidisciplinary team of at least three health or care providers. The recommended frequency is once every 2 years, supported by regular review services.

- Over the period 2009–10 to 2010–11 there has been an increase in the number of GP management plans (GPMP) and team care arrangements (TCA) claimed by Indigenous Australians (from 23,927 to 32,717 and from 18,680 to 26,525, respectively) (Table 3.18.1).
- After adjusting for differences in age structures between the two populations, Indigenous Australians received more claimed GPMPs than non-Indigenous Australians in 2010–11 (102 per 1,000 compared with 55 per 1,000) (Table 3.18.1).

Table 3.18.1: MBS services GPMP and TCA, by Indigenous status, Australia, 2009–10 and 2010–11

	Indigenous		Non-Indigenous	
	2009–10	**2010–11**	**2009–10**	**2010–11**
	Number of services			
GPMP	23,927	32,717	1,088,272	1,279,133
TCA	18,680	26,525	867,164	1,049,205
	Age standardised services per 1,000 population			
GPMP	75.6	102.0	46.7	55.0
TCA	59.7	83.0	37.2	45.0

Note: Data are adjusted for Indigenous under-identification.

Source: Medicare Financing & Analysis Branch, Department of Health and Ageing.

Healthy for Life data

Chronic disease management plans

General Practitioner Management Plan (MBS item 721)

The proportion of Indigenous regular clients of Healthy for Life services aged 15 years and over with Type II diabetes and coronary heart disease who had a GPMP for the reporting period at 30 June 2010 is shown in Tables 3.18.2 and 3.18.3.

A number of services prepare GPMPs that do not meet the requirements of a complete MBS Item 721 GPMP, because these services do not have a GP. These GPMPs are referred to as 'Alternative GPMPs'. The purpose of this is to allow those services that are preparing Alternative GPMPs to report the data.

- Of the 11,928 Indigenous adults with Type II diabetes who are regular clients of the HfL services, 3,112 (26%) were managed under a GPMP (MBS item 721) (Table 3.18.2).
- *Inner regional* services had the highest proportion of Indigenous regular clients with Type II diabetes who were managed under a GPMP (37%) while the proportion was lowest in *Major cities* (17%).
- Of the 3,668 Indigenous regular clients with coronary heart disease, 1,062 (29%) were managed under a GPMP (Table 3.18.3).
- Services in *Remote*, *Very remote* and *Inner regional* areas had the highest proportion of Indigenous regular clients with coronary heart disease who were managed under a GPMP (ranging from 34% to 36% in these region) while the proportion was lowest in *Major cities* (17%).

Table 3.18.2: Number and proportion of Indigenous regular clients with Type II diabetes[(a)] who had a current GPMP, by remoteness, at 30 June 2010

	Major cities		Inner regional		Outer regional		Remote		Very remote		Total	
Type of GPMP	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**
MBS GPMP	16.7	360/2,158	36.6	539/1,474	23.9	844/3,526	28.7	766/2,673	28.8	603/2,097	26.1	3,112/11,928

(a) Indigenous regular clients aged 15 years and over.

(b) N (numerator) is the number of Indigenous regular clients with Type II diabetes who had a current GPMP. D (denominator) is the total number of Indigenous regular clients with Type II diabetes.

Notes

1. Valid data for this indicator were provided by 69 services (6 in major cities of Australia, 16in inner regional Australia, 22 in outer regional Australia, 12 in remote Australia and 13 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Table 3.18.3: Number and proportion of Indigenous regular clients with coronary heart disease[(a)] who had a current GPMP by type of GPMP and remoteness, at 30 June 2010

	Major cities		Inner regional		Outer regional		Remote		Very remote		Total	
Type of GPMP	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**
MBS and/or Alternative GPMP with all mandatory items[(c)]	17.1	155	32.2	207	30.0	332	35.3	241	35.6	119	28.7	1,054
Alternative GPMP without all mandatory items	0.0	0	1.2	8	0.0	0	0.0	0	0.0	0	0.2	8
Total GPMPs[(c)]	**17.1**	**155/904**	**33.5**	**215/642**	**30.0**	**332/1,105**	**35.3**	**241/683**	**35.6**	**119/334**	**29.0**	**1,062/3,668**

(a) Indigenous regular clients aged 15 years and over.

(b) N (numerator) is the number of Indigenous regular clients with Type II diabetes who had a current GPMP. D (denominator) is the total number of Indigenous regular clients with Type II diabetes.

(c) In a small number of services there is likely to be double counting of clients, as clients are reported to have had both an MBS and Alternative GPMP.

Notes

1. Valid data for this indicator were provided by 69 services (6 in major cities of Australia, 16 in inner regional Australia, 22 in outer regional Australia, 12 in remote Australia and 13 in very remote Australia).
2. Services used their own definition of regular client.

Source: AIHW, Healthy for Life data collection.

Team Care Arrangement (MBS item 723)

For Type II diabetes, valid data were provided by 49, 50, 56 and 65 services funded through the HfL program, for the reporting periods ending in June 2007, June 2008 and June 2009, respectively. For coronary heart disease, valid data were provided by 49, 49, 56 and 65 services, for these reporting periods. The number and proportion of Indigenous regular clients of these services with a chronic disease who have a current MBS item 723 TCA, by type of chronic disease, is shown in Table 3.18.4.

- Between 2007 and 2010 there was a substantial increase in the proportion of Indigenous regular clients with Type II diabetes or coronary heart disease who had a current TCA (MBS item 723). At 30 June 2007, 4% of clients with type II diabetes and 3% with coronary heart disease had a current TCA. This increased to 23% for each type of disease at 30 June 2010 (Table 3.18.4).

Table 3.18.4: Number and proportion of Indigenous regular clients[(a)] with a chronic disease[(b)] who had a current TCA (MBS item 723), by type of chronic disease, at 30 June 2007 to 30 June 2010

	Jun–07		Jun–08		Jun–09		Jun–10	
Type of chronic disease	**%**	**N/D[(c)]**	**%**	**N/D[(c)]**	**%**	**N/D[(c)]**	**%**	**N/D[(c)]**
Type II diabetes	3.8	85/2,252	13.1	931/7,084	19.2	1,520/7,905	22.8	2,566/11,230
Coronary heart disease	2.9	28/956	13.2	284/2,148	18.1	415/2,294	22.6	792/3,510

(a) Indigenous regular clients aged 15 years and over.

(b) Chronic diseases include Type II diabetes and coronary heart disease.

(c) N (numerator) is the number of Indigenous regular clients who had a current TCA. D (denominator) is the total number of Indigenous regular clients with a chronic disease.

Note: For Type II diabetes, valid data were provided by 49, 50, 56 and 65 services, for the reporting periods ending in June 2007, June 2008, June 2009 and June 2010 respectively. For coronary heart disease, valid data were provided by 49, 49, 56 and 65 services, for the reporting periods ending in June 2007, June 2008, June 2009 and June 2010 respectively.

Source: AIHW Healthy for Life data collection.

Health service linkages

- From the reporting period ending June 2008 to that ending June 2010 there was an increase from 63% to 77% of services reporting they had hospital admission communication for clients with chronic disease. Over the same period, the proportion of services reporting they had hospital discharge communication for their clients with chronic disease increased from 72% to 77%, and the proportion of those reporting care provided in residential aged care services for clients with chronic disease increased from 40% to 53% (Table 3.18.5).

Table 3.18.5: Proportion of services funded through the Healthy for Life Program that had care planning and health service linkages for their clients with chronic disease, reporting periods ending 30 June 2008, 30 June 2009 and 30 June 2010

HfL services had strategies for chronic disease management[(a)] for their clients with chronic disease that included:	Jun–08			Jun–09			Jun–10		
	% Yes	% No	% No response	% Yes	% No	% No response	% Yes	% No	% No response
Health service linkages									
Hospital admission communication	62.7	25.4	11.9	70.3	14.9	14.9	77.2	12.7	10.1
Hospital discharge communication	71.6	16.4	11.9	71.6	13.5	14.9	77.2	12.7	10.1
Care provided in residential aged care services	40.3	49.3	10.4	43.2	41.9	14.9	53.2	36.7	10.1

(a) 'Management' includes health promotion, prevention of complications, clinical care and advocacy.

Source: AIHW, Healthy for Life data collection.

NATSIHS data

Asthma action plans

The 2004–05 NATSIHS collected self-reported data on the number of Indigenous and non-Indigenous Australians in non-remote areas with long-term health conditions, such as asthma, and whether the person has a written action plan. Data on asthma action plans by Indigenous status, age and state/territory are presented below.

- In 2004–05, approximately 17% of Indigenous Australians living in non-remote areas reported asthma as a long-term condition. After adjusting for differences in age distribution, Indigenous Australians were almost twice as likely as non-Indigenous Australians to report asthma as a long-term condition (Table 3.18.6).
- In 2004–05, similar proportions of Indigenous and non-Indigenous Australians with asthma living in non-remote areas reported having written asthma action plans (25% and 22%, respectively) (Table 3.18.6).
- Indigenous Australians aged 0–4 and those aged 55 years and over were the most likely to have a written asthma action plan (44% and 35%, respectively).
- New South Wales had the highest (31%), and Western Australia the lowest (17%), proportion of Indigenous Australians reporting having a written asthma action plan (Table 3.18.7).
- In 2004–05, the majority of Indigenous and non-Indigenous Australians with written asthma action plans reported the source of their plan to be a doctor (91% and 95%, respectively) (Table 3.18.8).

Table 3.18.6: Whether persons in non-remote areas have a written asthma action plan, by Indigenous status and age group, 2004–05

Age group (years)	Does have a written asthma action plan	Does not have a written asthma action plan	Never heard of a written asthma action plan	Total[(a)]	Total with asthma	Total persons with asthma
		Per cent				Number
0–4						
Indigenous	44.1	51.6	2.8	100.0	12.3	5,621
Non-Indigenous	33.4	61.4	3.6	100.0	7.2	85,612
5–14						
Indigenous	33.7	63.0	2.9	100.0	17.7	15,801
Non-Indigenous	37.1	57.9	3.3	100.0	13.4	339,310
Total aged 0–14						
Indigenous	*36.5*	*60.0*	*2.9*	*100.0*	*15.9*	*21,422*
Non-Indigenous	*36.4*	*58.6*	*3.4*	*100.0*	*11.4*	*424,922*
15–24						
Indigenous	12.8	75.9	8.6	100.0	17.6	12,396
Non-Indigenous	21.4	73.1	5.3	100.0	12.6	327,611
25–34						
Indigenous	17.8	75.8	5.8	100.0	19.5	9,705
Non-Indigenous	18.1	77.2	4.7	100.0	10.6	288,858
35–44						
Indigenous	20.3	71.0	5.5	100.0	13.6	5,519
Non-Indigenous	18.9	77.0	4.1	100.0	8.7	249,056
45–54						
Indigenous	14.4	74.9	8.1	100.0	21.8	6,294
Non-Indigenous	18.7	76.2	5.1	100.0	9.0	241,475
55 years and over						
Indigenous	34.7	54.7	10.4	100.0	18.7	4,441
Non-Indigenous	18.1	73.4	7.8	100.0	9.1	407,322
Total non-age-standardised						
Indigenous	**24.6**	**68.0**	**5.9**	**100.0**	**17.2**	**59,777**
Total age-standardised[(b)]						
Indigenous	**24.7**	**66.9**	**6.9**	**100.0**	**17.7**	**. .**
Non-Indigenous	**22.4**	**71.9**	**5.2**	**100.0**	**10.2**	**. .**
Rate ratio	**1.1**	**0.9**	**1.3**	**. .**	**1.7**	**. .**

(a) Total includes 'not known if has a written asthma action plan', which represents 1.5% of Indigenous Australians and 0.5% of non-Indigenous Australians with asthma in non-remote areas.

(b) Totals are directly age-standardised using the 2001 Australian standard population.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

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Table 3.18.7: Whether persons in non-remote areas have a written asthma action plan by Indigenous status and state/territory, 2004–05

Jurisdiction	Does have a written asthma action plan	Does not have a written asthma action plan	Never heard of a written asthma action plan	Total[(a)]	Total with asthma	Total persons with asthma
			Per cent			Number
New South Wales						
Indigenous	31.0	61.6	7.0	100.0	18.0	22,331
Non-Indigenous	23.5	73.3	2.5	100.0	9.2	595,171
Rate ratio	1.3	0.8	2.8	. .	2.0	. .
Rate Difference	7.5	–11.7	4.5	. .	8.8	. .
Victoria						
Indigenous	22.9	70.1	6.3	100.0	4.7	5,904
Non-Indigenous	26.5	65.8	7.5	100.0	7.7	496,570
Rate ratio	0.9	1.1	0.8	. .	0.6	. .
Rate Difference	–3.6	4.3	–1.2	. .	–3.0	. .
Queensland						
Indigenous	22.3	69.6	5.1	100.0	11.5	16,150
Non-Indigenous	20.4	73.6	5.6	100.0	6.1	390,422
Rate ratio	1.1	0.9	0.9	. .	1.9	. .
Rate Difference	1.9	–4.0	–0.5	. .	5.4	. .
Western Australia						
Indigenous	16.6	72.8	10.3	100.0	5.6	6,808
Non-Indigenous	15.1	80.2	4.1	100.0	3.1	198,044
Rate ratio	1.1	0.9	2.5	. .	1.8	. .
Rate Difference	1.5	–7.4	6.2	. .	2.5	. .
South Australia						
Indigenous	22.1	70.4	3.0	100.0	2.9	3,517
Non-Indigenous	22.2	73.1	4.6	100.0	2.5	164,221
Rate ratio	1.0	1.0	0.7	. .	1.1	. .
Rate Difference	–0.1	–2.7	–1.6	. .	0.4	. .
Tasmania and ACT						
Indigenous	28.5	64.1	7.0	100.0	3.0	4,084
Non-Indigenous	20.3	67.7	11.8	100.0	1.3	85,930
Rate ratio	1.4	0.9	0.6	. .	2.3	. .
Rate Difference	8.2	–3.6	–4.8	. .	1.7	. .

(continued)

Table 3.18.7 (continued): Whether persons in non-remote areas have a written asthma action plan by Indigenous status and state/territory, 2004–05

Jurisdiction	Does have a written asthma action plan	Does not have a written asthma action plan	Never heard of a written asthma action plan	Total[(a)]	Total with asthma	Total persons with asthma
			Per cent			Number
Northern Territory[(b)]						
Indigenous	24.8	72.1	3.1	100.0	0.7	983
Non-Indigenous	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Rate ratio	. .	. .	. .	. .	. .	. .
Rate Difference	n.a.	n.a.	n.a.	. .	n.a.	. .
Australia						
Indigenous	**24.7**	**66.9**	**6.9**	**100.0**	**17.7**	**59,777**
Non-Indigenous	**22.4**	**71.9**	**5.2**	**100.0**	**10.2**	**1,939,245**
Rate ratio	**1.1**	**0.9**	**1.3**	**. .**	**1.7**	**. .**
Rate difference	**2.3**	**–5.0**	**1.7**	**. .**	**7.5**	**. .**

(a) Includes 'not known if has a written asthma action plan', which represents 1.5% of Indigenous Australians and 0.5% of non-Indigenous Australians with asthma in non-remote areas.

(b) Non-Indigenous data for Northern Territory not presented because of the small sample size.

Note: Data have been directly age-standardised using the 2001 Australian standard population.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 3.18.8: Source of written asthma action plan by Indigenous status and age group, 2004–05

	Doctor	Other	Total with written asthma action plan	Total persons with written asthma action plans
		Per cent		Number
Non-age-standardised				
Indigenous	91.8	8.2	100.0	14,682
Age-standardised[(a)]				
Indigenous	90.8	9.2	100.0	. .
Non-Indigenous	94.9	5.1	100.0	. .
Rate ratio	1.0	1.8	. .	. .
Rate difference	–4.1	4.1	. .	. .

(a) Totals are directly age-standardised using the 2001 Australian standard population.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

OATSIH Services Reporting (OSR) data

Care planning provided by Indigenous primary health care services

Data presented below are from the 2010–11 OSR collection.

- In 2010–11, 92% of Indigenous primary health-care services provided care planning, 74% reported that discharge planning was well coordinated between the hospital and the service, and 80% of services provided or facilitated shared care arrangements for the management of people with chronic conditions (Table 3.18.9, Figure 3.18.1).

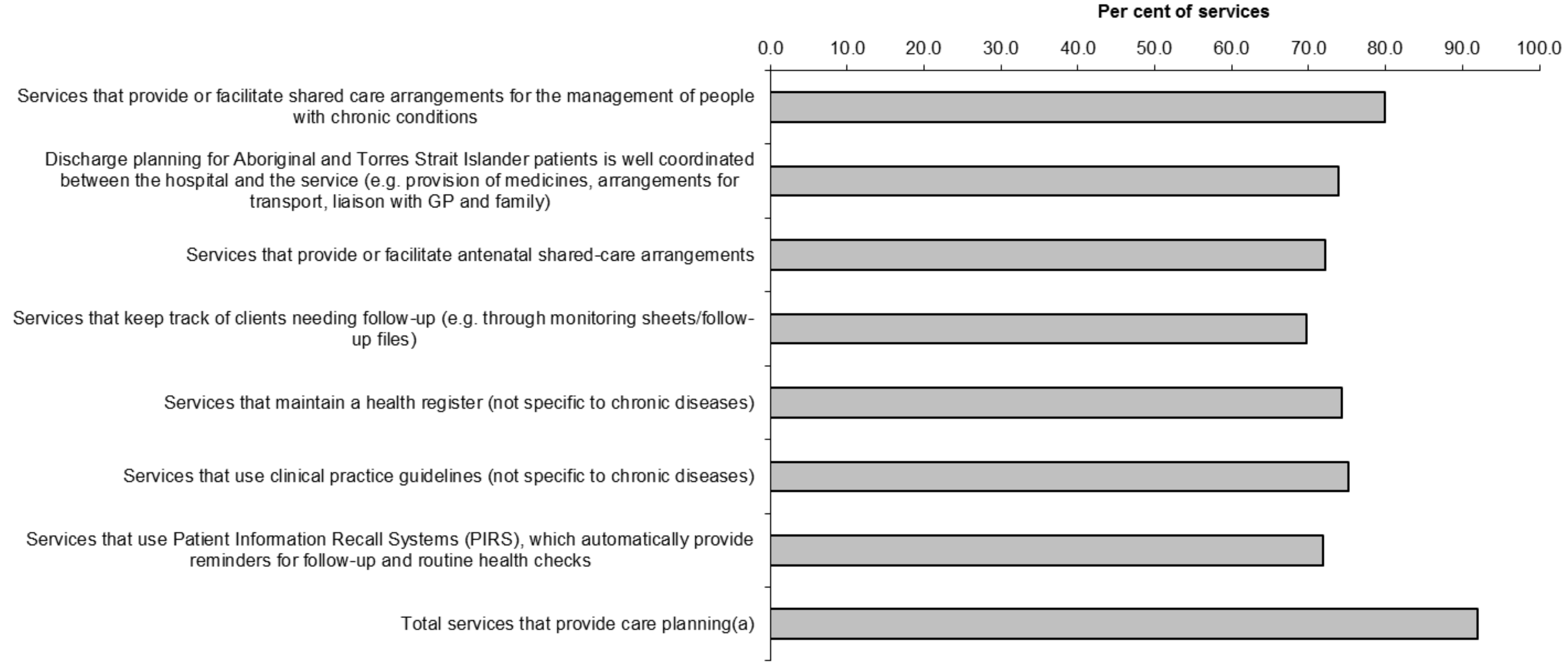
Table 3.18.9: Number and proportion of respondent Aboriginal and Torres Strait Islander primary health-care services that provide care planning, 2010–11

	Number	Per cent
Services that provide or facilitate shared care arrangements for the management of people with chronic conditions	187	79.9
Discharge planning for Aboriginal and Torres Strait Islander patients is well coordinated between the hospital and the service (e.g. provision of medicines, arrangements for transport, liaison with GP and family)	173	73.9
Services that provide or facilitate antenatal shared-care arrangements	169	72.2
Services that keep track of clients needing follow-up (e.g. through monitoring sheets/follow-up files)	163	69.7
Services that maintain a health register (not specific to chronic diseases)	174	74.4
Services that use clinical practice guidelines (not specific to chronic diseases)	176	75.2
Services that use Patient Information Recall Systems (PIRS), which automatically provide reminders for follow-up and routine health checks	169	71.9
Total services that provide care planning[(a)]	***216***	***91.9***
Total services	**235**	**100.0**

(a) Total services that provide at least one of the activities listed.

Note: Two hundred and thirty-four of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health related activities provided by the service for 2010–11. Percentages for the first 6 categories are calculated as a proportion of these 234 services. However, all of the 235 services provided valid data for using computers for 2010–11. The percentage for the use of PIRS is calculated as a proportion of these 235 services. The categories are from different questions so the denominator is not consistent.

Source: AIHW OSR data collection.



(a) Total includes services that provide at least one of the activities listed

Note: Two hundred and one of the 205 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health related activities provided by the service. The percentages for first six categories in the table above are calculated as a proportion of these 201 services. However, more services (203) provided valid data about computer use. Thus the last two percentages are calculated as a proportion of 203 services. Because those categories are from two different questions, the denominator is not consistent.

Source: AIHW OSR data collection.

Figure 3.18.1: Proportion of respondent Aboriginal and Torres Strait Islander primary health-care services that provide care planning, 2010–11

Data quality issues

Medicare data

MBS items

The MBS items included in this measure have been introduced over the last few years with the child health check item commencing in May 2006. The take-up of new MBS items is influenced by the speed at which practitioners and the population become aware of the new items and how to use them. Also take-up can be influenced by administrative processes and the time taken to change computer systems to incorporate these new items. Analysis of monthly statistics on Items 704 and 706 suggest that it took several years for these statistics to stabilise into a fairly regular pattern. Item 710 was introduced in May 2004 and monthly statistics have become relatively stable within 12 months.

Standard Indigenous status question

In November 2002, the ABS standard question on Indigenous identification was included on Medicare enrolment forms. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Under-identification

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. There were around 339,310 people who had identified as Aboriginal and/or Torres Strait Islander in this database at May 2012; around 59% of the estimated Aboriginal and Torres Strait Islander population (AHMAC 2012). There has been a rapid expansion in the number of enrolees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

Readers should note the following caveats to the Medicare voluntary Indigenous Identifier (VII) adjustment methodology:

- Estimates generated by the adjustment methodology for a given period will vary according to the point in time at which they are calculated, as the adjustment factors will be updated regularly to account for the ongoing change in the population coverage of the VII sample.
- There are inherent uncertainties in the current ABS Indigenous population estimates, and they are therefore described by the ABS as 'experimental estimates and projections'. The ABS Indigenous population estimates after 2006–07 are experimental projections, based on a number of assumptions about future levels of fertility, mortality and migration. The projections are not predictions or forecasts, but are illustrations of the growth and change in population that would occur if these assumptions were to prevail over the projection period. There can be no certainty that any particular outcome will be realised, or that future outcomes will necessarily fall within the projected ranges.
- The propensity to identify as Aboriginal and/or Torres Strait Islander varies according to the motivations of the individual and the perceived uses of the data in question. For example, it is possible that there are some Aboriginal and Torres Strait Islander people who are registered with the VII but who do not identify as Indigenous for the purposes of the Census, or vice versa.
- In some areas, particularly remote and very remote areas, there is a portion of the Indigenous population that does not ever use the Medicare system. It is therefore

possible that the adjustment methodology could overestimate Medicare use by the Indigenous population.

- As the VII sample is generated voluntarily, it is not truly random and cannot be perfectly representative of the Indigenous population until full coverage is achieved. There could be biases in the data that are not addressed by the adjustment methodology.

Healthy for Life data

For the July 2009 to June 2010 reporting period, 79 services submitted data as part of the Healthy for Life (HfL) Program.

Services started submitting their data through an electronic interface (OSCAR) for the February 2008 reporting period. This has improved the quality of data submitted.

Not all of the services were able to provide data for all of the essential indicators and service profile questions included in the HfL data collection. The number of services that were able to provide data varies across the qualitative and quantitative indicators.

There has been an upward trend in the proportion of services that reported on each of the indicators over time, particularly compared with the first reporting period ending June 2007. All of the services reporting provided data for all of the EIs in the period ending December 2009. This proportion decreased slightly in the current reporting period ending June 2010. This may be because services need to report against fewer EIs and do not need to provide most qualitative data in periods ending in December, unlike in annual reporting periods ending in June. The current period had higher proportions of services that reported against most EIs than the previous annual collection period ending June 2009.

In general, the data quality improved noticeably between the period ending June 2008 and the period ending June 2009. The overall level of data quality remained similar in the current period, though there was a different pattern of data quality issues.

The current period ending June 2010 had a different distribution of data quality issues than the previous period. No services had inconsistencies between related indicators, however the number of services with missing data and data out of the expected range increased. The latter might be due to more stringent data checking procedures employed by the AIHW during the current period.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The NATSIHS uses the standard Indigenous status question. The 2004–05 NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians. It therefore overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.

Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.

Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in *Major cities*, *Inner and outer regional* areas and *Remote and very remote* areas, but *Very remote* areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

In *Remote and very remote* communities there were some modifications to the NATSIHS content in order to accommodate language and cultural appropriateness in traditional communities and help respondents understand the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built-in edit checks and sequencing.

Further information on NATSIHS data quality issues can be found in the NATSIHS 2004–05 publication (ABS 2006).

OATSIH Services Reporting (OSR)

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat. no. 4715.0. Canberra: ABS.

AHMAC (Australian Health Ministers' Advisory Council) 2012. Aboriginal and Torres Strait Islander Health Framework, 2012 report. Canberra: AHMAC.

AIHW (Australian Institute of Health and Welfare) 2012. Aboriginal and Torres Strait Islander Health Services Report 2010–11, OATSIH service reporting—key results. Cat. no. IHW 31. Canberra: AIHW.

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3.19 Accreditation

The proportion of:

- **accredited public hospital Aboriginal and Torres Strait Islander separations and patient days as a percentage of all Aboriginal and Torres Strait Islander separations and patient days in public hospitals**
- **accredited general medical practice service establishments by proportion of Indigenous populations in Divisions of General Practice**

Data sources

Data for this measure come from the National Hospital Morbidity database, the AIHW National Public Hospitals Establishment Database, the Australian General Practice Accreditation Limited (AGPAL) and the General Practice Accreditation Plus (GPA+), the OATSIH Services Reporting (OSR) and the Healthy for Life Program.

National Hospital Morbidity Database

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Hospitalisation data are presented for the 2-year period from July 2008 to June 2010. An aggregate of 2 years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

Hospital records are for ‘separations’ and not individuals, and as there can be multiple admissions for the same individual, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question. For example, it is not possible to identify whether one patient was admitted 5 times or five patients were admitted once. People who receive treatment at hospital but are not admitted are not counted in hospital records. Hospital separation data are also affected by variations in admission practices, and the availability of and access to hospital and non-hospital services.

Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital border) have been excluded from analysis.

Data are presented for the six jurisdictions that the AIHW has assessed as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. National totals include separations for people resident in these six jurisdictions only and are not necessarily representative of the jurisdictions not included. Indigenous status data are reported for Tasmania and the Australian Capital Territory (public hospitals only) with caveats until further audits of the quality of data in these jurisdictions are completed. Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Data are presented by state/territory of usual residence of the patient.

The following caveats have been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a small degree of Indigenous under-identification in data from New South Wales and South Australia, and relatively marked Indigenous under-identification in data from Queensland and Victoria).
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status. This will be reflected in Indigenous patient changes in hospitalisation rates for Indigenous people.

AIHW National Pubic Hospitals Establishment Database

The AIHW National Public Hospitals Establishment Database holds establishment-level data for public hospitals within the jurisdiction of the state and territory health authorities. Private hospitals and public hospitals not administered by the state and territory health authorities are not included. Information is provided annually to the AIHW by state and territory health departments.

Data are presented for all jurisdictions and by state/territory of usual residence of the patient.

AGPAL and GPA Accreditation Plus

Australian General Practice Accreditation Limited (AGPAL) and GPA Accreditation Plus (GPA+) are the two general practice accreditation providers operating in Australia. All practices accredited with AGPAL and GPA+ are assessed against the Royal Australian College of General Practitioners' standards. General practice accreditation in Australia ensures practices are eligible to participate in the Practice Incentives Program (PIP) – a blended payment administered by Medicare Australia on behalf of the Department of Health and Ageing (DoHA).

OATSIH Services Reporting data collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in

earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Healthy for Life

The Healthy for Life (HfL) program is an ongoing program funded by the Office for Aboriginal and Torres Strait Islander Health (OATSIH) of the Australian Government Department of Health and Ageing (DoHA). The program aims to improve the capacity and performance of primary health-care services to deliver high-quality maternal, children's and chronic disease care to Aboriginal and Torres Strait Islander people. This is carried out through population health approaches using best-practice and quality improvement principles.

Services participating in the HfL program are required to submit de-identified, aggregate service data for 11 essential indicators. These indicators cover maternal health, child health and chronic disease care on a regular basis (6 and 12 months), as well as information about the characteristics of their service and organisational infrastructure.

The Commonwealth and the AIHW are working with the States and Territories to develop a national Key Performance Indicator (KPI) framework for Indigenous primary health care services. The new National KPIs will replace the *Healthy for Life* program Essential Indicators and cover maternal and child health and chronic disease management. The AIHW is leading the development and refinement of the indicators, data standards and analyses and reporting back to services. The national KPI data collection will be implemented in three stages, with rollout in 2012 and 2013.

Analyses

Accreditation is generally a voluntary process by which a recognised body—usually a non-government organisation—assesses and recognises that a health-care organisation meets applicable quality standards. The two pre-conditions for accreditation are an explicit definition of quality (that is, standards) and an independent review process aimed at identifying whether practices meet the quality standards (ACHCS 2005). Accreditation provides public recognition that a health-care organisation has undertaken a process to ensure it meets the requirements of national health-care standards. All health-care organisations—whether they are in the public or private sector, local community-based care facilities or tertiary level providers— can undergo accreditation.

Public hospital accreditation

Data on the proportion of hospitalisations in accredited hospitals for Indigenous and non-Indigenous Australians in all states and territories over the 2-year period from July 2008 to June 2010 are presented in Tables 3.19.1–3.

- Over this period, there were 531,050 hospitalisations of Indigenous Australians in accredited public hospitals. This was 96% of all public hospitalisations of Indigenous

Australians. Over the same period, 97% of hospitalisations of non-Indigenous Australians were in accredited public hospitals (Table 3.19.1).

Hospital accreditation by state/territory and remoteness

- The proportion of hospitalisations of Indigenous Australians that were in accredited hospitals ranged from 85% in New South Wales to 100% in Victoria, the Australian Capital Territory and the Northern Territory (Table 3.19.1).
- Over the 2-year period from July 2008 to June 2010, about 95% of days spent by Indigenous patients and 96% of days spent by non-Indigenous Australians in hospital were in accredited hospitals (Table 3.19.2).
- The proportion of hospitalisations of Indigenous Australians that were in accredited hospitals was highest among those in regional areas (99% in *Inner regional* and 96% in *Outer regional*) and lowest among those in *Very remote* areas (90%). For non-Indigenous hospitalisations, the proportions ranged from 88% in *Remote areas* to 99% in *Inner regional* areas (Table 3.19.3).

Table 3.19.1: Hospital separations, by Indigenous status, accreditation status and jurisdiction, July 2008 to June 2010(a)(b)

	Indigenous			Non-Indigenous		
	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals
NSW	98,741	17,379	85.0	2,666,635	234,463	91.9
Vic	26,752	0	100.0	2,758,954	0	100.0
Qld	137,207	5,099	96.4	1,615,047	17,004	99.0
WA	85,364	337	99.6	873,013	143	100.0
SA	37,855	300	99.2	677,989	5,685	99.2
Tas	5,631	177	97.0	184,784	9,729	95.0
ACT	3,880	0	100.0	171,015	0	100.0
NT	135,620	0	100.0	59,424	0	100.0
Australia	**531,050**	**23,292**	**95.8**	**9,006,861**	**267,024**	**97.1**

(a) Data are from public hospitals only.

(b) Jurisdiction based on location of hospital.

Note: The proportion is the number of separations in accredited hospitals by Indigenous status and state/territory divided by the total number of separations by Indigenous status and state/territory.

Source: AIHW analysis of National Hospital Morbidity Database and National Public Hospitals Establishment Database.

Table 3.19.2: Hospital patient days, by Indigenous status, accreditation status and jurisdiction, July 2008 to June 2010[(a)(b)]

	Indigenous			Non-Indigenous		
	Number patient days in accredited hospitals	Number patient days in non-accredited hospitals	Per cent patient days in accredited hospitals	Number patient days in accredited hospitals	Number patient days in non-accredited hospitals	Per cent patient days in accredited hospitals
NSW	298,860	62,516	82.7	10,540,550	1,101,123	90.5
Vic	77,616	0	100.0	8,953,911	0	100.0
Qld	416,149	16,916	96.1	5,567,151	65,383	98.8
WA	257,589	864	99.7	3,071,472	307	100.0
SA	115,898	520	99.6	2,877,817	41,573	98.6
Tas	16,339	1,095	93.7	645,050	142,724	81.9
ACT	11,851	0	100.0	559,954	0	100.0
NT	331,763	0	100.0	210,796	0	100.0
Australia	**1,526,065**	**81,911**	**94.9**	**32,426,701**	**1,351,110**	**96.0**

(a) Data are from public hospitals only.

(b) Jurisdiction based on location of hospital.

Note: The proportion is the number of patient days in accredited hospitals by Indigenous status and state/territory divided by the total number of patient days by Indigenous status and state/territory.

Source: AIHW analysis of National Hospital Morbidity Database and National Public Hospitals Establishment Database.

Table 3.19.3: Hospital separations, by Indigenous status, accreditation status and remoteness, July 2008 to June 2010[(a)(b)]

	Indigenous			Non-Indigenous		
Remoteness category	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals
Major cities	140,309	5,962	95.9	6,366,501	196,034	97.0
Inner regional	91,728	575	99.4	1,845,853	17,937	99.0
Outer regional	170,019	6,671	96.2	699,256	38,871	94.7
Remote	96,164	6,376	93.8	75,782	10,227	88.1
Very remote	32,830	3,557	90.2	19,469	2,071	90.4
Total[(c)]	**531,050**	**23,292**	**95.8**	**9,006,861**	**267,024**	**97.1**

(a) Data are from public hospitals only.

(b) Remoteness category based on location of hospital.

(c) Total includes 2,035 separations from one hospital where ASGC area was unknown/not stated.

Note: The proportion is the number of separations in accredited hospitals by Indigenous status and remoteness category divided by the total number of separations by Indigenous status and remoteness category.

Source: AIHW analysis of National Hospital Morbidity Database and National Public Hospitals Establishment Database.

Hospital accreditation by hospital category

- In all jurisdictions, all hospitalisations of Indigenous and non-Indigenous Australians in specialist women and children's hospitals, large regional and remote hospitals and medium major cities and regional group 1 hospitals, were in accredited hospitals (Table 3.19.4).

- Between 63% and 91% of hospitalisations of Indigenous Australians and 87% and 92% of hospitalisations of non-Indigenous Australians in small hospitals were in accredited hospitals.
- Around two-thirds (68%) of Indigenous hospitalisations in multi-purpose service hospitals were in accredited hospitals. This compared with 89% of non-Indigenous hospitalisations.

Table 3.19.4: Hospital separations, by Indigenous status, accreditation status and hospital category (peer group), July 2008 to June 2010[(a)(b)]

	Indigenous			Non-Indigenous		
	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals
Principal referral						
Principal referral	331,357	3,675	98.9	5,824,134	150,435	97.5
Specialist women's and children's	16,454	0	100.0	433,331	0	100.0
Large hospitals						
Large major cities	11,921	941	92.7	784,478	30,049	96.3
Large regional and remote	23,398	0	100.0	441,876	0	100.0
Medium hospitals						
Medium major cities and regional group 1	44,408	0	100.0	553,836	0	100.0
Medium major cities and regional group 2	17,698	1,761	91.0	446,342	21,639	95.4
Small hospitals						
Small regional acute	11,426	4,139	73.4	196,145	26,727	88.0
Small non-acute	3,810	2,253	62.8	89,052	13,089	87.2
Remote acute	59,146	5,732	91.2	54,293	4,832	91.8
Sub- and non-acute hospitals						
Multi-purpose service	6,600	3,110	68.0	38,433	4,911	88.7
Hospice	n.p.	n.p.	n.p.	0	256	0.0
Rehabilitation	624	0	100.0	15,342	582	96.3
Mothercraft	208	33	86.3	23,903	2,470	90.6
Other non-acute	n.p.	n.p.	n.p.	19,085	2,310	89.2
Other hospitals						
Psychiatric	1,519	101	93.8	16,736	2,801	85.7
Un-peered and other acute	2,793	1,535	64.5	83,886	6,923	92.4
Total	**531,524**	**23,292**	**95.8**	**9,020,872**	**267,024**	**97.1**

(a) Data are from public hospitals only and for all jurisdictions.

(b) Care types 7.3, 9 and 10 (Newborn - unqualified days only, organ procurement, hospital boarder) excluded from analysis.

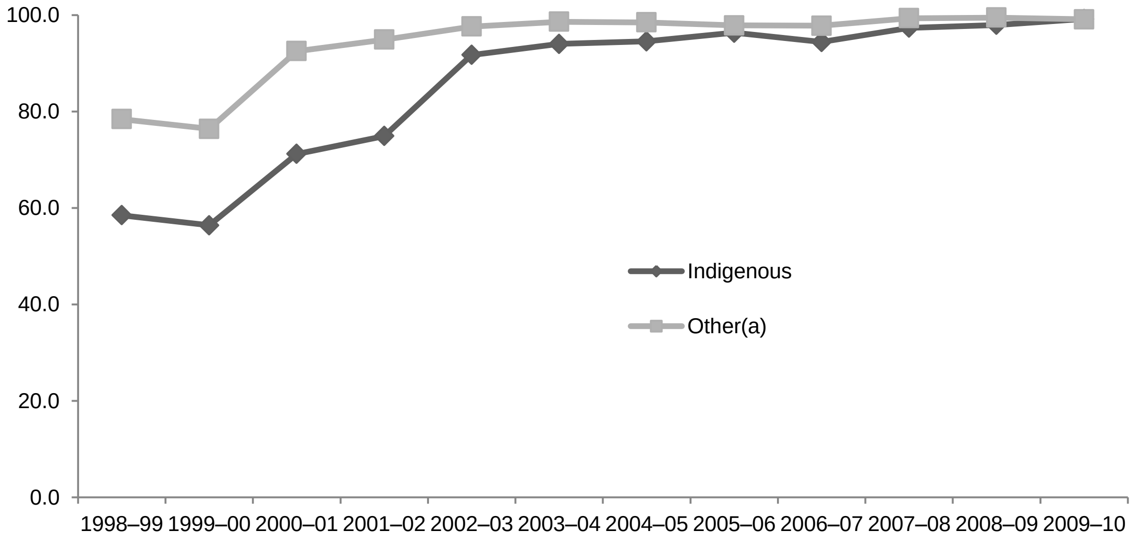
Note: The proportion is the number of separations in accredited hospitals by Indigenous status and peer group divided by the total number of separations by Indigenous status and peer group.

Source: AIHW analysis of National Hospital Morbidity Database and National Public Hospitals Establishment Database.

Time series analyses

Time series data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations from 1998–99 onwards—Queensland, Western Australia, South Australia and the Northern Territory. These four jurisdictions represent approximately 60% of the Indigenous Australian population.

- Between 1998–99 and 2009–10 in these four jurisdictions combined, there were increases in the proportion of hospitalisations of Indigenous and other Australians in accredited hospitals (from 59% to 99% for Indigenous hospitalisations and from 78% to 99% for other hospitalisations) (Figure 3.19.1; Table 3.19.5).
- Although the difference between the proportion of Indigenous and non-Indigenous separations in accredited hospitals appears to decline between 1998–99 and 2009–10, this may be the result of more hospitals in rural and remote areas obtaining accreditation in recent years. A higher proportion of Indigenous Australians than non-Indigenous Australians were hospitalised in these areas (Table 3.19.5).



(a) 'Other' includes hospitalisations for non-Indigenous people and those for whom Indigenous status was not stated.

Source: AIHW analysis of National Hospital Morbidity Database and National Public Hospitals Establishment Database.

Figure 3.19.1: Proportion of hospitalisations in accredited public hospitals, by Indigenous status, Qld, WA, SA and NT combined, 1998–99 to 2009–10

Table 3.19.5: Proportion of hospitalisations in accredited public hospitals, by Indigenous status, Qld, WA, SA and NT combined, 1998–99 to 2009–10(a)(b)(c)(d)

	Indigenous	Other(e)	Rate ratio(f)	Rate difference(g)
1998–99	58.5	78.4	0.7	–19.9
1999–00	56.4	76.4	0.7	–20.0
2000–01	71.2	92.5	0.8	–21.3
2001–02	74.9	94.9	0.8	–20.0
2002–03	91.7	97.6	0.9	–5.9
2003–04	94.0	98.6	1.0	–4.6
2004–05	94.5	98.5	1.0	–3.9
2005–06	96.3	97.8	1.0	–1.5
2006–07	94.4	97.8	1.0	–3.4
2007–08	97.4	99.3	1.0	–2.0
2008–09	97.9	99.5	1.0	–1.5
2009–10	99.2	99.1	1.0	0.1
Annual change(h)	3.9*	1.7*	0.03*	2.2*
Per cent change over period(i)	73.4*	24.4*	38.7*	–119.5*

*Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2008–10.

(a) Data are from public hospitals only.

(b) Jurisdiction based on state location of hospital.

(c) Data are reported for Qld, WA, SA and NT only. These four jurisdictions are considered to have adequate levels of Indigenous identification over the time period reported, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these jurisdictions should not be assumed to represent the hospitalisation experiences in the other jurisdictions.

(d) Care types 7.3, 9 and 10 (Newborn - unqualified days only, organ procurement, hospital boarder) excluded from analysis.

(e) 'Other' includes hospitalisations for non-Indigenous people and those for whom Indigenous status was not stated.

(f) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for Other Australians.

(g) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for Other Australians.

(h) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(i) Per cent change between 1998–99 and 2009–10 based on the average annual change over the period.

Note: the proportion is the number of separations in accredited hospitals by Indigenous status and state/territory divided by the total number of separations by Indigenous status and state/territory.

Source: AIHW analysis of National Hospital Morbidity Database and National Public Hospitals Establishment Database.

General practice accreditation

Information on the accreditation of general practices is available from the Annual Survey of Divisions of General Practice and from the two registered providers of general practice accreditation in Australia—AGPAL and GPA+.

Table 3.19.6 and Figure 3.19.2 present data on the number and proportion of general practices accredited in Australia.

- In 2010–11, data from AGPAL and GPA+ estimated that there were 5,918 (71%) general practices accredited in Australia, and a further 2,429 practices registered but not yet accredited.
- Approximately 69% of general practices in areas where less than 1% of the population was Indigenous were accredited. Between 69% and 84% of general practices in areas where between 1 and 10% of the population were Indigenous were accredited. In areas

where more than 10% of the population were Indigenous, 61% of general practices were accredited (Table 3.19.6).

Table 3.19.6: Number of general practices accredited through AGPAL and GPA+, by proportion of the population that is Indigenous[(a)], 2010–11

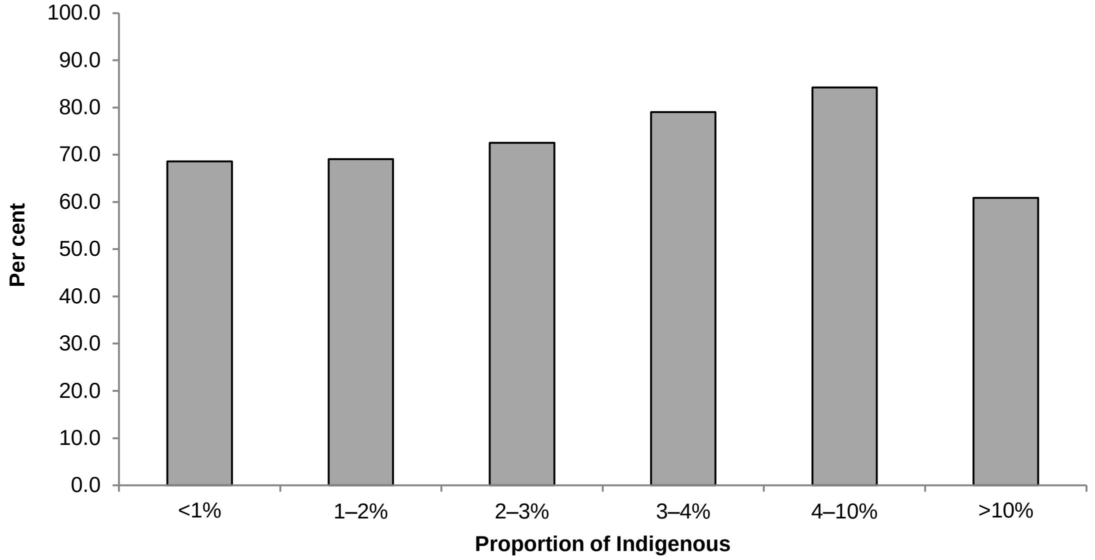
Proportion of Indigenous[(a)]	Number of accredited	Per cent accredited	Registered but not yet accredited	Total number of accredited and registered practices
<1%	2,008	68.6	918	2,926
1–2%	1,875	69.1	839	2,714
2–3%	899	72.5	341	1,240
3–4%	411	79.0	109	520
4–10%	535	84.3	100	635
>10%	190	60.9	122	312
Total	**5,918**	**70.9**	**2,429**	**8,347**

(a) Aboriginal and Torres Strait Islander proportions are based on ABS population estimates used in the Annual Survey of Divisions of General Practice.

Notes

1. Includes one Division for which the proportion of the Indigenous population was not available.
2. There is double counting of some services where general practices reside on the border of two divisions. In that case two divisions may service the same practice.

Source: AIHW analysis of AGPAL and GPA+ unpublished data.



(a) Proportion calculated as a percentage of accredited and registered practices.

(b) Indigenous proportions are based on ABS population estimates used in the Annual Survey of Divisions of General Practice.

Source: AIHW analysis of AGPAL and GPA+ unpublished data.

Figure 3.19.2: Proportion of general practices accredited[(a)] by Divisions of General Practice, by proportion of the population that is Indigenous[(b)], 2010–11

Accreditation of Aboriginal and Torres Strait Islander primary health-care services

OATSIH recognises that there are several accreditation frameworks for clinical or other service delivery relevant to the Indigenous health sector. Work is currently underway to explore options for a streamlined and integrated approach to accreditation under multiple frameworks. Until the outcomes of this work are available, organisations will be supported to undertake clinical or other service delivery accreditation. For example, organisations with a GP will be supported to obtain accreditation against the Royal Australian College of General Practitioners (RACGP) standards for general practice. Other services may recognise an alternative accreditation framework that reflects their service delivery; for example, Quality Improvement Council (QIC) modules deal with services such as home-based care services, alcohol, tobacco and other drugs services, and mental health services. Organisations that obtain service delivery accreditation through a discrete framework will also be supported to work towards organisational accreditation through the accreditation frameworks of organisations such as the QIC or International Standards Organisation (ISO).

Reform in this area is likely to be led by the Australian Commission on Safety and Quality in Health Care, which is currently considering reforms to standards and accreditation in Australian health care. Part of this work includes the development of mandatory Australian health-care safety standards.

Information on the accreditation of Indigenous primary health-care services is available from the registered providers of general practice accreditation (AGPAL and GPA+); the QIC; the OSR data collection and from the AIHW HfL Data Collection. Note that there is great overlap in the services that are captured in each of these data sources.

OATSIH Services Reporting (OSR) data

Accreditation is an important part of quality improvement in primary health-care services. In 2010–11, 71% of all Indigenous primary health-care services (235) were accredited.

- In 2010–11, 82% of the 147 Indigenous primary health-care services that had a General Practitioner on staff reported being accredited, and 52% of the 88 Indigenous primary health-care services without a GP on staff reported being accredited (Table 3.19.7).
- Of all accredited services, 123 (74%) were accredited against the RACGP standards for accreditation only (which includes accreditation through AGPAL and GPA+), 47 (28%) were accredited against organisational standards (which includes QIC, ISO, etc) and 30 (18%) were accredited through another provider (AIHW 2012).
- Around half (52%) of the 88 Indigenous primary health-care services without a GP on staff reported being accredited (Table 3.1.8)— 11 (24%) of these were accredited against organisational standards (which includes QIC, ISO, etc) four (9%) were accredited against the RACGP standards and three (7%) were accredited through another provider (AIHW OSR data collection unpublished).

Table 3.19.7: Number and proportion of Aboriginal and Torres Strait Islander primary health-care services, by accreditation status, 2010–11

Accreditation status	Services with a GP	Services without a GP	Total accreditation
		Number of services	
Accredited	121	46	167
Not accredited	26	42	68
Total	**147**	**88**	**235**
		Proportion of services (%)	
Accredited	82.3	52.3	71.1
Not accredited	17.7	52.2	28.9
Total	**100.0**	**100.0**	**100.0**

Source: AIHW OSR data collection.

Healthy for Life Program

Information on the accreditation status of services funded through the HfL program is available from the AIHW Healthy for Life data collection.

- As at 30 June 2010, of the 79 services that were included in the Healthy for Life program and reported information on accreditation, almost two-thirds (66%) were accredited and 18% were undergoing accreditation. AGPAL was the most commonly used registered accreditation provider, with 36 services being accredited with this provider and 10 undergoing accreditation (Table 3.19.8).

Table 3.19.8: Number and proportion of services, by accreditation status, by recognised provider, at 30 June 2010

	Recognised provider				
Accreditation status	AGPAL	QIC	Other	Provider not stated	Total
			Number of services		
Accredited	36	3	13	0	52
Undergoing accreditation	10	1	1	2	14
Provisionally accredited	0	0	0	0	0
None of the above	0	0	0	9	9
Accreditation status not stated	0	0	0	4	4
Total	**46**	**4**	**14**	**15**	**79**
			Proportion of services (%)		
Accredited	78.3	75.0	92.9	0.0	65.8
Undergoing accreditation	21.7	25.0	7.1	13.3	17.7
Provisionally accredited	0.0	0.0	0.0	0.0	0.0
None of the above	0.0	0.0	0.0	60.0	11.4
Accreditation status not stated	0.0	0.0	0.0	26.7	5.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Data were provided by 79 services.

Source: AIHW, Healthy for Life data collection.

Data quality issues

National Hospital Morbidity Database

The scope of the NMDS is episodes of care for admitted patients in essentially all hospitals in Australia, including public and private acute and psychiatric hospitals, free-standing day hospital facilities, alcohol and drug treatment hospitals and dental hospitals. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia's off-shore territories are not included. Hospitals specialising in ophthalmic aids and other specialised acute medical or surgical care are included. The NHMD does not include episodes of non-admitted patient care provided in outpatient clinics or emergency departments.

For 2009–10 almost all public hospitals provided data for the NHMD, with the exception of all separations for a mothercraft hospital in the Australian Capital Territory and about 2,400 separations for one public hospital in Western Australia. The majority of private hospitals provided data, with the exception of the private day hospital facilities in the Australian Capital Territory and the Northern Territory. In addition, Western Australia was not able to provide about 10,600 separations for one private hospital.

Separations

Data are a count of hospital separations (episodes of admitted patient care, which can be a total hospital stay or a portion of a hospital stay beginning or ending in a change of type of care) and not patients. Patients who separated from hospital more than once in the year will be counted more than once in the data set.

The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.

Separations with care types of *Newborn* episodes that did not include qualified days, and records for *Hospital boarders* and *Posthumous organ procurement* have been excluded as these activities are not considered to be admitted patient care.

Indigenous status question

Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections.

Approximately 2% of hospital records have missing Indigenous status information.

Hospitalisations for which the Indigenous status of the patient was not reported are excluded from hospitalisations data for non-Indigenous Australians, apart from Western Australia where records with an unknown status are recorded as non-Indigenous.

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations involving Aboriginal and Torres Strait Islander people. In 2007, the AIHW completed an assessment of the level of Indigenous under-identification in selected public hospitals in all states and territories. Results from this assessment indicate that New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory have adequate Indigenous identification (20% or less overall under-identification of Indigenous patients) in their hospital separations data.

It has therefore been recommended that reporting of Indigenous hospital separations data be limited to aggregated information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Interpretation of results should take into account the relative quality of the data from the jurisdictions. The

proportion of the Indigenous population covered by these six jurisdictions is 96%. Tasmania and the Australian Capital Territory data are presented at the State/Territory level and should be used with caution, but they are not aggregated with the other 6 jurisdictions.

From the AIHW study, it was possible to produce correction factors for the level of Indigenous under-identification in hospital data for each jurisdiction and at the national level. Adjustments for Indigenous under-identification have been made at the national level for the total number of hospital separations using an adjustment factor of 89%. No adjustments for under-identification have been made at the state/territory level or principal diagnosis level.

The 2007 AIHW study indicated acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote* and *Very remote* areas. The quality of data supports analyses for hospitalisations by remoteness areas at the national level only.

In 2011–12, the AIHW commenced another study to re-assess the level of under-identification in public hospitals data. All states and territories have participated in the study to assess improvements in data quality. A report on the findings is expected to be published in mid-2013 which will include new correction factors for the level of Indigenous under-identification in hospital separations data at the national, state/territory and remoteness levels.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in hospital records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used in this analysis are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021* (ABS 2009).

AIHW National Public Hospitals Establishment Database

The AIHW National Public Hospitals Establishment Database is subject to the same data quality limitations as the AIHW National Hospital morbidity Database above.

AGPAL and GPA Accreditation Plus

There is double counting of some services where general practices reside on the border of two divisions. In such cases, two divisions may service the same practice. Data reported on practices accredited by the proportion Indigenous persons in the population are based on ABS population estimates used in the Annual Survey of Divisions of General Practice.

OATSIH Services Reporting (OSR)

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012).

Healthy for Life data

For the July 2009 to June 2010 reporting period, 79 services submitted data as part of the Healthy for Life (HfL) Program.

Services started submitting their data through an electronic interface (OSCAR) for the February 2008 reporting period. This has improved the quality of data submitted.
Not all of the services were able to provide data for all of the essential indicators and service profile questions included in the HfL data collection. The number of services that were able to provide data varies across the qualitative and quantitative indicators.

There has been an upward trend in the proportion of services that reported on each of the indicators over time, particularly compared with the first reporting period ending June 2007. All of the services reporting provided data for all of the EIs in the period ending December 2009. This proportion decreased slightly in the current reporting period ending June 2010. This may be because services need to report against fewer EIs and do not need to provide most qualitative data in periods ending in December, unlike in annual reporting periods ending in June. The current period had higher proportions of services that reported against most EIs than the previous annual collection period ending June 2009.

In general, the data quality improved noticeably between the period ending June 2008 and the period ending June 2009. The overall level of data quality remained similar in the current period, though there was a different pattern of data quality issues.

The current period ending June 2010 had a different distribution of data quality issues than the previous period. No services had inconsistencies between related indicators, however the number of services with missing data and data out of the expected range increased. The latter might be due to more stringent data checking procedures employed by the AIHW during the current period.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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3.20 Aboriginal and Torres Strait Islander people training for health-related disciplines

The proportion of Aboriginal and Torres Strait Islander Australians in tertiary education for health-related disciplines

Data sources

Data for this measure come from the Australian Government Department of Education, Employment and Workplace Relations (DEEWR) Higher Education Student Statistics Collection and the National Centre for Vocational Education Research (NCVER) National Vocational Education and Training (VET) Provider Collection.

DEEWR Higher Education Student Statistics Collection

The Australian Government Department of Education, Employment and Workplace Relations (DEEWR) is the responsible agency for the Higher Education Students Statistics Collection, which includes information from higher education institutions such as universities and colleges of advanced education. This data collection contains statistics relating to students enrolled in higher education courses between 1 January and 31 December of each year in each Australian higher education provider.

National Vocational Education and Training (VET) Provider Collection

The National Centre for Vocational Education Research is Australia's main provider of vocational education and training (VET) sector research and statistics. VET is a national system designed to give workers the skills for particular occupations and industries. The VET sector includes providers that receive public VET funding, such as technical and further education organisations, higher education institutions, other government providers (for example, agricultural colleges), community education providers, government-funded private registered training organisations, schools funded through government allocations for VET, and all other Commonwealth and state recurrent and specific-purpose funded VET, regardless of the location of the training organisation.

Analyses

Higher education sector enrolments

Data on Indigenous student enrolments in higher education university health-related courses are available from the DEEWR Higher Education Students Statistics Collection. Data for 2010 by age group is presented in Table 3.20.1 and Figure 3.20.1.

- In 2010 there were 1,766 Indigenous students aged 15 years and over enrolled in selected higher education health-related courses. This was equivalent to a rate of 48 enrolments per 10,000 population. There were 107,481 other Australian students aged 15 years and over who were enrolled in health-related higher education courses in 2010 which was a rate of 62 enrolments per 10,000 population (Table 3.20.1).

- Indigenous students enrolled in health-related courses were generally older than other Australian students. Indigenous students had slightly higher rates of enrolment for the 35–44, 45–54 and 55 and over age groups, a similar rate of enrolment for the 25–34 year age group, and a much lower rate for those aged 15–24 (Figure 3.20.1).

Table 3.20.1: Higher education university health-related course enrolments by age group and Indigenous status, 2010

	Indigenous			Other[(a)]		
Age group	**No.**	**Per cent**	**Age specific rate (number per 10,000)**	**No.**	**Per cent**	**Age specific rate (number per 10,000)**
Undergraduate Domestic Enrolments						
15–24	691	39.1	59.6	57,562	44.9	197.3
25–34	313	17.7	39.8	13,112	10.2	43.9
35–44	253	14.3	36.6	6,560	5.1	21.4
45–54	123	7.0	23.7	3,126	2.4	10.5
55 and over	38	2.2	7.7	404	0.3	0.7
Total Domestic students (15 years and over)	**1,415**		**38.8**	**79,433**		**44.8**
Total Domestic Enrolments[(b)] (15 years and over)	**1,764**	**99.9**	**48.4**	**107,481**	**83.9**	**61.6**
Total Enrolments (15 years and over)[(c)]	**1,766**	**100.0**	**48.4**	**128,153**	**100.0**	**73.4**

(a) Other includes those whose Indigenous status is unknown.

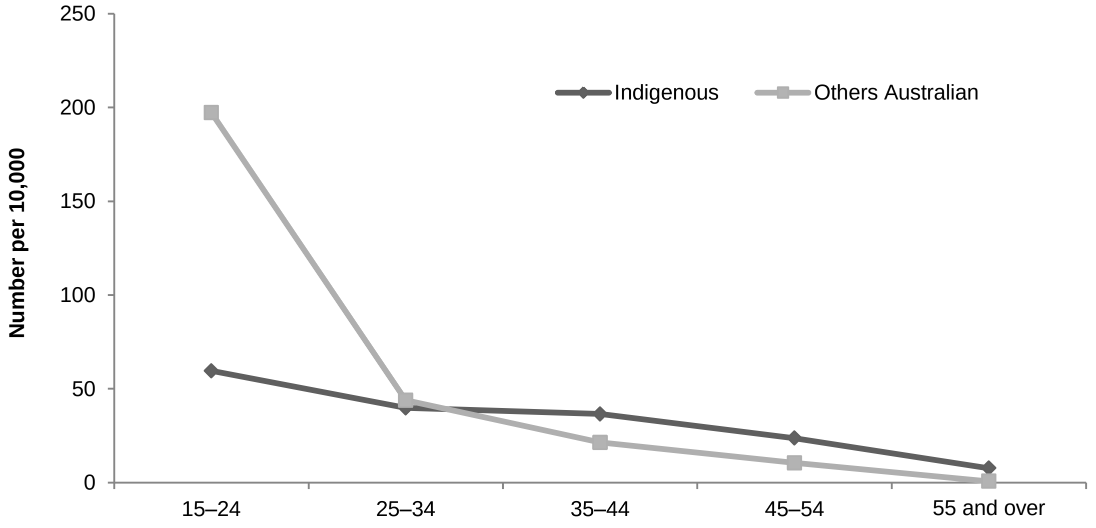
(b) The total undergraduate domestic enrolments include some double counts of students who enrolled in more than one health-related course.

(c) Includes Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.

Notes

1. Includes Aged 15 years and over students.
2. Includes domestic and international students.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.



Note: Includes Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.

Source: AIHW analysis of DEST 2006 data.

Figure 3.20.1: Higher education university health-related course enrolments by Indigenous status and age group, per 10,000 population, 2010

Data on the number of Indigenous students in university health-related courses by type of course are available from the Higher Education Student Statistics Collection. Data for the number of Indigenous students in university health-related courses in 2010 are presented in Table 3.20.2 and by state and territory in Table 3.20.3.

- In 2010, 1,415 Indigenous undergraduate domestic students were studying university health-related courses, which was equal to a rate of 39 per 10,000 population. This compares with a rate of 44 per 10,000 for other undergraduate domestic students (Table 3.20.2).
- The most common health-related course for both Indigenous Australian and other Australian students was nursing (21 per 10,000), followed by public health for Indigenous students (9 per 10,000) and medical studies and rehabilitation therapies for other students (8 and 7 per 10,000, respectively).
- The Northern Territory had the highest proportion of Indigenous students enrolled in health-related undergraduate courses (10% of all domestic undergraduate students), followed by New South Wales and Queensland (2% for each jurisdiction) (Table 3.20.3).

Table 3.20.2: Undergraduate domestic students[(a)] enrolled in health-related courses[(b)], Indigenous and Other students, 2010

	Indigenous		Other students		
Course	**Number**	**Rate(per 10,000)[(c)]**	**Number**	**Rate(per 10,000)[(c)]**	**Rate difference[(d)]**
Nursing	782	21.4	37,298	21.1	0.4
Public health	309	8.5	5,945	3.4	5.1
Indigenous health	159	4.4	52	0.0	4.3
Other public health	150	4.1	5,893	3.3	0.8
Medical studies	175	4.8	14,456	8.2	–3.4
Rehabilitation therapies	82	2.2	12,893	7.3	–5.0
Dental studies	35	1.0	2,617	1.5	–0.5
Pharmacy	n.p.	n.p.	4,910	2.8	n.p.
Radiography	18	0.5	2,003	1.1	–0.6
Optical science	< 10	n.p.	642	0.4	n.p.
All undergraduate domestic students[(a)]	**1,415**	**38.8**	**79,433**	**44.8**	**–6.0**
Total enrolments[(e)]	**1,766**	**48.4**	**128,153**	**72.3**	**–23.9**

(a) The total undergraduate domestic students take into account the coding of Combined Courses to two fields of education. As a consequence, counting both fields of education for Combined Courses means that the total undergraduate domestic enrolment in this table is less than the sum of detailed fields of education.

(b) Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.

(c) Using 2010 Australian population aged 15–64.

(d) Rate difference is Other students rate minus the Indigenous rate.

(e) Includes undergraduate, postgraduate, domestic and international students.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Table 3.20.3: Proportion and number of university students enrolled in health-related[(a)] courses who identified as Aboriginal and Torres Strait Islander, by state/territory, 2010[(b)]

State/territory[(c)]	Indigenous students	Non-Indigenous students	Total students	Indigenous students as a proportion of total
Undergraduate Domestic Enrolments				
New South Wales	452	20,386	20,838	2.2
Victoria	127	17,099	17,226	0.7
Queensland	359	17,079	17,438	2.1
Western Australia	162	10,396	10,558	1.5
South Australia	94	7,439	7,533	1.2
Tasmania	21	1,923	1,944	1.1
Northern Territory	149	1,316	1,465	10.2
Australian Capital Territory	10	858	868	1.2
Multi-state	41	2,937	2,978	1.4
Australia	1,415	79,433	80,848	1.8
Total undergraduate domestic students[(d)]	**1,415**	**79,433**	**80,848**	**1.8**
Total enrolments[(e)]	**1,766**	**128,153**	**129,919**	**1.4**

(a) Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.

(b) Includes enrolments in all courses.

(c) State/territory classification is based on state of institution.

(d) The total undergraduate domestic students take into account the coding of Combined Courses to two fields of education. As a consequence, counting both fields of education for Combined Courses means that the total undergraduate domestic enrolment in this table is less than the sum of detailed fields of education.

(e) Includes undergraduate, postgraduate, domestic and international students.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Higher education sector completions

- In 2010, there were 278 Indigenous graduate student completions in health related courses. Of these, 177 were completions of Indigenous undergraduate domestic students, which was a rate of 5 per 10,000 students. This was lower than the rate of undergraduate health-related course completions for other students in 2010 (9 per 10,000) (Table 3.20.4).
- The most common type of health-related course that Indigenous undergraduate students completed in 2010 was nursing (100) followed by public health (39) (Table 3.20.4).
- Approximately 1% of domestic students who completed a health-related course in 2010 identified as Aboriginal or Torres Strait Islander. Courses relating to public health had the highest proportion of Indigenous student completions (4%), followed by nursing (1%) (Table 3.20.4).
- Around one-third (34%) of all Indigenous students (including international students) who completed health-related courses in 2010 were aged 15–24 years. This compared with 30% of other students. Around 37% of Indigenous students who completed health-related courses were aged 25 years and above, compared with only 10% of other students (Table 3.20.5).

- In 2010, the rate of Indigenous students (domestic and international) competing higher education health-related courses were lower than that for other students for ages 15–24 and 25–34, but were similar for ages 35 and over (Figure 3.20.2).

Table 3.20.4: Undergraduate students(a) completions health-related courses(b), Indigenous and Other students, 2010

	Indigenous		Other(c)		
Course	No.	Rate (per 10,000)(d)	No.	Rate (per 10,000)(d)	Rate difference(e)
Nursing	100	2.7	7,598	4.3	–2
Public health	39	1.1	904	0.5	1
Indigenous health	n.p.	n.p.	n.p.	n.p.	n.p.
Other public health	n.p.	n.p.	n.p.	n.p.	n.p.
Medical studies	17	0.5	2,358	1.3	–1
Rehabilitation therapies	< 10	n.p.	2,604	1.5	n.p.
Dental studies	< 10	n.p.	597	0.3	n.p.
Pharmacy	< 10	n.p.	1,104	0.6	n.p.
Radiography	< 10	n.p.	548	0.3	n.p.
Optical science	< 10	n.p.	103	0.1	n.p.
Total undergraduate domestic students(a)	**177**	**4.9**	**15,787**	**8.9**	**–4**
Total completions(f)	**278**	**7.6**	**31,374**	**17.7**	**–10**

(a) The data takes into account the coding of Combined Courses to two fields of education. As a consequence, counting both fields of education for Combined Courses means that the total undergraduate domestic student reported in this table is less than the sum of detailed fields of education.

(b) Include medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies courses.

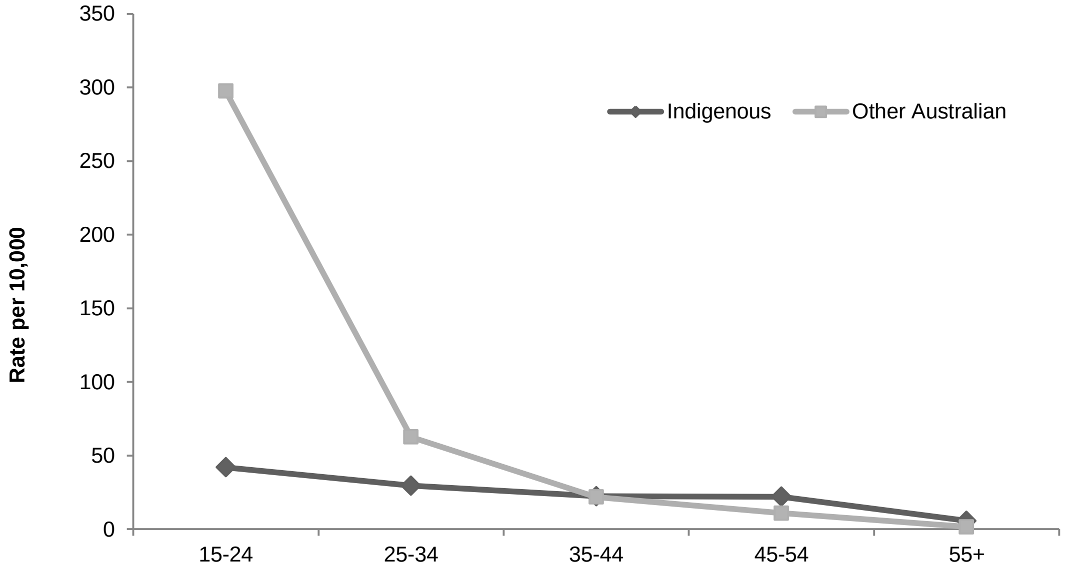
(c) Other includes those whose Indigenous status is unknown.

(d) Using 2010 Australian population aged 15–64.

(e) Rate difference is Other students rate minus the Indigenous rate.

(f) Includes undergraduate, postgraduate, domestic and international students.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.



Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.20.2: Rate of higher education university health-related course completions by Indigenous status and age group, 2010

Table 3.20.5: Higher education health-related course[(a)] completions by age group and Indigenous status, number, 2010

Age group	Indigenous			Other[(b)]		
	No.	Per cent	Number per 10,000	No.	Per cent	Number per 10,000
15–24	487	33.9	42.0	86,786	30.4	297.5
25–34	233	16.2	29.6	18,703	6.6	62.6
35–44	155	10.8	22.1	6,712	2.4	21.9
45–54	115	8.0	2.2	3,254	1.1	10.9
55 and over	28	1.9	5.7	889	0.3	1.6
Total undergraduate domestic completions (15 years and over)	**1,018**	**70.8**	**27.9**	**116,344**	**40.8**	**66.7**
Total completions (15 years and over[(c)]	**1,437**	**100**	**39.4**	**285,190**	**100**	**163.4**

(a) Includes Broad field of health course code: 06

(b) Other includes those whose Indigenous status is unknown

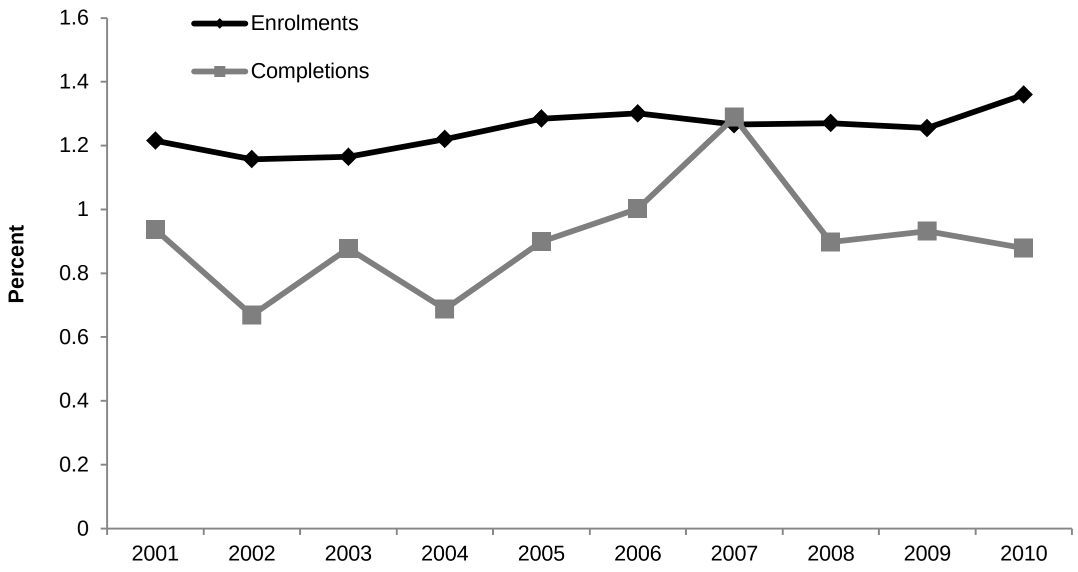
(c) Includes domestic and international students.

Note: Excludes unknown age group.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Time series

- During 2001 to 2010, there has been an upward trend in the number and rate of Indigenous students who have both enrolled in and completed undergraduate health-related courses (Table 3.20.6).
- However, over the same time period the proportion of Indigenous student enrolments have remained relatively stable and the proportion of Indigenous student completions have fluctuated somewhat (between 0.9% and 1.3%) (Table 3.20.7 and Figure 3.20.3).



Notes

1. Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.
2. Includes domestic and international students.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.20.3: Proportion of university students enrolled in, and completed health-related courses who identified as Aboriginal and Torres Strait Islander, 2001–2010

Table 3.20.6: University students completing health-related courses[a] who identified as Aboriginal or Torres Strait Islander per 10,000, 2001– 2010[b][c]

	Enrolments						Completions					
	Indigenous students		Other Australians				Indigenous students		Other Australians			
	Number	Rate(per 10,000)[d]	Number	Rate(per 10,000)[d]	Rate ratio	Rate difference	Number	Rate(per 10,000)[d]	Number	Rate(per 10,000)[d]	Rate ratio	Rate difference
2001	932	33.5	75,744	50.0	0.7	–16.5	181	6.5	19,146	12.6	0.51	–6.1
2002	929	32.5	79,341	51.6	0.6	–19.1	135	4.7	20,071	13.1	0.36	–8.3
2003	964	32.8	81,802	52.4	0.6	–19.6	182	6.2	20,558	13.2	0.47	–7.0
2004	1,040	34.4	84,183	53.2	0.6	–18.9	152	5.0	21,972	13.9	0.36	–8.9
2005	1,148	36.7	88,228	54.9	0.7	–18.2	200	6.4	22,052	13.7	0.47	–7.3
2006	1,251	38.8	94,907	58.1	0.7	–19.4	236	7.3	23,310	14.3	0.51	–7.0
2007	1,329	39.9	103,602	62.2	0.6	–22.3	329	9.9	25,201	15.1	0.65	–5.3
2008	1,428	41.6	110,987	65.4	0.6	–23.9	248	7.2	27,382	16.1	0.45	–8.9
2009	1,520	42.9	119,614	69.0	0.6	–26.1	274	7.7	29,132	16.8	0.46	–9.1
2010	1,766	48.4	128,153	72.3	0.7	–23.9	278	7.6	31,374	17.7	0.43	–10.1
Annual change	**90.5***	**1.6***	**5,845.2***	**2.5***	**0.0**	**–0.9***	**16.6***	**0.3***	**1,324.5***	**0.6***	**0.00**	**–0.2**
Per cent change	**87.4***	**43.8***	**69.5***	**45.6***	**–0.2**	**49.1***	**82.7***	**43.3***	**62.3***	**39.2***	**7.8**	**34.9**

(a) Include medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies courses.

(b) Includes domestic and international students.

(c) Includes all courses.

(d) Using 2010 Australian population aged 15–64.

Source: Higher Education Student Statistics Collection.

Table 3.20.7: University students completing health-related courses[(a)] who identified as Aboriginal or Torres Strait Islander, 2001– 2010[(b)(c)]

Year	Enrolments				Completions			
	Indigenous students	Non-Indigenous students	Total students	Indigenous as a proportion of total	Indigenous students	Non-Indigenous students	Total students	Indigenous as a proportion of total
2001	932	75,744	76,676	1.2	181	19,146	19,327	0.9
2002	929	79,341	80,270	1.2	135	20,071	20,206	0.7
2003	964	81,802	82,766	1.2	182	20,558	20,740	0.9
2004	1,040	84,183	85,223	1.2	152	21,972	22,124	0.7
2005	1,148	88,228	89,376	1.3	200	22,052	22,252	0.9
2006	1,251	94,907	96,158	1.3	236	23,310	23,546	1.0
2007	1,329	103,602	104,931	1.3	329	25,201	25,530	1.3
2008	1,428	110,987	112,415	1.3	248	27,382	27,630	0.9
2009	1,520	119,614	121,134	1.3	274	29,132	29,406	0.9
2010	1,766	128,153	129,919	1.4	278	31,374	31,652	0.9
Per cent change	**90.5***	**5,845.2***	**5,935.7***	**0.02***	**16.6***	**1,324.5***	**1,341.1***	**0.0**
Annual change	**87.4***	**69.5***	**69.7***	**11.9***	**82.7***	**62.3***	**62.5***	**19.4**

(a) Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.

(b) Includes domestic and international students.

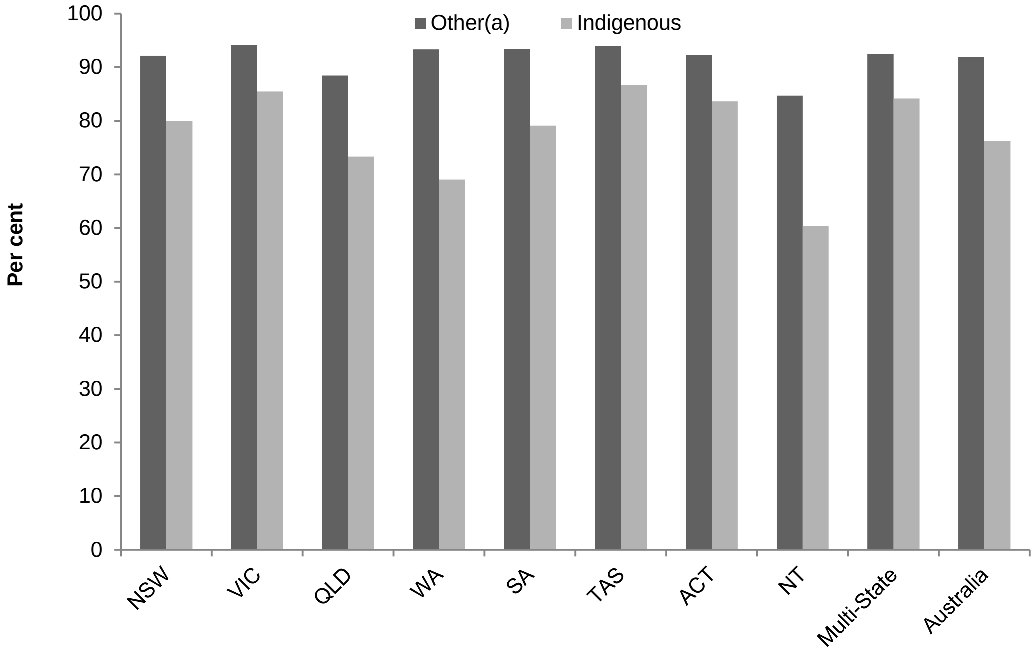
(c) Includes all courses.

Source: Higher Education Student Statistics Collection.

Progress rates

The progress rate for higher educational institutions is based on the proportion of units passed within a year compared with the total number of units enrolled.

- In 2010, the progress rate for Indigenous university students studying health-related courses was 76%. This compared with 92% for non-Indigenous university students studying health-related courses.
- The progress rate for Indigenous students varied by state and territory, ranging from 60% in the Northern Territory to 87% in Tasmania (Table 3.20.8 and Figure 3.20.4).



(a) Other includes those whose Indigenous status is unknown.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.20.4: Higher education progress rates for university students studying health-related courses, by state/territory and Indigenous status, 2010

Table 3.20.8: Higher education progress rates for university students studying health-related courses, by state/territory and Indigenous status, 2010

	Certified		Passed		Progress rate	
State/territory	**Indigenous**	**Other[(a)]**	**Indigenous**	**Other[(a)]**	**Indigenous**	**Other[(a)]**
New South Wales	395	22,761	316	20,969	79.93	92.13
Victoria	108	19,121	92	18,001	85.49	94.15
Queensland	365	22,413	268	19,824	73.35	88.45
Western Australia	137	9,976	94	9,312	69.02	93.35
South Australia	79	7,673	63	7,166	79.12	93.40
Tasmania	29	2,362	25	2,218	86.70	93.89
Australian Capital Territory	8	845	6	779	83.61	92.29
Northern Territory	82	817	49	692	60.40	84.69
Multi-State	39	3,128	33	2,893	84.14	92.46
Total Undergraduate Domestic Certified	**1,241**	**89,095**	**946**	**81,855**	**76.25**	**91.87**
Total Certified[(b)]	**1,427**	**119,285**	**1,082**	**110,261**	**75.83**	**92.43**

(a) Other includes those whose Indigenous status is unknown.

(b) Includes undergraduate, postgraduate, domestic and overseas students.

Notes

1. Includes all Health courses.
2. State/territory classification is based on state of institution.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Vocational education and training (VET) sector enrolments

Data on Indigenous students enrolled in health-related courses in the VET sector are available from NCVER National VET Provider Collection. Data for 2010 are presented below.

- In 2010, there were 5,100 Indigenous enrolments in health-related courses in the VET sector; this represented about 5% of all students enrolled in VET courses (Tables 3.20.9 and 3.20.14).
- The most common type of health-related courses in which Indigenous VET students were enrolled in for 2010 was public health (2,796 enrolments) followed by nursing (464 enrolments) (Table 3.20.9).
- In 2010, the enrolment rate for Indigenous students in health related courses was higher than that of non-Indigenous students (147 per 10,000 compared with 70 per 10,000).
- In 2010, the proportion of Indigenous students enrolled in VET sector health-related courses ranged from 0.9% in the Australian Capital Territory to 51% in the Northern Territory (Table 3.20.10).
- The proportion of Indigenous students enrolled in VET sector health-related courses increased between 2003 and 2010 (from around 4% to 5%) (Tables 3.20.11 and 3.20.12).

Table 3.20.9: Vocational students, course enrolments[(a)] in health-related field of education, by Indigenous status: rates and rate differences, Australia 2010

	Indigenous		Other Australians[(b)]		
Course	Number	Rate (per 10,000)[(c)]	Number	Rate (per 10,000)[(d)]	Rate difference[(e)] per 10,000
0601 - Medical Studies	0	0.0	290	0.2	–0.2
0603 - Nursing	464	13.4	21,638	14.7	–1.3
0605 - Pharmacy	0	0.0	78	0.1	–0.1
0607 - Dental Studies	71	2.1	4,614	3.1	–1.1
0609 - Optical Science	7	0.2	1095	0.7	–0.5
0613 - Public Health	2,796	80.8	41,414	28.1	52.7*
0617 - Rehabilitation Therapies	0	0.0	227	0.2	–0.2
0619 - Complementary Therapies	85	2.5	4,461	3.0	–0.6
0699 - Other Health	1,677	48.5	28,842	19.6	28.9*
Total	**5,100**	**147.4**	**102,659**	**69.6**	**77.8***

* Represents results with statistically significant differences in the Indigenous/Other Australian comparisons at the $p < 0.05$ level.

(a) Represents number of enrolments, students may enrol in more than one course.

(b) Other includes those whose Indigenous status is unknown.

(c) Using Indigenous 2010 population aged 15–64.

(d) Using other Australian 2010 population 15–64.

(e) Rate difference is the Other Australians rate minus the Indigenous rate.

Source: AIHW analysis of NCVER, National VET Provider Collection, 2010.

Table 3.20.10: Proportion of vocational education and training sector students enrolled[(a)] in health-related course who were Indigenous, by state/territory, 2010

State/territory	Per cent[(b)]
NSW	5.7
Vic	0.8
Qld	6.9
WA	5.4
SA	6.3
Tas	2.2
NT	51.4
ACT	0.9
Australia	4.2

(a) Represents number of enrolments, students may enrol in more than one course.

(b) Using Indigenous 2010 population aged 15–64.

Source: NCVER, National VET Provider Collection, 2010.

Table 3.20.11: Indigenous vocational education and training (VET) sector health-related course enrolments by course[(a)], 2003–2010

	Year								Linear trend change 2003–10	
Course	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Annual change[(b)]**	**Per cent change[(c)]**
0601 - Medical Studies	91	62	2	130	1	2	3	0	–12.6	–97.2
0603 - Nursing	192	172	245	357	405	421	393	464	42.7*	155.6*
0605 - Pharmacy	1	0	0	0	0	0	0	0	–0.1	–58.3
0607 - Dental Studies	47	54	50	46	51	70	70	71	3.7*	55.5*
0609 - Optical Science	3	5	6	5	4	3	4	7	0.2*	36.1*
0613 - Public Health	3,192	2,136	2,436	2,856	3,661	4,094	3,199	2,796	99.1	21.7
0617 - Rehabilitation Therapies	30	18	15	56	73	11	8	0	–3.04	–70.8
0619 - Complementary Therapies	24	33	27	26	61	59	60	85	8.3*	240.6*
0699 - Other Health	1,340	1,587	1,716	1,673	1,583	1,483	1,734	1,677	27.4	14.3
Total	**4,920**	**4,067**	**4,497**	**5,149**	**5,839**	**6,143**	**5,471**	**5,100**	**165.6**	**23.6**
Rate per 10,000 population	**176**	**141**	**151**	**168**	**184**	**188**	**163**	**147**	**1.14**	**7.8**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the 7 reporting periods.

(a) Represents number of enrolments, students may enrol in more than one course.

(b) Average period change determined using regression analysis.

(c) Per cent change between 2003 and 2010 based on the average annual change over the period.

Source: AIHW analysis of NCVER, National VET Provider Collection, 2010.

Table 3.20.12: Other Australians(a) vocational education and training (VET) sector health-related course enrolments by course(b), 2003–2010

	Year								Linear trend change 2003–07	
Course	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Annual change(c)**	**Per cent change(d)**
0601 - Medical Studies	1,793	1,157	673	456	716	505	655	290	–158.0*	–61.7*
0603 - Nursing	10,810	12,968	15,398	17,274	19,210	19,082	18,905	21,638	1,410.3*	91.3*
0605 - Pharmacy	112	23	20	30	200	68	123	78	6.9	42.9
0607 - Dental Studies	3,193	3,232	3,623	3,616	3,428	3,816	4,211	4,614	181.3*	39.8*
0609 - Optical Science	889	905	965	1,063	869	966	1185	1095	31.6*	24.9*
0613 - Public Health	66,801	44,201	37,528	37,101	33,662	33,951	38,367	41,414	–2,631.5	–27.6
0617 - Rehabilitation Therapies	1,788	1,152	807	773	1,054	650	633	227	–163.2*	–63.9*
0619 - Complementary Therapies	2,800	3,675	3,101	3,178	3,286	3,162	3,646	4,461	140.2*	35.0*
0699 - Other Health	38,645	31,626	37,048	33,753	38,222	28,251	27,760	28,842	–1,308.0*	–23.7*
Total	**126,831**	**98,939**	**99,163**	**97,244**	**100,647**	**90,451**	**95,485**	**102,659**	**–2,490.6**	**–13.7**
Rate per 10,000 population	**97**	**75**	**74**	**71**	**72**	**64**	**66**	**70**	**–3.2***	**–22.8***

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the 7 reporting periods.

(a) Other includes those whose Indigenous status is unknown.

(b) Represents number of enrolments, students may enrol in more than one course.

(c) Average period change determined using regression analysis.

(d) Per cent change between 2003 and 2010 based on the average annual change over the period.

Source: AIHW analysis of NCVER, National VET Provider Collection, 2010.

Vocational education and training sector completions

- In 2010 there were 554 Indigenous completions in health-related courses in the VET sector; this represented 4% of students, aged 15–64, who completed VET courses (Table 3.20.14). Completions were at a much higher rate for Indigenous students (16 per 10,000) than for non-Indigenous students (10 per 10,000) (Table 3.20.13).
- The most common type of health-related course completed by Indigenous VET students in 2010 was public health (379 completions) followed by nursing (54 completions). Indigenous students as a proportion of the total students completing these courses were 8% and 1% respectively (Table 3.20.14).
- Over the period 2003–2010 the rate of VET health-related course completions doubled for both Indigenous and other students (Tables 3.20.15 and 3.20.16).
- The proportion of Indigenous completions dropped from 7.0% to 3.4% between 2002 and 2003. From 2004 to 2010 the proportion varied between 2.6% and 4.8% (Table 3.20.17 and Figure 3.20.5).

Table 3.20.13: Vocational, course completions(a)(b) for students aged 15–64 years in health-related field of education, by Indigenous status, Australia 2010

	Indigenous		Other Australians(c)		
Course completion(b)	**Number**	**Rate (per 10,000)(d)**	**Number**	**Rate (per 10,000)(e)**	**Rate difference(f) per 10,000**
0601 - Medical Studies	0	0.0	28	0.0	0.0
0603 - Nursing	54	1.6	4,246	2.9	–1.3
0605 - Pharmacy	0	0.0	3	0.0	0.0
0607 - Dental Studies	21	0.6	1,543	1.0	–0.4
0609 - Optical Science	0	0.0	260	0.2	–0.2
0613 - Public Health	376	10.9	4,140	2.8	8.1*
0617 - Rehabilitation Therapies	1	0.0	45	0.0	0.0
0619 - Complementary Therapies	11	0.3	990	0.7	–0.4
0699 - Other Health	91	2.6	3,849	2.6	0.0*
Total	**554**	**16.0**	**15,104**	**10.2**	**5.8***

* Represents results with statistically significant differences in the Indigenous/Other Australian comparisons at the $p < 0.05$ level.

(a) Represents number of completions, students may complete more than one course.

(b) The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

(c) Other includes those whose Indigenous status is unknown.

(d) Indigenous 2010 population aged 15–64.

(e) Other Australian 2010 population 15–64.

(f) Rate difference is the Indigenous rate minus the Other Australians rate.

Source: NCVER, National VET Provider Collection, 2010.

Table 3.20.14: Vocational education and training sector students enrolled and completed health-related courses[a], 2010

	Enrolled[b]			Completed[c][d]		
	Indigenous	Total	Indigenous as a proportion of total	Indigenous	Total	Indigenous as a proportion of total
	Number		Per cent	Number		Per cent
Public health	2,796	44,210	6.3	379	4,596	8.2
Nursing	464	22,102	2.1	54	4,307	1.3
Medical studies	0	290	0.0	0	28	0.0
Dental studies	71	4,685	1.5	21	1,564	1.3
Complementary therapies	85	4,546	1.9	11	1,004	1.1
Rehabilitation therapies	0	227	0.0	1	47	2.1
Optical science	7	1,102	0.6	0	261	0.0
Pharmacy	0	78	0.0	0	3	0.0
Other health	1,677	30,519	5.5	91	3,955	2.3
Total	**5,100**	**107,759**	**4.7**	**557**	**15,765**	**3.5**

(a) Qualification field of education classification.

(b) Represents number of enrolments, students may be enrolled in more than one course.

(c) Represents number of completions, students may complete more than one course.

(d) The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

Source: NCVER, National VET Provider Collection, 2010.

Table 3.20.15: Indigenous vocational education and training (VET) sector health-related course completions by course[a], 2003–2010

	Year								Linear trend change 2003–10	
Course	2003	2004	2005	2006	2007	2008	2009	2010	Annual change[b]	Per cent change[c]
0601 - Medical Studies	0	1	0	104	0	0	0	0	–1.3	–908.3
0603 - Nursing	34	46	51	52	105	125	74	54	6.6	136.0
0605 - Pharmacy	0	0	0	0	0	0	0	0	n.a.	n.a.
0607 - Dental Studies	9	16	11	12	21	14	30	21	2.0*	159.3*
0609 - Optical Science	1	0	1	0	3	0	0	0	–0.1	–58.3
0613 - Public Health	185	118	144	212	239	216	345	379	32.6*	123.2*
0617 - Rehabilitation Therapies	11	0	5	1	1	3	0	1	–0.9	–57.6
0619 - Complementary Therapies	2	6	7	5	13	7	16	11	1.4*	504.2*
0699 - Other Health	14	11	11	69	23	94	68	91	12.2*	611.3*
Total	**256**	**198**	**230**	**455**	**405**	**459**	**533**	**557**	**52.6***	**143.8***
Rate per 10,000 population	**9**	**7**	**8**	**15**	**13**	**14**	**16**	**16**	**1.3***	**100.7***

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the 7 reporting periods.

(a) Represents number of completions, students may complete more than one course.

(b) Average period change determined using regression analysis.

(c) Per cent change between 2003 and 2010 based on the average annual change over the period.

Source: NCVER, National VET Provider Collection, 2010.

Table 3.20.16: Other Australians[(a)] vocational education and training (VET) sector health-related course completions by course, 2003–2010

	Year								Linear trend change 2003–07	
Course completions[(b)(c)]	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**Annual change[(d)]**	**Per cent change[(e)]**
0601 - Medical Studies	180	50	20	26	16	34	36	28	–13.1	–51.0
0603 - Nursing	2,718	2,493	4,151	3,691	4,791	4,584	4,347	4,253	266.8*	68.7*
0605 - Pharmacy	79	9	3	5	2	1	9	3	–6.4	–57.1
0607 - Dental Studies	986	971	1,338	1,352	1,397	1,563	1,768	1,543	102.4*	72.7*
0609 - Optical Science	109	120	120	129	173	113	156	261	15.1*	96.9*
0613 - Public Health	1,452	1,386	1,365	1,894	2,072	3,107	3,146	4,217	399.5*	192.6*
0617 - Rehabilitation Therapies	441	169	91	109	169	163	45	46	37.0*	–58.7*
0619 - Complementary Therapies	566	811	799	982	927	1,082	1,130	993	64.0*	79.2*
0699 - Other Health	640	891	895	821	1,319	2,412	3,319	3,864	473.3*	517.7*
Total	**7,171**	**6,900**	**8,782**	**9,009**	**10,866**	**13,059**	**13,956**	**15,208**	**1,264.6***	**123.4***
Rate per 10,000 population	**5**	**5**	**7**	**7**	**8**	**9**	**10**	**10**	**0.8***	**98.9***

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the 7 reporting periods.

(a) Other includes those whose Indigenous status is unknown.

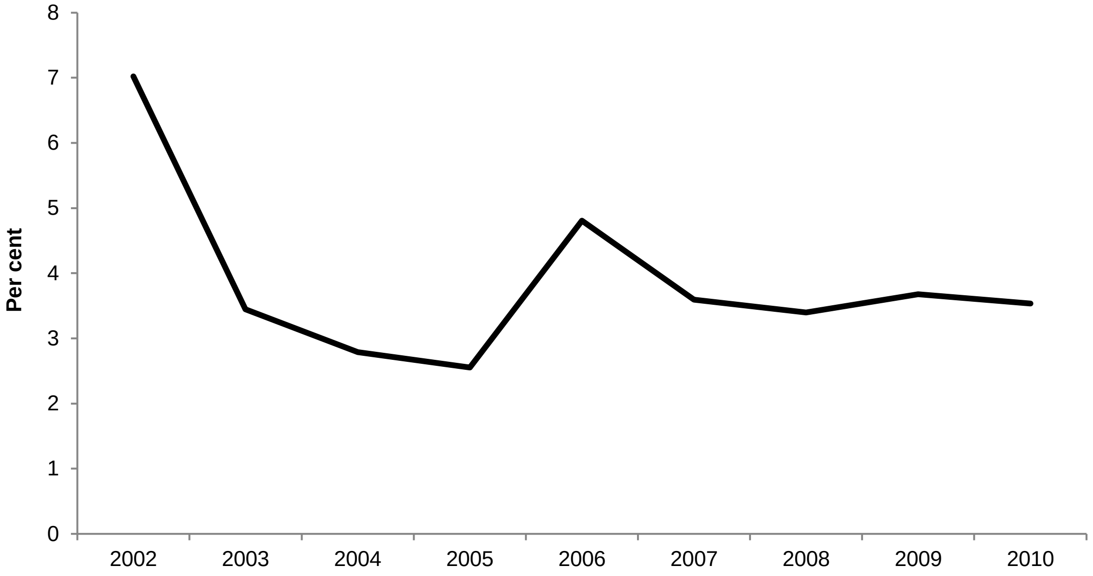
(b) Represents number of completions, students may complete more than one course.

(c) The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

(d) Average period change determined using regression analysis.

(e) Per cent change between 2003 and 2010 based on the average annual change over the period.

Source: NCVER, National VET Provider Collection, 2010.



(a) Represents number of completions, students may complete more than one course.

Notes

1. The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.
2. Field of education is only available from 2002 onwards. Field of study was collected prior to this and is not comparable.

Source: NCVER, National VET Provider Collection, 2010.

Figure 3.20.5: Proportion of vocational education and training sector students completing health-related courses who identified as Aboriginal or Torres Strait Islander, 2002–2010[(a)]

Table 3.20.17: Proportion of vocational education and training sector students completing health-related courses who were Indigenous, 2002–2010[(a)]

2002	2003	2004	2005	2006	2007	2008	2009	2010	Annual Change[(b)]	Per cent change[(c)]
7.0	3.4	2.8	2.6	4.8	3.6	3.4	3.7	3.5	–1.5	–20.9

(a) Represents number of completions, students may complete more than one course.

(b) Average period change determined using regression analysis.

(c) Per cent change between 2002 and 2010 based on the average annual change over the period.

Notes

1. The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.
2. Field of education is only available from 2002 onwards. Field of study was collected prior to this and is not comparable.

Source: NCVER, National VET Provider Collection, 2010.

Load pass rates

The VET load pass rate indicates the extent to which students pass assessment in an assessable module or unit of competency. Load pass rates are calculated as the number of nominal hours supervised in assessable modules or units of competency completed with a pass assessment divided by the total nominal hours supervised in assessable modules or units of competency.

- In 2010, the VET load pass rate for Indigenous students studying health-related courses was 79%, compared with 86% for other students. The load pass rate for Indigenous students studying health-related courses ranged from 71% in Western Australia to 88% in South Australia (Table 3.20.18 and Figure 3.20.6).

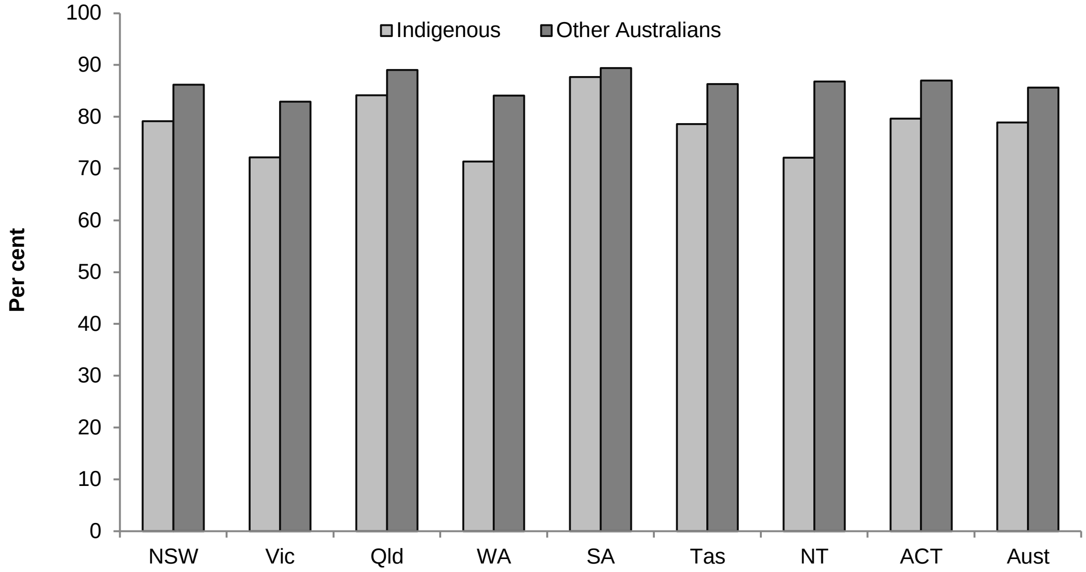
Table 3.20.18: Load pass rate for vocational education and training (VET) sector students studying health-related courses, by Indigenous status and state/territory, 2010

	Indigenous[(a)]	Other Australians[(b)]
	Per cent	
NSW	79.1	86.2
Vic	72.1	82.9
Qld	84.1	89.1
WA	71.4	84.1
SA	87.7	89.4
Tas	78.6	86.3
NT	72.1	86.8
ACT	79.7	87.0
Australia	78.9	85.6

(a) Using Indigenous 2010 population aged 15–64.

(b) Using other Australian 2010 population 15–64.

Source: NCVER, National VET Provider Collection, 2010.



Source: AIHW analysis of NCVER, National VET Provider Collection 2010 data.

Figure 3.20.6: Load pass rate for vocational education and training (VET) sector students studying health-related courses, by Indigenous status and state/territory, 2010

Aboriginal and Torres Strait Islander health worker occupations

Tables 3.20.19 and 3.20.20 present the number and rate of VET sector students completing a course aimed at Indigenous health workers in 2010.

- In 2010, 283 VET sector students had completed a course aimed at Indigenous health worker occupations in Australia. The majority of these course completions were at the certificate III and IV level (229, or 81%) (Table 3.20.19).
- New South Wales had the highest number of students completing a course aimed at Indigenous health worker occupations (96), followed by Queensland (78).
- Of all VET sector students who had completed a course aimed at Indigenous health worker occupations in 2010, (199) 70% were female and (84) 30% were males (Table 3.20.20).

Table 3.20.19: Number of vocational education and training sector students completing a program aimed at Aboriginal and Torres Strait Islander health worker occupations[(a)], by qualification type and state/territory, 2010

Qualification[(b)]	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Certificate I	0	0	0	0	0	0	0	0	0
Certificate II	6	0	0	21	0	0	0	12	39
Certificate III	37	0	35	0	42	0	0	0	114
Certificate IV	53	0	30	1	17	0	0	14	115
Diploma or higher	0	0	13	2	0	0	0	0	15
Total	**96**	**0**	**78**	**24**	**59**	**0**	**0**	**26**	**283**

(a) An Australian Standard Classification of Occupations code assigned to the courses indicates the most likely occupation associated with this course. It should also be remembered that students may enrol in more than one course.

(b) The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

Note: Based on ANZSCO - Australian and New Zealand Standard Classification of Occupations 4115.

Source: NCVER, National VET Provider Collection, 2010.

Table 3.20.20: Number of vocational education and training sector students completing a program aimed at Aboriginal and Torres Strait Islander health worker occupations[(a)], by qualification type and sex, 2010

Qualification[(b)]	Males	Females	Persons
		Number	
Certificate I	0	0	0
Certificate II	21	18	39
Certificate III	34	80	114
Certificate IV	24	91	115
Diploma or higher	5	10	15
Total	**84**	**199**	**283**

(a) An Australian Standard Classification of Occupations code assigned to the courses indicates the most likely occupation associated with this course. It should also be remembered that students may enrol in more than one course.

(b) The number of qualifications completed in 2010 are based on preliminary data and will be revised upwards in the next collection.

Note: Based on ANZSCO - Australian and New Zealand Standard Classification of Occupations 4115.

Source: NCVER, National VET Provider Collection, 2010.

Data quality issues

DEEWR Higher Education Schools Statistics Collection

The Higher Education Schools Statistics Collection comprises information on enrolments and award completions from public and private higher education institutions that are required to report to DEEWR.

Institutions receive detailed written documentation about what information is required to be furnished in the form of an electronic help file. Universities design and produce their own statistical information (enrolment) forms. These are designed to be used by institutions to collect the required information from students. DEEWR has provided institutions with suggested wording for questions relating to Indigenous status, language spoken at home and disability (ABS 2009).

Approximately 3% of students in this data collection have a 'not stated' Indigenous status. At the moment these are recorded as non-Indigenous, although plans are under way to record the 'not stated' responses separately.

National Centre for Vocational Education Research data

This collection gathers information from providers (in receipt of public VET funding) about activity of the VET system in Australia. The collection encompasses all delivery funded wholly or in part from public funds.

NCVER maintains a database of information on persons undertaking vocational education and training. Each state and territory collates data from their training providers on a student, course and module/unit of competency basis. These data are compiled into AVETMISS format and validated by each training organisation before being submitted to NCVER. The data are then further validated and quality checked for inconsistencies before being used for the production of statistical reports (ABS 2009).

Non-identification rates for Indigenous students in these data are high. Care also needs to be taken when comparing data across jurisdictions for load pass rates, as average module durations vary across jurisdictions (SCRGSP 2005).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

ABS (Australian Bureau of Statistics) 2009. Directory of Education and Training AVETMISS Vocational Education and Training (VET) Provider Collection. ABS cat. no. 1136.0. Canberra: ABS.

SCRGSP (Steering Committee for the Review of Government Service Provision) 2005. Report on government services 2005. Vol. 2. Canberra: Productivity Commission.

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3.21 Expenditure on Aboriginal and Torres Strait Islander health compared to need

Expenditure on health for Aboriginal and Torres Strait Islander people. This measure is presented on both a total population basis and per capita basis and disaggregated to reflect expenditure on acute health care, primary health care and population health.

Data sources

Data for this measure come from the latest available health expenditure report—*Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09* published by the Australian Institute of Health and Welfare (AIHW 2011).

Health Expenditure Data

The AIHW reports biennially on expenditure on health for Aboriginal and Torres Strait Islander people. The latest report in the series, *Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09,* was released in 2011.

There are a number of difficulties in reporting on Indigenous health expenditure, including limitations in the scope and definition of health expenditure, as well as inconsistencies in reporting expenditure on health goods and services across data providers. Under-identification (where Indigenous people are not identified as such) and under-coverage (where the sample does not reflect the true population structure) of Indigenous Australians in health data collections (such as hospital separations) are further issues that affect data quality. Although under-identification adjustments are made to the data, the adjusted estimates may be an overestimate or under-estimates of actual health service use and expenditure by Indigenous people. The allocation of expenditure to Indigenous people either on an overall population or per capita basis should also be treated with caution, as Indigenous population estimates have similar issues of under-coverage and under-identification (AIHW 2009).

Estimates of the level of Indigenous under-identification were used to adjust some reported expenditure. In some states and territories, a single state wide average under-identification adjustment factor was applied. In others, differential under-identification factors were used, depending on the region in which the particular service(s) were located. In some jurisdictions, no Indigenous under-identification adjustment was considered necessary.

Analyses

Total government expenditure

Expenditure on health goods and services

Total government expenditure on health goods and services for Indigenous Australians is presented in Tables 3.21.1.

- Expenditure on health goods and services for Aboriginal and Torres Strait Islander people during 2008–09 was estimated at $3.7 billion (Table 3.21.1) or approximately 3.5% of total health expenditure. Almost three-quarters of this expenditure (73%) were related to two major program areas—goods or services provided in hospitals ($1,868 million) and community health services ($823 million).
- On a per person basis, average expenditure on health goods and services for Indigenous people was $6,787, which was 39% higher than the expenditure for non-Indigenous Australians ($4,876) (Table 3.21.1).
- In four major program areas, average per person expenditure on services for Indigenous people was greater than for non-Indigenous Australians (Table 3.21.1). These were community health services, which had an Indigenous to non-Indigenous expenditure ratio per person of 6.9; patient transport with a ratio of 2.8; public health (which includes other recurrent expenditure on health, not elsewhere classified, such as family planning previously reported under 'Other health services (nec)') with a ratio of 2.5; and public hospitals with a ratio of 2.3. In contrast, average expenditure on goods and services provided outside public hospitals was often lower for Indigenous people than for non-Indigenous people. For example, average expenditure on medical services and medications were both around half that for non-Indigenous Australians.

Table 3.21.1: Expenditure on health (current prices) for Indigenous and non-Indigenous people, by type of health good or service, 2008–09

	Total expenditure ($ million)				Expenditure ($) per person					
Health good or service type	**Indigenous**	**Non-Indigenous**	**Total**	**Indigenous share (%)**	**Indigenous**	**Proportion (%)**	**Non-Indigenous**	**Proportion (%)**	**Ratio (Indigenous to non-Indigenous)**	**Rate Difference (Indigenous to non-Indigenous)**
Hospitals	1,868.1	39,906.6	41,774.7	4.5	3,426.5	50.5	1,884.0	38.6	1.8	1,542.5
Public hospital services[(a)]	1,828.2	31,594.3	33,422.5	5.5	3,353.3	49.4	1,491.6	30.6	2.3	1,861.7
Admitted patient services[(b)]	1,430.6	24,476.8	25,907.5	5.5	2,624.0	38.7	1,155.6	23.7	2.3	1,468.4
Non-admitted patient services	397.6	7,117.4	7,515.1	5.3	729.3	10.7	336.0	6.9	2.2	393.3
Private hospitals[(c)]	39.9	8,312.3	8,352.2	0.5	73.1	1.1	392.4	8.0	0.2	–319.3
Patient transport	159.8	2,228.1	2,387.9	6.7	293.2	4.3	105.2	2.2	2.8	188.0
Medical services	266.4	19,553.6	19,820.0	1.3	488.7	7.2	923.1	18.9	0.5	–434.4
Medicare services	218.4	15,535.8	15,754.2	1.4	400.6	5.9	733.5	15.0	0.6	–332.9
Other	48.0	4,017.8	4,065.8	1.2	88.1	1.3	189.7	3.9	0.5	–101.6
Dental services	68.2	6,646.7	6,714.8	1.0	125.1	1.8	313.8	6.4	0.4	–188.7
Community health services[(d)]	823.1	4,617.8	5,440.9	15.1	1,509.8	22.2	218.0	4.5	6.9	1,291.8
Other professional services	28.6	3,397.8	3,426.5	0.8	52.5	0.8	160.4	3.3	0.3	–107.9
Public health services[(d)]	139.5	2,129.5	2,268.9	6.1	255.8	3.8	100.5	2.1	2.5	155.3
Medications	171.9	15,034.5	15,206.3	1.1	315.2	4.6	709.8	14.6	0.4	–394.6
Aids and appliances	19.5	3,248.2	3,267.7	0.6	35.8	0.5	153.3	3.1	0.2	–117.5
Research	100.6	3,574.3	3,674.9	2.7	184.6	2.7	168.7	3.5	1.1	15.9
Health administration	54.5	2,946.6	3,001.1	1.8	100.0	1.5	139.1	2.9	0.7	–39.1
Total health[(e)]	**3,700.3**	**103,283.6**	**106,983.9**	**3.5**	**6,787.0**	**100.0**	**4,876.1**	**100.0**	**1.4**	**1,910.9**

(continued)

Table 3.21.1 (continued): Expenditure on health (current prices) for Indigenous and non-Indigenous people, by type of health good or service, 2008–09

(a) Excludes dental services, patient transport services, community health services, public health and health research undertaken by the hospital.

(b) Admitted patient expenditure estimates adjust for Aboriginal and Torres Strait Islander under-identification, except for Tasmania.

(c) Includes state/territory government expenditure for services provided for public patients in private hospitals.

(d) Includes other recurrent expenditure on health, not elsewhere classified, such as family planning previously reported under ‘Other health services (n.e.c.)’.

(e) Expenditure estimates include depreciation (capital consumption).

Source: AIHW 2011.

Expenditure on primary and secondary/tertiary services

Primary health services are those provided to whole populations (community health services and public health activities or health promotion) and those provided in, or flowing from, a patient-initiated contact with a health service. Secondary/tertiary services are those generated within the system by referral, hospital admission, and so on. Because distinctions are not always easy to make, there is some approximation in these estimates.

- In 2008–09, the total expenditure on primary health services for Indigenous people was $1,681 million while for secondary and tertiary health services, the total expenditure was $1,904 million (Table 3.21.2).
- In 2008–09, average expenditures per person on both primary and secondary/tertiary care services were higher for Indigenous Australians than for non-Indigenous people, although the ratio was marginally higher for secondary/tertiary care—1.7:1 compared with 1.4:1 (Table 3.21.3). Higher spending on primary care services for Indigenous Australians came largely from a much higher use of the community health services sector, including those provided through the Aboriginal Community Controlled Health Services (ACCHS).
- The higher level of spending on secondary/tertiary services for Indigenous people was largely in hospitals. Expenditure on secondary/tertiary hospital services for Indigenous people was $3,135 per person compared with $1,429 per person for non-Indigenous people. Expenditure on primary medical services and medications was lower for Indigenous people ($328 and $294 per person, respectively) than for non-Indigenous people ($517 and $644 per person, respectively) (Table 3.21.3).

Table 3.21.2: Estimated expenditure on primary and secondary/tertiary health services, by area of expenditure and Indigenous status, 2008–09

	Primary expenditure ($ million)				Secondary/tertiary expenditure ($ million)			
Service	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**	**Difference**	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**	**Difference**
Hospitals	198.8	3,558.7	5.3	–3,359.9	1,709.3	30,263.6	5.3	–28,554.3
Admitted patients	—	—	—	—	1,510.5	26,704.9	5.4	–25,194.4
Non-admitted patients	198.8	3,558.7	5.3	–3,359.9	198.8	3,558.7	5.3	–3,359.9
Patient transport services	79.9	445.6	15.2	–365.7	79.9	1,782.5	4.3	–1,702.6
Medical services	178.8	10,940.8	1.6	–10,762.0	87.7	8,612.8	1.0	–8,525.1
Dental services	68.2	6,646.7	1.0	–6,578.5	—	—	—	—
Other professional services	14.3	1,698.9	0.8	–1,684.6	14.3	1,698.9	0.8	–1,684.6
Community health services	823.1	4,617.8	15.1	–3,794.7	—	—	—	—
Public health services	139.5	2,129.5	6.1	–1,990.0	—	—	—	—
Medications	160.0	13,629.5	1.2	–13,469.5	11.8	1,404.9	0.8	–1,393.1
Aids and appliances	18.2	2,944.6	0.6	–2,926.4	1.3	303.5	0.4	–302.2
Total health[(a)]	**1,680.8**	**46,612.2**	**3.5**	**–44,931.4**	**1,904.4**	**44,066.3**	**4.1**	**–42,161.9**

(a) Excludes expenditure on research, health administration.

Source: AIHW 2011.

Table 3.21.3: Estimated expenditure per person on primary and secondary/tertiary health services, by area of expenditure and Indigenous status, 2008–09

	Primary expenditure per person ($)				Secondary/tertiary expenditure per person ($)			
Service	**Indigenous**	**Non-Indigenous**	**Ratio**	**Difference**	**Indigenous**	**Non-Indigenous**	**Ratio**	**Difference**
Hospitals	364.6	168.0	2.2	196.6	3,135.2	1,428.8	2.2	1,706.4
Admitted patients	—	—	—	—	2,770.6	1,260.8	2.2	1,509.8
Non-admitted patients	364.6	168.0	2.2	196.6	364.6	168.0	2.2	196.6
Patient transport services	146.6	21.0	7.0	125.6	146.6	84.2	1.7	62.4
Medical services	327.9	516.5	0.6	–188.6	160.8	406.6	0.4	–245.8
Dental services	125.1	313.8	0.4	–188.7	—	—	—	—
Other professional services	26.3	80.2	0.3	–53.9	26.3	80.2	0.3	–53.9
Community health services	1,509.8	218.0	6.9	1,291.8	—	—	—	—
Public health services	255.8	100.5	2.5	155.3	—	—	—	—
Medications	293.5	643.5	0.5	–350.0	21.7	66.3	0.3	–44.6
Aids and appliances	33.3	139.0	0.2	–105.7	2.5	14.3	0.2	–11.8
Total health[(a)]	**3,082.8**	**2,200.6**	**1.4**	882.2	**3,493.1**	**2,080.4**	**1.7**	**1,412.7**

(a) Excludes expenditure on research and health administration.

Source: AIHW 2011.

Funding of health services

Funding for health goods and services for Indigenous people is presented in Table 3.21.4.

- Governments provided an estimated 91.0% of the funding used to pay for health goods and services for Aboriginal and Torres Strait Islander people during 2008–09; non-government sources such as out-of-pocket payments by users of services provided the remainder of the funding (Table 3.21.4).
- The Australian Government's funding was similar for Indigenous and non-Indigenous Australians (43% and 45%, respectively), although the shares of funding provided by both the state and territory governments and the non-government sector were different for Indigenous and non-Indigenous Australians. The states and territories provided nearly half (48%) of the funding for Aboriginal and Torres Strait Islander people, compared with 24% for non-Indigenous Australians. Non-government sources, on the other hand, provided a much lower share of the funding for services for Indigenous people (9.0%) than for non-Indigenous people (30.5%). Non-government payments include injury compensation insurers, private health insurers and out-of-pocket payments by users of services.

The main reason for the differences between Indigenous and non-Indigenous funding shares of the states and territories and non-government sources was the greater reliance by Indigenous people on publicly provided services, particularly public hospitals that are funded by the states and territories. Indigenous Australians also have a lower use of privately provided services than non-Indigenous Australians.

- The top three areas of funding for Indigenous Australians in 2008–09 were public hospital services ($1,828 million), community health services ($823 million) and medical services ($266 million).
- For non-Indigenous people, the top three areas of funding were public hospital services ($31,594 million), medical services ($19,553 million) and medications ($15,034 million). Of the hospital funding, almost one-quarter (20.8%) was by private hospitals, compared with only 2.1% in the case of Indigenous people.

Table 3.21.4: Health funding (current prices) for Indigenous and non-Indigenous people, by area of expenditure and broad sources of funding, 2008–09 ($ million)

	Australian Government funding		State/territory government funding		Non-government funding		Total expenditure	
Area of Expenditure	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Total hospitals	683.9	14,997.5	1,040.5	17,288.8	143.7	7,620.2	1,868.1	39,906.6
Public hospital services[(a)]	669.6	12,121.1	1,033.8	16,951.1	124.9	2,522.1	1,828.2	31,594.3
Private hospitals	14.3	2,876.4	6.8	337.7	18.7	5,098.2	39.9	8,312.3
Patient transport	36.1	230.8	101.1	1,452.8	22.6	544.5	159.8	2,228.1
Medical services	227.0	15,247.4	—	—	39.4	4,306.2	266.4	19,553.6
Dental services	7.8	899.0	37.9	586.9	22.5	5,160.7	68.2	6,646.7
Other professional services	11.8	1,172.0	—	—	16.8	2,225.8	28.6	3,397.8
Community health services	326.2	287.9	466.1	4,147.9	30.8	182.0	823.1	4,617.8
Public health services[(b)]	42.9	1,124.9	92.9	879.4	3.7	125.2	139.5	2,129.5
Medications	144.0	7,681.7	—	—	27.8	7,352.7	171.9	15,034.5
Aids and appliances	5.6	512.1	—	—	13.9	2,736.1	19.5	3,248.2
Research	69.2	2,688.6	23.9	593.2	7.5	292.5	100.6	3,574.3
Health administration	35.3	1,609.1	15.0	378.8	4.3	958.7	54.5	2,946.6
Total health	**1,589.8**	**46,451.1**	**1,777.4**	**25,327.8**	**333.1**	**31,504.7**	**3,700.3**	**103,283.6**

(a) Excludes any dental services, patient transport services, community health services, public health and health research done by the hospital.

(b) Includes other recurrent expenditure on health, not elsewhere classified, such as family planning previously reported under ‘Other health services (n.e.c.)’.

Source: AIHW 2011.

Australian Government expenditure

On a per person basis, expenditure on health goods and services by the Australian Government amounted to $1,673 per Indigenous person in 2008–09, compared with $1,418 for non-Indigenous people. In 2008–09, the total expenditure funded through ACCHSs for Indigenous Australians was $314.6 million. Most of this expenditure was administered by the Office of Aboriginal and Torres Strait Islander Health (OATSIH). Per person expenditure through ACCHSs services was $577 for Indigenous Australians compared with $2.2 for non-Indigenous Australians (AIHW 2011).

State/territory government expenditure

State/territory government expenditure on health goods and services for Indigenous Australians is presented in Table 3.21.5.

- In 2008–09, state and territory governments were estimated to have spent, on average, $4,758 per Indigenous Australian compared with $1,915 per non-Indigenous Australian. This represents an Indigenous/non-Indigenous expenditure ratio of 2.5:1.
- In all the major types of health goods and services, states and territories overall spent more per person for Indigenous people than for non-Indigenous people (Table 3.21.5). Expenditure on community health for Indigenous people was almost five times that for non-Indigenous people, expenditure on public health was almost three times that for non-Indigenous people and expenditure on admitted patient services in acute-care hospitals was more than twice that for non-Indigenous people.
- The Northern Territory ($7,525.8) and South Australia ($6, 743.0) had the highest average expenditure per person for Indigenous people. Tasmania, which had the lowest average expenditure per person for Indigenous people ($1,434), was the only jurisdiction where the estimated expenditure per person for Indigenous Australians was lower than that for non-Indigenous people ($1,898), but these numbers should be treated with caution (Table 3.21.5).

Table 3.21.5: Estimated state/territory health expenditure[(a)] per person for Indigenous and non-Indigenous Australians by type of service, 2008–09

	Expenditure per person ($)							
Area of expenditure	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**NT**	**Total**
Public hospital services								
Indigenous	2,601.0	2,674.3	3,353.5	4,296.4	4,317.1	945.0	4,030.0	3,283.2
Non-Indigenous	1,526.4	1,401.8	1,380.4	1,395.0	1,580.1	1,377.2	1,334.4	1,457.9
Ratio	1.7	1.9	2.4	3.1	2.7	0.7	3.0	2.3
Difference	1,074.6	1,272.5	1,973.1	2,901.4	2,737.0	–432.2	2,695.6	1,825.3
Admitted patient services[(b)]								
Indigenous	1,933.6	2,013.1	2,648.0	3,189.1	3,449.1	747.7	3,714.2	2,553.9
Non-Indigenous	1,162.9	1,095.9	1,113.1	1,103.4	1,318.0	1,111.4	1,225.9	1,121.9
Ratio	1.7	1.8	2.4	2.9	2.6	0.7	3.0	2.3
Difference	770.7	917.2	1,534.9	2,085.7	2,131.1	–363.7	2,488.3	1,432.0
Non-admitted patients								
Indigenous	667.4	661.2	705.5	1,107.3	868.0	197.2	315.8	729.3
Non-Indigenous	363.5	305.9	267.3	291.7	262.1	265.8	108.5	336.0
Ratio	1.8	2.2	2.6	3.8	3.3	0.7	2.9	2.2
Difference	303.9	355.3	438.2	815.6	605.9	–68.6	207.3	393.3
Private hospital services								
Indigenous	—	6.4	5.1	65.6	—	—	—	10.8
Non-Indigenous	—	13.2	5.8	111.7	—	—	—	15.8
Ratio	—	0.5	0.9	0.6	—	—	—	0.7
Difference	—	–6.8	–0.7	–46.1	—	—	—	–5.0

(continued)

Table 3.21.5 (continued): Estimated state/territory health expenditure[(a)] per person for Indigenous and non-Indigenous Australians, by type of service, 2008–09

	Expenditure per person ($)							
Area of expenditure	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**NT**	**Total**
Patient transport services								
Indigenous	137.4	91.7	285.2	187.2	394.6	65.5	257.2	208.8
Non-Indigenous	89.9	91.6	107.6	41.9	124.6	102.8	87.0	91.6
Ratio	1.5	1.0	2.7	4.5	3.2	0.6	3.0	2.3
Difference	47.5	0.1	177.6	145.3	270.0	–37.3	170.2	117.2
Dental services								
Indigenous	121.2	36.7	47.7	30.6	86.4	5.5	94.1	72.4
Non-Indigenous	24.9	24.7	35.4	32.0	35.6	52.1	58.2	29.4
Ratio	4.9	1.5	1.4	1.0	2.4	0.1	1.6	2.5
Difference	96.3	12.0	12.3	–1.4	50.8	–46.6	35.9	43.0
Community health services[(c)]								
Indigenous	713.0	935.3	655.1	555.3	1593.4	331.0	2191.1	909.6
Non-Indigenous	179.8	143.6	240.8	253.4	272.3	273.3	453.0	204.1
Ratio	4.0	6.5	2.7	2.2	5.9	1.2	4.8	4.5
Difference	533.2	791.7	414.3	301.9	1321.1	57.7	1738.1	705.5
Public health services[(c)]								
Indigenous	102.8	312.8	116.0	70.8	123.6	87.0	900.3	214.4
Non-Indigenous	66.3	67.3	78.1	77.6	84.1	92.1	159.0	73.4
Ratio	1.6	4.7	1.5	0.9	1.5	0.9	5.7	2.9
Difference	36.5	245.5	37.9	–6.8	39.5	–5.1	741.3	141.0

(continued)

Table 3.21.5 (continued): Estimated state/territory health expenditure[(a)] per person for Indigenous and non-Indigenous Australians, by type of service, 2008–09

	Expenditure per person ($)							
Area of expenditure	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**NT**	**Total**
Research								
Indigenous	24.9	73.7	34.0	5.9	10.3	—	53.1	29.8
Non-Indigenous	26.9	24.9	33.1	6.0	3.9	—	11.2	22.8
Ratio	0.9	3.0	1.0	1.0	2.7	—	4.8	1.3
Difference	–2.0	48.8	0.9	–0.1	6.4	—	41.9	7.0
Health administration[(d)]								
Indigenous	—	—	53.6	14.1	217.6	—	—	28.9
Non-Indigenous	—	—	24.1	14.8	176.4	—	—	19.5
Ratio	—	—	2.2	1.0	1.2	—	—	1.5
Difference	—	—	29.5	–0.7	41.2	—	—	9.4
Total health expenditure								
Indigenous	**3,700.3**	**4,130.9**	**4,550.4**	**5,226.0**	**6,743.0**	**1,433.9**	**7,525.8**	**4,757.9**
Non-Indigenous	**1,914.3**	**1,767.0**	**1,905.3**	**1,932.4**	**2,276.9**	**1,897.6**	**2,102.9**	**1,914.5**
Ratio	**1.9**	**2.3**	**2.4**	**2.7**	**3.0**	**0.8**	**3.6**	**2.5**
Difference	**1,786.0**	**2,363.9**	**2,645.1**	**3,293.6**	**4,466.1**	**–463.7**	**5,422.9**	**2,843.4**

(a) Australian Capital Territory per person expenditure estimates are not calculated because estimates for the Australian Capital Territory include substantial expenditures for New South Wales residents. As a result, the Australian Capital Territory population is not an appropriate denominator.

(b) Admitted patient expenditure adjusted for Aboriginal and Torres Strait Islander under-identification, except for Tasmania.

(c) Includes other recurrent expenditure on health, not elsewhere classified, such as family planning previously reported under ‘Other health services (n.e.c.)’.

(d) Health administration costs for New South Wales, Victoria, Tasmania and the Northern Territory are zero, as these jurisdictions have allocated administrative expenses into the functional expenditure categories in the table.

Source: AIHW 2011.

Regional health expenditure

Estimated average health expenditures per person by remoteness area for Indigenous and non-Indigenous people are presented in Table 3.21.6.

- In 2008–09, average expenditures on health for Indigenous Australians were lowest in *Inner regional* areas and *Major cities*.
- Expenditure per capita on hospital care within public hospitals for Indigenous people was greatest in the more remote areas; however, in private hospitals, expenditure per capita was the least in *Remote* and *Very remote* areas for Indigenous Australians.
- Pharmaceutical Benefits Scheme (PBS) expenditures, were greater in more remote areas where the section 100 arrangements apply. Under section 100 of the *National Health Act 1953*, clients of approved remote area Aboriginal Health Services (AHSs) are able to receive PBS medicines directly from the AHS at the time of medical consultation, without the need for a normal prescription form, and without charge.

Table 3.21.6: Health expenditure per person on selected health services[(a)], Indigenous and non-Indigenous Australians, by remoteness areas of patient's residence, 2008–09 ($)

Area of expenditure		Major cities	Inner regional	Outer regional	Remote/ very remote	Total
Admitted patient services						
Public hospital services	Indigenous	2,165.9	1,947.8	2,613.7	3,865.8	2,624.0
	Non-Indigenous	1,063.0	1,327.0	1,447.1	1,398.0	1,155.6
	Ratio	2.0	1.5	1.8	2.8	2.3
	Difference(d)	1,102.9	620.8	1,166.5	2,467.8	1,468.5
Private hospitals	Indigenous	79.9	66.3	96.1	48.8	73.1
	Non-Indigenous	402.7	404.1	316.1	247.3	392.4
	Ratio	0.2	0.2	0.3	0.2	0.2
	Difference(d)	–322.8	–337.9	–220.0	–198.6	–319.3
OATSIH grants to ACCHOs	Indigenous	216.0	375.9	588.9	1,238.7	577.1
	Non-Indigenous	0.4	1.6	5.5	66.0	2.2
	Ratio	555.3	237.5	106.2	18.8	259.4
	Difference(d)	215.6	374.3	583.3	1,172.7	574.9
MBS(b)	Indigenous	476.0	393.6	303.0	236.7	362.8
	Non-Indigenous	648.7	588.5	523.4	404.6	621.3
	Ratio	0.7	0.7	0.6	0.6	0.6
	Difference(d)	–172.7	–194.9	–220.3	–167.9	–258.5
PBS(c)	Indigenous	250.6	252.3	189.3	304.2	250.2
	Non-Indigenous	328.4	375.4	344.3	249.0	337.7
	Ratio	0.8	0.7	0.5	1.2	0.7
	Difference(d)	–77.8	–123.1	–155.0	55.2	–87.6
Total selected health services	**Indigenous**	**3,188.3**	**3,035.9**	**3,791.0**	**5,694.0**	**3,887.2**
	Non-Indigenous	**2,443.2**	**2,696.6**	**2,636.4**	**2,364.8**	**2,509.2**
	Ratio	**1.3**	**1.1**	**1.4**	**2.4**	**1.5**
	Difference(d)	**745.1**	**339.3**	**1,154.6**	**3,329.2**	**1,378.0**

(a) Excludes health expenditure on: non-admitted patient services, patient transport, dental services, community health other than ACCHO, other professional services, public health, aids and appliances, research and health administration.

(b) Excludes the following: allied health services, optometry and dental services.

(c) Excludes RPBS, and highly specialised drugs dispensed from public and private hospitals.

(d) Difference is equal to Indigenous minus non-Indigenous.

Source: AIHW 2011. Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09 - An analysis by remoteness and disease; Supplementary table 1.

Changes in health expenditure and funding over time

This section describes the changes over time in selected components of health expenditure for Aboriginal and Torres Strait Islander people. To enable reliable comparison, expenditure for all years is presented in constant 2008–09 prices. Constant price expenditure adjusts for the effects of inflation by using either the annually re-weighted chain price indexes produced by the ABS or implicit price deflators derived by the ABS or AIHW.

The definition of health expenditure changed in 2007 to exclude high-care residential aged care, which was instead classified as welfare expenditure.

For the purpose of comparison, high-care residential aged care expenditure has been omitted from all of the years' estimates in the tables and figures below. This allows for the comparison of health expenditure estimates over time, as well as providing estimates that relate more directly to those in *Health expenditure Australia 2008–09* (AIHW 2010b).

Total government health expenditure

- Government expenditure per person on health for Indigenous Australians has increased substantially over the 7 years, reaching $6,431 per person in 2008–09. Over this period, Indigenous health expenditure grew at an average annual rate of 5.6% (Table 3.21.7)**.**
- Between 2001–02 and 2008–09, government health expenditure per person for Aboriginal and Torres Strait Islander people rose by 46.8%. Of the total increase, state and territory governments' expenditure on admitted patient services contributed 51%.This increase amounted to $1,049 more per person in 2008–09 than in 2001–02. State and territory governments' expenditure per person grew by 41.4%between 2001–02 and 2008–09, and the Australian Government's expenditure by 64.8 %(Table 3.21.7).
- Between 2006–07 and 2008–09, per person government health expenditure on Aboriginal and Torres Strait Islander people increased by $910 (in constant dollars). This represented an annual growth rate of 7.9%, which is higher than the corresponding annual growth rate for the 5 years before 2006–07 (4.7%). Expenditure per person was higher in all health categories for 2008–09 compared with 2006–07 (Table 3.21.7).

Australian government expenditure

- MBS and PBS benefits contributed a substantial component of the Australian Government growth in health expenditure per person for Aboriginal and Torres Strait Islander people, accounting for 60.2% of Australian government growth between 2001–02 and 2008–09 (Table 3.21.7). Some of the increase in Indigenous health expenditure per person may have been due to improvements in data collection rather than actual change (AIHW 2011).
- Australian Government expenditure growth accounted for 26.3% of the growth in government Indigenous expenditure between 2006–07 and 2008–09. MBS and PBS expenditure accounted for 12.8% of the total growth, and grants to ACCHSs to 6.9%. The growth in PBS expenditure for Aboriginal and Torres Strait Islander people was particularly marked, increasing by 42.0% over the 2 years from 2006–07 to 2008–09 (Table 3.21.7).
- Australian Government expenditure on Indigenous-specific health services has continuously increased since 1995–96. In 2010–11, the total Commonwealth funding for Indigenous-specific programs was $576 million: a real growth of 265% since 1996–96 (Table 3.21.8).

Table 3.21.7: Government health expenditure per person for Aboriginal and Torres Strait Islander people, constant prices(a), 2001–02 to 2008–09(b)(c)(d)

	$ per person				Change 2001–02 to 2008–09		Change 2006–07 to 2008–09	
	2001–02	2004–05	2006–07	2008–09	Growth 2001–02 to 2008–09 (per cent)	Average annual growth (per cent)	Growth 2006–07 to 2008–09 (per cent)	Average annual growth (per cent)
Australian Government	**1,015.4**	**1,285.1**	**1,434.5**	**1,673.3**	**64.8**	**7.4**	**16.6**	**8.0**
ACCHO grants	468.4	489.2	514.6	577.1	23.2	3.0	12.1	5.9
MBS and PBS	232.9	358.9	512.2	628.7	170.0	15.2	22.7	10.8
MBS	158.6	221.1	336.0	378.6	138.7	13.2	12.7	6.1
PBS	74.3	137.8	176.2	250.2	236.9	18.9	42.0	19.1
Other	314.1	436.9	407.7	467.5	48.8	5.8	14.7	7.1
State/territory governments	**3,364.9**	**3,339.8**	**4,087.2**	**4,757.9**	**41.4**	**5.1**	**16.4**	**7.9**
Admitted patient services in public hospitals	2,233.7	2,179.1	2,899.4	3,283.2	47.0	5.7	13.2	6.4
Community/public health	769.0	584.5	717.0	909.6	18.3	2.4	26.9	12.6
Other	362.2	576.2	470.8	565.1	56.0	6.6	20.0	9.6
Total governments	**4,380.3**	**4,624.9**	**5,521.6**	**6,431.2**	**46.8**	**5.6**	**16.5**	**7.9**

(a) Constant price health expenditure for 2001–02 to 2008–09 is expressed in terms of 2008–09 prices. Refer to the Appendix for further details.

(b) Indigenous population estimates used to estimate the expenditure figures are all derived from 2006-census base.

(c) Estimates for 2001–02 and 2004–05 exclude depreciation but those for 2006–07 and 2008–09 include depreciation. This reduces the 2004–05 state/territory government numbers by about 5%, but has minimal impact on the Australian Government numbers.

(d) In 2007, expenditure on high-care residential aged care services was reclassified from health services to welfare services. To enable comparisons with previous estimates, high-care residential aged care expenditure has been subtracted from the 2001–02 and 2004–05 estimates in this table.

Source: AIHW health expenditure database.

Table 3.21.8: Expenditure by the Australian Government on Indigenous-specific health programs 1995–96 to 2010–11

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Nominal $m	115	113	131	155	162	185	202	210	245	265	298	371	472	572	586	624
Real $m (according to annual Index)	158	154	178	209	211	228	241	244	279	294	318	388	472	563	560	576
Real cumulative growth (% from base year 1996)	0	–2	13	32	34	45	53	55	77	87	101	146	199	257	255	265

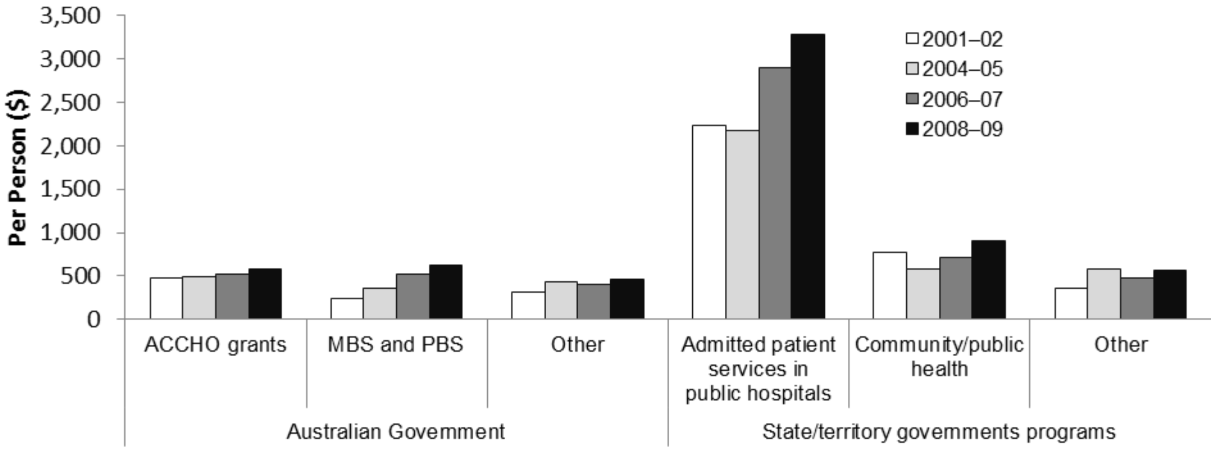
Note: Year ended 30 June.

Source: AIHW health expenditure database.

State/territory government expenditure

Health expenditure per Aboriginal and Torres Strait Islander person incurred by state and territory government programs and Australian Government programs over the period 2001–02 and 2008–09 are presented in Figure 3.21.1.

- Between 2006–2007 and 2008–09, per person health expenditure for Indigenous persons on state and territory government health programs (including public hospitals, community and public health and other expenditure) and Australian Government health programs (including ACCHS, MBS and PBS, and other expenditure) all increased (Figure 3.21.1).
- Over this period, the largest increase in this expenditure was incurred by state and territory governments on admitted patient services in public hospitals. Expenditure increased from $2,899 per person in 2006–07 to $3,283 in 2008–09. Community and public health expenditure increased from $717 to $909 and other expenditure increased from $909 to $923 over the same period (Figure 3.21.1).



Note: In 2007, expenditure on high-care residential aged care services was reclassified from health services to welfare services. To enable comparisons with previous estimates, high-care residential aged care expenditure has been subtracted from the 2001–02 and 2004–05 estimates in this table.

Source: AIHW health expenditure database.

Figure 3.21.1: Health expenditure per Aboriginal and Torres Strait Islander person, in constant prices, by area of expenditure — 2001–02 to 2008–09

Medicare Benefits Schedule (MBS) and the Pharmaceutical Benefits Scheme (PBS)

This section presents estimates of health expenditure on Aboriginal and Torres Strait Islander people through the MBS and PBS.

In 2008–09, an estimated $206 million of Australian Government expenditure on health goods and services for Aboriginal and Torres Strait Islander people was through the MBS, and an estimated $136 million through the PBS (AIHW 2011).

- MBS expenditure per person was higher for non-Indigenous Australians than for Indigenous Australians across all remoteness areas. The largest gap in expenditure between Indigenous and non-Indigenous was observed in inner and outer regional areas and the smallest gap was in remote areas (Table 3.21.9).
- PBS expenditure per person was lower in all remote areas with biggest expenditure gap occurring in outer regional areas and smallest gap was in remote areas (Table 3.21.9).
- The expenditure per hospital separations was higher for Indigenous Australians than non-Indigenous Australians. The greatest difference was observed for non-communicable diseases such as genitourinary diseases and injuries. For non-Indigenous Australians, higher expenditure per person was due to the treatment of neoplasms, musculoskeletal and connective tissue disorders (Table 3.21.10).
- For expenditure on potentially preventable hospital separations, treatment for chronic conditions such as diabetes complications and chronic obstructive pulmonary disease attributed to the greatest difference between Indigenous and non-Indigenous Australians (Table 3.21.11).

Table 3.21.9: MBS and PBS expenditure per person, Indigenous and non-Indigenous Australians, by remoteness areas of patient's residence, 2008–09 ($)

	Major cities	Inner regional	Outer regional	Remote/ very remote	All regions
MBS[(a)]					
General practitioner[(b)]					
Indigenous	217.9	163.7	140.0	103.8	161.8
Non-Indigenous	188.9	161.6	151.8	127.9	179.1
Ratio	1.2	1.0	0.9	0.8	0.9
Difference[(d)]	29.1	2.1	–11.8	–24.0	–17.3
Other unreferred					
Indigenous	32.1	34.3	27.7	29.9	31.1
Non-Indigenous	35.4	35.5	28.4	18.5	34.5
Ratio	0.9	1.0	1.0	1.6	0.9
Difference[(d)]	–3.3	–1.2	–0.6	11.4	–3.4
Pathology					
Indigenous	46.9	40.6	34.1	40.4	41.2
Non-Indigenous	94.0	86.8	81.5	67.2	91.0
Ratio	0.5	0.5	0.4	0.6	0.5
Difference[(d)]	–47.1	–46.2	–47.3	–26.7	–49.8
Imaging					
Indigenous	43.4	38.8	25.3	14.5	31.5
Non-Indigenous	94.0	89.7	77.7	56.6	91.0
Ratio	0.5	0.4	0.3	0.3	0.3
Difference[(d)]	–50.6	–50.9	–52.3	–42.1	–59.5
Specialist					
Indigenous	65.9	52.4	29.7	16.8	43.3
Non-Indigenous	78.7	59.5	46.0	30.4	71.1
Ratio	0.8	0.9	0.6	0.6	0.6
Difference[(d)]	–12.8	–7.0	–16.3	–13.6	–27.9
Operations and other					
Indigenous	69.7	63.7	46.1	31.2	54.0
Non-Indigenous	157.7	155.4	138.1	104.1	154.5
Ratio	0.4	0.4	0.3	0.3	0.3
Difference[(d)]	–88.0	–91.6	–92.0	–72.8	–100.5
Total MBS					
Indigenous	*476.0*	*393.6*	*303.0*	*236.7*	*362.8*
Non-Indigenous	*648.7*	*588.5*	*523.4*	*404.6*	*621.3*
Ratio	*0.7*	*0.7*	*0.6*	*0.6*	*0.6*
Difference[(d)]	*–172.7*	*–194.9*	*–220.3*	*–167.9*	*–258.5*

(continued)

Table 3.21.9 (continued): MBS and PBS expenditure per person, Indigenous and non-Indigenous Australians, by remoteness areas of patient's residence, 2008–09 ($)

	Major cities	Inner regional	Outer regional	Remote/ very remote	All regions
PBS(c)					
Mainstream PBS benefits					
Indigenous	228.6	230.2	172.7	70.4	178.8
Non-Indigenous	297.7	340.3	312.1	214.7	306.0
Ratio	0.8	0.7	0.6	0.3	0.6
Difference(d)	–69.1	–110.2	–139.4	–144.3	–127.2
Section 100					
Indigenous	. .	. .	. .	227.0	54.2
Non-Indigenous	. .	. .	. .	12.1	0.2
Ratio	. .	. .	. .	18.8	259.4
Difference(d)	. .	. .	. .	214.9	54.0
Other PBS special supply					
Indigenous	22.0	22.2	16.6	6.8	17.2
Non-Indigenous	30.7	35.1	32.2	22.1	31.6
Ratio	0.7	0.6	0.5	0.3	0.5
Difference(d)	–8.7	–12.9	–15.6	–15.4	–14.3
Total PBS					
Indigenous	*250.6*	*252.3*	*189.3*	*304.2*	*250.2*
Non-Indigenous	*328.4*	*375.4*	*344.3*	*249.0*	*337.7*
Ratio	*0.8*	*0.7*	*0.5*	*1.2*	*0.7*
Difference(d)	*–77.8*	*–123.1*	*–155.0*	*55.2*	*–87.6*
Total MBS and PBS					
Indigenous	**726.6**	**645.9**	**492.3**	**540.8**	**613.0**
Non-Indigenous	**977.1**	**963.9**	**867.7**	**653.5**	**959.0**
Ratio	**0.7**	**0.7**	**0.6**	**0.8**	**0.6**
Difference(d)	**–250.5**	**–318.0**	**–375.3**	**–112.7**	**–346.0**

(a) Excludes the following: allied health services, optometry and dental services.

(b) Includes general practitioners and vocationally registered general practitioners.

(c) Excludes RPBS, and highly specialised drugs dispensed from public and private hospitals.

(d) Difference is equal to Indigenous minus non-Indigenous.

Source: AIHW 2011. Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09 - An analysis by remoteness and disease; Supplementary table 2.

Table 3.21.10: Expenditure on hospital separations[(a)(b)], by disease group and Indigenous status[(c)] in public and private hospitals, 2008–09

	Expenditure ($ million)			Indigenous share (per cent)	Expenditure ($) per person			
Disease group	**Indigenous**	**Non-Indigenous**	**Total**		**Indigenous**	**Non-Indigenous**	**Ratio**	**Difference[(d)]**
1. Communicable diseases, maternal and neonatal conditions	**336.1**	**4,544.0**	**4,880.1**	**6.9**	**616.5**	**214.5**	2.9	**402.0**
Infectious and parasitic diseases	54.3	681.1	735.4	7.4	99.6	32.2	*3.1*	67.4
Acute respiratory infections	82.8	873.3	956.1	8.7	151.9	41.2	*3.7*	110.6
Maternal conditions	124.6	2,094.8	2,219.4	5.6	228.6	98.9	*2.3*	129.7
Neonatal causes	63.9	625.2	689.1	9.3	117.2	29.5	*4.0*	87.7
Nutritional deficiencies	10.5	269.7	280.2	3.8	19.3	12.7	*1.5*	6.5
2. Non-communicable diseases	**836.5**	**20,555.2**	**21,391.8**	**3.9**	**1,534.3**	**970.4**	1.6	**563.9**
Malignant neoplasms	44.8	2,686.0	2,730.7	1.6	82.1	126.8	*0.6*	–44.7
Other neoplasms	10.6	534.1	544.7	1.9	19.4	25.2	*0.8*	–5.8
Diabetes mellitus	52.2	505.2	557.3	9.4	95.7	23.8	*4.0*	71.9
Endocrine and metabolic disorders	15.9	448.4	464.3	3.4	29.2	21.2	*1.4*	8.0
Mental and behavioural disorders	139.7	1,843.3	1,983.1	7.0	256.3	87.0	*2.9*	169.3
Nervous system and sense organ disorders	37.0	1,286.1	1,323.2	2.8	68.0	60.7	*1.1*	7.2
Cardiovascular disease	106.5	3,839.0	3,945.5	2.7	195.3	181.2	*1.1*	14.1
Chronic respiratory disease	60.5	1,201.6	1,262.1	4.8	111.0	56.7	*2.0*	54.3
Diseases of the digestive system	84.2	2,402.8	2,487.0	3.4	154.4	113.4	*1.4*	41.0
Genitourinary diseases	161.9	1,944.6	2,106.5	7.7	297.0	91.8	*3.2*	205.2
Diseases of the skin and subcutaneous tissue	42.1	497.9	540.0	7.8	77.3	23.5	*3.3*	53.8
Musculoskeletal and connective tissue diseases	48.7	2,798.8	2,847.4	1.7	89.3	132.1	*0.7*	–42.9

(continued)

Table 3.21.10 (continued): Expenditure on hospital separations[a][b], by disease group and Indigenous status[c] in public and private hospitals, 2008–09

Disease group	Expenditure ($ million) Indigenous	Expenditure ($ million) Non-Indigenous	Expenditure ($ million) Total	Indigenous share (per cent)	Expenditure ($) per person Indigenous	Expenditure ($) per person Non-Indigenous	Ratio	Difference[d]
Congenital anomalies	20.2	320.7	341.0	5.9	37.1	15.1	2.4	21.9
Oral conditions	12.2	246.7	258.9	4.7	22.4	11.6	1.9	10.7
3. Injuries[g]	**161.0**	**3,378.8**	**3,539.8**	**4.5**	**295.3**	**159.5**	**1.9**	**135.8**
Unintentional injuries	124.0	3,166.4	3,290.3	3.8	227.4	149.5	1.5	77.9
Intentional injuries	37.0	212.4	249.5	14.9	68.0	10.0	6.8	57.9
4. Signs, symptoms and ill-defined conditions, and other contact with health services[h]	**136.8**	**4,311.2**	**4,448.0**	**3.1**	**251.0**	**203.5**	**1.2**	**47.4**
Total	**1,470.5**	**32,789.2**	**34,259.7**	**4.3**	**2,697.2**	**1,548.0**	**1.7**	**1,149.2**

(a) Includes hospital separation data for all states/territories.

(b) Hospital separations for which care type was reported as Newborn with no qualified days, and records for Hospital boarders and Posthumous organ procurement have been excluded.

(c) Admitted patient rates have been adjusted for Indigenous under-identification.

(d) Difference is equal to Indigenous minus non-Indigenous.

(e) No e info.

(f) Includes expenditure for care involving dialysis (ICD-10 Z49).

(g) Hospital separations resulting from external cause events treated during hospitalisations.

(h) ‘Signs, symptoms and ill-defined conditions’ include diagnostic and other services for signs, symptoms and ill-defined conditions where the cause of the problem is unknown. ‘Other contact with the health system’ includes fertility control, reproduction and development; elective cosmetic surgery; general prevention, screening and health examination; and treatment and after-care for unspecified disease.

Source: AIHW 2011. Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09 - An analysis by remoteness and disease; Supplementary table 6.

Table 3.21.11: Expenditure on potentially preventable hospital separations[(a)] by Indigenous status in public and private hospitals, 2008–09

PPH Category	Total expenditure ($ million) Indigenous	Total expenditure ($ million) Non-Indigenous	Indigenous share (per cent)	Expenditure per person ($) Indigenous	Expenditure per person ($) Non-Indigenous	Ratio	Difference [(b)]
Chronic conditions							
Diabetes complications	51.9	500.6	9.4	95.2	23.6	4.0	71.6
Chronic obstructive pulmonary disease	30.1	488.5	5.8	55.2	23.1	2.4	32.1
Congestive heart failure	14.5	358.3	3.9	26.7	16.9	1.6	9.7
Asthma	8.9	116.0	7.1	16.4	5.5	3.0	10.9
Rheumatic heart disease	5.9	52.5	10.0	10.8	2.5	4.3	8.3
Angina	5.0	93.1	5.1	9.1	4.4	2.1	4.7
Iron deficiency anaemia	1.5	52.1	2.8	2.8	2.5	1.1	0.3
Nutritional deficiencies[(b)]	1.2	3.4	25.7	2.1	0.2	13.4	2.0
Hypertension	0.9	19.6	4.4	1.7	0.9	1.8	0.7
Total chronic conditions	*119.9*	*1,684.2*	*6.6*	*219.9*	*79.5*	*2.8*	*140.4*
Acute conditions							
Convulsions and epilepsy	16.1	125.1	11.4	29.6	5.9	5.0	23.7
Pyelonephritis	13.0	246.7	5.0	23.9	11.6	2.1	12.2
Cellulitis	12.4	169.3	6.8	22.7	8.0	2.8	14.7
Dental conditions	10.3	109.1	8.6	18.9	5.2	3.7	13.8
Ear, nose and throat infections	9.8	83.2	10.6	18.0	3.9	4.6	14.1
Dehydration and gastroenteritis	7.7	167.0	4.4	14.1	7.9	1.8	6.3
Perforated/ bleeding ulcer	1.9	59.5	3.1	3.5	2.8	1.2	0.7
Appendicitis with generalised peritonitis	1.6	29.8	5.1	2.9	1.4	2.1	1.5
Pelvic inflammatory disease	1.6	14.9	9.8	3.0	0.7	4.2	2.3

(continued)

Table 3.21.11 (continued): Expenditure on potentially preventable hospital separations[(a)] by Indigenous status in public and private hospitals, 2008–09

	Total expenditure ($ million)			Expenditure per person ($)			
PPH Category	**Indigenous**	**Non-Indigenous**	**Indigenous share (per cent)**	**Indigenous**	**Non-Indigenous**	**Ratio**	**Difference [(b)]**
Gangrene	0.3	3.6	7.8	0.6	0.2	3.3	0.4
Total acute conditions	*74.8*	*1,008.1*	*6.9*	*137.2*	*47.6*	*2.9*	*89.6*
Vaccine-preventable conditions							
Influenza and pneumonia	6.1	64.3	8.6	11.1	3.0	3.7	8.1
Other vaccine-preventable conditions	1.9	9.5	16.5	3.4	0.4	7.7	3.0
Total vaccine-preventable conditions	*7.9*	*73.8*	*9.7*	*14.6*	*3.5*	*4.2*	*11.1*
Total	**202.6**	**2,766.0**	**6.8**	**371.6**	**130.6**	**2.8**	**241.0**

(a) Includes hospital separations data for all states/territories. Hospital separation rates differ from those published in Australian hospital statistics: 2008–09 (AIHW 2010a) because the estimates in this report relate to principal diagnoses only, have been adjusted for Indigenous under-identification and are crude rates (rather than age-standardised rates).

(b) Difference is equal to Indigenous minus non-Indigenous.

Source: AIHW 2011. Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09 - An analysis by remoteness and disease; Supplementary table 8.

Data quality issues

Health Expenditure Data

The AIHW draws upon both expenditure data and service use data to prepare Indigenous health expenditure estimates.

The quality of Indigenous service use data is of varying quality, as there is widespread non-reporting of Indigenous status or under-identification in administration records. Although the quality of Indigenous service use data such as admitted patient data is improving, under-identification of Aboriginal and Torres Strait Islander people in these data sets remains a major issue.

The source of data used to estimate health expenditure for Indigenous and non-Indigenous Australians through Aboriginal Community Controlled Health Organisations (ACCHOs) has changed slightly for 2008–09 estimates. Past estimates for 2004–05 and 2006–07 used information from the Service Activity Report database, which was a joint project of the Office for Aboriginal and Torres Strait Islander Health (OATSIH) and the National Aboriginal Community Controlled Health Organisation. The database collected service level data on health care through an annual questionnaire completed by every Australian Government-funded Aboriginal and Torres Strait Islander primary health care service. In 2008–09, however, it was replaced with the new OATSIH Service Report database, which also includes data previously collected under the Drug and Alcohol Service Report, and Bringing Them Home and Link Up Counsellors data collections.

Under-identification

Estimates of the level of Indigenous under-identification were used to adjust admitted patient expenditure estimates for New South Wales, Victoria, Queensland, South Australia, Western Australia and the Northern Territory (public hospitals only). In some states and territories, a single state-wide average under-identification adjustment factor was applied. In others, differential under-identification factors were used, depending on the region in which particular service(s) were located (AIHW 2011).

As the AIHW studies on Indigenous identification in hospitalisation data did not include private hospitals, an adjustment factor of 54% for private hospitals was derived from the analysis of linked hospital morbidity data from New South Wales.

Expenditure estimates

Some of the expenditure patterns in this report may be influenced by variations in the completeness of Indigenous identification, despite the adjustments made for under-identification. The use of scaled up MBS and PBS data based on the level of VII enrolment is one such example. It is possible that health expenditure estimates for Aboriginal and Torres Strait Islander people may slightly overestimate or underestimate the actual level of health expenditure. As a result, estimating health expenditure for Indigenous Australians is an evolving field, and conclusions should be drawn with caution.

In addition, while every effort has been made to ensure consistent reporting and categorisation of expenditure on health goods and services, in some cases there are inconsistencies across expenditure data providers. These result from limitations of financial reporting systems and/or different reporting mechanisms.

Time series estimate comparisons

The definition of health expenditure changed in 2007 to exclude high-care residential aged care, which was instead classified as welfare expenditure.

For the purpose of comparison, high-care residential aged care expenditure has been omitted from all of the years' estimates to allow for the comparison of health expenditure estimates over time.

There was a change in the method for estimating MBS and PBS expenditure for the 2006–07 and 2008–09 reports in this series. The revised method involves the use of Medicare VII data to estimate expenditure on medical services, such as general practitioner, specialist services, pathologist services, imaging services, and prescription pharmaceuticals provided to Aboriginal and Torres Strait Islander people. Prior to this, data from the Bettering the Evaluation and Care of Health (BEACH) survey data were used in these estimates. This change may have contributed to the increase in MBS and PBS expenditure estimates in 2006–07 and 2008–09 reports compared with those in the 2001–02 and 2004–05 reports (AIHW 2011).

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

References

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AIHW 2010b. Health expenditure Australia 2008–09.Health and welfare expenditure series no. 42. Cat. no. HWE 51. Canberra: AIHW.

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3.22 Recruitment and retention of staff

The recruitment and retention of qualified clinical and management staff to provide effective health care to meet Aboriginal and Torres Strait Islander health-care needs

Data sources

National data for broad measures of recruitment and retention are not available from existing national administrative health or workforce databases. There are, however, a small number of limited collections that are relevant to this measure. Data for this measure come from the National Health Workforce Data Set, general practitioner (GP) data held by the Australian Government Department of Health and Ageing (DoHA), OATSIH Services Reporting (OSR) Data Collection and the Rural Workforce Agency National Minimum Data Set.

National Health Workforce Data Set

The AIHW, in collaboration with Health Workforce Australia, is the custodian of the National Health Workforce Data Set (NHWDS) that describes these professionals and the work they do.

The NHWDS combines data from the National Registration and Accreditation Scheme (NRAS) with health workforce survey data collected when annual registrations are renewed. The mandatory registration process is administered by the Australian Health Practitioner Regulation Agency (AHPRA) and includes an optional survey that collects additional demographic and workforce information.

All practitioners in these professions must be registered with the AHPRA to practise in Australia, and this applies whether they trained in Australia or overseas. The AHPRA manages the NRAS, which replaced jurisdiction-based registration with a single national registration and accreditation system. As part of this scheme, the AHPRA supports National Health Practitioner Boards, which regulate registered health professions under nationally consistent legislation. Registration for each profession is granted by the relevant boards, subject to applicants meeting the standards and policies set by each.

At its introduction, the NRAS covered registration for 10 health professions, with another four scheduled for inclusion from 1 July 2012. Since 1 July 2010, these professions have been regulated: chiropractors, dental practitioners (including dentists, dental hygienists, dental prosthetists and dental therapists), medical practitioners, nurses and midwives, optometrists, osteopaths, pharmacists, physiotherapists, podiatrists, and psychologists. From 1 July 2012, these health professions are included: Aboriginal and Torres Strait Islander health practitioners, Chinese medicine practitioners, medical radiation practitioners, and occupational therapists. In all, this represents more than 530,000 registered health professionals.

DoHA general practice statistics

The Commonwealth Department of Health and Ageing holds data on the number of GPs in Australia by remoteness area and Statistical Local Area (SLA). On 1 July 2009 the Rural, Remote and Metropolitan Areas (RRMA) system was replaced by the Australian Standard Geographical Classification – Remoteness Areas (ASGC-RA) system.

Rural Workforce Agency National Minimum Data Set

The Rural Workforce Agency National Minimum Data Set is a national data set based on annual surveys conducted by each state and territory Rural Workforce Agency. The data set is compiled through the Australian Rural and Remote Workforce Agencies Group. These data are available by remoteness area and duration of practice. They do not directly answer the broader retention and recruitment questions, but will provide useful information for this measure.

OATSIH Services Reporting Data Collection

The Australian Institute of Health and Welfare (AIHW) has collected data from Aboriginal and Torres Strait Islander primary health care services, stand-alone substance use services, and Bringing Them Home and Link Up counselling services that received funding through the Office for Aboriginal and Torres Strait Islander Health (OATSIH) for 2008–09 onwards.

OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example, a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 300 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services in 2010–11.

Analyses

Supply of health professionals

Data on the supply of health professionals are available from the National Health Workforce Data Set (NHWDS): medical practitioners 2010, AIHW Nursing and Midwifery Labour Force Survey 2009, 2002 Physiotherapy Labour Force Survey, 2003 Podiatry Labour Force Survey, 2003 Psychology Labour Force Survey and 2002–03 Occupational Therapy Labour Force Survey. Information from these data sources are summarised below. Information is also presented on the dental labour force from the AIHW Dental Statistics and Research unit.

Medical practitioners

- In 2010, there were 58,192 registered medical practitioners in Australia of whom 52,497 (90%) were employed in medicine in Australia (excluding Queensland and Western Australia for which data were not available) (Table 3.22.1).
- The proportion of registered medical practitioners who were employed in medicine ranged from 92% in the Australian Capital Territory to 95% in the Northern Territory (Table 3.22.1).
- Half (50%) of all registered medical practitioners in the six states combined (New South Wales, Victoria, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory) who were employed in medicine overseas, were registered in New South Wales. Similarly, nearly half (49%) of all registered medical practitioners who were not employed were New South Wales registrants.
- Between 2006 and 2010, the number of medical practitioners employed in medicine increased by 13% from 46,336 to 52,497. Differences between the questionnaires previously administered by jurisdictions, as well as changes to the new nationally standardised survey tool have resulted in a slight change in the pattern of responses to the employment-related questions. As such, comparing data over time should be done with caution (AIHW 2012b).

Table 3.22.1: Labour force status of registered medical practitioners, by state/territory, 2010

Labour force status	NSW	Vic	Qld[(a)]	WA[(a)]	SA	Tas	ACT	NT	Australia[(b)]
Employed in medicine	23,549	18,883	. .	. .	5,984	1,717	1,523	818	52,479
On extended leave	596	586	. .	. .	152	48	48	24	1,526
Not employed in medicine	146	98	. .	. .	10	n.p.	10	n.p.	299
Employed in medicine overseas	304	210	. .	. .	38	24	24	7	2,128
Not employed in Australia	248	174	. .	. .	45	23	6	11	566
Retired from regular work in medicine	554	358	. .	. .	148	n.p.	41	n.p.	1,176
Total registered	**25,398**	**20,309**	**. .**	**. .**	**6,376**	**1,854**	**1,653**	**864**	**58,192**
Per cent registered practitioners employed in medicine	**92.7**	**93.0**	**. .**	**. .**	**93.8**	**92.6**	**92.2**	**94.7**	**90.2**

(a) Data exclude Queensland and Western Australia due to their registration period closing after the national registration deadline of 30 September 2010.

(b) Data include employed medical practitioners who did not state or adequately describe their state or territory of principal practice and employed medical practitioners who reside overseas. Therefore, state and territory totals may not sum to the national total. The sum of state and territory numbers of registered medical practitioners (excluding Queensland and Western Australia) is 56,454 compared with the national figure of 58,192; a difference of 1,738 medical practitioners (1.3% of all registered medical practitioners, excluding Queensland and Western Australia).

Source: National Health Workforce Data Set: medical practitioners 2010.

Registered and enrolled nurses

- The total number of nurses identified in 2009 by the Nursing and Midwifery Labour Force Census was 320,982, comprising 260,121 registered nurses and 60,861 enrolled nurses. The number of registered and enrolled nurses in the labour force (that is, employed in or looking for work in nursing in Australia) increased by 9.3% between 2007 and 2009, from 277,297 to 291,246 (AIHW 2012a; Table 3.22.2).

- The proportion of registered nurses employed in nursing in Australia in 2009 was 87% (255,040), and ranged from 80% in New South Wales to 93% in Tasmania. Of the registered nurses who were not employed in nursing, the majority were not looking for work in nursing (20,708) or were on extended leave (8,440) (Table 3.22.2).
- The proportion of enrolled nurses employed in nursing in Australia in 2009 was 85% (51,711), ranging from 77% in the Northern Territory to 91% in South Australia. Of the enrolled nurses not employed in nursing, 1,791 were looking for work in nursing while 5,795 were not (Table 3.22.2).

Table 3.22.2: Labour force status of registered and enrolled nurses, by state/territory(a), 2009

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Registered nurses									
Employed	66,110	57,940	43,337	22,407	21,540	6,233	3,766	3,707	225,040
On extended leave	2,466	2,282	1,620	964	644	167	125	171	8,440
Looking for work in nursing	1,115	699	381	290	172	49	69	48	2,825
Overseas	2,142	360	186	212	154	11	13	31	3,108
Not looking for work in nursing	11,082	3,552	2,229	1,986	986	263	292	316	20,708
Total employed nurses	*82,916*	*64,833*	*47,754*	*25,859*	*23,497*	*6,724*	*4,265*	*4,274*	*260,121*
Percentage of registered nurses employed in nursing	79.7	89.4	90.8	86.7	91.7	92.7	88.3	86.7	86.5
Enrolled nurses									
Employed	13,017	17,536	8,412	4,210	6,272	1,139	727	397	51,711
On extended leave	338	503	247	132	152	38	20	10	1,440
Looking for work in nursing	470	884	182	89	109	23	12	21	1,791
Overseas	66	27	15	3	8	—	—	5	124
Not looking for work in nursing	2,687	1,454	497	577	382	68	45	84	5,795
Total enrolled nurses	*16,577*	*20,404*	*9,354*	*5,012*	*6,924*	*1,268*	*805*	*517*	*60,861*
Percentage of enrolled nurses employed in nursing	78.5	85.9	89.9	84.0	90.6	89.8	90.3	76.8	85.0
All nurses									
Employed	79,127	75,476	51,750	26,617	27,812	7,372	4,493	4,104	276,751
On extended leave	2,804	2,785	1,867	1,096	796	206	145	181	9,880
Looking for work in nursing	1,585	1,584	564	379	281	72	82	69	4,615
Overseas	2,208	386	201	215	162	11	13	36	3,233
Not looking for work in nursing	13,769	5,006	2,727	2,564	1,369	331	337	400	26,503
Total nurses 2009	**99,493**	**85,237**	**57,108**	**30,870**	**30,421**	**7,992**	**5,069**	**4,791**	**320,982**
Percentage of all nurses employed in nursing	79.5	88.5	90.6	86.2	91.4	92.2	88.6	85.7	86.2

(a) State and territory estimates for 2009 should be treated with caution due to low response rates in some jurisdictions.

Source: Nursing and midwifery labour force (AIHW 2011).

Physiotherapists

- In 2002, there were 15,967 physiotherapists registered with state/territory physiotherapist registration boards throughout Australia (excluding the Northern Territory). This represents an 11% increase in the number of physiotherapists between 1998 and 2002 (AIHW 2011).
- The AIHW 2002 Physiotherapy Labour Force Survey showed that there were 13,446 registered physiotherapists throughout New South Wales, Victoria, Queensland, South Australia, and the Australian Capital Territory, of whom 10,728 (80%) were working in physiotherapy. The proportion of registered physiotherapists who were working in physiotherapy in 2002 ranged from 74% in New South Wales to 87% in Victoria (Table 3.22.3).
- From the 2002 AIHW survey, the FTE rates could only be calculated for three jurisdictions (Victoria, 70 per 100,000; South Australia, 72; and the Australian Capital Territory, 81) (AIHW 2011).
- Of the registered physiotherapists who were not working in physiotherapy in 2002, the majority were not actively looking for work in physiotherapy (1,382).

Table 3.22.3: Registered physiotherapists: labour force status and field of physiotherapy by state/territory, NSW, Vic, Qld, SA and ACT, 2002

Labour force status/field	NSW	Vic[(a)]	Qld	SA	ACT	Total[(b)]
Physiotherapy labour force	4,370	3,405	1,935	1,204	286	11,201
Total working in physiotherapy	*4,191*	*3,257*	*1,849*	*1,156*	*274*	*10,728*
Clinical physiotherapist	3,955	2,931	1,717	1,051	258	9,913
Non-clinical physiotherapist	236	326	133	104	16	815
Total not working in physiotherapy	*179*	*148*	*86*	*48*	*12*	*473*
On extended leave	108	114	44	43	n.p.	311
Looking for work in physiotherapy	71	34	42	6	10	162
Total not in physiotherapy labour force	*1,313*	*322*	*426*	*149*	*34*	*2,245*
Overseas	499	144	148	64	8	863
Not looking for work in physiotherapy	814	178	278	85	26	1,382
Total registered physiotherapists	**5,683**	**3,728**	**2,362**	**1,353**	**320**	**13,446**
Percentage of physiotherapists employed in physiotherapy	73.7	87.4	78.3	85.4	85.6	79.8

(a) The numbers for Victoria should be treated with caution. The increase from 1998 to 2002 in the number employed (21.7%), and the associated declines in the numbers 'looking for work in physiotherapy' and 'not in the labour force', are higher than would be expected from the increase in registrations over the same period (7.7%).

(b) Excludes Western Australia, Tasmania and the Northern Territory, which were not surveyed in 2002.

Source: Physiotherapy Labour Force Survey, 2002 (AIHW 2006a).

Podiatrists

- In 2003, there were 2,361 podiatrists registered with state/territory boards throughout Australia (excluding the Northern Territory). This represents a 15% increase in the number of podiatrists between 1999 and 2003 (AIHW 2011).
- The 2003 AIHW Podiatry Labour Force Survey showed there were 1,988 registered podiatrists in New South Wales, Victoria, Queensland, South Australia and Tasmania in 2003, of whom 1,820 (92%) were working in podiatry. The proportion of podiatrists working in podiatry ranged from 89% in Victoria to 97% in South Australia (Table 3.22.4).
- The supply of podiatrists varied between states, ranging from 7.7 per 100,000 population in Queensland to 19.7 per 100,000 population in South Australia (AIHW 2010).
- Of the registered podiatrists who were not working in podiatry in 2002, the majority were not actively looking for work in podiatry (112).

Table 3.22.4: Labour force status of registered podiatrists by state/territory, NSW, Vic, Qld, SA and Tas, 2003

Labour force status	NSW	Vic	Qld	SA	Tas	Total
Podiatry labour force	583	655	279	284	53	1,854
Working in podiatry	*580*	*636*	*273*	*278*	*53*	*1,820*
Clinical podiatrist	563	610	264	268	50	1,755
Non-clinical podiatrist	17	26	9	10	n.p.	65
Not working in podiatry	*n.p.*	*19*	*n.p.*	*6*	*n.p.*	*33*
On extended leave	—	17	n.p.	6	—	27
Looking for work in podiatry	n.p.	n.p.	n.p.	—	—	6
Not in podiatry labour force	46	61	22	n.p.	n.p.	134
Overseas	n.p.	10	7	n.p.	n.p.	22
Not looking for work in podiatry	44	50	15	n.p.	n.p.	112
Total registered podiatrists[(a)]	**629**	**716**	**301**	**286**	**56**	**1,988**
Percentage of podiatrists employed in podiatry	92.2	88.8	90.7	97.2	94.6	91.5

(a) Excludes Western Australia, the Australian Capital Territory and the Northern Territory.

Source: Podiatry Labour Force Survey, 2003 (AIHW 2006b).

Psychologists

- In 2004–05 there were 22,175 psychologists registered with Psychologist Registration Boards in Australia (excluding the Australian Capital Territory and the Northern Territory). This represents an increase in the number of psychologists between 1999–00 and 2004–05 in all jurisdictions. The increase ranged from 20% in Western Australia to 59% in New South Wales (AIHW 2011).
- The 2003 AIHW Psychology Labour Force Survey showed there were 16,094 registered psychologists in New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory. Of these, 14,073 (87%) were working in psychology, ranging from 85% in South Australia to 90% in Victoria and the Australian Capital Territory (Table 3.22.5).
- The FTE rate of psychologists per 100,000 population for each of the above jurisdictions ranged from 54 in South Australia to 170 in the Australian Capital Territory (AIHW 2010).
- Of the registered psychologists who were not working in psychology, the majority were not actively looking for work in psychology (817).

Table 3.22.5: Labour force status of registered psychologists, by state/territory, NSW, Vic, Qld, SA and ACT, 2003

Labour force status	NSW	Vic	Qld(a)	SA	ACT	Total(b)
Psychology labour force(a)	5,842	4,840	2,568	814	519	14,584
Total working in psychology	*5,589*	*4,671*	*2,535*	*769*	*509*	*14,073*
Clinical psychologist	3,996	3,067	1,793	516	323	9,694
Non-clinical psychologist	1,593	1,605	742	253	186	4,379
Total not working in psychology	*253*	*168*	*n.a.*	*46*	*10*	*511*
On extended leave	102	46	34	37	n.p.	222
Looking for work in psychology	151	122	n.a.	8	8	289
Not in psychology labour force(a)(c)	620	303	43	78	48	1,092
Overseas	185	38	43	4	5	275
Not looking for work in psychology	434	265	n.a.	74	43	817
Looking for work status not known	21	69	317	9	n.p.	419
Total registered psychologists	**6,483**	**5,212**	**2,928**	**901**	**569**	**16,094**
Percentage of psychologists employed in psychology	86.2	89.6	86.6	85.3	89.5	87.4

(a) Excludes 'looking for work' not known.

(b) Excludes Western Australia, Tasmania and the Northern Territory.

(c) Excludes 'whether looking for work' because this was not collected in the Queensland survey.

Source: Psychology Labour Force Survey, 2003 (AIHW 2006c).

Dental therapists

- Data from the National Dental Labour Force Collection show there were an estimated 2,075 registered dental therapists/oral health therapists in Australia in 2006.
- The proportion of dental therapists/oral health therapists employed in dentistry ranged from 58% in the Australian Capital Territory to 97% in the Northern Territory (Table 3.22.6).
- In 2009, 129 dental therapists/oral health therapists were not in paid work or not working as a dental therapist or oral health therapist.

Table 3.22.6: Practice status of dental therapists and oral health therapists, by state/territory, 2009

Labour force status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	All
Dental therapists	265	169	280	112	309	60	17	22	1,234
Oral health therapists	50	153	257	74	39	—	7	10	590
Practising therapy only in other states	n.p.	n.p.	12	n.p.	4	—	18	n.p.	46
On 3+ months leave	15	9	26	6	12	—	—	—	68
Overseas	n.p.	n.p.	3	n.p.	—	—	—	n.p.	8
Not in paid work/not working as a dental therapist/OHT	35	20	9	11	55	—	—	—	129
Total registered dental therapists/OHT	**372**	**355**	**587**	**207**	**419**	**60**	**42**	**33**	**2,075**
Percentage of dental therapists/oral health therapists employed in dentistry	84.5%	90.7%	91.5%	89.9%	83.0%	100.0%	57.6%	97.0%	87.9%

Notes

1. Not all columns/rows sum to total because weighted data have been rounded to whole numbers.
2. Oral health therapists (OHTs) are dual registered hygienist and therapist.

Source: AIHW Dental Statistics and Research Unit, 2009.

Occupational therapists

- The size of the occupational therapist labour force in Australia is difficult to estimate because occupational therapists are only required to be registered in four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory), and registration numbers were readily available from only three of these (Queensland, Western Australia and South Australia). In the 2001 ABS Census of Population and Housing, however, 5,331 persons identified as being employed as occupational therapists.
- Of the three jurisdictions where registration numbers were available, there has been an increase of 32% in the total number of occupational therapist registrations between 1998 and 2003 (AIHW 2011).
- The AIHW 2002–2003 Occupational Therapy Labour Force Survey received responses from 3,622 occupational therapists throughout Australia. Of these, 3,107 (86%) were employed in occupational therapy (Table 3.22.7).
- Of the occupational therapist respondents who were not employed in occupational therapy, the majority were not actively looking for work in occupational therapy (278). Of the occupational therapist respondents who were employed in occupational therapy, 17 were on extended leave.

Table 3.22.7: Occupational therapist respondents: labour force status and role, Australia, 2002–2003

Labour force status	Australia
Occupational therapy labour force	3,277
Employed in occupational therapy	*3,107*
Clinical occupational therapy	2,684
Non-clinical occupational therapy	423
Not working in occupational therapy	*170*
On extended leave	117
Looking for work in occupational therapy	53
Not in occupational therapy labour force	345
Overseas	67
Not looking for work in occupational therapy	278
Total respondents	**3,622**
Percentage of occupational therapists employed in occupational therapy	85.8

Note: The table excludes respondents who did not answer the labour force questions.

Source: Occupational Therapy Labour Force Survey, 2002–2003 (AIHW 2006d).

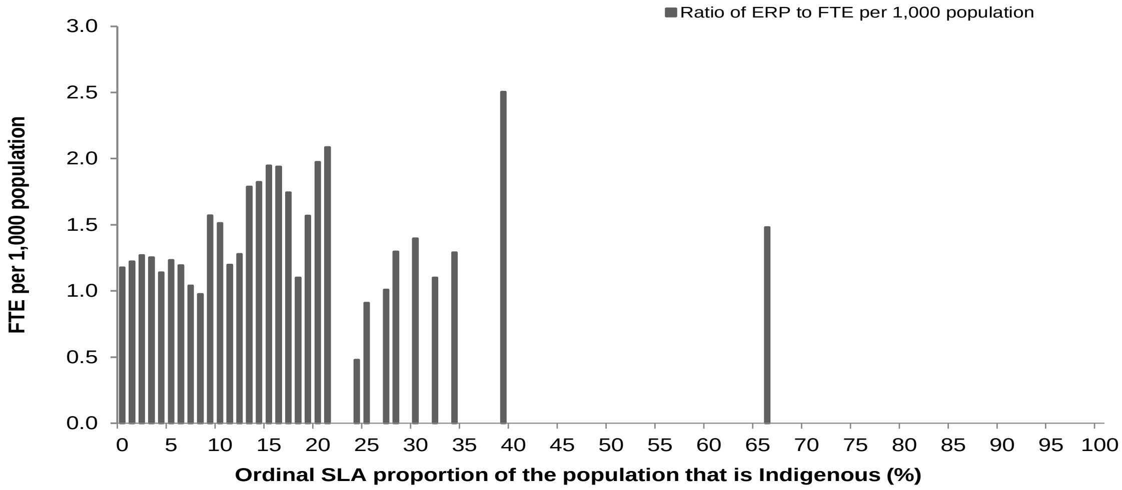
Retention

Information on the number of GPs working in Australia is available from DoHA, and additional data on GPs working in rural areas of Australia are available from the Rural Workforce Agency.

GPs by Statistical Local Area

Figure 3.22.1 presents data on the number of FTE GPs in 2010–11 per 1,000 population by the Indigenous population proportion of Statistical Local Areas ordered from low (less than 1%) to high (100%) based on the 2006 Census.

- In 2010–11, there were approximately 16,927 full-time equivalent GPs working in Australia. Approximately 58% (9,312 FTE) of GPs were working in SLAs where 1% or fewer of the population were Indigenous, and 0.2% (36 FTE) of GPs were working in areas where more than 50% or more of the population was Indigenous (Figure 3.22.1).



Note: Results for SLAs where the number of FTE GPS is less than three have been suppressed.

Source: AIHW analysis of Medicare Database.

Figure 3.22.1: Number of full-time equivalent GPs per 1,000 population, by areas of low through to high proportions of Indigenous populations, 2010–11

GPs by remoteness

Table 3.22.8 presents the number and proportion of full-time equivalent GPs by remoteness area.

- In 2010–11 as measured using the Australian Standard Geographical Classification – Remoteness Areas (ASGC-RA) system, approximately 70% of GPs were working in major cities, 28% of GPs were working in inner and outer regional areas and less than 2% of GPs were working in remote and very remote areas of Australia.

Table 3.22.8: Number and proportion of full-time equivalent GPs by remoteness categories, 2010–11

Remoteness categories (ASGC-RA)	Number of FTE GPs	Per cent
Major cities	11,917	70.4
Inner regional	3,338	19.7
Outer regional	1381	8.2
Remote	203	1.2
Very remote	88	0.5
Total	**16,927**	**100.0**

Note: As part of the Health and Ageing 2009–10 Budget Measure- Confronting the Rural Health Challenge the Government announced that from 1 July 2009, the Rural, Remote and Metropolitan Areas (RRMA) system is replaced by the Australian Standard Geographical Classification – Remoteness Areas (ASGC-RA) system. The ASGC-RA was developed by the Australian Bureau of Statistics, uses 2006 Census data, and is widely used by Commonwealth and state agencies.

Source: AIHW analysis of Department of Health and Ageing General Practice

GPs in rural areas

Table 3.22.9 presents the number and proportion of GPs working in rural areas of Australia, by length of stay in current practice and remoteness area as at 30 November 2011.

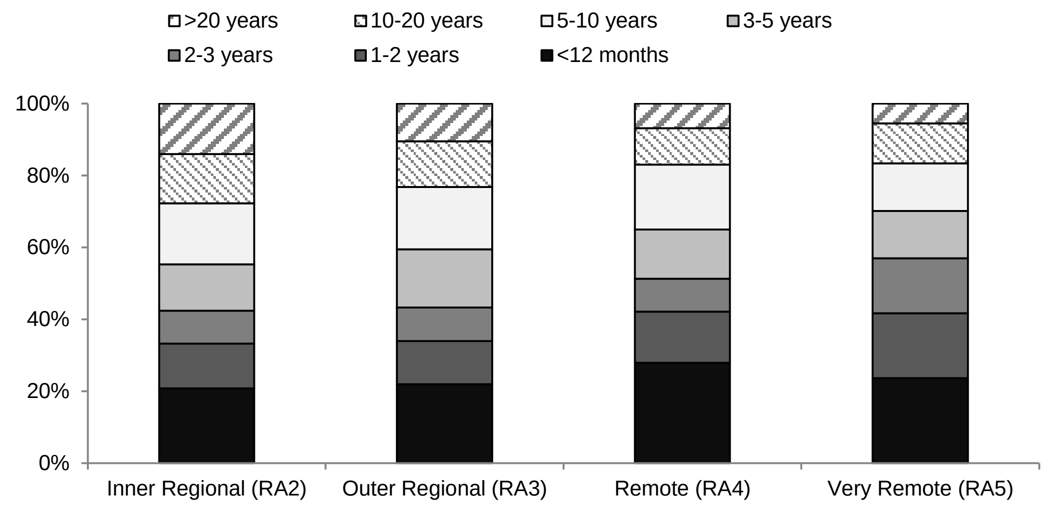
- As at 30 November 2011, the Rural Workforce Agency Annual Survey recorded a total of 6,372 GPs working in rural and remote areas of Australia. Over 1 out of 5 (22%) of GPs reported that they had stayed in their current practice for less than 12 months and 12% had stayed in their current practice for more than 20 years (Table 3.22.9).
- GPs in inner/outer regional areas were more likely to stay in current practice for a longer time than GPs in remote/very remote areas. For example, between 13% and 14% of GPs working in inner/outer regional areas had stayed in practice for 10 years or more, compared with 10% to 11% of GPs working in remote/very remote areas (Table 3.22.9; Figure 3.22.2).

Table 3.22.9: Number and proportion of GPs in rural and remoteness area, by length of stays in current practice and remoteness, 30 November 2011

	Duration							
ASGC-RA categories	**<12 months**	**1–2 years**	**2–3 years**	**3–5 years**	**5–10 years**	**10–20 years**	**>20 years**	**Total**
				Number				
Inner regional (RA2)	846	506	373	526	691	556	573	4,071
Outer regional (RA3)	387	212	164	286	305	224	185	1,763
Remote (RA4)	110	56	36	54	71	40	27	394
Very remote (RA5)	34	26	22	19	19	16	8	144
Total	**1,377**	**800**	**595**	**885**	**1,086**	**836**	**793**	**6,372**
				Proportion				
Inner regional (RA2)	20.8	12.4	9.2	12.9	17.0	13.7	14.1	100.0
Outer regional (RA3)	22.0	12.0	9.3	16.2	17.3	12.7	10.5	100.0
Remote (RA4)	27.9	14.2	9.1	13.7	18.0	10.2	6.9	100.0
Very remote (RA5)	23.6	18.1	15.3	13.2	13.2	11.1	5.6	100.0
Total	**21.6**	**12.6**	**9.3**	**13.9**	**17.0**	**13.1**	**12.4**	**100.0**

Note: The ASGC-RA was developed by the Australian Bureau of Statistics, uses 2006 Census data, and is widely used by Commonwealth and state agencies. The ASGC-RA include five categories namely Major Cities, Inner Regional, Outer Regional, Remote and Very Remote.

Source: AIHW analysis of Combined Rural Workforce Agencies National Minimum data set report, 30 November 2011.



Source: AIHW analysis of Combined Rural Workforce Agencies National Minimum Data Set report.

Figure 3.22.2: Proportion of GPs in rural and remote areas, by duration of practice and remoteness, at 31 November 2011

Recruitment

Information on the recruitment of clinical and management staff in Aboriginal and Torres Strait Islander primary health-care services is available from the OSR data collection, collected by the AIHW, and is presented below.

Recruitment by staff category

- Over the year 2010–11, there were approximately 3,683 FTE health/clinical staff and 1,856 FTE administrative and support/management staff within Aboriginal and Torres Strait Islander primary health-care organisations funded by the Australian Government (Table 3.22.10).
- The number of reported vacancies for staff positions at Aboriginal and Torres Strait Islander primary health-care services at 30 June 2011 was 395, equivalent to 7% of all reported FTE positions (both occupied and vacant) (Table 3.22.10) . The position vacancies were higher than the previous year (295 FTE) (AIHW 2012c).
- The health related occupation categories with the highest proportion of staff vacancies were: allied health professionals (22%), other health staff (18%) and substance-use workers (16%).
- For administrative occupations, the highest proportion of vacancies were for the categories of: other admin staff (25%), cleaners/cooks/gardeners and CEO/admin/managers (each 3%) (Table 3.22.10).

Table 3.22.10: Number and proportion of health (clinical) staff and administrative and support (management) staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations, at 2010–11

Staff category	Number	Per cent[(a)]	Total occupied FTEs
Health staff			
Aboriginal health worker	74.0	7.5	916.3
Doctors	18.2	4.8	361.6
Nurses	52.6	6.2	789.1
Emotional and social wellbeing workers	33.8	6.7	467.1
Allied health professionals	49.6	22.0	176.0
Medical Specialists	0.0	0.0	13.2
Dentists / dental therapist	1.0	1.8	56.1
Dental support	1.0	1.2	79.1
Substance-use workers	28.5	15.5	154.9
Environmental health workers	0.0	0.0	37.1
Drivers/field officers	1.5	0.5	296.9
Other health staff	75.4	18.4	335.5
Total health/clinical	*335.6*	*8.4*	3,682.8
Administrative and support staff			
CEO/admin/managers	19.1	2.9	641.3
Administrative Support	7.0	1.1	605.2
Accountants	1.0	0.6	170.5
Information/data	1.5	1.6	90.9
Trainers/educators	1.0	1.9	50.8
Cleaner/cooks/gardeners	8.2	3.4	232.8
Other admin staff	21.8	25.2	64.6
Total administrative and support staff	*59.6*	*3.1*	1,856.0
Total	**395.1**	**6.7**	**5,538.7**

(a) Number of funded FTE vacancies divided by the total FTE positions (both occupied and vacant) multiplied by 100.

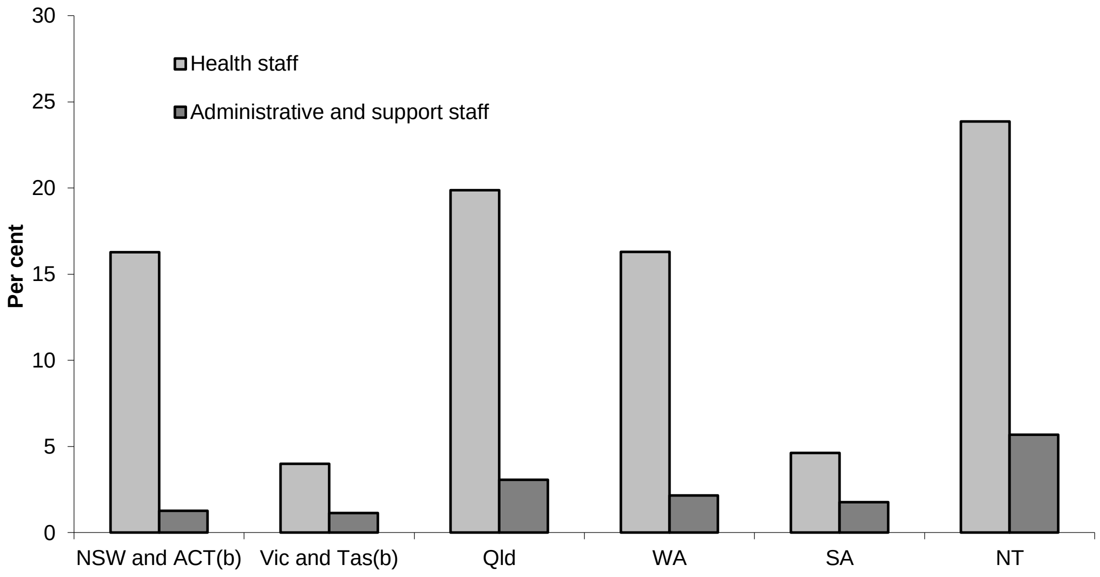
Note: One hundred and fifty-two of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about vacant positions for 2010–11.

Source: AIHW OSR data collection.

Recruitment by state/territory and remoteness

- For the year 2010–11, the Northern Territory had the highest proportion (30 %) of total health staff vacancies (health staff, and administrative and support staff) of total FTE positions in Indigenous primary health-care organisations. Victoria and Tasmania combined had the lowest (5%) (Table 3.22.11; Figure 3.22.3). The Northern Territory had the highest number of health/clinical staff vacancies (24%) followed by New South Wales and the Australian Capital Territory combined (16%). The Northern Territory also had the highest proportion of administrative and support staff vacancies (6%).
- For the year 2010–11, outer regional and very remote areas of Australia had the highest proportion of total health staff vacancies of total positions funded in Indigenous primary health-care organisations (28% each). This compared with around 20% in remote areas,

14% in inner regional and 11% in major cities (Table 3.22.12; Figure 3.22.4). The proportion of health (clinical) staff vacancies was highest at 24% in outer regional and lowest at 9% in major cities.



(a) Number of funded FTE vacancies divided by the total vacant FTE positions multiplied by 100.

(b) Jurisdictions have been combined because of the small number of services in the Australian Capital Territory and Tasmania.

Source: AIHW OSR data collection.

Figure 3.22.3: Proportion[(a)] of health and administrative and support staff vacancies of total positions in Aboriginal and Torres Strait Islander primary health-care organisations, by state/territory, 2010–11

Table 3.22.11: Number and proportion[(a)] of health (clinical) staff and administrative and support (management) staff vacancies of total positions (FTE) in Aboriginal and Torres Strait Islander primary health-care organisations, by state/territory, at 2010–11

	NSW and ACT[(b)]		Vic and Tas[(b)]		Qld		WA		SA		NT	
Staff category	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Health staff	64.3	16.3	15.8	4.0	78.5	19.9	64.4	16.3	18.3	4.6	94.3	23.9
Administrative and support staff	5.0	1.3	4.5	1.1	12.1	3.1	8.5	2.2	7.0	1.8	22.5	5.7
Total	**69.3**	**17.5**	**20.3**	**5.1**	**90.6**	**22.9**	**72.9**	**18.5**	**25.3**	**6.4**	**116.7**	**29.5**

(a) Number of funded FTE vacancies divided by the total vacant FTE positions multiplied by 100.

(b) Jurisdictions have been combined because of the small number of services in the Australian Capital Territory and Tasmania.

(c) One hundred and fifty-two of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about vacant positions for 2010–11.

Source: AIHW OSR data collection.

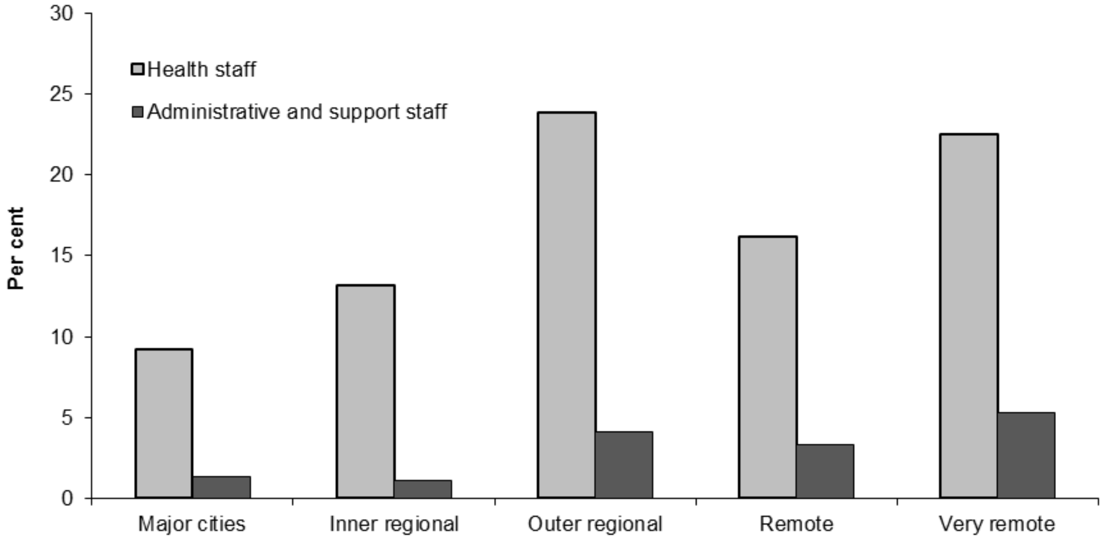
Table 3.22.12: Number and proportion[(a)] of health (clinical) staff and administrative and support (management) staff vacancies of total positions (FTE) in Aboriginal and Torres Strait Islander primary health-care organisations, by remoteness, at 2010–11

	Major cities		Inner regional		Outer regional		Remote		Very remote		Total	
Staff category	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Health staff	36.4	9.2	52.1	13.2	94.3	23.9	64.1	16.2	88.7	22.5	335.6	84.9
Administrative and support staff	5.0	1.3	4.5	1.1	16.1	4.1	13.0	3.3	21.0	5.3	59.6	15.1
Total	**41.4**	**10.5**	**56.6**	**14.3**	**110.4**	**27.9**	**77.1**	**19.5**	**109.7**	**27.8**	**395.1**	**100.0**

(a) Number of funded FTE vacancies divided by the total vacant FTE positions multiplied by 100.

Note: One hundred and fifty-two of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about vacant positions for 2010–11.

Source: AIHW OSR data collection.



Source: AIHW OSR data collection.

Figure 3.22.4: Proportion of health/clinical staff and support/management staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations, by remoteness, 2010–11

Recruitment by length of time vacant

- At June 2011, the majority of health and administrative positions in Aboriginal and Torres Strait Islander health-care organisations were vacant for between 4 and 25 weeks (153 health positions and 31 administrative positions) (Table 3.22.13).

Table 3.22.13: Full-time equivalent health/clinical staff and support/management staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations, by length of time vacant, at June 2011

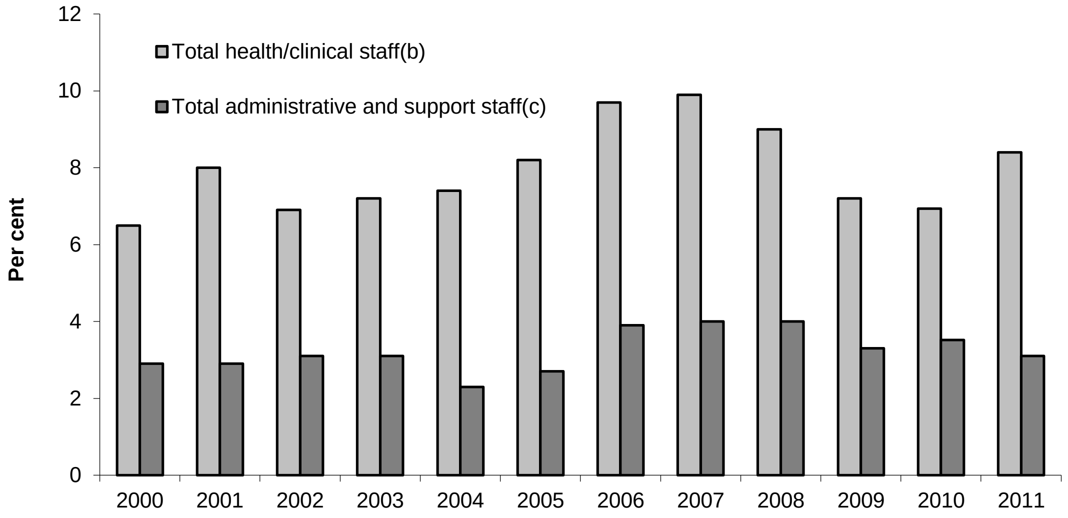
Staff category	1 week	2–3 weeks	4–25 weeks	26+ weeks	Total
Admin. and support staff	2.0	5.0	30.6	21.96	59.6
Health staff	10.8	22.8	153.45	148.51	335.56
Total	**12.8**	**27.8**	**184.05**	**170.47**	**395.12**

Note: One hundred and fifty-two of the 235 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about vacant positions for 2010–11.

Source: AIHW OSR data collection.

Time series analyses

- There has been an increase in the proportion of health/clinical staff vacancies in Aboriginal and Torres Strait Islander health-care organisations over the period 2000 to 2011 (from 6.5% to 8.4%). There has also been a slight increase in the number of administrative and support staff (from 2.9% to 3.1%) (Figure 3.22.5; Table 3.22.14).
- For the year 2011, the proportion of FTE health/clinical staff and support/management staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations was 8.4% and 3.1%, respectively.



Source: SAR and DSAR data collection.

Figure 3.22.5: Full-time equivalent health/clinical staff and administrative and support/management staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations, 2000 to 2011

Table 3.22.14: Full-time equivalent health/clinical and support/management staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations, year ending 2000 to 2011(a)

	Total health/clinical staff(b)	Total support/management staff(c)
2000	**6.5**	2.9
2001	8.0	2.9
2002	6.9	3.1
2003	7.2	3.1
2004	7.4	2.3
2005	8.2	2.7
2006	9.7	3.9
2007	9.9	4.0
2008	9.0	4.0
2009	7.2	3.3
2010	6.9	3.5
2011	8.4	3.1
Per cent change	**18.1**	**1.5**
Annual change(d)	**0.1**	**0.1**

(a) Number of funded FTE vacancies divided by the total FTE positions (both occupied and vacant) multiplied by 100.

(b) Represents results with statistically not significant increases or declines at the $p < 0.05$ level over the period 2001 to 2011.

(c) Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001 to 2011.

(d) Average annual change in number of health/clinical staff and the number of administrative and support staff determined using linear regression analysis.

Note: Since 2008–09 OSR data counts all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods.

Sources: SAR, DSR and AIHW OSR data collections.

Additional information

Factors that influence length of practice in rural and remote Australia

In 2001, a national survey of GPs practising in rural and remote communities was conducted by the Monash University School of Rural Health. The survey found that professional considerations—particularly on-call arrangements, professional support and variety of rural practice—were the most important factors determining general practice retention in rural and remote areas. Other important factors were local availability of services and geographic attractiveness. The least important factor was proximity to a city or large regional centre (Humphreys et al. 2002).

A 2004 study (Jones & Humphries 2004) reporting on the viability of rural general practice found that the key factors contributing to the viability of these practices were:

- More than half of all GPs (59%) regarded at least one aspect of practice characteristics as an important factor in contributing to viability of the practice. The most common items of practice characteristics were the characteristics of practice staff (14%), having a sufficient number of patients (11%), good practice management and efficiencies (9%) and good working relationships between partners (7%).
- Income (including Medicare rebates, hospital income, bulk-billing, and private billing practices and incentive payments). This was nominated as a key factor of practice

viability by 31% of respondents; the most frequent items here referred to private billings or realistic fees (11%), with 10% referring to adequate remuneration.

- Personal circumstances, workforce issues and community characteristics, which were each nominated by about 23% of respondents.

In terms of the factors that would put the practice at risk:

- Workforce was the most important factor considered to threaten practice viability: it was nominated by 57% of practitioners. In workforce supply items (including retention, recruitment, Overseas Trained Doctors and Temporary Resident Doctors (OTDs/TRDs)), doctor retention (21%) and recruitment difficulties (9%) were the most frequently mentioned. Workload issues included unpaid paperwork (8%) and loss of hospital work due to downgrades or closure (5%).
- Many respondents (44%) identified financial issues that threaten practice viability, with both income and expenses or costs mentioned. Inadequate Medicare rebate was cited by 16% of respondents, inadequate remuneration by 11%, and increases in practice costs by 14%.
- Medico-legal issues were raised by one-third of respondents. These issues concerned the cost of indemnity cover (18%) and concerns over the uncertainty of cover and collapse of insurers (13%).
- Fewer respondents nominated administration-political issues, community characteristics, GP/practice characteristics and personal and family circumstances (Jones & Humphries 2004).

A 2007 study reporting on retention issues for rural doctors found that doctors who were satisfied with their current medical practice intended to remain in rural practice for 40% longer than those who were not satisfied (12 years compared with 8 years) (Alexander & Fraser 2007). Those content with their life as a rural doctor intended to remain in rural practice for 51% longer than those who were discontented (12 years compared with 8 years). Continuing professional development, training opportunities, professional support and networking as well as financial support, were the doctors' top priorities. Training in Indigenous health was identified as a key information deficit by most doctors.

Data quality issues

National Health Workforce Data Set (NHWDS)

The Australian Health Practitioner Regulation Agency (AHPRA), in conjunction with the national boards, is responsible for the national registration process for 14 health professions. The data from this annual registration process, together with data from a workforce survey that is voluntarily completed at the time of registration, forms the National Health Workforce Dataset (NHWDS). Data in the NHWDS includes demographic and employment information (for example labour force status, location of main job, area of practice, work setting) for registered health professionals

Medical practitioners

The NHWDS: medical practitioners contains information sourced from registration data and workforce survey data.

The 2010 data collection is the first data release from the new national registration scheme. The data set is comprised of registration (including demographic) information provided by the Australian Health Practitioner Regulation Agency (AHPRA) and workforce details obtained by the Medical Workforce Survey. The survey instrument varies significantly in some areas from previous years, however, is now nationally consistent.

The 2010 collection excludes the workforce survey records of medical practitioners whose principal state of practice was Queensland and Western Australia, because not all registrations in Queensland and Western Australia expired on 30 September 2010, the date prescribed by AHPRA as the official closing data for registration renewal.

Estimates published from the Medical Workforce Survey 2010 are not directly comparable with estimates derived from the earlier AIHW Medical Labour Force Survey data. This is due to a change in the data collection methodology; including the survey design and questionnaire. For further information, refer to the Data Quality Statement and the online *User guide for the NHWDS: medical practitioners 2010,* available from the AIHW website.

DoHA general practice statistics

Care must be taken in using and interpreting the data provided. There are two issues to note which have an effect on the quality of the data. First, the data include only those services claimed through the Medicare system. Consequently the full-time equivalent for doctors in remote areas, which are more likely to have high proportions of Indigenous population, will be understated. This is because some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system. This results in further understating the full-time equivalent for doctors in areas with high Indigenous populations.

Second, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall than a second group of SLAs, there will be a number of individual SLAs in the first group with far more people per doctor than in some individual SLAs in the second group.

OATSIH Service Reporting (OSR) data collection

The data were collected using the OSR questionnaire, which combined previously separate questionnaires for primary health, stand-alone substance use, and Bringing Them Home and Link Up counselling services.

AIHW sent a paper copy of the 2010–11 questionnaire to each service and requested completion of relevant sections. The AIHW examined all completed questionnaires and identified three major issues with the data quality: missing data, inappropriate data provided for a question, and lack of coherence of data from two or more questions. The majority of questionnaires received had one or more of these data quality issues. Where needed, AIHW staff contacted services to follow-up and obtain additional or corrected data. After entering the data on the data repository system, staff conducted further data quality checks. It should be noted that some data presented in this report—particularly around client numbers, episodes of care and client contacts, are estimates of actual figures and should be used and interpreted with caution.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2010–11* (AIHW 2012c).

Rural Workforce Agency National Minimum Data Set

The Rural Workforce Agency National Minimum Data Set is a national data set based on annual surveys conducted by each state and territory Rural Workforce Agency and compiled through the Australian Rural and Remote Workforce Agencies Group (Health Workforce Queensland and New South Wales Rural Doctors Network 2009). The data are collected in accordance with an agreed national minimum data set and data dictionary.

List of symbols used in tables

n.a.	not available
—	rounded to zero (including null cells)
0	zero
. .	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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Appendix 1: List of measures and data sources

Measure	Data sources
1.01 Low birthweight	NPDC, NATSISS, HfL
1.02 Top reasons for hospitalisation	AIHW National Hospital Morbidity Database
1.03 Injury and poisoning	AIHW National Hospital Morbidity Database, BEACH, AIHW National Mortality Database
1.04 Respiratory disease	AIHW National Mortality Database, AIHW National Hospital Morbidity Database, NNDSS, NATSIHS
1.05 Circulatory disease	AIHW National Mortality Database, NATSIHS, BEACH, AIHW National Hospital Morbidity Database
1.06 Acute rheumatic fever and rheumatic heart disease	Northern Territory Acute Rheumatic Fever and Rheumatic Heart Disease Program
1.07 High blood pressure	NATSIHS, AIHW National Hospital Morbidity Database, BEACH, NATSISS
1.08 Cancer	Australian Cancer Database, AIHW National Mortality Database, BEACH, AIHW National Hospital Morbidity Database
1.09 Diabetes	NATSIHS, BEACH. AIHW National Hospital Morbidity Database, NATSISS
1.10 Kidney disease	AIHW National Mortality Database, AIHW National Hospital Morbidity Database, ANZDATA
1.11 Oral health	NATSISS, Child Dental Health Survey, Study of Aboriginal and Torres Strait Islander child oral health in remote communities, National Survey of Adult Oral Health, AIHW National Hospital Morbidity Database, NTER CHCI, NATSIHS, WAACHS
1.12 HIV/AIDS, hepatitis and sexually transmissible infections	NNDSS, NCHECR
1.13 Community functioning	NATSISS
1.14 Disability	NATSISS, Census of Population and Housing, Disability Services National Minimum Data Set, WAACHS
1.15 Ear health	NATSISS, NATSIHS, AIHW National Hospital Morbidity Database, Deadly Ears Program in Queensland, BEACH, NTER CHCI – audiology & ENT follow-up services
1.16 Eye health	NIEHS, NATSIHS, NATSISS, Trachoma surveillance report, BEACH, AIHW National Hospital Morbidity Database
1.17 Perceived health status	NATSISS, NATSIHS
1.18 Social and emotional wellbeing	NATSIHS, NATSISS, WAACHS, BEACH, AIHW National Hospital Morbidity Database, AIHW National Mortality Database, NCMHCD, NRMHCD
1.19 Life expectancy at birth	ABS population estimates based on the 2001 Census of Population and Housing; AIHW National Mortality Database
1.20 Infant and child mortality	AIHW National Mortality Database, NATSISS
1.21 Perinatal mortality	ABS Deaths Registration Database
1.22 All-causes age-standardised death rates	AIHW National Mortality Database
1.23 Leading causes of mortality	AIHW National Mortality Database

(continued)

Appendix 1 (continued): List of measures and data sources

Measure	Data sources
1.24 Avoidable and preventable deaths	AIHW National Mortality Database
2.01 Housing	NATSISS, Census of Population and Housing, SAAP NDC, NATSIHS
2.02 Access to functional housing with utilities	CHINS, NATSISS, Census of Population and Housing
2.03 Environmental tobacco smoke	NATSISS, NATSIHS
2.04 Literacy and numeracy	NAPLAN, NATSISS
2.05 Education outcomes for young people	NSSC, NATSISS
2.06 Educational participation and attainment of adults	NATSISS, National Vocational Education and Training (VET) Provider Collection, DEEWR Higher Education Statistics Collection, NATSIHS
2.07 Employment	NATSISS, Census of Population and Housing, ABS Labour Force Survey
2.08 Income	NATSISS, Survey of Income and Housing
2.09 Index of disadvantage	Census of Population and Housing, SEIFA
2.10 Community safety	NATSISS, AIHW National Hospital Morbidity Database, AIHW National Mortality Database, National Homicide Monitoring Program
2.11 Contact with criminal justice system	National Prisoner Census, Deaths in Custody Australia, DUMA, NATSISS, AIHW Juvenile Justice National Minimum Data Set, AIHW National Prisoner Health Census
2.12 Child protection	AIHW National Child Protection Data collection
2.13 Transport	NATSISS
2.14 Indigenous people with access to their traditional lands	NATSISS
2.15 Tobacco use	NATSISS, NATSIHS
2.16 Risky alcohol consumption	NATSIHS, NATSISS, AIHW National Mortality Database, AIHW National Hospital Morbidity Database
2.17 Drug and other substance use including inhalants	NATSISS, AIHW Hospital Morbidity Database, DUMA
2.18 Physical activity	NATSIHS, NATSISS
2.19 Dietary behaviours	Australian Guide to Healthy Eating, NATSIHS, NATSISS
2.20 Breastfeeding practices	NATSIHS, NATSISS, ANIFS
2.21 Health behaviours during pregnancy	NPDC, NATSISS, HfL
2.22 Overweight and obesity	NATSIHS
3.01 Antenatal care	NPDC, NATSISS, HfL
3.02 Immunisation	ACIR, NATSIHS
3.03 Health promotion	AIHW health expenditure data, BEACH, HfL, CHINS, OSR
3.04 Early detection and early treatment	Medicare database, BreastScreen Australia, NBCSP, NATSIHS, OSR
3.05 Chronic disease management	Medicare database, OSR, HfL, Divisions of General Practice National Performance Indicators
3.06 Access to hospital procedures	AIHW National Hospital Morbidity Database

(continued)

Appendix 1 (continued): List of measures and data sources

Measure	Data sources
3.07 Selected potentially preventable hospital admissions	AIHW National Hospital Morbidity Database
3.08 Cultural competency	NATSISS, NATSIHS, AIHW National Hospital Morbidity Database, Census of Population and Housing, DEEWR Higher Education Statistics Collection, National Vocational Education and Training (VET) Provider Collection, OSR
3.09 Discharge against medical advice	AIHW National Hospital Morbidity Database
3.10 Access to mental health services	Medicare database, BEACH, OSR, NCMHCD, AIHW National Hospital Morbidity Database, NRMHCD, NHWDS, NATSIHS, SAAP NDC, National Mental Health Establishments Database
3.11 Access to alcohol and drug services	OSR, AODTS-NMDS, AIHW National Hospital Morbidity Database, BEACH, NOPSAD
3.12 Aboriginal and Torres Strait Islander people in the health workforce	Census of Population and Housing
3.13 Competent governance	ORIC, OSR, NATSIHS, NATSISS, HfL
3.14 Access to services compared with need	Medicare database, DoHA general practice statistics, OSR, AIHW National Hospital Morbidity Database, NATSIHS, AIHW National Mortality Database, NATSISS, NHWDS, Palliative care data, Health expenditure data
3.15 Access to prescription medicines	Health expenditure data, AIHW Pharmacists Labour Force Survey
3.16 Access to after-hours primary health care	BEACH, OSR, Medicare database, NAPEDCD
3.17 Regular GP or health service	NATSIHS
3.18 Care planning for chronic diseases	Medicare database, HfL, NATSIHS, OSR
3.19 Accreditation	AIHW National Hospital Morbidity Database, AIHW National Public Hospitals Establishment Database, AGPAL and GPA Accreditation Plus, OSR, HfL
3.20 Aboriginal and Torres Strait Islander people in Tertiary Education for health related disciplines	DEEWR Higher Education Student Statistics Collection, National Vocational Education and Training (VET) Provider Collection
3.21 Expenditure on Aboriginal and Torres Strait Islander health compared to need	Health expenditure data
3.22 Recruitment and retention of staff	NHWDS, DoHA general practice statistics, Rural Workforce Agency National Minimum Data Set, OSR

List of abbreviations

ABS	Australian Bureau of Statistics
ACA	Aboriginal Councils and Associations
ACARA	Australian Curriculum, Assessment and Reporting Authority
ACCHOs	Aboriginal Community Controlled Health Organisations
ACCHS	Aboriginal Community Controlled Health Services
ACD	Australian Cancer Database
ACER	Australian council for Educational Research
ACIR	Australian Childhood Immunisation Register
ACT	Australian Capital Territory
AGPAL	Australian General Practice Accreditation Limited
AHPRA	Australian Health Practitioner Regulation Agency
AHS	Aboriginal Health Service
AIC	Australian Institute of Criminology
AIDS	acquired immunodeficiency syndrome
AIHW	Australian Institute of Health and Welfare
AMSs	Aboriginal medical services
ANIFS	Australian National Infant Feeding Survey
ANZDATA	Australian and New Zealand Dialysis and Transplant Registry
AODTS-NMDS	Alcohol and Other Drug Treatment Services National Minimum Data Set
AOM	acute otitis media
AQF	Australian Qualifications Framework
ARF	acute rheumatic fever
ARRs	apparent retention rates
ASD	Annual Survey of Divisions
ASGC	Australian Standard Geographical Classification
ASGC-RA	Australian Standard Geographical Classification – Remoteness Areas
ATSIHS	Australian Aboriginal and Torres Strait Islander Health Survey
AVETMISS	Australian Vocational Education and Training Management Information Statistical Standard
BEACH	Bettering the Evaluation and Care of Health (survey)
BMI	body mass index

CABG	coronary artery bypass grafts
CAI	computer-assisted interview
CATSI	Corporations (Aboriginal and Torres Strait Islander)
CDE	Census Data Enhancement
CDEP	Community Development Employment Projects scheme
CDHS	Child Dental Health Survey
CERA	Centre for Eye Research Australia
CHC	Child Health Check
CHCI	Child Health Check Initiative
CHINS	Community Housing and Infrastructure Needs Survey
CI	confidence interval
COAG	Council of Australian Governments
COPD	chronic obstructive pulmonary disease
CPO	care and protection orders
CRC	COAG Reform Council
CSOM	chronic suppurative otitis media
CtG	Closing the Gap
DASR	Drug and Alcohol Services Reporting
DEEWR	(Australian Government) Department of Education, Employment and Workplace Relations
DEST	(Australian Government) Department of Education, Science and Training
dmft	decayed, missing and filled deciduous infant teeth
DMFT	decayed, missing and filled permanent adult teeth
DoHA	(Australian Government) Department of Health and Ageing
DS NMDS	Disability Services National Minimum Data Set
DTP	diphtheria-tetanus-pertussis
DUMA	Drug Use Monitoring in Australia
EIs	Essential Indicators
ENT	Ear, Nose, Throat
ESRD	end stage renal disease
ETD	eustachian tube dysfunction
FaCSIA	(Australian Government) Department of Families, Community Services and Indigenous Affairs
FMRC	Family Medicine Research Centre

FOBT	faecal occult blood test
FTE	full-time equivalent
GP	general practitioner
GPA+	General Practice Accreditation Plus
GPMP	General Practitioner Management Plan
GSS	General Social Survey
HfL	Healthy for Life
HIB	haemophilus influenza type B
HIV	human immunodeficiency virus
HPV	Human papilloma virus
ICD	International Classification of Diseases
ICD–9	International Classification of Diseases, 9th revision
ICD-10	International Classification of Diseases, 10th revision
ICD-10-AM	International statistical classification of disease and related health problems, 10th revision, Australian modification, 4th edition
ICPC-2	International Classification of Primary Care, 2nd edition
ICPC-2 PLUS	International Classification of Primary Care, extended 2nd edition
IHO	Indigenous Housing Organisation
IRSAD	Index of Relative Socio-Economic Advantage and Disadvantage
ISO	International Standards Organisation
JJ NMDS	Juvenile Justice National Minimum Data Set
KPI	Key Performance Indicator
LFS	Labour Force Survey
MAHS	More Allied Health Services
MBS	Medicare Benefits Schedule
MCEECDYA	Ministerial Council on Education, Early Childhood Development and Youth Affairs
MEGA	Centre for Molecular, Environmental, Genetic and Analytic
MET	metabolic equivalent level
METeOR	Metadata Online Registry
MMR	measles, mumps, rubella
NAHA	National Affordable Housing Agreement
NAPLAN	National Assessment Program – Literacy and Numeracy
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey

NATSIS	National Aboriginal and Torres Strait Islander Survey
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
NBCSP	National Bowel Cancer Screening Program
NCHECR	National Centre in HIV Epidemiology and Clinical Research
NCMHCD	National Community Mental Health Care Database
NCP	National Child Protection Data Collection
NCVER	National Centre for Vocational Education Research
NDA	National Disability Agreement
NHMD	National Hospital Morbidity Database
NHMP	National Homicide Monitoring Program
NHMRC	National Health and Medical Research Council
NHS	National Health Survey
NHWDS	National Health Workforce Data Set
NIEHS	National Indigenous Eye Health Survey
NIP	National Immunisation Program
NIPII	National Indigenous Pneumococcal and Influenza Immunisation
NIS	notifications, investigations and substantiations
NMDS	National Minimum Data Set
NNAPEDCD	National Non-admitted Patient Emergency Department Care Database
NNDSS	National Notifiable Diseases Surveillance System
NOPSAD	National Opioid Pharmacotherapy Statistics Annual Data
NPAH	National Partnership Agreement on Homelessness
NPDC	National Perinatal Data Collection
NPESU	National Perinatal Epidemiology and Statistics Unit
NPIs	National Performance Indicators
NPSU	National Perinatal Statistics Unit
NQPS	National Quality and Performance System
NRAS	National Registration and Accreditation Scheme
NRMHCD	National Residential Mental Health Care Database
NSSC	National Schools Statistics Collection
NSW	New South Wales
NT	Northern Territory
NT DHF	Northern Territory Department of Health and Families

NTER	Northern Territory Emergency Response
NTER CHCI	Northern Territory Emergency Response Child Health Check Initiative
NTSRU	National Trachoma Surveillance and Reporting Unit
OATSIH	Office for Aboriginal and Torres Strait Islander Health
OME	otitis media with effusion
OOHC	out-of-home care
ORIC	Office of the Registrar of Indigenous Corporations
OSCAR	OATSIH Services Collection, Analysis and Reporting System
OSR	OATSIH Services Reporting data collection
OTDs/TRDs	Overseas Trained Doctors and Temporary Resident Doctors
PBS	Pharmaceutical Benefits Scheme
PCI	percutaneous coronary intervention
PHCP	General practitioner or other primary health care provider
PIRS	Patient Information and Recall System
PMRT	Performance Measurement and Reporting Taskforce
PYLL	potential years of life lost
QIC	Quality Improvement Council
Qld	Queensland
RACGP	Royal Australian College of General Practitioners
RHD	rheumatic heart disease
RPBS	Repatriation Pharmaceutical Benefits Scheme
RRMA	Rural, Remote and Metropolitan Areas
SA	South Australia
SAAP	Supported Accommodation Assistance Program
SAAP NDC	Supported Accommodation Assistance Program National Data Collection
SAR	Service Activity Reporting
SDQ	Strengths and Difficulties Questionnaire
SEIFA	Socio-Economic Indexes For Areas
SES	Socioeconomic status
SF-36	Medical Outcome Short Form (mental health survey)
SHSC	Specialist Homelessness Services Collection
SIDS	sudden infant death syndrome

SIH	Survey of Income and Housing
SLA	Statistical Local Area
STI	sexually transmissible infections
TAFE	Technical and Further Education colleges
Tas	Tasmania
TCA	Team Care Arrangement
USA	United States of America
VET	vocational education and training
Vic	Victoria
VII	Voluntary Indigenous Identifier
WA	Western Australia
WAACHS	Western Australian Aboriginal Child Health Survey
WHO	World Health Organisation

This report provides the latest information on how Aboriginal and Torres Strait Islander people are faring according to a range of indicators on health status, determinants of health and health system performance that are based on the Aboriginal and Torres Strait Islander Health Performance Framework. It highlights the main areas of improvement and continuing concern. For example, while death rates for avoidable causes and circulatory diseases have declined since 1997, more than half of Aboriginal and Torres Strait Islander mothers smoke during pregnancy and about one-quarter of Indigenous Australians aged 15 and over live in overcrowded housing.