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Detailed analyses

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Contents

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Executive Summary

This report contains detailed analyses against indicators in the Aboriginal and Torres Strait Islander Health Performance Framework (the HPF). The HPF is designed to provide the basis to monitor the impact of the National Strategic Framework for Aboriginal and Torres Strait Islander Health (NSFATSH) and inform policy analyses, planning and program implementation. The HPF consists of 71 indicators covering three tiers—health status and outcomes, determinants of health and health systems performance (see Figure 1).

Due to data quality issues related to Indigenous identification, hospitalisations and mortality data for Indigenous Australians are reported for some jurisdictions only and this may affect the completeness of data presented in this report. Hospitalisations data are reported for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory while mortality data are reported for New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

A summary of the key findings under each tier are outlined below.

Health status and health outcomes

Health status and outcomes (Tier 1) covers a range of health issues affecting Aboriginal and Torres Strait Islander Australian Australians. The information presented in this tier is important for tracking progress against a number of COAG closing the gap targets such as life expectancy, infant and child mortality, and all-cause mortality.

This tier contains 4 domains: health conditions (12 indicators), human function (two indicators), life expectancy and wellbeing (four indicators) and deaths (seven indicators).

Areas of improvement

Small but significant health gains have been made in a number of areas which shows positive signs towards closing the gap in health disadvantage between Indigenous and non-Indigenous or other Australians:

- Between 2001 and 2008, there has been a slight decrease in the prevalence of ear and hearing problems among Indigenous males (18% to 11% respectively) and females (18% to 10%)
- Over the period 2001–02 to 2007–08 there has been a significant decline in Indigenous hospitalisation rates for pneumonia (8% decline)
- Significant closing of the gap between Indigenous and non-Indigenous infant and perinatal mortality; due to a 43% decline in infant mortality and a 34% decline in perinatal mortality between 1999 and 2008
- Over the period 1991–2008, there was a significant decline (25% reduction) in all-cause mortality for Indigenous Australians with a 24% decline in the gap between Indigenous and non-Indigenous Australians
- Between 1997 and 2008, there has been a 29% decline in the rate of deaths from circulatory disease, and a 23% decline in respiratory diseases death rate
- Deaths from avoidable causes among Indigenous Australians declined significantly (20% decline) between 1997 and 2008

Areas needing further work

Despite making progress in some areas, Indigenous Australians are lagging behind in a large number of areas where further improvements need to be made to close the gap in health disadvantage:

- Babies of Indigenous mothers are still twice as likely to be of low birthweight as babies born to non-Indigenous mothers and over the period 1991–2008 the rate difference between low birthweight babies born to Indigenous and non-Indigenous mothers has increased significantly (13% increase)
- Indigenous hospitalisation rates for all major health conditions have increased by 21% from 2001–02 to 2007–08 with an increase of 42% in the rate difference between Indigenous and other Australians
- Hospitalisations for diabetes among Indigenous Australians in 2007–08 was 4 times the rate of other Australians and there has been a significant increase (17%) in diabetes hospitalisations for Indigenous Australians over the period 2000–01 to 2007–08
- The incidence rate of treated end stage renal disease (ESRD) for Indigenous Australians was around eight times the rate of non-Indigenous Australians. The number of Indigenous patients starting ESRD treatment has more than quadrupled since 1991 (from 54 in 1991 to 242 in 2008) and Indigenous patients starting ESRD treatment are substantially younger compared to non-Indigenous Australians
- Rates of gonorrhea and chlamydia have increased significantly between 1994–1996 to 2006–2008 (by 61% and 199% respectively)

Determinants of health

Determinants of health (Tier 2) are reported for a range of factors and behaviours that contribute towards health status among Aboriginal and Torres Strait Islander Australians.

In this tier, there are 5 domains: environmental factors (three indicators), socioeconomic factors (seven indicators), community capacity (seven indicators), health behaviours (eight indicators) and person-related factors (one indicator).

Areas of improvement

There have been improvements in several key health determinants in recent years including:

- The proportion of Indigenous people living in overcrowded households declined from around 29% to 25% between 2001 and 2006
- Indigenous school retention rates to Years 10, 11 and 12 have steadily increased over the last 5 years.
- The proportion of Indigenous Australians reporting that the highest year of school completed was Year 12 has increased from 19% in 2002 to 23% in 2008
- Rate of employment among Indigenous Australians increased between 2001 and 2008 (from 44% to 54%)
- The proportion of Aboriginal and Torres Strait Islander people who own their own home has increased slightly from 27% in 1996 to 33% in 2008
- Hospitalisations for assault among Indigenous Australians have declined slightly over the period 2001–02 to 2007–08

- The proportion of Indigenous Australians aged 15 years and over who are current smokers (daily or less frequently) declined from 52% in 1994 to 47% in 2008

Areas needing further work

- Indigenous children are twice as likely as non-Indigenous children to live in households with daily smokers (65% vs 32% in 2007–08)
- Proportions of Indigenous students in Years 3, 5, 7 and 9 achieving reading, writing and numeracy benchmarks are lower compared to non-Indigenous children
- In 2008, approximately 49% of Indigenous Australian adults were in the lowest 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
- While Indigenous Australians are less likely than non-Indigenous Australians to consume alcohol, of those who do consume alcohol, around 55% consumed it at long-term risky or high risk levels
- An estimated 23% of Indigenous Australians reported substance use in the last 12 months, and 43% reported ever using a substance
- The rate of Indigenous imprisonment has increased by 11% since 2007
- Aboriginal and Torres Strait Islander mothers smoked during pregnancy at around three times the rate of non-Indigenous mothers
- The level of sedentary physical activity for Indigenous Australians has increased between 2001 and 2004–05 from 37% to 47%
- Approximately 5% of Indigenous children did not usually eat fruit and 4% did not usually eat vegetables while a further 33% reported consuming one serve or less of fruit per day and 27% reported having one serve or less of vegetables per day
- Approximately 60% of Indigenous adults were overweight or obese in 2004–05, which is an increase from 1995 and 2001. Indigenous Australians are nearly twice as likely to be obese as non-Indigenous Australians.

Health system performance

Health system performance (Tier 3) reports on the performance of the health system including population health, primary health care and secondary/tertiary care services. The indicators selected for this publication are drawn from these sectors, and are intended to cover six domains of performance: effectiveness, appropriateness and efficiency of health services (seven indicators), responsiveness of health services to Aboriginal and Torres Strait Islander communities and individuals (four indicators), accessibility of services (three indicators), capability (two indicators) and sustainability (two indicators). Measures included in this tier encompass those dealing 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.

Areas of improvement

- In 2007, 97% of Indigenous mothers attended at least one antenatal care session during pregnancy
- Indigenous primary health-care services that provide management of chronic disease have increased by 20% between 2001–02 and 2008–09
- A high proportion of Aboriginal Health Services (91%) provide care planning for people with chronic diseases
- While Aboriginal and Torres Strait Islander people are more likely than other Australians to be discharged from hospital against medical advice, the gap between Indigenous and other Australians in the rate of discharge against medical advice has reduced from 19 times the rate of other Australians in 2001–02 to 16 times the rate in 2007–08
- The number of Indigenous people in health related occupations have increased by 64% between 1996 and 2006
- Between 2004–05 and 2008, the proportion of Indigenous Australians reporting problems accessing health care has decreased from 42% to 30%
- A large proportion of Indigenous Australians report that they usually go to the same GP or medical service (91%)
- Between 2001 and 2008, the number and rate of Indigenous students who have both enrolled and completed undergraduate health-related courses have shown a slight increase. The proportion of Indigenous students enrolled in VET sector health-related courses has also increased between 2003 and 2007 (from around 4% to 6%)

Areas needing further work

Gaps remain in health system performance and access to services for Aboriginal and Torres Strait Islander people.

- Rates of immunisation remain lower among Indigenous children, compared with other children, at ages 1, 2 and 5
- Participation in the BreastScreen program by Indigenous women aged 50–69 years was markedly lower than the national rate for all females in that age group (36% compared with 55%)
- Although Indigenous Australians were more likely to be hospitalised than other Australians, they were less likely to undergo a procedure once admitted to hospital. While there has been a significant increase in hospital procedure rates for Indigenous Australians, only 59% of Indigenous hospitalisations had a procedure recorded, compared with 81% of hospitalisations for other Australians during the period July 2006 to June 2008
- Indigenous persons were almost six times as likely as other persons to discharge themselves from hospital against medical advice
- Between 2001–02 and 2007–08 there has been a significant increase in the ambulatory care sensitive conditions hospitalisations for Indigenous Australians, particularly for potentially preventable chronic conditions including diabetes. The gap between Indigenous and non-Indigenous hospitalisations for preventable chronic conditions has widened over this period by an average increase of 27% per year

- In 2005–06, there were around twice as many contacts with community mental health care services for Aboriginal and Torres Strait Islander people as for other people
- On a per person basis, average health expenditure for Indigenous people was $5,568.50, which was 31% higher than the expenditure for non-Indigenous Australians ($4,247.00). Much of the expenditure was on four areas: community health services, patient transport, public health and public hospitals. However, the average health expenditure on services provided outside of public hospitals for Indigenous Australians was half that of non-Indigenous Australians.

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, 2010 report. This is the third report against the Aboriginal and Torres Strait Islander Health Performance Framework (HPF).

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 health outcomes. This Tier covers measures of prevalence of health conditions (e.g. circulatory disease, diabetes), human function (e.g. disability), life expectancy and well-being and deaths. This Tier aims to provide an overall indication of current health status and recent trends in the health status of Aboriginal and Torres Strait Islander peoples on a range of health issues. These issues include child and maternal health, chronic diseases, injury, communicable diseases, social and emotional wellbeing and overall health status.

Tier 2—determinants of health. This Tier consists of measures of the determinants of health which focus on factors outside the health system that impact on the health of Aboriginal and Torres Strait Islander peoples. The domains covered in this Tier include socioeconomic status (e.g. income and education), environmental factors (e.g. overcrowding), community capacity (e.g. child protection), health behaviours (e.g. risky alcohol consumption and dietary behaviours) and person-related factors (e.g. prevalence of overweight and obesity). Such factors have been shown to have a strong association with both disease and ill-health.

Tier 3—health systems performance. This Tier includes measures of 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, 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.

There are currently 71 measures in the HPF for which data is available. The Tiers and domains of the HPF as well as selected measures are shown in Figure 1.

Health Status and Outcomes (Tier 1)		
Health Conditions 1.01 Low birthweight infants 1.02 Top reasons for hospitalisation 1.03 Hospitalisation for injury and poisoning 1.04 Hospitalisation for pneumonia 1.05 Circulatory disease 1.06 Acute rheumatic fever & rheumatic heart disease 1.07 High blood pressure 1.08 Diabetes 1.09 End stage renal disease 1.10 Decayed, missing, filled teeth 1.11 HIV/AIDS, hepatitis C and sexually transmissible infections 1.12 Children's hearing loss	**Human Function** 1.13 Disability 1.14 Community functioning **Life Expectancy & Wellbeing** 1.15 Perceived health status 1.16 Social and emotional wellbeing 1.17 Life expectancy at birth 1.18 Median age at death	**Deaths** 1.19 Infant mortality rate 1.20 Prenatal mortality 1.21 Sudden infant death syndrome 1.22 All causes age standardised deaths rates 1.23 Leading causes of mortality 1.24 Maternal mortality 1.25 Avoidable and preventable deaths

Determinants of Health (Tier 2)		
Environmental Factors 2.01 Access to functional housing with Utilities 2.02 Overcrowding in housing 2.03 Environmental tobacco smoke **Socioeconomic Factors** 2.04 Educational participation and attainment of Aboriginal and Torres Strait Islander adults 2.05 Years 10 and 12 retention and attainment 2.06 Year 3, 5 and 7 literacy and numeracy 2.07 Employment status including CDEP participation 2.08 Income 2.09 Housing tenure type 2.10 Index of disparity	**Community Capacity** *Demography* 2.11 Dependency ratio 2.12 Single-parent families by age group *Safety and Crime* 2.13 Community safety 2.14 Contact with the criminal justice system 2.15 Child protection *Other* 2.16 Transport 2.17 Indigenous people with access to their traditional lands	**Health Behaviours** *Tobacco, alcohol and other drug use* 2.18 Tobacco use 2.19 Tobacco smoking during pregnancy 2.20 Risky and high risk alcohol consumption 2.21 Drug and other substance use including inhalants *Physical activity* 2.22 Level of physical activity *Nutrition* 2.23 Dietary behaviours 2.24 Breastfeeding practices *Other health behaviours* 2.25 Unsafe sexual practices **Person-related Factors** 2.24 Prevalence of overweight and obesity

Health System Performance (Tier 3)		
Effective/Appropriate/Efficient 3.01 Antenatal care 3.02 Immunisation (child and adult) 3.03 Early detection and early treatment (including cancer screening) 3.04 Chronic disease management 3.05 Differential access to key hospital procedures 3.06 Ambulatory care sensitive hospital admissions 3.07 Health promotion **Responsive** 3.08 Discharge against medical advice 3.09 Access to mental health services 3.10 Aboriginal and Torres Strait Islander Australians in the health workforce 3.11 Competent governance	**Accessible** 3.12 Access to services by types of service compared to need 3.13 Access to prescription medicines 3.14 Access to after hours primary health care **Continuous** 3.15 Regular GP or health service 3.16 Care planning for client with chronic diseases	**Capable** 3.17 Accreditation 3.18 Aboriginal and Torres Strait Islander people in Tertiary Education for health related disciplines **Sustainable** 3.19 Expenditure on Aboriginal and Torres Strait Islander health compared to need 3.20 Recruitment and retention of clinical and management staff (including GPs)

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

Notes: The **Safe** domain is measured within the National Health Performance Committee framework.

The Aboriginal and Torres Strait Islander population

In 2010, the Aboriginal and Torres Strait Islander population was estimated at 563,101 and 2.6% of the total Australian population. Indigenous Australians are significantly younger than other Australians. For example, Aboriginal and Torres Strait Islander peoples aged less than 15 years constitute 35% of the total Indigenous population, whereas this age group represents about 19% of the total Australian population. Conversely, those aged 65 years and over comprise only 3% of the Indigenous population, compared with 14% of the total Australian population (Figure 2).

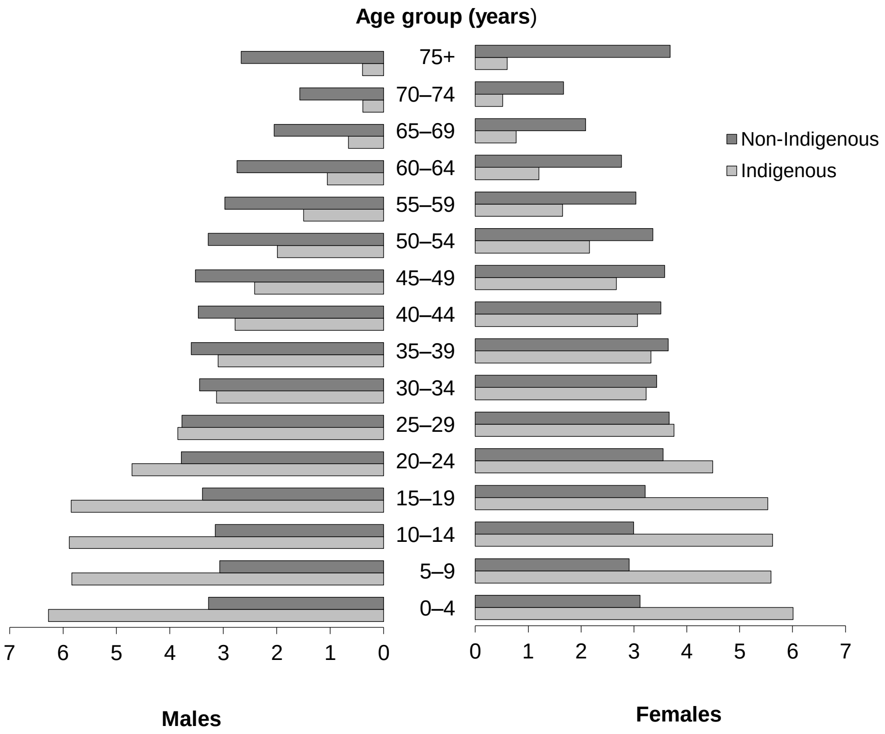


Figure 2: Population profile, by Indigenous status, age and sex, 2010

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

The majority of Aboriginal and Torres Strait Islander people live in New South Wales (29% of the Indigenous population) and Queensland (29%), Western Australia (14%) and the Northern Territory (12%). Indigenous people comprise about 30% of the Northern Territory's population but less than 4% in all other state/territory populations (Table 1, Figure 3).

Table 1: Estimated resident population by state/territory and Indigenous status, 2010

	Indigenous		Non-Indigenous		Total			
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Per cent Indig.**	**Per cent Non-Indig.**
New South Wales	165,306	29.4	6,955,992	32.5	7,121,298	32.4	2.3	97.7
Victoria	36,761	6.5	5,402,251	25.2	5,439,012	24.7	0.7	99.3
Queensland	160,632	28.5	4,304,336	20.1	4,464,968	20.3	3.6	96.4
South Australia	30,403	5.4	1,602,836	7.5	1,633,239	7.4	1.9	98.1
Western Australia	76,271	13.5	2,169,312	10.1	2,245,583	10.2	3.4	96.6
Tasmania	20,106	3.6	485,118	2.3	505,224	2.3	4.0	96.0
Northern Territory	68,661	12.2	158,542	0.7	227,203	1.0	30.2	69.8
Australian Capital Territory	4,711	0.8	347,320	1.6	352,031	1.6	1.3	98.7
Australia[(a)]	**563,101**	**100.0**	**21,427,910**	**100.0**	**21,991,011**	**100.0**	**2.6**	**97.4**

(a) Includes other territories.

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

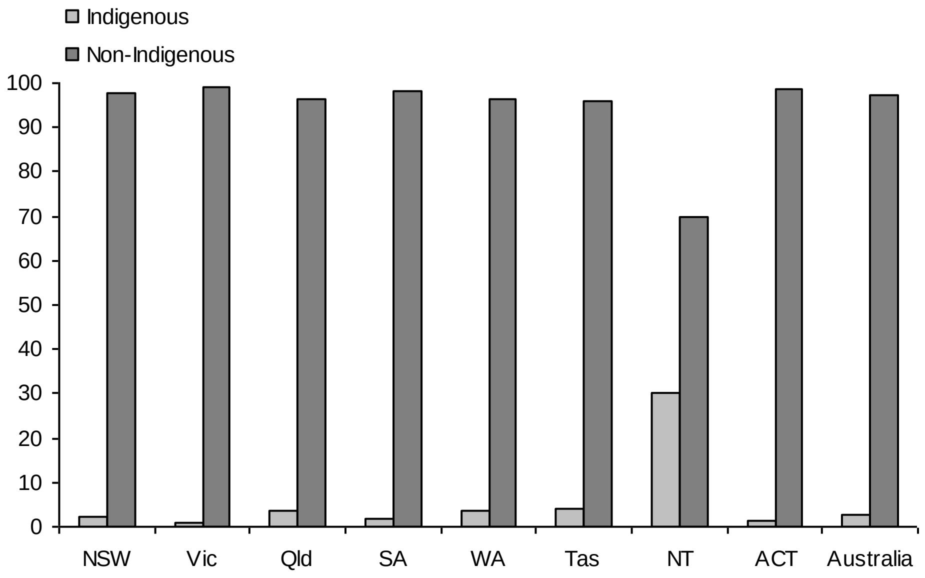


Figure 3: Estimated resident population by state/territory and Indigenous status, 2010

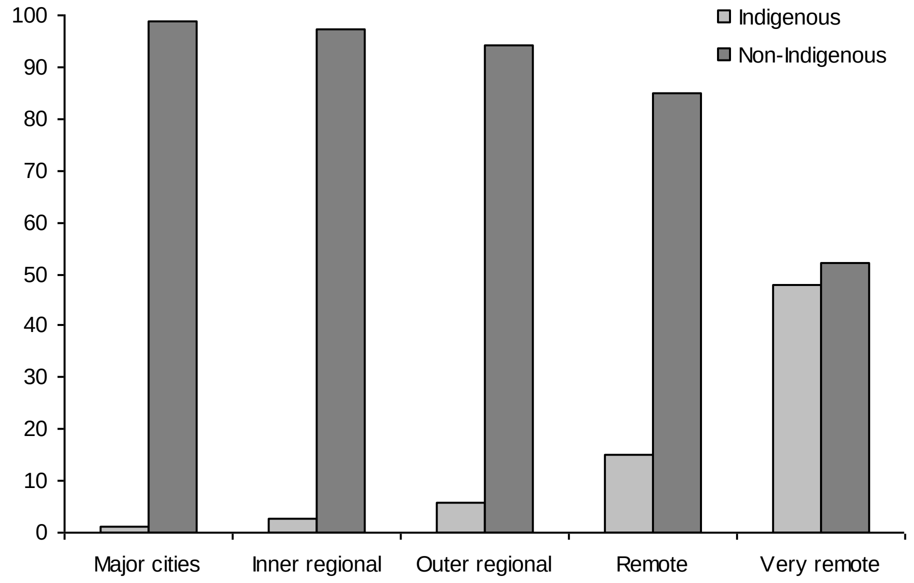
Source: AIHW analysis of ABS population estimates and projections based on the 2006 Census.

Three-quarters (75.4%) of Aboriginal and Torres Strait Islander peoples live in *Major cities* (32%), *Inner regional areas* (22%) and *Outer regional areas* and just under a quarter reside in *Remote* (9%) and *Very remote areas* (15%) (Table 2, Figure 4).

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

	Indigenous		Non-Indigenous		Total			
	Number	Per cent	Number	Per cent	Number	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
Outer regional	110,643	21.4	3,974,764	19.7	4,085,407	19.7	2.7	97.3
Inner 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	86,017	0.4	165,481	0.8	48.0	52.0
Australia	**517,043**	**100.0**	**20,180,837**	**100.0**	**20,697,880**	**100.0**	**2.5**	**97.5**

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



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

Figure 4: Estimated resident population by remoteness area and Indigenous status, 2006

Box 1: Effect of 2001 and 2006 Census based Indigenous population on the analyses of administrative data

The 2010 Aboriginal and Torres Strait Islander health Performance Framework report uses ABS experimental estimates of the Indigenous resident population based on the 2006 Census (referred to as 2006 ERP) as the denominator when calculating rates from a range of data sources (see Appendix 1 and data quality statements). Previously published data in 2006 and 2008 Aboriginal and Torres Strait Islander Health performance Framework reports used a denominator based on the 2001 Census estimates (referred to as 2001 ERP).

Rates based on 2006 ERP are different to those based on the 2001 ERP, often resulting in a significant closing of the gap in measures such as mortality between Indigenous and non-Indigenous Australians. However, the two sets of rates are not comparable.

The main factor contributing to the change is the increase in the estimated Indigenous population between the 2001 and 2006 Census based ERPs, resulting in lower rates for Indigenous Australians. The growth in Indigenous population between 2001 and 2006 is about 12 per cent, compared to about 6 per cent for the total Australian population. Some of this growth may be attributable to changes in Indigenous identification.

According to the ABS, by extending the Census post enumeration survey to more remote areas, the post 2006 Census adjustment provides a more accurate estimate of Indigenous population than previous estimates.

The ABS also used the findings from the 2006 Census and mortality data enhancement project to produce a revised backcast Indigenous population series. For backcast estimates, it was assumed that Indigenous male and female life expectancy at birth would increase by 0.2 years per year between 1986 and 2006 (this assumes Indigenous life expectancy at birth of 63.1 years for males and 68.8 years for females in 1986). This resulted in less Indigenous people between 1986 and 1999 and more people from 2000 to 2006.

Similar adjustments have not been made to numerators which also contribute to the differences in rates based on 2006 ERP.

Similar adjustments have not been made to the numerator, for example registered number of deaths which also affect the estimated mortality rates.

Data sources and methodology

The information in this report comes from a number of different administrative data sets and surveys. For each indicator 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.

Data sets used in the HPF include administrative data and both Indigenous specific and mainstream survey data. Data sources are mentioned at the beginning and end of each indicator, for a comprehensive list of data sources see Appendix A.

Age-standardised rates, rate differences and ratios have been used in many of the indicators as a measure of morbidity in the Indigenous population relative to other Australians. Ratios and rate differences 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. 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 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. Many of the tables also include a * to indicate that rates for the Indigenous and non-Indigenous populations are statistically different from each other at the p<.05 level.

Data limitations

There are a number of limitations of the data presented in this report that are relevant when interpreting the findings and making comparisons across jurisdictions and over time. The main issue in most administrative data collections is the under-identification of Aboriginal and Torres Strait Islander peoples. 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 in these data collections. At the introduction of each indicator there is a brief description of each data source. At the end of each indicator there is a comprehensive data quality statement covering the data sources and specific issues that need to be noted when reading the indicator and interpreting the findings.

Box 2: Quality of Indigenous morbidity data

The AIHW report 'Indigenous identification in hospital separations data–quality report' released in February 2010 found that the level of Indigenous identification was acceptable for analysis purposes (greater than 80%) for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only).

Nationally, about 89% of Indigenous Australians were identified correctly in hospital admissions data in a recent study and the 'true' number of separations for Indigenous Australians was about 12% higher than reported.

Caution should be used in the interpretation of these data because of jurisdictional differences in data quality. It should also be noted that data presented for the six jurisdictions with data of acceptable quality for analysis purposes are not necessarily representative of the jurisdictions excluded.

Longer term mortality trend data from 1991 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. From 1998 Queensland is also included and from 2001 New South Wales is also believed to have adequate Indigenous identification.

Data on communicable diseases from the National Notifiable Disease Surveillance System includes data from Western Australia, South Australia and the Northern Territory which have been assessed as having adequate identification.

The incompleteness of Indigenous identification means Indigenous numbers are often underestimated, for example the number of hospital separations, deaths and disease notifications underestimate the true level of morbidity and mortality of Aboriginal and Torres Strait Islander people. As a result, the observed differences between the Indigenous and non-Indigenous populations are underestimates of the true differences.

Surveys are also subject to a number of data limitations such as bias in responses. Under-identification can be an issue for some surveys. For example, the Bettering the Evaluation and Care of Health (BEACH) survey has a high number of 'not stated' responses to the Indigenous identification question which suggests the survey consistently undercounts the number of Indigenous people visiting doctors. Survey data are also subject to sampling and non-sampling errors. 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.

Structure of this report

Chapter 1 presents analyses for Tier 1—health status and health outcomes; Chapter 2 presents analyses for Tier 2—determinants of health status, 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. For each measure, analyses are presented by age, sex, state/territory and remoteness. Time trends are presented where possible for years that have adequate identification of Indigenous people in their recording systems. 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.

1.01 Low birthweight infants

The incidence of low birthweight among live-born babies of Aboriginal and Torres Strait Islander mothers

Data sources

National Perinatal Data Collection

Data for this measure come from the Australian Institute of Health and Welfare (AIHW) National Perinatal Data Collection (NPDC).

Data on birthweight is collected as part of the Perinatal National Minimum Data Set. 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. Some of these data are provided in electronic format annually to the AIHW National Perinatal Epidemiology and Statistics Unit. Perinatal notification forms are completed in Australia for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more.

All jurisdictions collect the Indigenous status of the mother of the baby. However, this data element does not provide the Indigenous status of the baby. Therefore, Indigenous births will be underestimated because babies born to Indigenous fathers and non-Indigenous mothers are not included in the data collection. Over the period 2005–2007 there were approximately 11,100 Australian Bureau of Statistics (ABS) registered births to Indigenous fathers only, which represented 31% of registered Indigenous births (ABS 2006, 2007, 2008).

Data from earlier years are not available for Tasmania, because the 'not stated' category for Indigenous status was unable to be distinguished from the 'non-Indigenous' until 2005.

Data on mothers for whom Indigenous status was 'not stated' have been excluded from analysis. In 2007, there were 282 births with a 'not stated' Indigenous status (0.1%) in the NPDC.

The World Health Organization (WHO) defines low birthweight as less than 2,500 grams.

Analyses

Births

Between 2005 and 2007, there were 848,793 births recorded in the Perinatal National Minimum Data Set of which 31,320 (3.7%) were to Aboriginal and Torres Strait Islander mothers.

Low birthweight

Table 1.01.1 presents the number and proportion of live-born low birthweight babies by Indigenous status of the mother and state/territory for the periods 1998–2000 to 2005–2007.

- Over the period 1998–2000, there were 3,087 live-born babies weighing less than 2,500 grams birthweight born to Indigenous mothers in Australia (not including Tasmania).

Babies of Indigenous mothers were twice as likely to be of low birthweight as babies born to non-Indigenous mothers (12% compared with 6%).

- Over the period 2005–2007, there were 3,928 live-born babies of low birthweight born to Indigenous mothers in Australia. Approximately 13% of babies born to Indigenous mothers were of low birthweight, compared with 6% of babies born to non-Indigenous mothers.
- When multiple births are excluded, 12% of live-born babies born to Indigenous mothers were of low birthweight compared with 4.5% of babies born to non-Indigenous mothers.
- Tasmania and Queensland had the lowest proportion of live-born low birthweight babies born to Indigenous mothers in 2005–2007 (8.2% and 11%, respectively). The Australian Capital Territory and South Australia had the highest proportion of low birthweight babies (18% and 16%, respectively); however, ACT 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 state/territory, 1998–2000, 2001–2003, 2003–2005 and 2005–2007[a][b][c][d][e]

	1998–2000		2001–2003		2003–2005		2005–2007	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
NSW								
Indigenous	681	11.0	784	12.2	835	12.0	935	11.7
Non-Indigenous	14,429	5.7	14,451	5.8	14,516	5.7	15,219	5.7
Vic								
Indigenous	171	13.4	152	12.7	190	14.3	229	12.8
Non-Indigenous	11,542	6.2	11,814	6.3	12,066	6.3	12,945	6.3
Qld								
Indigenous	907	10.8	956	11.5	1,014	11.7	1,030	11.2
Non-Indigenous	8,319	6.1	8,671	6.2	9,225	6.3	10,213	6.3
WA								
Indigenous	606	13.3	675	14.5	683	14.7	781	15.3
Non-Indigenous	4,160	5.8	4,042	5.8	4,306	6.0	4,697	5.9
SA								
Indigenous	203	15.7	229	17.6	251	17.5	253	15.7
Non-Indigenous	3,349	6.3	3,193	6.2	3,315	6.4	3,461	6.3
Tas[f]								
Indigenous	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	55	8.2
Non-Indigenous	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1,101	6.3
ACT[g]								
Indigenous	29	16.7	39	19.1	45	17.7	54	18.1
Non-Indigenous	950	6.8	901	6.5	1,020	7.1	1,103	7.1
NT								
Indigenous	490	12.7	568	13.3	583	14.3	591	13.7
Non-Indigenous	490	7.2	402	6.0	434	6.6	416	6.1
Total[h]								
Indigenous	**3,087**	**12.0**	**3,403**	**12.9**	**3,601**	**13.1**	**3,928**	**12.7**
Non-Indigenous	**43,239**	**6.0**	**43,474**	**6.1**	**44,882**	**6.1**	**49,155**	**6.1**

(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 3-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) State-level data are based on the place where the birth occurred, not the place of usual residence. Cross-border issues need to be considered here: e.g. a high proportion of births in ACT hospitals are to mothers usually resident in New South Wales.

(f) Earlier years data are not available for Tasmania, because the 'not stated' category for Indigenous status was unable to be distinguished from the 'non-Indigenous' category until 2005.

(g) ACT percentages are influenced by both small numbers and high proportions of non-ACT residents who gave birth in the Australian Capital Territory and must be interpreted with caution. In 2005–2007, the ACT resident proportion was 13.3% for low birthweight Indigenous babies and 6.3% for non-Indigenous babies.

(h) Totals for 1998–2000, 2001–2003 and 2003–2005 exclude Tasmania, because the 'not stated' category for Indigenous status was unable to be distinguished from the 'non-Indigenous' category.

Source: AIHW analysis of National Perinatal Epidemiology and Statistics Unit (NPESU) 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 1991–2008 are presented in Table 1.01.2 and Figure 1.01.1. Data are presented for all live births from 1991–2008 and for live singleton births from 1991–2007. 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 1991–2008, 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 0.09 per 100 live births, which is equivalent to an increase of 13% over the period (Table 1.01.2). A similar increase was evident for singleton babies born to Indigenous mothers over the period of 1991-2008.
- Over the period 1991-2008, 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 7.1% increase over the period. Over the period 1991-2007 there was a significant increase in the proportion of singleton babies born to other mothers, an average yearly increase of around 0.01 per 100 live births, which is equivalent to a 1.9% increase over the period.
- Between 1991 and 2008 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 0.07 (increase of 19% over the period). Over the same period there was no significant change in the rate ratio between low birthweight babies born to Indigenous and non-Indigenous mothers (Table 1.01.2).
- Between 1991 and 2007 there were significant increases in the rate ratio and rate differences for low birthweight singleton live-born babies (11% and 21%).

Table 1.01.2: Rate (proportion), rate ratio and rate difference between low birthweight babies of Indigenous and other mothers, 1991–2008

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(a)]	Per cent change[(b)]
Low birthweight live-born babies																				
Indigenous rate	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	0.09*	13.2*
Other rate[(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	0.02*	7.1*
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	0.01	6.1
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	6.3	0.07*	18.9*
Low birthweight singleton live-born babies																				
Indigenous rate	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	. .	0.09**	13.3**
Other rate[(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	. .	0.01**	1.9**
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	. .	0.02**	11.4**
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	. .	0.09**	21.1**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991 to 2008.

** Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991 to 2007.

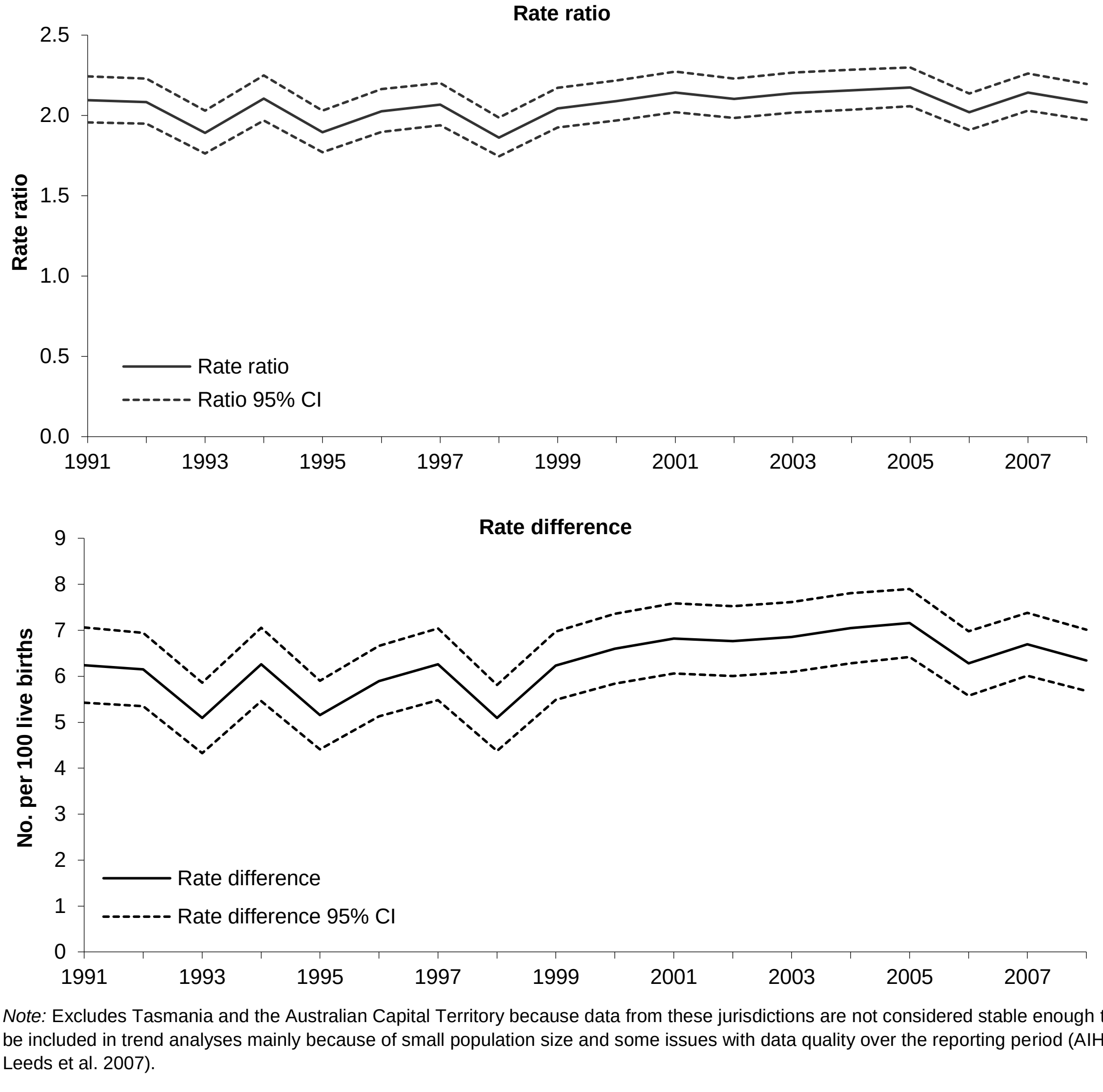
(a) Average annual change in number and proportion of low birthweight babies determined using linear regression analysis.

(b) Per cent change between 1991 and 2007/2008 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 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.



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, 1991–2008

Low birthweight babies by birth characteristics

Table 1.01.3 presents the number and proportion of low birthweight babies born to Indigenous and non-Indigenous mothers in 2005–2007 by selected birth characteristics.

- The proportion of neonatal deaths among low birthweight babies born to Indigenous mothers was 86%, compared with 79% deaths among low birthweight babies born to non-Indigenous mothers.
- Approximately 66% of pre-term babies born to Indigenous mothers were of low birthweight, compared with 4.8% of full-term babies born to non-Indigenous mothers.
- Almost half (46%) of live-born low birthweight babies born to Indigenous mothers had an Apgar score of less than 7.
- Approximately 61% of multiple births of Indigenous mothers resulted in low birthweight babies, compared with 12% of singleton births.
- 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, 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.

Table 1.01.3: Live-born low birthweight babies by birth characteristics and maternal Indigenous status, 2005–2007

	Indigenous			Non-Indigenous			
	Number	**Percentage of live births**	**Percentage of LBW births[(a)]**	**Number**	**Percentage of live births**	**Percentage of LBW births[(a)]**	**Ratio (live births)[(b)]**
Pre-term	2,641	66.0	67.3	34,535	57.6	70.3	1.1
Full-term	1,283	4.8	32.7	14,615	1.9	29.7	2.4
Multiple birth	454	60.9	11.6	13,618	51.3	27.7	1.2
Singleton birth	3,474	11.5	88.4	35,537	4.5	72.3	2.5
APGAR score							
0–6	314	46.0	8.1	3,444	32.8	7.0	1.4
7–10	3,565	11.8	91.9	45,514	5.7	93.0	2.1
Neonatal deaths	189	85.5	. .	1,831	78.8	. .	1.1
Total	**3,928**	**12.7**	**. .**	**49,155**	**6.1**	**. .**	**2.1**

(a) Excludes not stated response from denominator.

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

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 analysis of NPESU National Perinatal Data Collection.

Low birthweight babies by maternal characteristics

Table 1.01.4 presents the number and proportion of live-born low birthweight babies born to Indigenous and non-Indigenous mothers in 2005–2007 by selected characteristics of the mother.

- In 2005–2007, the highest rate of low birthweight babies born among Indigenous mothers occurred in mothers aged 35 years and over (15%) followed by mothers aged less than 20 years (13%). Indigenous mothers in all age groups were around twice as likely to have low birthweight babies as non-Indigenous mothers.
- Indigenous mothers in the lowest quintile and 4th quintile of socioeconomic status were most likely to have low birthweight babies (both 13%). Rates of low birthweight babies among Indigenous mothers were around twice those among non-Indigenous mothers across all quintiles of socioeconomic status.
- Low birthweight babies were most common among Indigenous mothers who had a parity (number of times a woman has previously given birth) of three or more or who were having their first baby (around 13–14%).
- The proportion of low birthweight babies born to Indigenous mothers was highest among mothers living in Remote and Very remote areas (13% and 14%, respectively). In Very remote areas, babies born to Indigenous mothers were almost three times as likely as babies born to non-Indigenous mothers to be of low birthweight.

Table 1.01.4: Live-born low birthweight babies by maternal characteristics and Indigenous status, 2005–2007

	Indigenous		Non-Indigenous		
	Number	Per cent	Number	Per cent	Ratio
Age of mother					
Less than 20	829	13.0	2,267	7.8	1.7
20–24	1,200	12.2	7,187	6.4	1.9
25–29	894	12.2	12,310	5.7	2.1
30–34	621	12.9	15,430	5.6	2.3
35+	384	14.6	11,954	6.7	2.2
Quintile of socioeconomic status					
1st quintile (lowest)	1,986	13.4	9,982	6.7	2.0
2nd quintile	950	12.1	10,276	6.4	1.9
3rd quintile	594	12.1	10,093	6.1	2.0
4th quintile	286	12.5	9,664	5.8	2.2
5th quintile (highest)	68	8.5	9,013	5.4	1.6
Parity					
None	1,221	12.9	24,545	7.2	1.8
One	840	11.2	13,221	4.8	2.3
Two	675	12.5	6,216	5.0	2.5
Three	476	13.4	2,864	6.6	2.0
Four or more	707	14.4	2,240	8.4	1.7
Remoteness					
Major cities	1,006	12.6	34,344	6.0	2.1
Inner regional	639	10.8	9,348	6.2	1.7
Outer regional	1,054	12.8	4,486	6.1	2.1
Remote	455	13.4	693	5.8	2.3
Very remote	772	14.2	215	5.3	2.7
Total	**3,928**	**12.7**	**49,155**	**6.1**	**2.1**

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

Source: AIHW analysis of NPESU National Perinatal Data Collection.

Indigenous children born weighing less than 2500 grams

- 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 1.01.5).
- 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 1.01.6).

Table 1.01.5: Number and proportion of Indigenous children aged 0–3 years born weighing less than 2500 grams, by state/territory, 2008

	Number	Per cent
NSW	1,509*	10.0*
Vic	495	15.1
Qld	1,826*	11.5*
WA	848	15.6
SA	470	18.4
Tas	282*	15.6*
ACT	61*	15.4*
NT	538	16.2
Total	**6,029**	**12.6**

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

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

* 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.

Mean birthweight

- In 2007, the average birthweight of live-born babies of Indigenous mothers was 3,178 grams (Table 1.01.7). This was 204 grams lighter than the average of 3,382 grams for live-born babies of non-Indigenous mothers in 2007.

- Note that male babies were proportionally less likely to be of low birthweight than were female babies (the average birthweight of male babies was 123 grams higher than that of female babies in 2007) (Laws & Sullivan 2009).

Time series analysis

- Over the period 1997–2007, there was no significant change in the mean birthweight of babies of Indigenous or other mothers (Table 1.01.7).
- There was also no significant change in the ratio or difference between the mean birthweight of babies born to Indigenous and other mothers over the period 1997–2007.

Table 1.01.7: Mean birthweight, ratio and difference between mean birthweight of live-born babies of Indigenous and other mothers, 1997–2007

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Annual change[(a)]	Per cent change
Mean birthweight (grams)													
Indigenous	3,170	3,186	3,170	3,175	3,166	3,165	3,160	3,158	3,155	3,168	3,178	–1.1	–0.3
Other[(b)]	3,375	3,382	3,380	3,384	3,382	3,378	3,380	3,382	3,376	3,377	3,382	0.0	0.0
Ratio	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	–0.3
Difference (grams)	–205	–196	–211	–209	–216	–214	–220	–223	–221	–209	–204	1.0	4.9

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 1997–2007.

(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 analysis of NPESU National Perinatal Data Collection.

High birthweight

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

- In 2005–2007 the proportion of high birthweight live-born babies born to Indigenous mothers in Australia was 8%. This compared with 12% of babies born of high birthweight to non-Indigenous mothers (AIHW: NPESU unpublished data).

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 live-born 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 2005–2007, babies of Aboriginal or Torres Strait Islander mothers are more than twice as likely to be of low birthweight as babies born to other Australian mothers (13% 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 live-born 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 live-born 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 2006–2008, 6.6% of live-born 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, foetal 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 2007, 19.5% of Aboriginal and Torres Strait Islander mothers were aged less than 20 years compared with 3.5% of non-Indigenous mothers (Laws & Sullivan 2009). Teenage pregnancies are associated with a number of adverse reproductive outcomes, including low birthweight (Chen et. al. 2007).
- Indigenous mothers have twice the rate of pre-term birth (gestational age of less than 37 weeks) as non-Indigenous mothers (13.7% compared with 7.9% in 2007).

- Indigenous mothers are more likely to have had a higher number of previous pregnancies. Between 2001 and 2004, 28% of Aboriginal and Torres Strait Islander mothers had given birth three or more times previously. This compared with 8% of non-Indigenous mothers (AIHW: Leeds et al. 2007).

Data quality issues

National Perinatal Data Collection

Perinatal data

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.

The state/territory of birth is provided for all births. Tabulated data in this report are based on births in each state and territory in 2007 meeting the criteria for inclusion in the NPDC. Each state and territory has its own form and/or electronic system for collecting perinatal data. Unless otherwise stated, the data in this report relate to the state or territory of occurrence of births in 2007 rather than to the state or territory of usual residence of the mother. The Australian Capital Territory data contain a relatively high proportion of New South Wales residents who gave birth in the Australian Capital Territory. There are a small number of Aboriginal and Torres Strait Islander mothers who give birth in the Australian Capital Territory, and the proportion fluctuates from year to year, making this jurisdiction less comparable to other jurisdictions. In 2007, 24.1% of Aboriginal or Torres Strait Islander women who gave birth in the Australian Capital Territory were not Australian Capital Territory residents. When interpreting the data it is important to note that these births to non-residents may include a disproportionate number of high risk and multi-fetal pregnancies associated with poorer perinatal outcomes. Therefore, percentages or rates such as those for preterm birth and perinatal deaths may be inflated for births that occur in the Australian Capital Territory. Because of this and the small numbers involved, care should be taken in interpreting data from the Australian Capital Territory (Laws et al. 2007).

The Perinatal NMDS does not include neonatal or perinatal death data items of information on cause of death. However, this information is collected as part of the NPDC. The data are incomplete. In some jurisdictions, neonatal deaths for babies transferred to another hospital or readmitted to hospital and those dying at home may not be included. Neonatal deaths for the Northern Territory are considered to be incomplete for 2007 as data do not include deaths occurring outside of the Northern Territory. Due to small number of deaths, interpretation can be limited as to whether differences in mortality rates are due to statistical fluctuations or differential ascertainment.

Indigenous status question

A standard data item for Indigenous status is specified in the Perinatal National Minimum Data Set. However, not all states and territories use this standard wording for the Indigenous status question on their forms. This affects the quality and comparability of the data collected (ABS & AIHW 2003).

Under-identification

All states and territories have a data item to record Indigenous status on their perinatal form, although there are some differences among the jurisdictions. This separately identifies mothers as those of Aboriginal and Torres Strait Islander origin, and non-Indigenous mothers. . No information is collected about the father's or baby's Indigenous status. Studies linking perinatal data with birth registration data and hospital admissions in

Canada show that Indigenous data are under-reported (Human Resources Development Canada & Health Canada 2003).

Since 2005, all jurisdictions collect information on Indigenous status of the mothers in accordance with the NMDS. All jurisdictions are working towards improving the ascertainment of Indigenous status in their perinatal collection. 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 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 the Indigenous status data. 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. The 'not stated' category for birthweight was found to be small nationally in the evaluation of the Perinatal National Minimum Data Set (Laws & Sullivan 2009). Therefore, the exclusion of 'not stated for birthweight will not have a significant impact on these data.

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.

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. State and territory health departments provide information annually on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the Australian Institute of Health and Welfare (AIHW).

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. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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.

Hospitalisations

- In the 2-year period July 2006 to June 2008 there were a total of 14,870,686 hospitalisations in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Of these, 524,469 or 3.5% were hospitalisations of Indigenous Australians.
- Excluding hospitalisations for dialysis, there were 12,994,945 hospitalisations in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, and 303,651 (2.3%) of these hospitalisations were for Indigenous Australians (Table 1.02.2).
- For all hospitalisations, the average number of diagnoses per separation for Indigenous Australians was 2.9 and for other Australians it was 3.3. Excluding hospitalisations for care involving dialysis, the average number of diagnoses per separation for Indigenous Australians was 4.3 and for other Australians 3.6.

Hospitalisations by age and sex

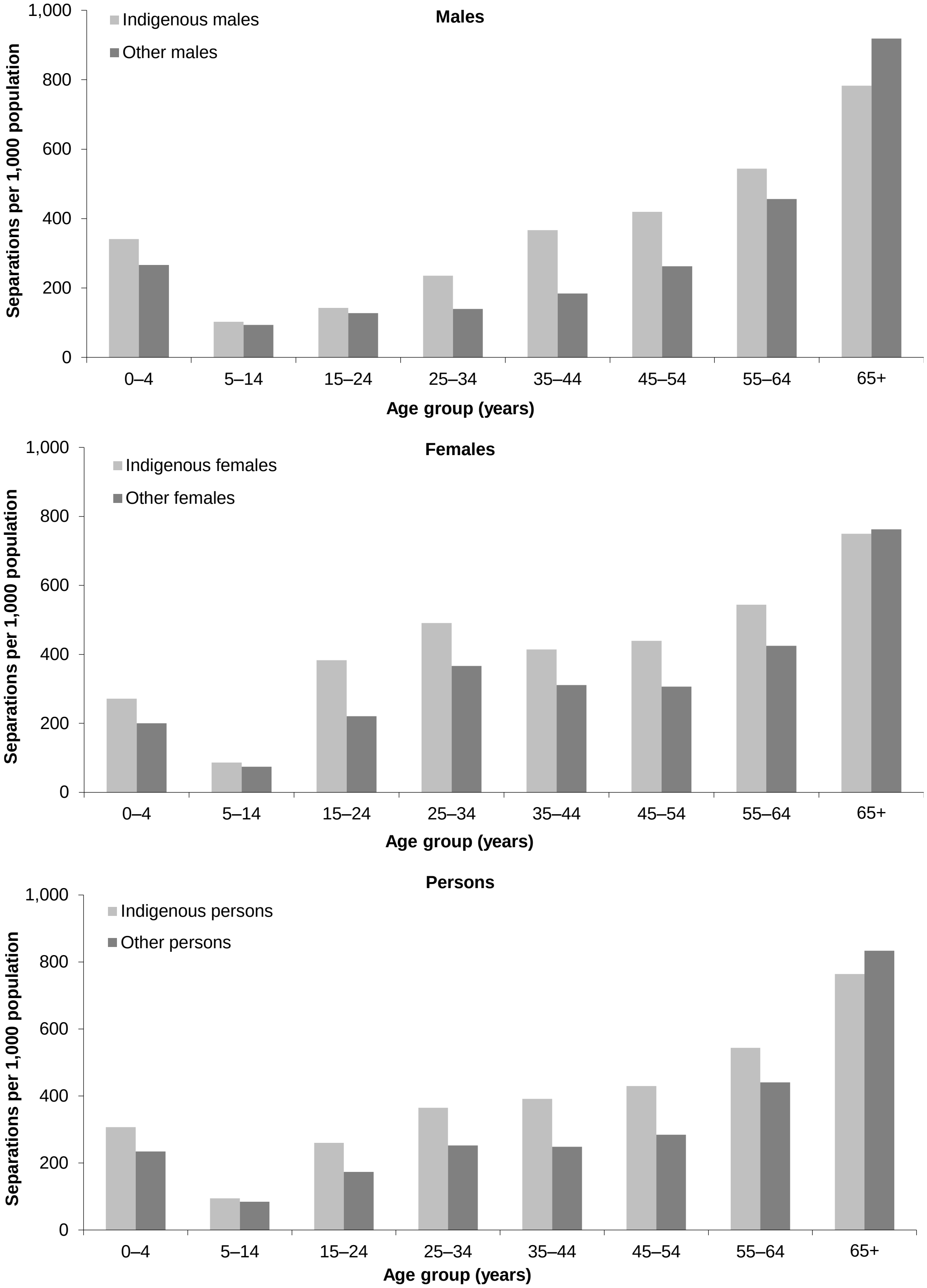
- For the 2-year period July 2006 to June 2008, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, when hospitalisations for dialysis are excluded, Indigenous males had higher hospitalisation rates than other males across all age groups with the exception of those aged 65 years and over. Indigenous females also had higher hospitalisation rates than other females across all age groups except those aged 65 years and over (Table 1.02.1, Figure 1.02.1).
- The greatest difference in hospitalisation rates occurred in the 25–34, 35–44, and 45–54 year age groups for males and in the 15–24 year age group for females. Indigenous males and females were hospitalised at between 1.6 and 2.0 times the rate of other males and females in these age groups.

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 2006 to June 2008

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+
Males								
Indigenous	340.7	103.1	142.9	235.3	366.4	419.5	543.7	783.2
Other	266.6	94.0	128.0	139.7	184.2	262.5	456.7	918.2
Females								
Indigenous	272.0	86.2	383.3	490.8	414.1	439.5	543.8	749.7
Other	200.2	74.1	220.6	366.6	311.3	306.4	425.1	762.5
Persons								
Indigenous	307.0	94.9	260.4	364.4	391.3	429.9	543.8	763.9
Other	234.3	84.3	173.2	252.6	248.1	284.7	440.9	833.0

Note: Rates for Indigenous are calculated using population estimates based on the 2006 Census (series B).

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.02.1: Age-specific hospitalisation rates (excluding dialysis), by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Hospitalisations by state/territory

Table 1.02.2 presents hospitalisations excluding dialysis for the 2-year period July 2006 to June 2008 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, along with unadjusted and adjusted national level data. The Australia data are adjusted by applying a weighted correction factor of 1.12, which suggests that the 'true' number of records for Indigenous persons was about 12% higher than indicated in the hospital separations data.

- Over the period July 2006 to June 2008, 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 other Australians.
- When hospital rates are adjusted at the national level for Indigenous under-identification, Indigenous persons were hospitalised at 1.4 times the rate of other Australians.
- Indigenous Australians were hospitalised (excluding dialysis) at 0.9 times the rate of other Australians in Victoria, 1.2 times the rate of other Australians in New South Wales and Queensland and similar rate to other Australians in Tasmania. In the Australian Capital Territory, Indigenous Australians were hospitalised at 1.5 times the rate of other Australians, in Western Australia and South Australia Indigenous Australians were hospitalised at 1.6 times the rate of other Australians, and at more than twice the rate in the Northern Territory (Table 1.02.2).
- For all hospitalisations, including those with a principal diagnosis of care involving dialysis, Indigenous Australians were hospitalised at 1.3 times the rate of other Australians in Victoria, at 1.6 times the rate of other Australians in New South Wales, and at twice the rate of other Australians in Queensland. In Western Australia and South Australia, Indigenous Australians were hospitalised at three times the rate of other Australians, and at six times the rate in the Northern Territory (Table 3.12.23a.

Table 1.02.2: Hospitalisations (excluding dialysis), by Indigenous status, sex and jurisdiction, July 2006 to June 2008[a][b][c][d][e]

	Indigenous				Other[f]				
	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]
NSW									
Males	35,052	305.4	301.2	309.6	1,844,989	272.3	271.9	272.7	1.1*
Females	45,051	358.0	354.1	362.0	2,192,140	302.2	301.8	302.6	1.2*
Persons	80,103	331.5	328.6	334.4	4,037,167	286.2	285.9	286.5	1.2*
Vic									
Males	6,461	249.3	241.7	257.0	1,622,650	315.3	314.8	315.8	0.8*
Females	9,456	345.6	337.6	353.5	2,018,106	364.8	364.3	365.3	0.9*
Persons	15,917	298.3	292.8	303.8	3,640,773	338.6	338.2	338.9	0.9*
Qld									
Males	34,901	363.7	358.4	369.1	1,225,357	305.5	304.9	306.0	1.2*
Females	48,794	431.7	426.8	436.5	1,434,670	344.2	343.6	344.7	1.3*
Persons	83,695	397.4	393.8	400.9	2,660,030	323.6	323.2	324.0	1.2*
WA									
Males	23,343	442.3	434.7	450.0	573,703	285.0	284.3	285.7	1.6*
Females	31,396	530.2	523.2	537.2	675,894	326.0	325.2	326.8	1.6*
Persons	54,739	484.1	479.0	489.1	1,249,598	303.7	303.2	304.3	1.6*
SA									
Males	9,050	448.7	437.0	460.5	482,559	297.5	296.7	298.3	1.5*
Females	12,209	521.7	511.0	532.4	569,016	331.7	330.8	332.6	1.6*
Persons	21,259	484.8	477.0	492.7	1,051,592	312.7	312.1	313.3	1.6*
NT									
Males	20,197	414.7	406.9	422.5	26,476	206.7	203.8	209.7	2.0*
Females	27,741	480.2	473.5	486.8	25,657	204.8	202.0	207.7	2.3*
Persons	47,938	445.8	440.9	450.8	52,134	206.8	204.8	208.9	2.2*
NSW, Vic, Qld, WA, SA and NT[k]									
Males	**129,004**	**358.0**	**355.4**	**360.7**	**5,775,734**	**293.1**	**292.8**	**293.3**	**1.2***
Females	**174,647**	**427.1**	**424.7**	**429.5**	**6,915,483**	**331.4**	**331.2**	**331.7**	**1.3***
Persons	**303,651**	**392.3**	**390.5**	**394.0**	**12,691,294**	**310.9**	**310.7**	**311.0**	**1.3***
Persons Adjusted[l]	**340,089**	**420.0**	**418.3**	**421.8**	**12,654,856**	**297.7**	**297.6**	**297.9**	**1.4***

(continued)

Table 1.02.2 (continued): Hospitalisations (excluding dialysis), by Indigenous status, sex and jurisdiction, July 2006 to June 2008 (a)(b)(c)(d)(e)

	Indigenous				Other[f]				
	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]
Tas									
Males	1,708	129.0	121.3	136.8	77,416	157.1	156.0	158.2	0.8*
Females	2,776	185.1	176.9	193.4	86,743	172.8	171.6	174.0	1.1*
Persons	4,484	158.0	152.3	163.7	164,161	164.6	163.8	165.4	1.0*
ACT									
Males	597	205.4	179.0	231.7	42,400	140.2	138.9	141.6	1.5*
Females	715	242.5	215.2	269.8	50,565	152.4	151.0	153.7	1.6*
Persons	1,312	224.5	205.4	243.7	92,965	146.0	145.0	146.9	1.5*
Australia[m]									
Males	**132,522**	**351.7**	**349.1**	**354.2**	**6,022,754**	**293.6**	**293.4**	**293.8**	**1.2***
Females	**179,413**	**419.9**	**417.6**	**422.2**	**7,203,197**	**331.6**	**331.3**	**331.8**	**1.3***
Persons	**311,935**	**385.6**	**383.9**	**387.3**	**13,226,546**	**311.2**	**311.1**	**311.4**	**1.2***

* 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 fifth edition (National Centre for Classification in Health 2006).

(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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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

(l) These jurisdictions hospitalisation numbers and rates have been adjusted for Indigenous under-identification using a national adjustment factor of 1.12. This factor was derived from a study undertaken by the AIHW between 2006 and 2008 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. The national adjustment factor excludes Tasmania and the Australian Capital Territory, as the levels of Indigenous identification in these jurisdictions were not considered acceptable for analysis purposes. By applying this factor, the number of Indigenous hospitalisations was increased by 12% and these additional hospitalisations then subtracted from the number of hospitalisations for Other Australians.

(m) 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 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 1.02.3, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas except *Major cities* were more likely to be hospitalised for all conditions excluding dialysis than other Australians. The ratio of hospitalisations of Indigenous people compared to other Australians was higher and the difference was statistically significant for all ASGC areas except *Major cities*.
- Rates of hospitalisations per 1,000 head of population were highest for Indigenous people living in *Remote* areas, at 641 per 1,000. The rate was highest for other Australians who lived in *Inner regional* areas, at 335 per 1,000. The lowest rates were observed in *Major cities* areas for Indigenous people (324 per 1,000) and *Remote areas* for other Australians (310 per 1,000).
- Indigenous people were hospitalised at a rate of 2.1 times that of other Australians in *Remote* areas of Australia. In *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate similar to that of other Australians. Nationally, the rate was significantly higher, at 1.3 times.

Table 1.02.3: Hospitalisations (excluding dialysis), by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other[(g)]				
	Number	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Number	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Ratio[(k)]
Major cities	75,935	323.6	320.7	326.6	9,120,768	328.5	328.3	328.7	1.0*
Inner regional	58,105	397.7	393.7	401.7	2,622,335	335.2	334.8	335.6	1.2*
Outer regional[(l)]	73,634	468.1	464.0	472.2	1,162,367	326.9	326.3	327.5	1.4*
Remote[(m)]	48,192	641.4	634.5	648.3	152,883	310.3	308.7	311.9	2.1*
Very remote	60,714	461.9	454.5	469.3	50,785	323.6	322.7	324.5	1.4*
Total[(n)]	**317,285**	**424.2**	**422.4**	**426.0**	**13,118,754**	**328.7**	**328.5**	**328.9**	**1.3***
Total adjusted[(o)]	**355,359**	**475.1**	**473.1**	**477.0**	**13,080,680**	**327.7**	**327.5**	**327.9**	**1.4***

* 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.

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006).

(c) Financial year reporting.

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

(e) Age standardised rates have been calculated using the direct method, age standardised by 5 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Includes remote Victoria.

(m) Excludes remote Victoria.

(n) Total includes hospitalisations where ASGC is missing.

(o) These jurisdictions hospitalisation numbers and rates have been adjusted for Indigenous under-identification using a national adjustment factor of 1.12. This factor was derived from a study that the AIHW undertook between 2006 and 2008 which assessed the level of Indigenous under-identification in hospital data in all states and territories by comparing the information gathered from face-to-face interviews in public hospitals with the results from hospital records. The national adjustment factor excludes Tasmania and the Australian Capital Territory, as the levels of Indigenous identification in these jurisdictions were not considered acceptable for analysis purposes. By applying this factor, the number of Indigenous hospitalisations increased by 12% and these additional hospitalisations were then subtracted from the number of hospitalisations of Other Australians.

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.

Hospitalisations by principal diagnosis

Table 1.02.4 presents data on the most common principal diagnoses for hospitalisations involving Aboriginal and Torres Strait Islander peoples for the 2-year period July 2006 to June 2008 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 (42%), followed by injury and poisoning (8%), pregnancy (7%), diseases of the respiratory system (6%) and diseases of the digestive system (5%). 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. The most common diagnoses responsible for hospitalisations among other Australians in these six jurisdictions was care involving dialysis (12%) and diseases of the digestive system (11%).
- Overall, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, Indigenous Australians were hospitalised at over twice the rate of other Australians. Excluding dialysis, Indigenous Australians were hospitalised at 1.3 times the rate of other Australians.
- The greatest differences in rates between Indigenous and other Australians were for care involving dialysis and endocrine, nutritional and metabolic diseases, caused mainly by diabetes. Indigenous Australians were hospitalised at 10.8 times the rate of other Australians for dialysis and at 3 times the rate of other Australians for endocrine, nutritional and metabolic diseases.

Table 1.02.4: Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008(a)(b)(c)(d)

	Number		Per cent		Indigenous			Other(e)			
Principal diagnosis	**Indigenous**	**Other(e)**	**Indigenous**	**Other(e)**	**No. per 1,000(f)**	**95% LCL(g)**	**95% UCL(h)**	**No. per 1,000(f)**	**95% LCL(g)**	**95% UCL(h)**	**Ratio(i)**
Injury & poisoning & certain other consequences of external causes	39,574	939,446	7.5	6.5	43.6	43.1	44.1	23.4	23.3	23.4	1.9*
Pregnancy, childbirth and the puerperium(j)	38,317	891,607	7.3	6.2	33.7	33.3	34.0	23.4	23.3	23.4	1.4*
Diseases of the respiratory system	31,632	634,425	6.0	4.4	41.0	40.4	41.6	15.8	15.8	15.9	2.6*
Diseases of the digestive system	27,528	1,614,972	5.2	11.3	37.1	36.6	37.7	39.5	39.5	39.6	0.9*
Symptoms, signs and abnormal clinical and laboratory findings	22,873	946,230	4.4	6.6	32.8	32.3	33.3	23.0	22.9	23.0	1.4*
Mental and behavioural disorders	21,778	557,755	4.2	3.9	25.1	24.7	25.5	13.9	13.9	13.9	1.8*
Diseases of the circulatory system	16,530	890,215	3.2	6.2	33.4	32.8	34.0	21.0	21.0	21.1	1.6*
Diseases of the genitourinary system	12,879	692,686	2.5	4.8	18.6	18.2	19.0	17.0	17.0	17.1	1.1*
Diseases of the skin & subcutaneous tissue	12,103	230,295	2.3	1.6	13.3	13.0	13.6	5.7	5.7	5.7	2.3*
Certain infectious and parasitic diseases	10,450	170,252	2.0	1.2	9.5	9.3	9.8	4.3	4.3	4.4	2.2*

(continued)

Table 1.02.4 (continued): Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2006–June 2008[(a)(b)(c)(d)]

	Number		Per cent		Indigenous			Other[(e)]			
Principal diagnosis	**Indigenous**	**Other[(e)]**	**Indigenous**	**Other[(e)]**	**No. per 1,000[(f)]**	**95% LCL[(g)]**	**95% UCL[(h)]**	**No. per 1,000[(f)]**	**95% LCL[(g)]**	**95% UCL[(h)]**	**Ratio[(i)]**
Endocrine, nutritional and metabolic diseases	10,592	269,680	2.0	1.9	19.4	18.9	19.8	6.5	6.5	6.5	3.0*
Other[(k)]	59,395	4,853,731	11.3	33.8	84.8	83.9	85.7	117.3	117.2	117.4	0.7*
Total	*303,651*	*12,691,294*	*57.9*	*88.5*	*392.3*	*390.5*	*394.0*	*310.9*	*310.7*	*311.0*	*1.3**
Care involving dialysis	220,763	1,645,262	42.1	11.5	421.3	419.4	423.3	39.1	39.1	39.2	10.8*
Total[(l)]	**524,469**	**14,346,217**	**100.0**	**100.0**	**813.7**	**811.1**	**816.4**	**350.2**	**350.1**	**350.4**	**2.3***

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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.

(e) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: other.

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

- For the 2-year period July 2006 to June 2008, the majority of hospitalisations with a principal diagnosis of care involving dialysis were reported with an additional diagnosis of diseases of the genitourinary system (77%) followed by endocrine, nutritional and metabolic disorders (20%).
- Almost a quarter (24%) of hospitalisations with a principal diagnosis of injury and poisoning were reported with an additional diagnosis of mental and behavioural disorders, and 11% with an additional diagnosis of endocrine, metabolic and nutritional disorders.
- Hospitalisations with a principal diagnosis of circulatory diseases were most commonly reported with an additional diagnosis of endocrine, nutritional and metabolic diseases (52%).
- Endocrine, nutritional and metabolic disorders were an additional diagnosis in hospitalisations where infectious and parasitic diseases (40%), abnormal findings (25%), respiratory diseases (23%), diseases of the digestive system (21%), and skin diseases (19%) were a principal diagnosis.
- Hospitalisations with a principal diagnosis of endocrine, nutritional and metabolic diseases were commonly reported with an additional diagnosis of diseases of the circulatory system (54%).

Table 1.02.5: Hospitalisations of Indigenous persons: principal diagnosis chapter by additional diagnosis chapter of hospitalisation, NSW, Vic, Qld, WA, SA, and NT, July 2006 to June 2008[(a)(b)(c)(d)]

	Principal diagnosis														
Additional diagnosis of hospitalisation	**Dialysis (Z49)**	**Injury & poisoning (S00-Y98)**	**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[(f)]**
	Per cent														
Genitourinary diseases (N00–N99)	77.3	6.1	4.4	8.1	7.0	8.3	2.2	19.1	26.0	6.4	14.6	42.9	7.2	*9.4*	38.0
Endocrine, nutritional & metabolic (E00–E90)	20.4	11.4	3.2	22.7	21.2	24.6	10.7	51.6	23.3	19.1	39.7	64.6	14.5	*19.8*	20.1
Diseases of the circulatory system (I00–I99)	6.0	8.8	1.8	17.7	15.5	21.6	5.6	67.0	17.3	12.7	11.4	54.0	12.4	*16.2*	11.9
Mental and behavioural disorders (F00–F99)	0.1	23.5	4.6	11.1	17.9	15.3	52.6	11.8	6.6	8.4	6.9	11.3	8.4	*14.9*	8.7
Symptoms, signs and abnormal findings (R00–R99)	0.2	7.9	6.2	11.3	9.2	16.4	17.9	14.7	10.5	7.0	16.4	16.1	9.4	*10.8*	6.3
Infectious and parasitic diseases (A00–B99)	0.0	9.0	5.7	13.2	7.6	4.8	2.8	7.2	24.2	44.2	19.6	16.7	6.7	*10.3*	6.0

(continued)

Table 1.02.5 (continued): Hospitalisations of Indigenous persons: principal diagnosis chapter by additional diagnosis chapter of hospitalisation, NSW, Vic, Qld, WA, SA, and NT, July 2006 to June 2008[(a)(b)(c)(d)]

	Principal diagnosis														
Additional diagnosis of hospitalisation	**Dialysis (Z49)**	**Injury & poisoning (S00-Y98)**	**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[(f)]**
	Per cent														
Injury & poisoning (S00-Y98)	0.2	42.0	0.7	2.2	2.8	2.7	6.8	4.5	3.5	17.4	3.5	6.7	6.1	*9.4*	5.5
Pregnancy, childbirth (O00-O99)	0.0	0.2	56.0	0.1	0.1	0.2	0.2	0.0	0.3	0.0	0.1	0.1	0.5	*7.3*	4.2
Digestive diseases (K00-K93)	0.1	3.7	3.0	4.8	25.7	8.3	4.5	7.8	6.3	2.8	7.2	10.4	5.7	*7.2*	4.2
Respiratory diseases (J00-J99)	0.0	3.5	2.2	20.9	4.6	5.4	3.2	13.9	4.7	3.3	11.8	9.5	5.3	*6.8*	4.0
Skin diseases (L00-L99)	0.0	3.8	0.6	3.2	2.1	1.6	1.4	3.3	2.9	18.0	10.1	13.0	3.1	*3.7*	2.2
Care involving dialysis (Z49)	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.5	0.0	*0.1*	0.0
Other[(e)]	7.3	41.8	74.4	46.4	47.6	50.3	60.5	72.8	50.7	48.7	39.3	74.4	60.3	*55.9*	35.4
Total number[(g)]	**220,763**	**39,574**	**38,317**	**31,632**	**27,528**	**22,873**	**21,778**	**16,530**	**12,879**	**12,103**	**10,450**	**10,592**	**59,395**	***303,651***	**524,414**

(continued)

Table 1.02.5 (continued): Hospitalisations of Indigenous persons: principal diagnosis chapter by additional diagnosis chapter of hospitalisation, NSW, Vic, Qld, WA, SA, and NT, July 2006 to June 2008(a)(b)(c)(d)

(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 fifth edition (National Centre for Classification in Health 2006).

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

(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

Longer term morbidity trend data are limited to four jurisdictions—Queensland, Western Australia, South Australia and the Northern Territory — which have over 10 years of adequate identification of Indigenous hospitalisations. These four jurisdictions represent approximately 60% of the Indigenous Australian population. This analysis is presented in Tables 1.02.6 and 1.02.8 and Figures 1.02.2 and 1.02.4.

Additional trend analysis has 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 Other Australians in Tables 1.02.7 and 1.02.9 and Figures 1.02.3 and 1.02.5. 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.

All hospitalisations 2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period for Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 1.02.6 and Figure 1.02.2.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous males and females during the 7-year period 2001–02 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 37 per 1,000 for Indigenous persons, which is equivalent to a 27% increase in the rate over the period.
- There were also significant increases in hospitalisation rates among other Australian males and females during the same period, with an average yearly increase of 3 per 1,000 for other Australians. This is equivalent to a 5% increase in the rate over the period.
- There were significant increases in the hospitalisation rate ratios and rate differences between Indigenous and other Australians. The fitted trend implies an average yearly increase of 0.1 in the rate ratio (21% increase over the period) and 34 per 1,000 in the hospitalisation rate differences between Indigenous and other Australians in the 7-year period 2001–02 to 2007–08 (42% increase). This indicates a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other 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, 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 1.02.6: Age-standardised hospitalisation rates, rate ratios and rate differences, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	60,906	63,080	68,518	73,301	78,545	81,020	88,596	4,606.3*	45.4*
Females	82,575	87,378	93,217	97,800	104,969	108,518	114,840	5,386.7*	39.1*
Persons	143,537	150,555	161,735	171,102	183,514	189,538	203,436	9,980.1*	41.7*
Other Australian[(d)] separations									
Males	1,100,777	1,127,245	1,163,519	1,203,304	1,250,684	1,302,509	1,365,399	43,984.3*	24.0*
Females	1,256,330	1,277,365	1,312,839	1,346,718	1,390,651	1,447,583	1,493,209	40,317.3*	19.3*
Persons	2,357,129	2,404,634	2,476,359	2,550,026	2,641,338	2,750,101	2,858,621	84,299.6*	21.5*
Indigenous rate (separations per 1,000)									
Males	728.5	748.6	814.2	857.3	902.2	937.0	1,000.8	45.8*	37.7*
Females	895.8	943.6	980.7	998.0	1,057.8	1,051.1	1,086.7	30.9*	20.*7
Persons	817.1	852.8	900.8	929.8	983.0	991.5	1,039.8	36.7*	27.0*
Other Australian[(d)] rate (separations per 1,000)									
Males	326.7	326.6	329.2	331.8	335.6	339.8	346.4	3.3*	6.0*
Females	349.1	347.6	349.6	351.3	355.0	360.7	363.4	2.7*	4.6*
Persons	336.0	335.1	337.3	339.4	343.1	348.1	352.5	2.9*	5.2*
Rate ratio[(e)]									
Males	2.2	2.3	2.5	2.6	2.7	2.8	2.9	0.1*	30.0*
Females	2.6	2.7	2.8	2.8	3.0	2.9	3.0	0.1*	15.4*
Persons	2.4	2.5	2.7	2.7	2.9	2.8	2.9	0.1*	20.7*

(continued)

Table 1.02.6 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(f)]									
Males	401.8	422.0	485.0	525.5	566.6	597.2	654.4	42.5*	63.5*
Females	546.7	596.1	631.0	646.7	702.9	690.4	723.4	28.2*	31.0*
Persons	481.1	517.8	563.5	590.3	640.0	643.4	687.3	33.8*	42.1*

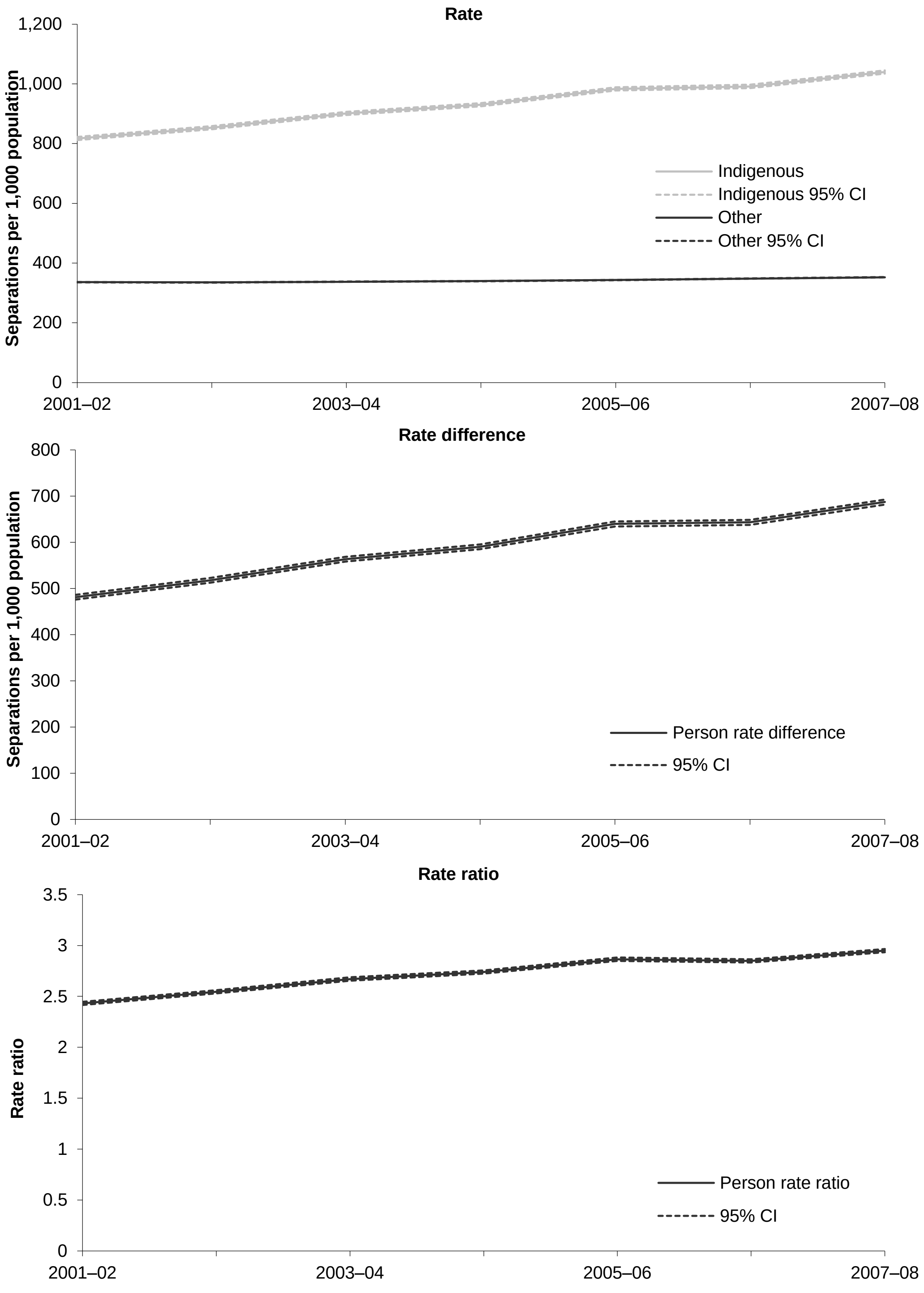
* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.
(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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 in 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 between Indigenous and other Australians, Qld, WA, SA and NT, 2001–02 to 2007–08

All hospitalisations 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period 2004–05 to 2007–08 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 1.02.7 and Figure 1.02.3.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous males and females during the 4-year period 2004–05 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 32 per 1,000 for Indigenous persons which is equivalent to a 13% increase in the rate over the period.
- There were also significant increases in hospitalisation rates among other Australian males and females during the same period, with an average yearly increase of 6 per 1,000 for other Australians. This is equivalent to a 5% increase in the rate over the period.
- There were significant increases in the hospitalisation rate ratios and rate differences between Indigenous and other Australians. The fitted trend implies an average yearly increase of 0.1 in the rate ratio (8% increase over the period) and 27 per 1,000 in the hospitalisation rate differences between Indigenous and other Australians in the 4-year period 2004–05 to 2007–08 (20% increase). This indicates a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other 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 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 rates 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 1.02.7: Age-standardised hospitalisation rates, rate ratios and rate differences, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous rate separations						
Males	97,641	105,446	109,577	119,154	6,867.0*	21.1*
Females	127,070	137,659	143,598	152,140	8,114.9*	19.2*
Persons	224,716	243,106	253,175	271,294	14,980.3*	20.0*
Other Australian separations						
Males	3,071,021	3,197,077	3,329,348	3,458,975	129,613.3*	12.7*
Females	3,462,271	3,585,240	3,720,681	3,837,130	126,001.8*	10.9*
Persons	6,533,363	6,782,353	7,050,063	7,296,153	255,608.3*	11.7*
Indigenous rate (separations per 1,000)						
Males	678.3	719.1	748.6	798.8	39.1*	17.3*
Females	779.9	835.4	845.0	870.4	28.1*	10.8*
Persons	729.7	778.4	795.4	831.5	32.2*	13.2*
Other Australian[(d)] rate (separations per 1,000)						
Males	329.8	336.2	342.1	347.0	5.7*	5.2*
Females	346.0	352.3	358.6	362.4	5.5*	4.8*
Persons	335.7	342.0	348.1	352.4	5.6*	5.0*
Rate ratio[(e)]						
Males	2.1	2.1	2.2	2.3	0.1*	11.5*
Females	2.3	2.4	2.4	2.4	0.04*	5.7*
Persons	2.2	2.3	2.3	2.4	0.1*	7.8*
Rate difference[(f)]						
Males	348.5	382.9	406.6	451.8	33.3*	28.7*
Females	433.9	483.0	486.3	508.0	22.6*	15.6*
Persons	394.0	436.3	447.3	479.1	26.6*	20.3*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

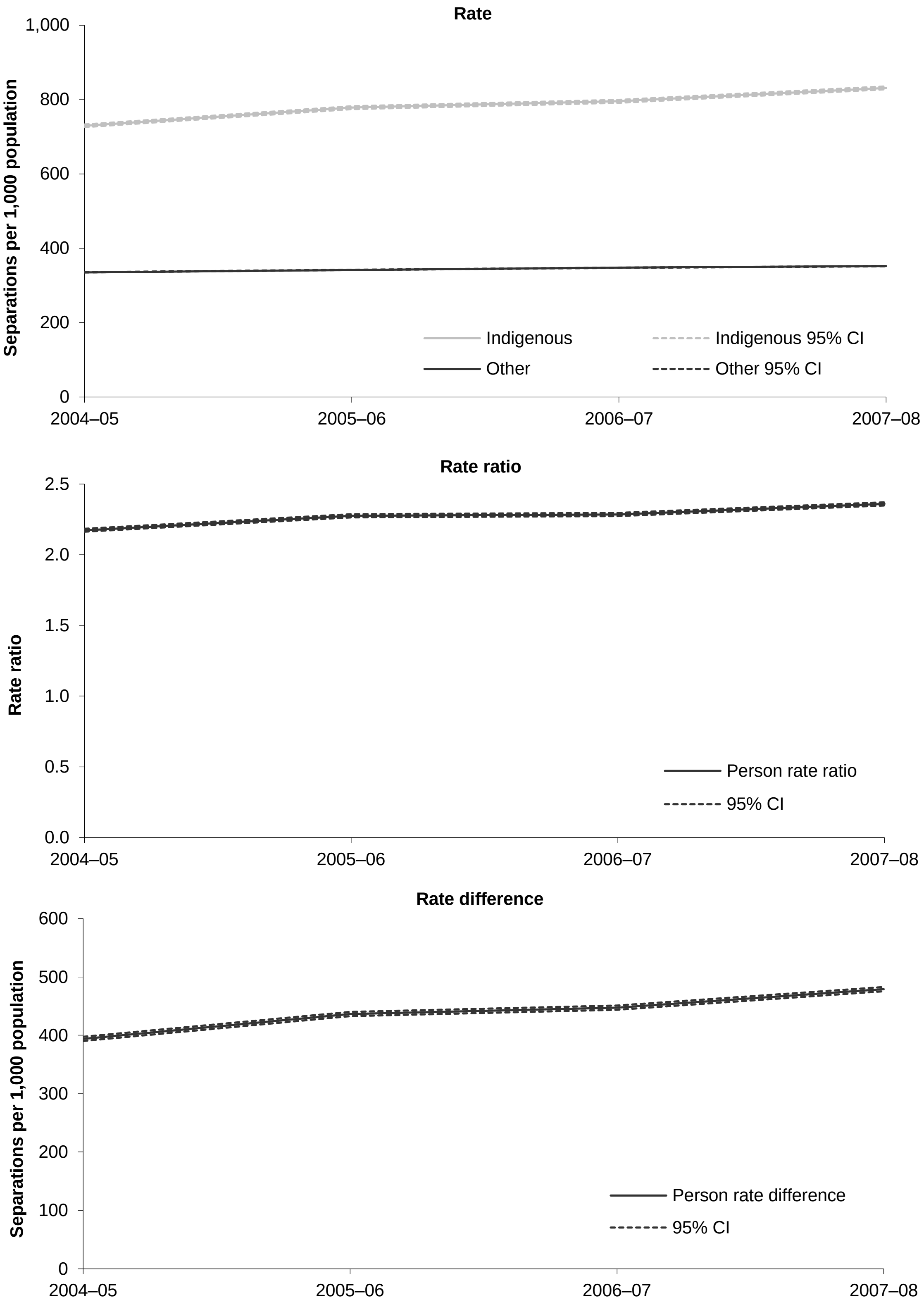
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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 1.02.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

All hospitalisations excluding dialysis — 2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and other Australians over the period 2001–02 to 2007–08 for Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 1.02.8 and Figure 1.02.4.

- In 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 2001–02 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 3 per 1,000 for Indigenous persons. This is equivalent to a 4% increase in the rate over the period.
- There were also significant increases in hospitalisation rates among other Australians during the same period, with an average yearly increase in the rate of 1 per 1,000 for other Australian persons. This is equivalent to a 3% increase in the rate over the period.
- There were non-significant increases in the hospitalisation rate ratios between Indigenous and other Australians—the fitted trend implies an average yearly increase of 0.003 per 1,000 in the 7-year period 2001–02 to 2007–08 (a 2% increase). Over the same period, there were non-significant changes in the rate ratios for females and males.
- There were non-significant increases in the hospitalisation rate differences between Indigenous and other Australians. The fitted trend implies an average yearly increase of 2 per 1,000 in the hospitalisation rate differences between Indigenous and other Australians in the 7-year period 2001–02 to 2007–08 (9% increase over the period).

Table 1.02.8: Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	38,518	38,346	39,819	39,715	42,018	41,986	45,505	1,087.1*	16.9*
Females	51,881	51,998	53,440	54,416	56,916	58,946	61,194	1,618.3*	18.7*
Persons	90,406	90,347	93,259	94,132	98,934	100,932	106,699	2,704.4*	17.9*
Other Australian separations									
Males	984,723	994,267	1,017,973	1,043,619	1,078,353	1,129,385	1,178,723	32,593.4*	19.9*
Females	1,173,327	1,191,640	1,216,907	1,243,299	1,280,091	1,331,528	1,373,731	33,720.4*	17.2*
Persons	2,158,072	2,185,931	2,234,881	2,286,922	2,358,447	2,460,922	2,552,467	66,311.9*	18.4*
Indigenous rate (separations per 1,000)									
Males	387.4	384.3	401.3	384.8	402.8	385.6	415.2	3.1	4.8
Females	457.3	453.0	456.7	448.2	461.3	465.4	478.0	3.3*	4.3*
Persons	422.3	418.3	427.5	415.4	430.6	425.1	445.3	3.1*	4.3*
Other Australian[(d)] rate (separations per 1,000)									
Males	292.1	287.9	287.7	287.4	289.0	294.3	298.5	1.2	2.4
Females	326.3	324.7	324.8	325.1	327.7	333.0	335.6	1.7*	3.1*
Persons	307.7	304.8	304.7	304.8	306.8	312.1	315.5	1.4*	2.8*
Rate ratio[(e)]									
Males	1.3	1.3	1.4	1.3	1.4	1.3	1.4	0.0	2.3
Females	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	1.1
Persons	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	1.5

(continued)

Table 1.02.8 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(f)]									
Males	95.3	96.4	113.6	97.4	113.8	91.4	116.7	1.9	12.2
Females	131.0	128.3	131.9	123.1	133.6	132.4	142.4	1.6	7.2
Persons	114.7	113.6	122.8	110.6	123.8	113.0	129.8	1.6	8.5

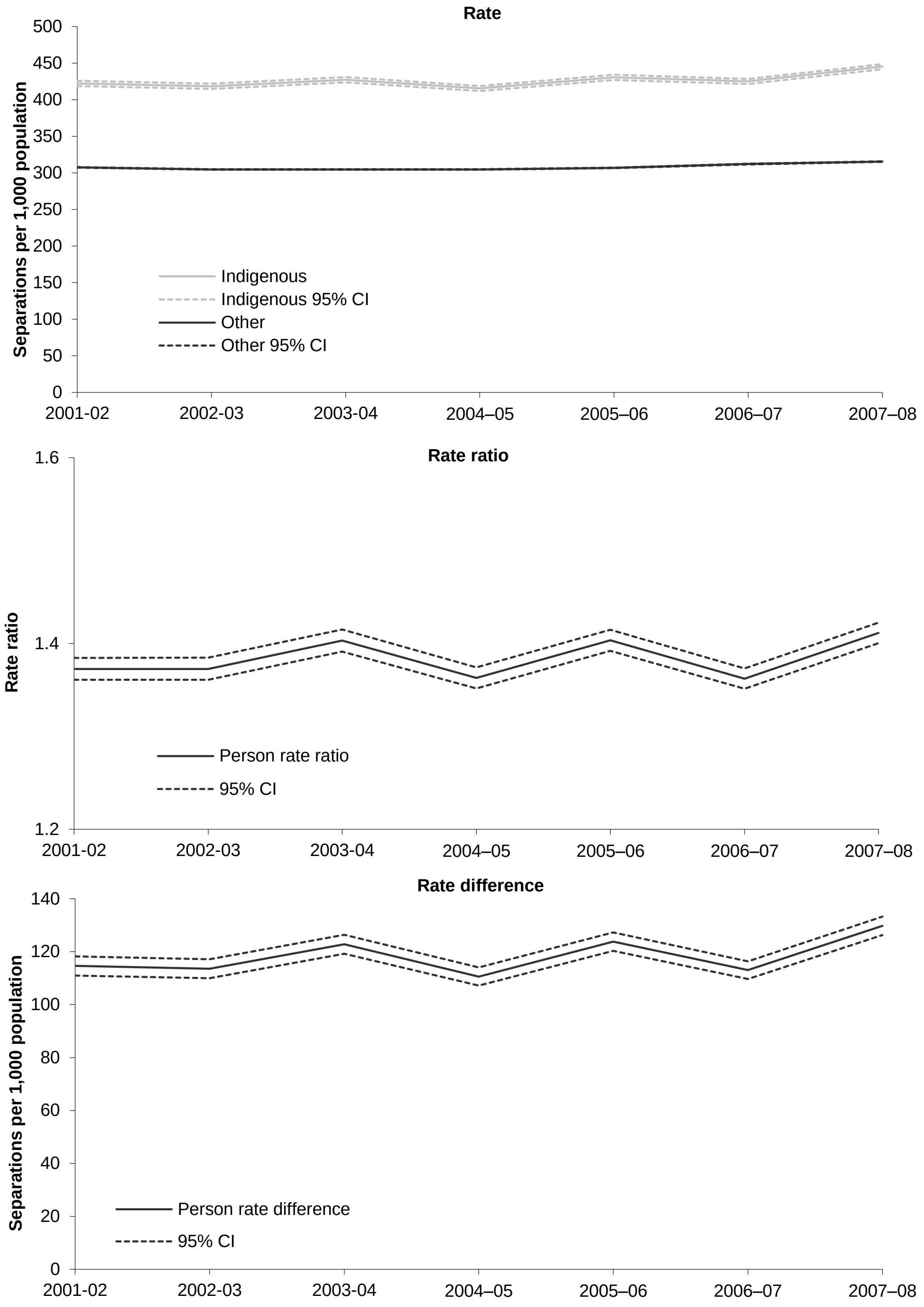
* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2007–08 based on the average annual change over the period.
(d) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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) included in analysis because of changes in coding since earlier years.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.02.4: Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and other Australians, Qld, WA, SA and NT, 1998-99 to 2007–08

All hospitalisations excluding dialysis — 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and other Australians over the period 2004–05 to 2007–08 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 1.02.9 and Figure 1.02.5.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous males and females during the 4-year period 2004–05 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 11 per 1,000 for Indigenous persons. This is equivalent to a 9% increase in the rate over the period.
- There were also significant increases in hospitalisation rates among other Australian males and females during the same period, with an average yearly increase in the rate of 4 per 1,000 for other Australian persons. This is equivalent to a 4% increase in the rate over the period.
- There were non-significant increases in the hospitalisation rate ratios between Indigenous males and other males. Over the same period, there were significant increases in the rate ratios for females and persons overall.
- There were significant increases in the hospitalisation rate differences between Indigenous and other Australians. The fitted trend implies an average yearly increase of 6 per 1,000 in the hospitalisation rate differences between Indigenous and other Australians in the 4-year period 2004–05 to 2007–08 (29% increase over the period).

Table 1.02.9: Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	57,176	61,420	62,297	66,723	2,951.8*	15.5*
Females	77,199	81,532	85,579	89,107	3,977.1*	15.5*
Persons	134,380	142,953	147,876	155,830	6,927.3*	15.5*
Other Australian separations						
Males	2,645,049	2,729,689	2,838,632	2,941,553	99,845.5*	11.3*
Females	3,188,201	3,290,753	3,409,432	3,511,254	108,783.8*	10.2*
Persons	5,833,321	6,020,478	6,248,098	6,452,856	208,622.5*	10.7*
Indigenous rate (separations per 1,000)						
Males	337.4	355.2	347.5	368.4	8.5*	7.6*
Females	395.9	409.6	421.0	433.2	12.4*	9.4*
Persons	366.0	381.5	384.2	400.4	10.6*	8.7*
Other Australian[(d)] rate (separations per 1,000)						
Males	283.9	287.0	291.5	295.0	3.8*	4.0*
Females	319.6	324.6	330.1	333.2	4.6*	4.3*
Persons	300.4	304.4	309.4	312.7	4.2*	4.2*
Rate ratio[(e)]						
Males	1.2	1.2	1.2	1.2	0.0	3.4
Females	1.2	1.3	1.3	1.3	0.02*	4.8*
Persons	1.2	1.3	1.2	1.3	0.02*	4.3*
Rate difference[(f)]						
Males	53.5	68.2	56.0	73.4	4.7	26.6
Females	76.2	85.0	90.9	100.0	7.7*	30.5*
Persons	65.6	77.1	74.8	87.6	6.4*	29.1*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

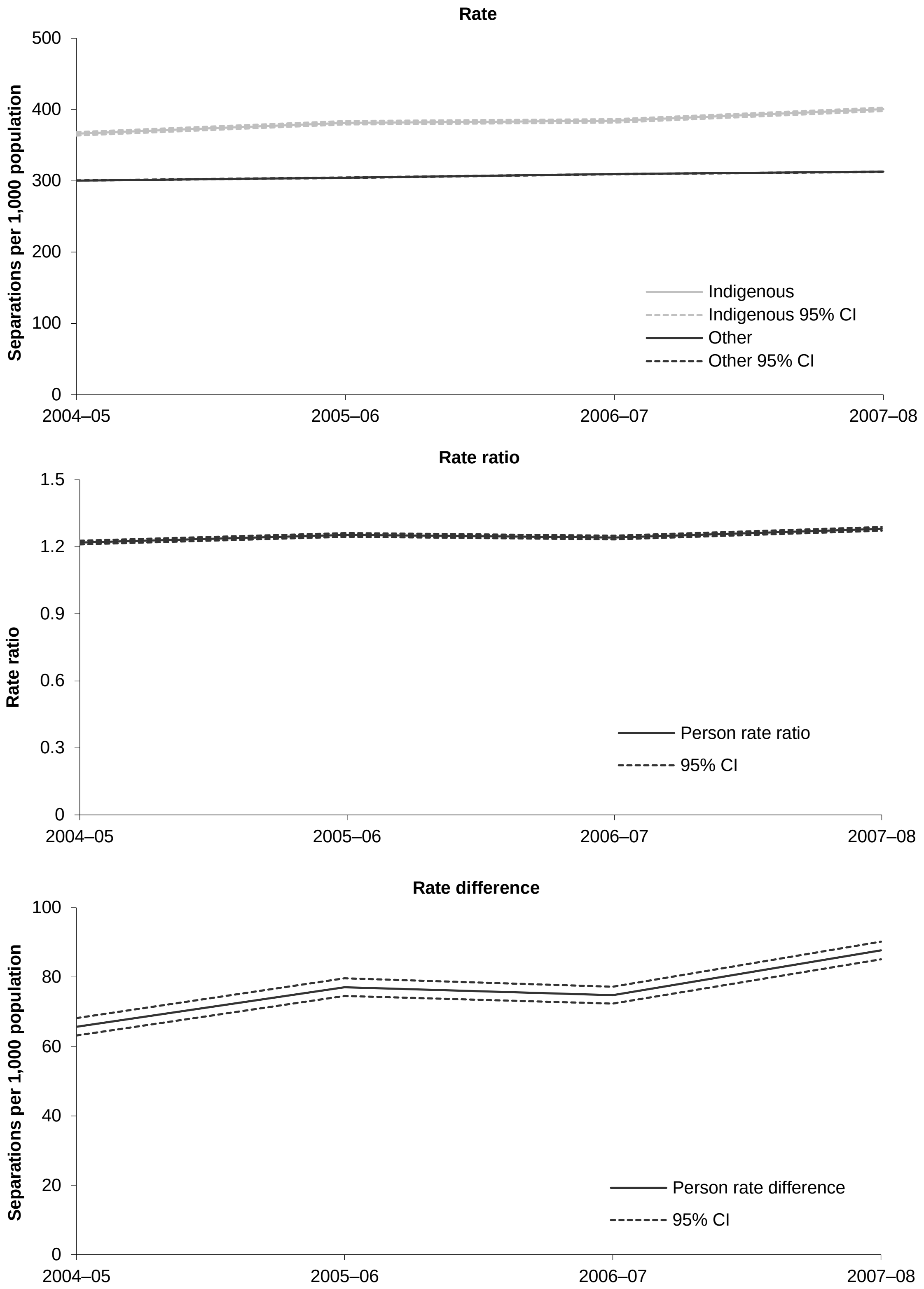
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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 1.02.5: Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and other Australians, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

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:
    - Queensland 87%
    - Western Australia 97%
    - South Australia 85%
    - Northern Territory 98%
  - Under the increasing identification scenario, hospitalisations were adjusted by linearly increasing the identification through the period under study—from 80% in 2001–02 to 87% in 2007–08 for Queensland, from 94% to 97% for Western Australia, from 79% to 85% for South Australia, and from 94% to 98% for the Northern Territory.
  - Under the decreasing identification scenario, hospitalisations were adjusted by linearly decreasing the identification from 87% in 2001–02 to 80% in 2007–08 for Queensland, from 97% to 94% for Western Australia, from 85% to 79% for South Australia, and from 98% to 94% 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 including dialysis, the increases in hospitalisation rates, rate ratios and rate differences during the period 2001–02 to 2007–08 remained significant under all three identification scenarios.
- For all hospitalisations excluding dialysis, all but one of the observed significant increases in hospitalisation rates, rate ratios and rate differences during the period 2001–02 to 2007–08 remained statistically significant under the constant identification scenario. The exception was the Indigenous persons' rate which increased but not significantly. Under the increasing identification scenario Indigenous females' and persons' rate increases were not significant, as a consequence the rate ratio for these two statistics changes to significant decreases. The rate difference declined for females. Under the decreasing identification scenario, all the reported significant increases continued to be observed. In addition the Indigenous males' rate increased significantly, with the flow-on effect of increasing significantly the rate ratio and 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:
    - New South Wales 87%

        - Victoria 80%
        - Queensland 87%
        - Western Australia 97%
        - South Australia 85%
        - Northern Territory 98%
    - Under the increasing identification scenario, hospitalisations were adjusted by linearly increasing the identification through the period under study—from 70% in 2004–05 to 87% in 2007–08 for New South Wales, from 75% to 80% in Victoria, from 86% to 87% in Queensland, from 96% to 97% for Western Australia, from 82% to 85% for South Australia, and from 96% to 98% for the Northern Territory.
    - Under the decreasing identification scenario, hospitalisations were adjusted by linearly decreasing the identification from 87% in 2004–05 to 70% in 2007–08 for New South Wales, from 80% to 75% in Victoria, from 87% to 86% in Queensland, from 97% to 96% for Western Australia, from 85% to 82% for South Australia, and from 98% to 96% 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 including dialysis except the increasing scenario, the increases in hospitalisation rates, rate ratios and rate differences during the period 2004–05 to 2007–08 remained significant under all three identification scenarios. Under the increasing identification scenario, increases were not significant for Indigenous females and persons, and the corresponding rate ratios and rate differences. In addition the rate ratio for males was not significant.
- For all hospitalisations excluding dialysis, all the observed significant increases in hospitalisation rates, rate ratios and rate differences during the period 2004–05 to 2007–08 remained statistically significant under the constant identification scenario. Under the increasing identification scenario, rates for Indigenous males and persons were not significant. These changes were reflected in the corresponding rate ratios and rate differences. However the was a significant decrease in the female rate ratio and rate difference. According to the decreasing identification scenario, all the significant increases were preserved, in addition there was a significant increase in the rate ratio and rate difference for Indigenous males.

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 2007–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

Hospitalisation rates among Indigenous Australians for most principal diagnoses for the period June 2004 to July 2005 were similar to those for the period June 2007 to July 2008. Hospitalisation rates of Indigenous Australians for care involving dialysis; symptoms, signs and abnormal clinical findings; endocrine, nutritional and metabolic diseases; and diseases of the digestive system increased between the two periods. Hospitalisation rates of

Indigenous Australians for diseases of the respiratory and genitourinary systems declined between the two periods (Table 1.02.10).

Table 1.02.10: Hospitalisations, by principal diagnosis and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2004 to June 2005 and July 2006 to June 2008[a][b][c][d]

	2004–05 to 2005–06			2006–07 to 2007–08		
Principal diagnosis	**Indigenous number per 1,000[f]**	**Other[e] number per 1,000[f]**	**Ratio[g]**	**Indigenous number per 1,000[f]**	**Other[e] number per 1,000[f]**	**Ratio[g]**
Injury & poisoning & certain other consequences of external causes	42.3	22.5	1.9*	43.6	23.4	1.9*
Pregnancy, childbirth and the puerperium	32.0	22.9	1.4*	33.7	23.4	1.4*
Diseases of the respiratory system	42.1	15.8	2.7*	41.0	15.8	2.6*
Diseases of the digestive system	35.2	39.0	0.9*	37.1	39.5	0.9*
Symptoms, signs and abnormal clinical and laboratory findings	30.5	21.1	1.4*	32.8	23.0	1.4*
Mental and behavioural disorders	24.0	13.9	1.7*	25.1	13.9	1.8*
Diseases of the circulatory system	32.8	21.2	1.5*	33.4	21.0	1.6*
Diseases of the genitourinary system	18.8	17.4	1.1*	18.6	17.0	1.1*
Diseases of the skin & subcutaneous tissue	12.7	5.6	2.3*	13.3	5.7	2.3*
Certain infectious and parasitic diseases	9.2	4.4	2.1*	9.5	4.3	2.2*
Endocrine, nutritional and metabolic diseases	17.4	5.9	3.0*	19.4	6.5	3.0*
Other[h]	76.6	112.8	0.7*	84.8	117.3	0.7*
Total	*373.6*	*302.3*	*1.2**	*392.3*	*310.9*	*1.3**
Care involving dialysis	380.7	36.5	10.4*	421.3	39.1	10.8*
Total[i]	**754.6**	**338.9**	**2.2***	**813.7**	**23.4**	**2.3***

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(g) Rate ratio Indigenous: other.

(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.

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.

Data quality issues

National Hospital Morbidity data

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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) 2005. Improving the quality of Indigenous identification in hospital statistics. Health services series no. 25. Cat. no. HSE 101. Canberra: AIHW.

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AIHW 2009. Australian hospital statistics 2007–08. Health services series no. 33. Cat. no. HSE 71. Canberra: AIHW.

AIHW 2010. Indigenous identification in hospital separations data – quality report. Health services series no. 35. Cat. no. HSE 85. Canberra: AIHW.

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List of tables

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1.03 Hospitalisation for 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 and the National Aboriginal and Torres Strait Islander Health Survey.

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.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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.

Hospitalisations

- In the 2-year period July 2006 to June 2008, there were 979,020 hospitalisations for injury and poisoning in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 39,574 (4.0%) 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 2006 to June 2008, 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 other males and females across all age groups, except among those aged 65 years and over (Figure 1.03.1).
- The greatest difference in hospitalisation rates for injury and poisoning occurred in the 25–34, 35–44 and 45–54 year age groups for males and females. The rate of hospitalisations for Indigenous males aged 25–34 or 45–54 years was just over two times the rate of other males and for Indigenous males aged 35–44 years, the rate of hospitalisations was almost three times the rate of other males. Indigenous females in these age groups were hospitalised at around 3 to 4 times the rate of other females.
- For Indigenous males and females, hospitalisation rates were highest among those aged 35–44 years, and for other males and females, rates were highest among those aged 65 years and over.

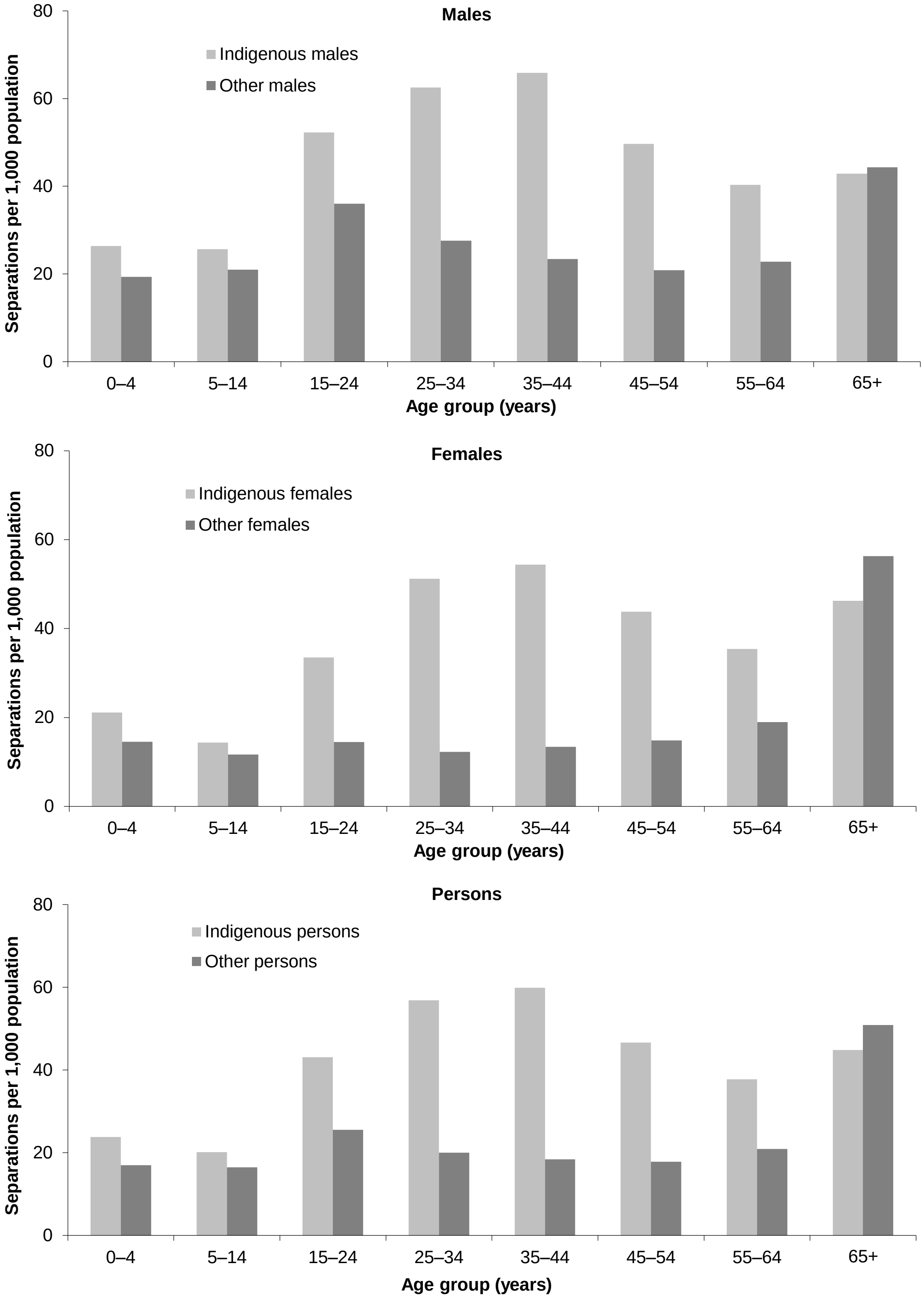
- Approximately 56% of Indigenous Australians hospitalised for injury and poisoning were males (22,263) and 44% were females (17,311).

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 2006 to June 2008

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+
Males								
Indigenous	26.4	25.6	52.3	62.6	65.9	49.7	40.3	42.9
Other	19.3	21.0	36.0	27.6	23.4	20.9	22.8	44.3
Females								
Indigenous	21.1	14.4	33.5	51.2	54.4	43.8	35.4	46.3
Other	14.5	11.7	14.5	12.3	13.4	14.8	18.9	56.3
Persons								
Indigenous	23.8	20.1	43.1	56.8	59.9	46.6	37.7	44.9
Other	17.0	16.5	25.5	20.0	18.4	17.8	20.9	50.9

Note: Rates for Indigenous people are calculated using population estimates based on the 2006 Census (SERIES B).

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.03.1: Age-specific hospitalisation rates for a principal diagnosis of injury and poisoning, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Hospitalisations by state/territory

Table 1.03.2 presents hospitalisations for a principal diagnosis of injury and poisoning for the 2-year period July 2006 to June 2008 in New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory, Tasmania and the Australian Capital Territory.

- Over the period July 2006 to June 2008, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for injury and poisoning at 1.9 times the rate of other Australians in these jurisdictions.
- When hospital rates are adjusted at the national level for Indigenous under-identification, Indigenous Australians were hospitalised for injury and poisoning at twice the rate of other Australians.
- In Tasmania, Victoria, New South Wales, the Australian Capital Territory and Queensland, Indigenous people were hospitalised between 0.8 and 1.6 times the rate of other Australians. In South Australia, the Northern Territory and Western Australia, Indigenous Australians were hospitalised between 2.4 and 2.9 times the rate of other Australians.

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 2006 to June 2008[(a)(b)(c)(d)(e)]

	Indigenous				Other[(f)]				
	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)]
NSW									
Males	5,649	38.7	37.5	40.0	179,433	26.9	26.8	27.0	1.4*
Females	3,677	27.1	26.1	28.2	135,793	18.2	18.1	18.3	1.5*
Persons	9,326	33.0	32.2	33.8	315,235	22.7	22.6	22.8	1.5*
Vic									
Males	1,036	31.8	29.5	34.2	140,274	27.4	27.2	27.5	1.2*
Females	650	22.6	20.6	24.6	114,176	20.2	20.1	20.3	1.1*
Persons	1,686	27.3	25.7	28.8	254,451	23.9	23.8	24.0	1.1*
Qld									
Males	6,076	43.9	42.5	45.3	119,200	29.8	29.6	30.0	1.5*
Females	4,168	32.8	31.6	34.0	80,601	19.3	19.2	19.4	1.7*
Persons	10,244	38.4	37.5	39.3	199,802	24.7	24.6	24.8	1.6*
WA									
Males	4,245	64.1	61.7	66.5	50,906	25.0	24.8	25.2	2.6*
Females	3,687	58.9	56.8	61.1	36,413	17.5	17.3	17.6	3.4*
Persons	7,932	61.6	60.0	63.2	87,319	21.4	21.3	21.6	2.9*
SA									
Males	1,468	59.1	55.4	62.9	42,351	27.3	27.0	27.6	2.2*
Females	1,376	53.7	50.5	56.9	34,102	19.3	19.1	19.5	2.8*
Persons	2,844	56.2	53.8	58.6	76,453	23.5	23.3	23.6	2.4*
NT									
Males	3,789	63.5	61.0	65.9	4,207	28.4	27.5	29.4	2.2*
Females	3,753	61.9	59.7	64.2	1,979	16.8	16.0	17.6	3.7*
Persons	7,542	62.8	61.2	64.5	6,186	23.0	22.3	23.6	2.7*
NSW, Vic, Qld, WA, SA and NT[(k)]									
Males	**22,263**	**47.9**	**47.1**	**48.7**	**536,371**	**27.5**	**27.4**	**27.5**	**1.7***
Females	**17,311**	**39.3**	**38.6**	**40.0**	**403,064**	**19.0**	**18.9**	**19.0**	**2.1***
Persons	**39,574**	**43.6**	**43.1**	**44.2**	**939,446**	**23.4**	**23.3**	**23.4**	**1.9***
Tasmania									
Males	276	15.2	13.1	17.4	10,015	21.8	21.3	22.2	0.7*
Females	224	13.7	11.6	15.9	7,132	14.0	13.7	14.3	1.0
Persons	500	14.6	13.1	16.1	17,147	17.9	17.6	18.2	0.8*
ACT									
Males	113	28.6	20.1	37.1	6,174	18.9	18.4	19.4	1.5*
Females	83	24.8	17.1	32.4	4,772	14.6	14.2	15.0	1.7*
Persons	196	26.9	21.2	32.7	10,946	16.8	16.5	17.2	1.6*

(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]

* 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 5th edition (National Centre for Classification in Health 2006).

(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 group 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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 and 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 2006 to June 2008 for the six jurisdictions.

- For the period 2006–07 to 2007–08 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 (77%) followed by complications of medical and surgical care not elsewhere classified (10%).
- Indigenous males and females were hospitalised at three times the rate of other males and females for burns and frostbite, and at around twice the rate of other males and females for '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 2006 to June 2008(a)(b)(c)(d)

	Males						Females						Persons(e)					
Principal diagnosis	**Number**	**Per cent(f)**	**No. per 1,000(g)**	**LCL 95%(h)**	**UCL 95%(i)**	**Ratio(j)**	**Number**	**Per cent(f)**	**No. per 1,000(g)**	**LCL 95%(h)**	**UCL 95%(i)**	**Ratio(j)**	**Number**	**Per cent(f)**	**No. per 1,000(g)**	**LCL 95%(h)**	**UCL 95%(i)**	**Ratio(j)**
Injuries (S00–T19)	17,799	79.9	36.8	36.1	37.4	1.8	12,608	72.8	27.8	27.3	28.4	2.2	30,407	76.8	32.4	31.9	32.8	1.9*
Complications of surgical & medical care n.e.c. (T80–T89)	1,918	8.6	6.0	5.7	6.4	1.5	2,158	12.5	6.4	6.1	6.7	1.8	4,076	10.3	6.2	6.0	6.4	1.6*
Poisoning (T36–T50)	891	4.0	1.9	1.8	2.1	1.8	1,378	8.0	2.9	2.7	3.0	1.6	2,269	5.7	2.4	2.3	2.5	1.7*
Other and unspecified effects of external causes/ Certain early complications of trauma (T66–T79)	486	2.2	1.0	0.9	1.1	1.9	476	2.7	1.0	0.9	1.1	2.3	962	2.4	1.0	0.9	1.1	2.1
Burns and frostbite (T20–T35)	811	3.6	1.5	1.4	1.6	3.0	434	2.5	0.8	0.7	0.9	3.2	1,245	3.1	1.1	1.0	1.2	3.0*
Toxic effects of substances chiefly non-medicinal (T51–T65)	357	1.6	0.7	0.6	0.8	1.9	256	1.5	0.5	0.4	0.5	2.0	613	1.5	0.6	0.5	0.6	1.9
Total(k)	**22,263**	**100.0**	**47.9**	**47.1**	**48.7**	**1.7**	**17,311**	**100.0**	**39.3**	**38.6**	**40.0**	**2.1**	**39,574**	**100.0**	**43.6**	**43.1**	**44.2**	**1.9***

(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 2006 to June 2008 (a)(b)(c)(d)

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006); Cause of injury is based on the first reported external causes where the principle diagnosis was 'injury, poisoning and certain other consequences of external causes'; ICD-10-AM codes 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 the highest level of accuracy 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 hospitalisations for which sex was indeterminate or not stated.

(f) Proportion of male, female and total hospitalisations of Indigenous persons in the period 2006–07 to 2007–08.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(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 and 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 2006 to June 2008, assault was the most common cause for hospitalisation for Indigenous males and females hospitalised with a principal diagnosis of injury and poisoning (23% and 31% 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 7 and 36 times as likely to be hospitalised for injuries due to assault as other males and females respectively.
- Indigenous males were hospitalised for intentional self-harm at almost three times the rate of other males.
- Indigenous males and females were hospitalised for exposure to electrical currents, smoke, fire, animals or nature at 2.5 times the rate of other 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 2006 to June 2008[a][b][c][d]

	Males						Females						Persons[e]					
External cause	No.	%[f]	No. per 1,000[g]	LCL 95%[h]	UCL 95%[i]	Ratio[j]	No.	%[f]	No. per 1,000[g]	LCL 95%[h]	UCL 95%[i]	Ratio[j]	No.	%[f]	No. per 1,000[g]	LCL 95%[h]	UCL 95%[i]	Ratio[j]
Assault (X85–Y09)	5,003	22.5	10.8	10.5	11.2	7.0*	5,309	30.7	10.9	10.6	11.2	35.5*	10,312	26.1	10.9	10.6	11.1	11.6*
Falls (W00–W19)	3,936	17.7	9.2	8.8	9.6	1.4*	3,130	18.1	8.7	8.3	9.1	1.2*	7,066	17.9	9.1	8.8	9.3	1.3*
Exposure to inanimate mechanical forces (W20–W49)	3,285	14.8	6.0	5.8	6.2	1.4*	1,405	8.1	2.5	2.4	2.7	1.9*	4,690	11.9	4.2	4.1	4.4	1.5*
Complications of medical and surgical care (Y40–Y84)	1,939	8.7	6.1	5.8	6.5	1.4*	2,208	12.8	6.6	6.3	6.9	1.8*	4,147	10.5	6.4	6.1	6.6	1.6*
Transport accidents (V01–V99)	2,569	11.5	4.8	4.6	5.0	1.2*	1,154	6.7	2.2	2.1	2.4	1.4*	3,723	9.4	3.5	3.4	3.6	1.3*
Other accidental exposures[k]	1,627	7.3	3.4	3.2	3.6	1.0	969	5.6	2.2	2.0	2.3	1.3*	2,596	6.6	2.8	2.6	2.9	1.1*
Intentional self-harm (X60–X84)	1,077	4.8	2.4	2.2	2.5	2.7*	1,408	8.1	2.8	2.7	3.0	2.0*	2,485	6.3	2.6	2.5	2.7	2.3*
Exposure to animate mechanical forces (W50–W64)	1,106	5.0	2.0	1.9	2.1	2.0*	529	3.1	1.0	0.9	1.1	2.6*	1,635	4.1	1.5	1.4	1.6	2.2*
Exposure to electric current/smoke/ fire/venomous animals and plants/forces of nature (W85–W99, X00–X39)[l]	940	4.2	1.8	1.6	1.9	2.5*	491	2.8	0.9	0.8	1.0	2.5*	1,431	3.6	1.3	1.2	1.4	2.5*
Accidental poisoning by and exposure to noxious substances (X40–X49)	410	1.8	0.7	0.7	0.8	1.6*	382	2.2	0.8	0.7	0.9	1.6*	792	2.0	0.8	0.7	0.8	1.6*
Other external causes[m]	334	1.5	0.7	0.6	0.7	2.5*	309	1.8	0.6	0.6	0.7	2.5*	643	1.6	0.7	0.6	0.7	2.5*
Total[n]	**22,263**	**100.0**	**47.9**	**47.1**	**48.7**	**1.7***	**17,311**	**100.0**	**39.3**	**38.6**	**40.0**	**2.1***	**39,574**	**100.0**	**43.6**	**43.1**	**44.2**	**1.9***

(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 2006 to June 2008(a)(b)(c)(d)

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006); cause of injury is based on the first reported external causes where the principle diagnosis was ‘injury, poisoning and certain other consequences of external causes’; ICD-10-AM codes V01–Y98.

(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) Includes hospitalisations for which sex was indeterminate or not stated.

(f) Proportion of male, female and total hospitalisations for injury and poisoning of Indigenous persons in the period 2006–07 to 2007–08.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(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).

(n) Includes injuries where no external cause was reported.

Notes

1. Rates for Indigenous are calculated using population estimates based on the 2006 Census (SERIES B).
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.

Injury due to transport

Mode of transport

Tables 1.03.5 and 1.03.6 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 1.03.5).
- 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 1.03.6).

Table 1.03.5: Mode of transport[(a)] for fatal injury, NSW, Vic, Qld, WA, SA and NT, 2003–04 to 2006–07

	Indigenous			Other			
Fatally injured person	**Number**	**Per cent**	**Rate[(b)]**	**Number**	**Per cent**	**Rate[(b)]**	**Rate ratio[(c)]**
Car occupant	191	55.7	11.1	3,025	51.2	3.9	2.9
traffic[(d)]	179	52.2	10.5	2,937	49.7	3.8	2.8
non-traffic[(e)]	10	2.9	0.5	79	1.3	0.1	4.5
Motorcyclist	13	3.8	0.7	813	13.8	1.1	0.7
traffic[(d)]	12	3.5	0.6	747	12.7	1.0	0.7
non-traffic[(e)]	n.p.	n.p.	n.p.	65	1.1	0.1	n.p.
Pedal cyclist	n.p.	n.p.	n.p.	128	2.2	0.2	n.p.
traffic[(d)]	n.p.	n.p.	n.p.	122	2.1	0.2	n.p.
non-traffic[(e)]	0	0.0	0.0	6	0.1	0.0	0.0
Pedestrian	100	29.2	6.0	861	14.6	1.1	5.5
traffic[(d)]	81	23.6	4.9	703	11.9	0.9	5.5
non-traffic[(e)]	13	3.8	0.8	105	1.8	0.1	6.2
Occupant of pick-up truck or van	5	1.5	0.3	169	2.9	0.2	1.3
Occupant of heavy transport vehicle	n.p.	n.p.	n.p.	137	2.3	0.2	n.p.
Bus occupant	n.p.	n.p.	n.p.	14	0.2	0.0	n.p.
Animal rider or occupant of animal-drawn vehicle	0	0.0	0.0	25	0.4	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.
Occupant of three-wheeled motor vehicle	0	0.0	0.0	11	0.2	0.0	1.0
Occupant of a tram	0	0.0	0.0	n.p.	n.p.	n.p.	n.p.
Occupant of a train	0	0.0	0.0	19	0.3	0.0	0.0
Occupant of a special industrial vehicle	0	0.0	0.0	24	0.4	0.0	0.0
Occupant of a special agricultural vehicle	0	0.0	0.0	53	0.9	0.1	0.0
Occupant of a special construction vehicle	0	0.0	0.0	19	0.3	0.0	0.0
Occupant of watercraft	n.p.	n.p.	n.p.	118	2.0	0.1	n.p.
Occupant of aircraft	n.p.	n.p.	n.p.	155	2.6	0.2	n.p.
Other and unspecified	16	4.7	0.7	288	4.9	0.4	1.8
Total	**343**	**100.0**	**19.7**	**5,905**	**100.0**	**7.5**	**2.6**

(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) 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).

(e) 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 & Harrison 2010.

Table 1.03.6 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]**
Car occupant	3,167	41.7	134.5	83,321	34.7	84.5	1.6
traffic[d]	2,691	35.5	114.4	72,944	30.8	74.9	1.5
non-traffic[e]	368	4.8	15.3	6,971	2.9	7.2	2.1
Motorcyclist	1,135	15.0	38.0	58,927	24.9	61.8	0.6
traffic[d]	527	6.9	18.7	30,601	12.9	31.9	0.6
non-traffic[e]	576	7.6	18.4	26,182	11.0	27.7	0.7
Pedal cyclist	1,265	16.7	35.7	40,164	16.9	42.7	0.8
traffic[d]	582	7.7	17.6	19,982	8.4	21.1	0.8
non-traffic[e]	635	8.4	16.8	18,844	7.9	20.2	0.8
Pedestrian	1,064	14.0	44.4	16,938	7.1	17.4	2.5
traffic[d]	774	10.2	33.5	11,930	5.0	12.3	2.7
non-traffic[e]	153	2.0	5.3	3,261	1.4	3.4	1.6
Occupant of pick-up truck or van	119	1.6	5.2	2,334	1.0	2.4	2.2
Occupant of heavy transport vehicle	46	0.6	2.4	3,676	1.6	3.8	0.6
Bus occupant	45	0.6	2.4	2,007	0.8	2.0	1.2
Animal rider or occupant of animal-drawn vehicle	331	4.4	12.2	14,792	6.2	15.5	0.8
Occupant of special all-terrain or off-road vehicle	96	1.3	3.0	3,371	1.4	3.5	0.8
Occupant of three-wheeled motor vehicle	9	0.1	0.4	339	0.1	0.3	1.1
Occupant of a tram	14	0.2	0.7	347	0.1	0.3	2.0
Occupant of a train	18	0.2	0.6	544	0.2	0.5	1.1
Occupant of a special industrial vehicle	16	0.2	0.9	704	0.3	0.7	1.2
Occupant of a special agricultural vehicle	10	0.1	0.3	935	0.4	0.9	0.3
Occupant of a special construction vehicle	n.p.	n.p.	n.p.	308	0.1	0.3	0.9
Occupant of watercraft	59	0.8	2.6	3,643	1.5	3.8	0.7
Occupant of aircraft	n.p.	n.p.	n.p.	658	0.3	0.7	n.p.
Other and unspecified	189	2.5	7.2	5,112	2.2	5.3	1.4
Total	**7,590**	**100.0**	**290.0**	**237,120**	**100.0**	**246.6**	**1.2**

(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) 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).

(e) 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.

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 1.03.7; Figure 1.03.2).
- 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 1.03.7; Figure 1.03.2).
- 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 1.03.7; Figure 1.03.3).

Table 1.03.7: 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+	All ages (crude rate)	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	23.9	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	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	10.3	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	3.8	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	412.0	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	328.4	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	194.7	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	148.5	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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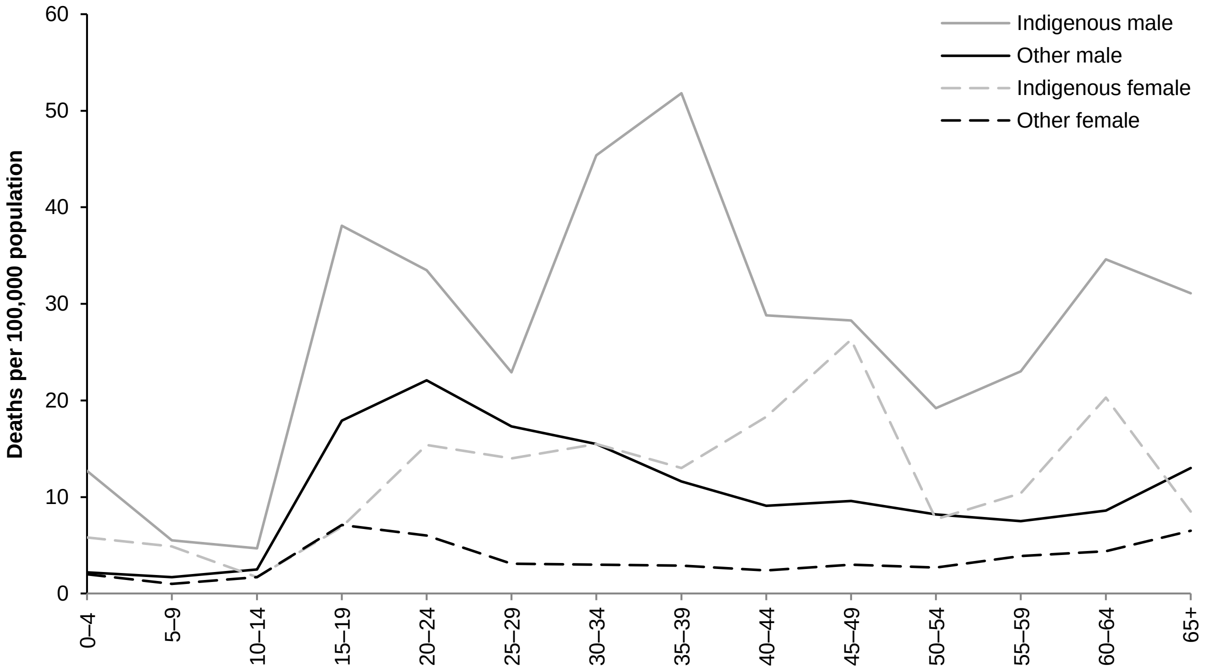
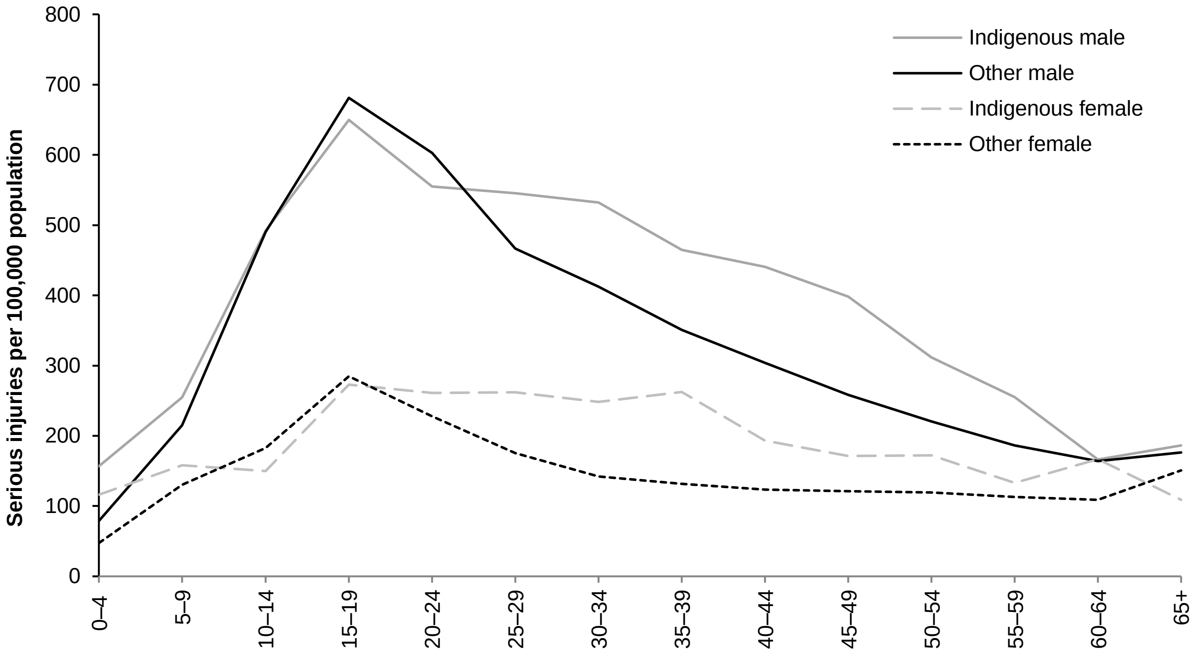


Source: Henley and Harrison, 2010.

Figure 1.03.2: Age-specific fatal injury rates for land transport injury by sex, Indigenous and other persons, NSW, Vic, Qld, WA, SA and NT, 2003–04 to 2007–08



Source: Henley and Harrison, 2010.

Figure 1.03.3: Age-specific serious injury rates for land transport injury by sex, Indigenous and other persons, NSW, Vic, Qld, WA, SA and NT, 2003–2004 to 2007–2008

Time series analysis

Time series data from 2001–02 to 2007–08 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 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 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—2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for injury and poisoning over the seven-year period 2001–02 to 2007–08 for Queensland, Western Australia, South Australia and the Northern Territory are presented in Table 1.03.8 and Figure 1.03.4.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were increases in hospitalisation rates for injury and poisoning among Indigenous males and females during the period 2001–02 to 2007–08, but these increases were not significant.
- There were significant increases in hospitalisation rates for injury and poisoning among other Australian 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 7% increase in the rate for persons overall, over the period.
- There were changes in the hospitalisation rate ratios or rate differences between Indigenous males and other males, and Indigenous persons and other persons for the period 2001–02 to 2007–08. There was a significant decline in the rate ratio of 0.02 per 1,000 persons (a 5% decline) for the period.

Table 1.03.8: Age-standardised hospitalisation rates, rate ratios and rate differences for injury and poisoning, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	7,207	6,867	6,909	7,145	7,548	7,634	7,944	157*	13.0*
Females	5,736	5,659	5,820	5,883	6,169	6,522	6,462	152*	15.9*
Persons	12,944	12,526	12,729	13,028	13,717	14,156	14,406	308*	14.3*
Other Australian separations									
Males	91,595	89,838	93,116	96,857	99,700	105,639	111,025	3,446*	22.6*
Females	64,541	64,725	66,158	68,001	70,137	73,099	75,813	1,948*	18.1*
Persons	156,138	154,568	159,274	164,858	169,837	178,738	186,839	5,393*	20.7*
Indigenous rate (separations per 1,000)									
Males	56.8	51.9	52.8	53.7	56.1	53.8	54.9	0.1	0.5
Females	46.6	44.6	45.7	45.1	45.9	47.3	46.8	0.2	2.9
Persons	51.6	48.3	49.3	49.4	50.8	50.6	50.8	0.1	1.6
Other Australian[(d)] rate (separations per 1,000)									
Males	26.5	25.6	26.0	26.5	26.7	27.7	28.3	0.4*	8.3*
Females	17.8	17.5	17.5	17.7	17.8	18.2	18.4	0.1*	4.2*
Persons	22.3	21.7	21.9	22.2	22.4	23.1	23.5	0.2*	6.6*
Rate ratio[(e)]									
Males	2.1	2.0	2.0	2.0	2.1	1.9	1.9	–0.03*	–7.1*
Females	2.6	2.5	2.6	2.6	2.6	2.6	2.5	0.0	–1.2
Persons	2.3	2.2	2.2	2.2	2.3	2.2	2.2	–0.02*	–4.6*

(continued)

Table 1.03.8 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences for injury and poisoning, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(f)]									
Males	30.2	26.3	26.8	27.2	29.4	26.1	26.5	–0.3	–6.3
Females	28.8	27.1	28.1	27.5	28.1	29.2	28.4	0.1	2.1
Persons	29.3	26.6	27.3	27.2	28.4	27.6	27.3	–0.1	–2.2

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

(d) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

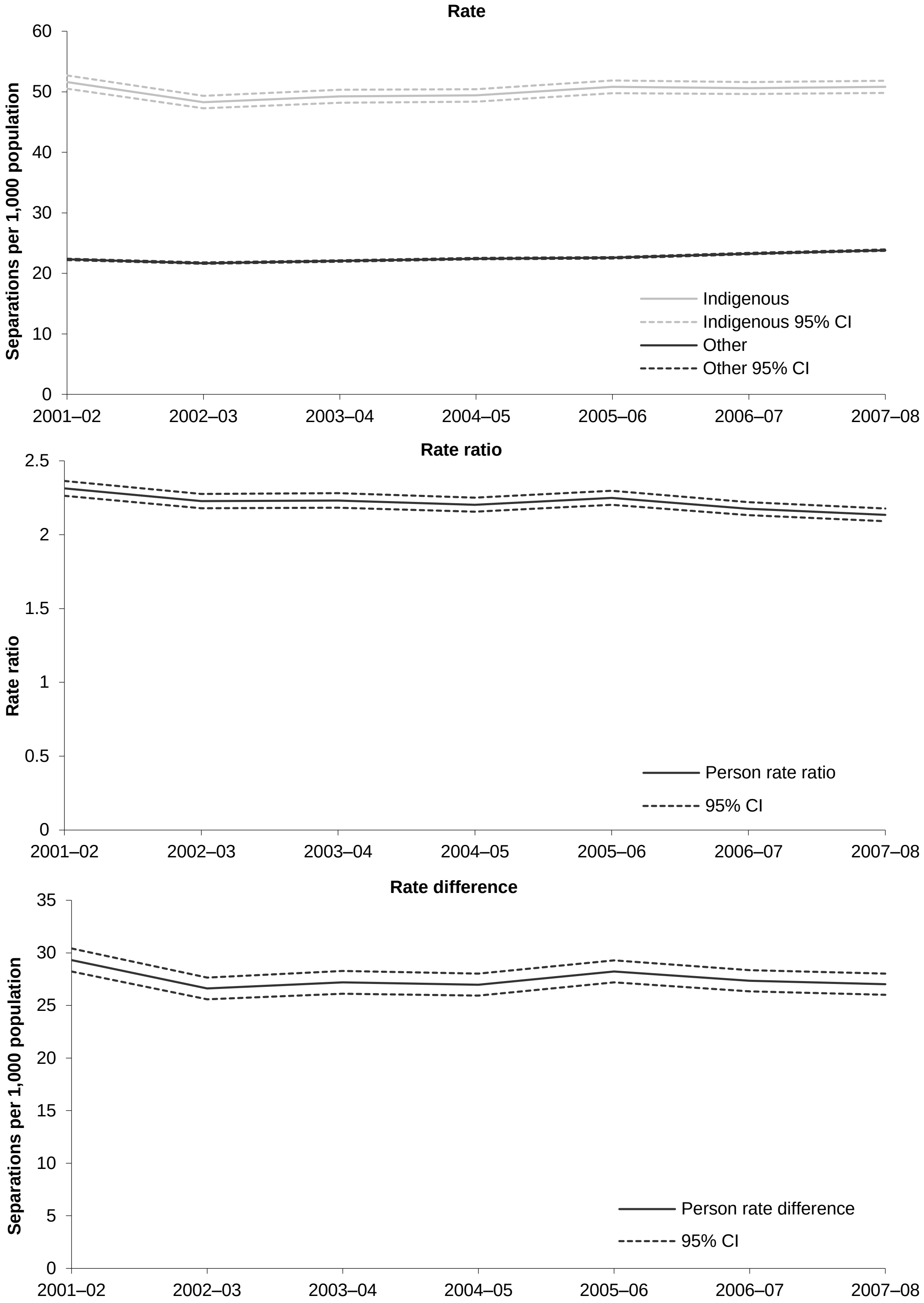
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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 and 10 excluded in 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 between Indigenous and other Australians for injury and poisoning, Qld, WA, SA and NT, 2001–02 to 2007–08

Injury and poisoning—2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for injury and poisoning over the four-year period 2004–05 to 2007–08 for New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory are presented in Table 1.03.9 and Figure 1.03.5.

- In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were increases in hospitalisation rates for injury and poisoning among Indigenous males, females and persons overall during the period 2004–05 to 2007–08, but these increases were significant only for females and persons overall.
- There were significant increases in hospitalisation rates for injury and poisoning among other 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 a 6% increase in the rate for persons overall, over the period.
- There were no significant changes in the hospitalisation rate ratios or rate differences between Indigenous males and other males, Indigenous females and other females and Indigenous persons, and other persons for the period 2004–05 to 2007–08.

Table 1.03.9: Age-standardised hospitalisation rates, rate ratios and rate differences for injury and poisoning, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous rate separations						
Males	9,849	10,658	11,012	11,251	456*	13.9*
Females	7,813	8,185	8,672	8,639	297*	11.4*
Persons	17,662	18,843	19,684	19,890	753*	12.6*
Other Australian separations						
Males	242,881	252,296	264,086	272,285	10,000*	12.4*
Females	183,480	191,293	198,610	204,454	7,024*	11.5*
Persons	426,366	443,594	462,701	476,745	17,024*	12.0*
Indigenous rate (separations per 1,000)						
Males	45.6	48.5	47.7	48.1	0.7	4.5
Females	37.4	38.0	39.6	39.0	0.6*	5.0*
Persons	41.5	43.2	43.7	43.5	0.7*	4.9*
Other Australian[(d)] rate (separations per 1,000)						
Males	26.0	26.6	27.3	27.6	0.5*	6.3*
Females	18.1	18.6	18.9	19.1	0.3*	5.4*
Persons	22.2	22.7	23.3	23.5	0.4*	5.9*
Rate ratio[(e)]						
Males	1.8	1.8	1.7	1.7	0.0	–1.8
Females	2.1	2.0	2.1	2.0	0.0	–0.3
Persons	1.9	1.9	1.9	1.9	0.0	–1.0
Rate difference[(f)]						
Males	19.6	21.9	20.4	20.5	0.1	2.0
Females	19.3	19.5	20.7	19.9	0.3	4.7
Persons	19.3	20.4	20.5	20.0	0.2	3.7

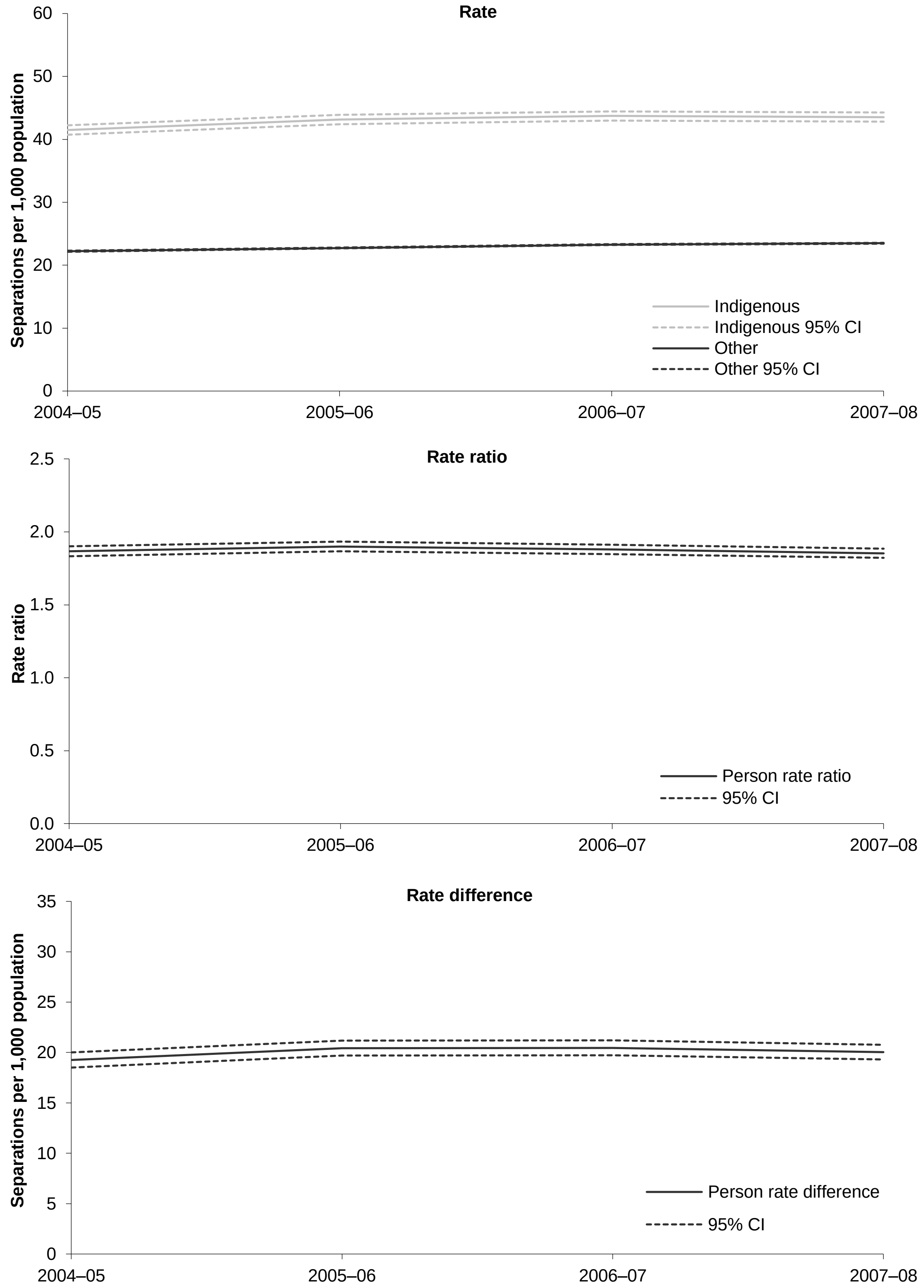
* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.
(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other Australians.

Notes

1. Rates have been directly age-standardised using the 2006 Australian standard population.
2. Population estimates are based on 2006 census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.03.5: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for injury and poisoning, Qld, WA, SA and NT, 2004–05 to 2007–08

Assault

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for assault over the seven-year period 2001–02 to 2007–08 are presented in Table 1.03.10 and Figure 1.03.6.

- Over the period 2001–02 to 2007–08, there were significant declines in the hospitalisation rate for assault among Indigenous males and persons overall. The fitted trend implies an average yearly decline in the rate of around 0.3 per 1,000 for Indigenous males and 0.2 per 1,000 for Indigenous persons overall, which is equivalent to a 11% and 7% reduction in the rate for males and persons overall over the period.
- Over the same period there were significant increases in the hospitalisation rate for assault for other Australians. The fitted trend implies an average yearly increase in the rate of around 0.04 per 1,000 for other males and 0.02 per 1,000 for other persons overall, which is equivalent to a 16% and 14% increase in the rate for males and persons overall over the period.
- There were significant declines in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians for assault over the period 2001–02 to 2007–08. This reflects both a relative and absolute decline in the gap between Indigenous and other Australian hospitalisation rates for assault. While these declines were observed for Indigenous people as a whole and for Indigenous males, there was no significant decline in hospitalisation rates for Indigenous females over this period.

Table 1.03.10: Age-standardised hospitalisation rates, rate ratios and rate differences for assault, Qld, WA, SA and NT, 2001–02 to 2007–08

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(a)]	Per cent change over period[(b)]
Indigenous separations									
Males	1,960	1,835	1,764	1,803	1,868	1,881	1,994	11	3.3
Females	2,180	2,132	2,127	2,181	2,255	2,363	2,232	27*	7.3*
Persons	4,140	3,967	3,891	3,984	4,123	4,244	4,226	37	5.4
Other Australian separations									
Males	5,176	4,996	4,891	5,255	5,720	6,145	6,511	–102	–11.8
Females	1,164	1,102	1,118	1,080	1,221	1,208	1,301	–53	–27.2
Persons	6,340	6,099	6,009	6,335	6,941	7,353	7,812	–155	–14.7
Indigenous rate (separations per 1,000)									
Males	15.7	14.4	13.3	13.3	13.5	13.2	13.8	–0.3*	–10.7*
Females	15.7	15.2	14.7	15.1	15.2	15.5	14.4	–0.1	–3.8
Persons	15.7	14.7	14.0	14.2	14.3	14.4	14.1	–0.2*	–7.1*
Other Australian[(c)] rate (separations per 1,000)									
Males	1.5	1.4	1.3	1.4	1.5	1.6	1.6	0.04*	16.2*
Females	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	3.2
Persons	0.9	0.9	0.8	0.9	0.9	1.0	1.0	0.02*	14.3*
Rate ratio[(d)]									
Males	10.7	10.3	9.9	9.4	8.9	8.3	8.4	–0.4*	–24.0*
Females	47.2	48.9	47.3	50.9	46.0	48.5	42.7	–0.6	–7.0
Persons	17.3	17.2	16.8	16.4	15.4	14.9	14.0	–0.6*	–19.6*

(continued)

Table 1.03.10 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences for assault, Qld, WA, SA and NT, 2001–02 to 2007–08

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(a)]	Per cent change over period[(b)]
Rate difference[(e)]									
Males	14.2	13.0	12.0	11.9	12.0	11.6	12.1	–0.3*	–13.5*
Females	15.4	14.9	14.4	14.8	14.9	15.2	14.1	–0.1	–4.0
Persons	14.7	13.9	13.2	13.4	13.4	13.4	13.0	–0.2*	–8.5*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

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

(b) Per cent change between 2001–02 and 2007–08 based on the average annual change over the period.

(c) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

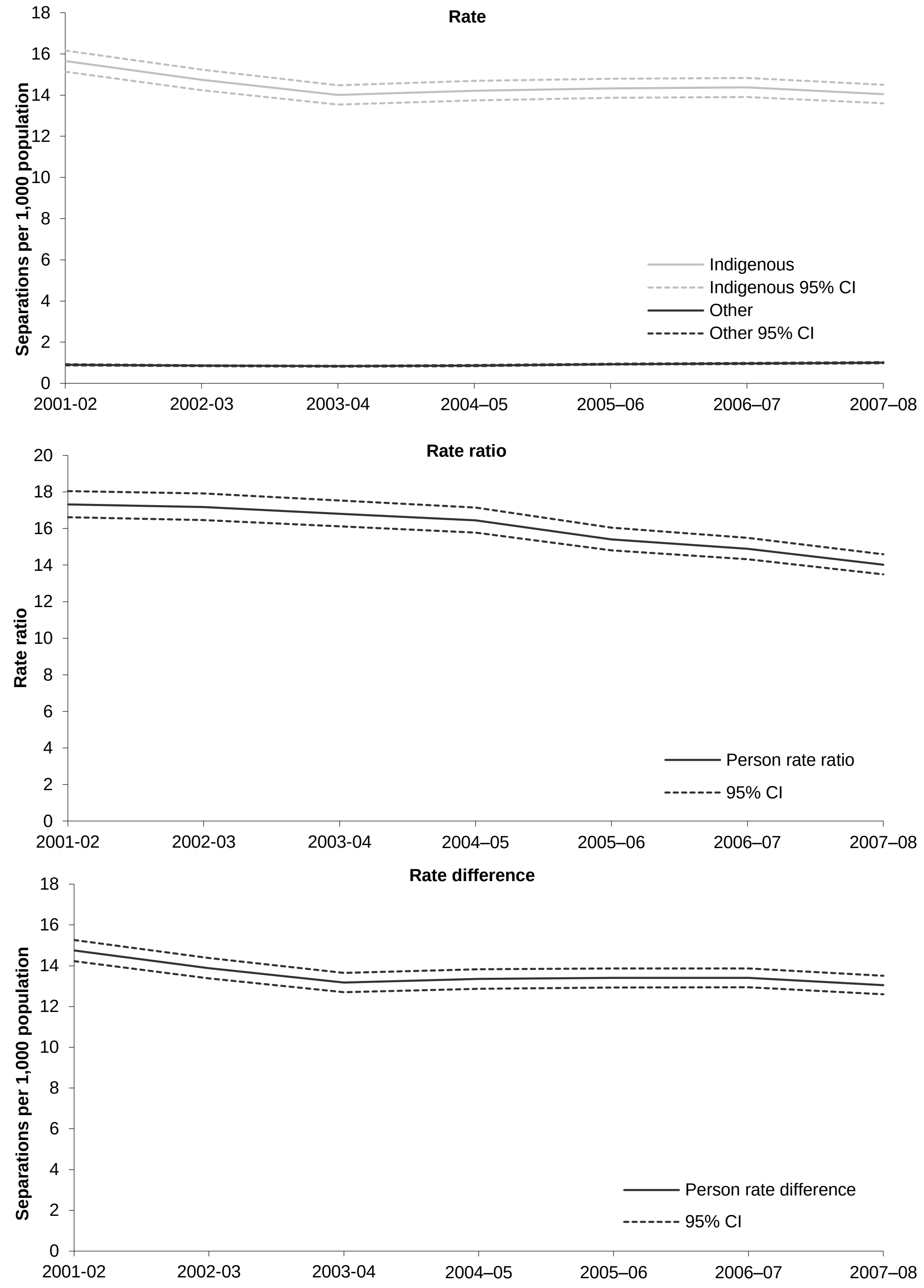
(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other Australians.

Notes

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

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.03.6: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for assault, Qld, WA, SA and NT, 2001–02 to 2007–08

Assault 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other 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 1.03.11 and Figure 1.03.7.

- Over the period 2004–05 to 2007–08, there was a significant increase in the hospitalisation rate for assault among Indigenous males; the fitted trend implies an average yearly increase in the rate of 0.2 per 1,000 (a 6% increase). There was no significant change in the rate for Indigenous females, or persons overall.
- Over the same period, there were significant increases in the hospitalisation rate for assault for other Australian males, and persons overall. The fitted trend implies an average yearly increase in the rate of around 0.1 per 1,000 for other males and 0.03 per 1,000 for other persons overall, which is equivalent to a 12% and 10% increase in the rate for males and persons overall during the period.
- There was a significant decline in the hospitalisation rate ratios, and a non-significant decline in the rate differences between Indigenous and other Australians for assault over the period 2004–05 to 2007–08. This reflects both a relative and absolute decline in the gap between Indigenous and other Australian hospitalisation rates for assault.

Table 1.03.11: Age-standardised hospitalisation rates, rate ratios and rate differences for assault, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous rate separations						
Males	2,251	2,352	2,465	2,539	98*	13.0*
Females	2,502	2,572	2,750	2,559	35	4.2
Persons	4,753	4,924	5,215	5,098	133*	8.4*
Other Australian separations						
Males	13,054	14,288	15,164	15,420	797*	18.3*
Females	2,879	2,987	2,963	3,023	41*	4.3*
Persons	15,933	17,275	18,127	18,444	839*	15.8*
Indigenous rate (separations per 1,000)						
Males	10.4	10.6	10.7	11.0	0.2*	5.5*
Females	10.9	10.9	11.4	10.4	–0.1	–2.3
Persons	10.6	10.7	11.1	10.7	0.0	1.2
Other Australian[(d)] rate (separations per 1,000)						
Males	1.4	1.5	1.6	1.6	0.1*	12.4*
Females	0.3	0.3	0.3	0.3	0.0	–0.1
Persons	0.8	0.9	0.9	0.9	0.03*	10.4*
Rate ratio[(e)]						
Males	7.5	7.1	6.9	7.1	–0.2	–6.1
Females	35.5	34.8	37.2	33.8	–0.3	–2.2
Persons	12.5	11.8	11.8	11.4	–0.3*	–8.3*
Rate difference[(f)]						
Males	9.0	9.1	9.2	9.4	0.1*	4.5*
Females	10.6	10.6	11.1	10.1	–0.1	–2.4
Persons	9.8	9.8	10.1	9.7	0.0	0.4

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

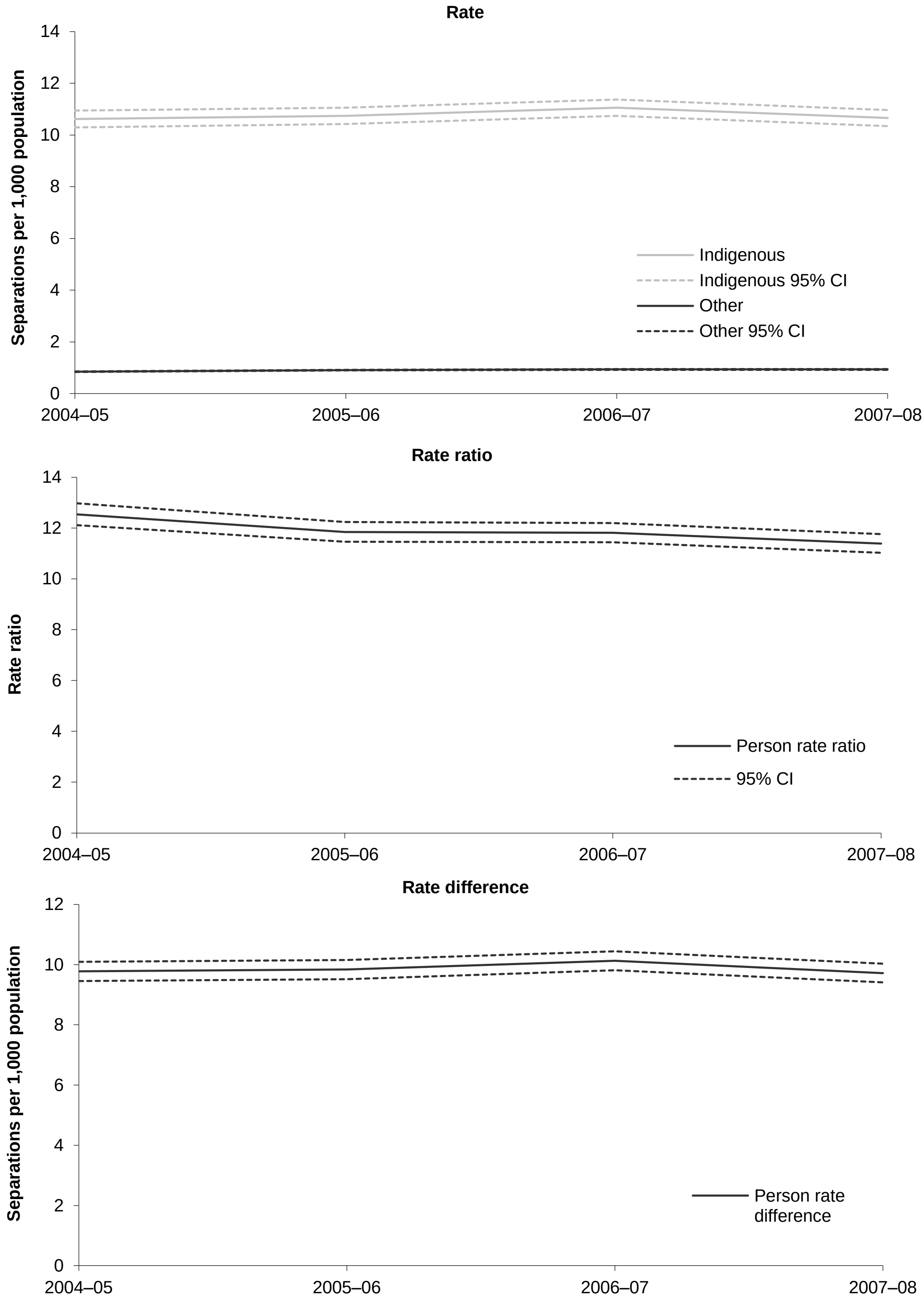
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes

1. Rates have been directly age-standardised using the 2006 Australian standard population.
2. Population estimates are based on 2006 census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.03.7: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for assault, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

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 data

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. Based on an analysis of a sample of data conducted in 2010, an estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08 (AIHW 2010). In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data in all states and territories. Results from this assessment indicate that all hospitals in New South Wales, Victoria, Queensland, Western Australia and South Australia and public hospitals in the Northern Territory have adequate Indigenous identification (80% or higher overall levels of Indigenous identification in public hospitals only) in their separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population that these six jurisdictions cover is 96%. The following caveats have also 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.

- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.
- Bias may have been introduced due to the sampling method of hospitals used in the study. Hospitals with high proportions of Indigenous separations were used in the study to ensure sufficient numbers of Indigenous people were included in the study. Proportions of Indigenous separations should therefore not be taken to represent the NHMD overall.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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).

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 Hospitalisations for pneumonia

The number of hospital separations with a principal diagnosis of pneumonia for Aboriginal and Torres Strait Islander peoples 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 Hospital Morbidity Database. Additional information on invasive pneumococcal disease notifications comes from the National Notifiable Disease Surveillance System.

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. State and territory health departments provide information on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the AIHW.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the ‘other’ category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of ‘not stated’ or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient’s episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term ‘hospitalisation’ has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). ‘Separation’ also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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, New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory were assessed to have adequate identification for invasive pneumococcal disease.

Current period data (2006–2008) for this indicator were extracted by the NNDSS in April 2010.

Detailed accounts of the methods of data collection and methods used by NNDSS within the Department of Health and Ageing can be found here < http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-nndss-nndssintro.htm >.

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.

Hospitalisations

- In the 2-year period July 2006 to June 2008, there were 121,994 hospitalisations for pneumonia in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 7,741 (6.3%) of which were hospitalisations of Aboriginal and Torres Strait Islander peoples (Table 1.04.2).
- Hospitalisations for pneumonia represented 1.5% of all hospital separations for Aboriginal and Torres Strait Islander Australians.

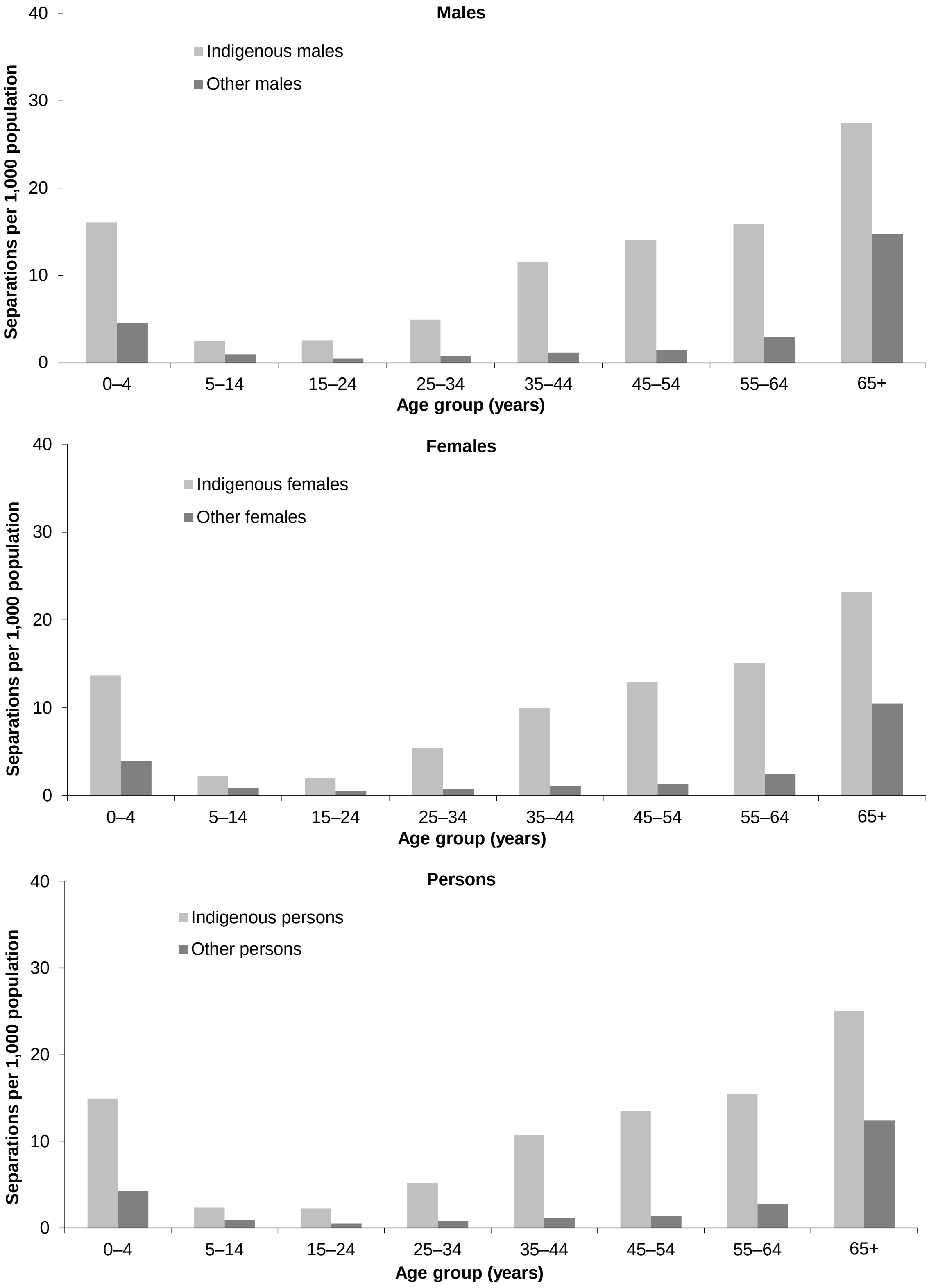
Hospitalisations by age and sex

- In the 2-year period July 2006 to June 2008, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males and females had higher hospitalisation rates for pneumonia than other males and females across all age groups (Table 1.04.1; Figure 1.04.1).
- For both Indigenous and other Australian males and females, hospitalisation rates for pneumonia were highest among those aged 0–4 years, 55–64 years and 65 years and over.
- The greatest difference in rates occurred in the 35–44 and 45–54 year age groups where Indigenous males and females were hospitalised at around 9–10 times the rate of other Australians.
- Approximately 51.5% of Indigenous Australians hospitalised for pneumonia were males (3,987) and 48.5% were females (3,754) (table 1.04.2).

Table 1.04.1: Age-specific hospitalisation rates for a principal diagnosis of pneumonia, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+
Males								
Indigenous	16.1	2.5	2.6	4.9	11.6	14.0	15.9	27.5
Other	4.5	1.0	0.5	0.8	1.2	1.5	3.0	14.8
Females								
Indigenous	13.7	2.2	2.0	5.4	10.0	13.0	15.1	23.2
Other	4.0	0.9	0.5	0.8	1.1	1.4	2.5	10.5
Persons								
Indigenous	14.9	2.4	2.3	5.2	10.7	13.5	15.5	25.0
Other	4.3	0.9	0.5	0.8	1.1	1.4	2.7	12.4

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.04.1: Age-specific hospitalisation rates for a principal diagnosis of pneumonia, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Hospitalisations by state/territory

Table 1.04.2 presents hospitalisations for a principal diagnosis of pneumonia for the 2-year period July 2006 to June 2008 for New South Wales, Victoria, Queensland, Western Australia, South Australia, the Northern Territory, Tasmania and the Australian Capital Territory.

- Over the period July 2006 to June 2008, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for pneumonia at around four times the rate of other Australians.
- In the Northern Territory and Western Australia Indigenous Australians were nearly 8 times as likely as other persons to be hospitalised. In South Australia and Queensland, Indigenous persons were hospitalised for pneumonia at almost four times the rate of other Australians. In Tasmania, New South Wales, Victoria, and the Australian Capital Territory Indigenous Australians were hospitalised at between 1.1 and 2.4 times that of other Australians in these jurisdictions.

Table 1.04.2: Hospitalisations for principal diagnosis of pneumonia, 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				Other[f]				
	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]
NSW									
Males	672	5.7	5.1	6.3	21,573	3.2	3.2	3.3	1.8*
Females	651	5.9	5.3	6.5	18,936	2.5	2.4	2.5	2.4*
Persons	1,323	5.9	5.5	6.3	40,509	2.8	2.8	2.8	2.1*
Vic									
Males	113	5.3	4.1	6.5	18,210	3.6	3.6	3.7	1.5*
Females	94	3.9	3.0	4.8	16,061	2.7	2.6	2.7	1.5*
Persons	207	4.6	3.8	5.3	34,271	3.1	3.1	3.1	1.5*
Qld									
Males	918	10.5	9.5	11.5	10,834	2.8	2.8	2.9	3.7*
Females	847	8.3	7.5	9.0	9,389	2.2	2.2	2.2	3.8*
Persons	1,765	9.2	8.6	9.8	20,223	2.5	2.5	2.5	3.7*
WA									
Males	915	17.5	16.0	19.1	4,977	2.7	2.6	2.7	6.6*
Females	850	16.2	14.9	17.6	3,905	1.8	1.8	1.9	8.8*
Persons	1,765	16.9	15.9	17.9	8,882	2.2	2.2	2.3	7.7*
SA									
Males	220	11.2	9.2	13.1	5,038	3.1	3.0	3.2	3.6*
Females	213	9.9	8.3	11.4	4,706	2.5	2.4	2.6	4.0*
Persons	433	10.4	9.2	11.6	9,744	2.7	2.7	2.8	3.8*
NT									
Males	1,149	25.7	23.5	27.8	389	3.6	3.2	4.0	7.2*
Females	1,099	21.1	19.6	22.6	235	2.4	2.0	2.7	8.9*
Persons	2,248	22.9	21.7	24.2	624	3.0	2.7	3.3	7.6*
NSW, Vic, Qld, WA, SA and NT[k]									
Males	**3,987**	**11.5**	**11.0**	**12.0**	**61,021**	**3.2**	**3.2**	**3.2**	**3.6***
Females	**3,754**	**10.1**	**9.7**	**10.5**	**53,232**	**2.4**	**2.4**	**2.4**	**4.2***
Persons	**7,741**	**10.7**	**10.4**	**11.0**	**114,253**	**2.8**	**2.7**	**2.8**	**3.9***
Tasmania									
Males	16	1.4	0.5	2.3	1,067	2.1	2.0	2.2	0.7
Females	31	2.8	1.6	4.0	963	1.7	1.6	1.8	1.6*
Persons	47	2.2	1.4	2.9	2,030	1.9	1.8	2.0	1.1

(continued)

Table 1.04.2 (continued): Hospitalisations for principal diagnosis of pneumonia, 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				Other[(f)]				
	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)]
ACT									
Males	8	5.5	-0.3	11.4	777	2.8	2.6	3.0	2.0
Females	10	6.4	0.7	12.0	699	2.3	2.1	2.4	2.8*
Persons	18	6.0	1.9	10.1	1,476	2.5	2.4	2.6	2.4*

* 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 5th edition (National Centre for Classification in Health 2006).

(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 group 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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 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

Hospitalisation rates for pneumonia in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 1.04.3, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for a principal diagnosis of pneumonia than other Australians. The ratio of hospitalisations of Indigenous people compared to other 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 25 per 1,000. The rate was highest for other Australians who lived in *Very remote* areas, at 4.1 per 1,000. The lowest rates were observed in *Major cities* areas for both Indigenous people (5.0 per 1,000) and other Australians (2.9 per 1,000).
- Indigenous people in *Remote* areas were hospitalised for pneumonia at 6.5 times the rate of other Australians. In *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate which was 1.7 times that of other Australians. Nationally, the rate was 3.7 times.

Table 1.04.3: Hospitalisations for principal diagnosis of pneumonia, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other[(g)]				
	Number	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Number	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Ratio[(k)]
Major cities	1,035	5.0	4.6	5.4	79,376	2.9	2.9	2.9	1.7*
Inner regional	985	7.4	6.8	8.0	28,787	3.5	3.5	3.5	2.1*
Outer regional(l)	1,756	12.0	11.3	12.6	12,598	3.4	3.4	3.5	3.5*
Remote	1,826	24.9	23.6	26.3	1,844	3.8	3.6	4.0	6.5*
Very remote	2,353	19.7	18.1	21.4	615	4.1	4.0	4.2	4.8*
Total[(m)]	**7,967**	**11.5**	**11.1**	**11.8**	**123,320**	**3.1**	**3.1**	**3.1**	**3.7***

* 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.
(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).
(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
(h) Directly age-standardised using the Australian 2001 standard population.
(i) LCL = lower confidence limit.
(j) UCL = upper confidence limit.
(k) Rate ratio Indigenous: other.
(l) Outer regional includes remote Victoria
(m) Total includes hospitalisations where ASGC is missing.

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.

Time series analysis

Time series data from 2001–02 to 2007–08 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 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.

Pneumonia — 2001–02 to 2007–08

All ages

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for pneumonia over the 7-year period 2001–02 to 2007–08 are presented in Table 1.04.4 and Figure 1.04.2.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant declines in hospitalisation rates for pneumonia among Indigenous males and persons overall during the period 2001–02 to 2007–08, with an average yearly decline in hospitalisation rates of 0.4 per 1,000 (13% decline), and 0.2 per 1,000 (8% decline) respectively.
- There were also significant declines in hospitalisation rates among other Australian males and females over the same period. The average yearly decline was 0.1 per 1,000 for both other males and other females.
- There was a significant increase in the hospitalisation rate ratio between Indigenous and other Australian females, and a significant decrease in the rate difference between Indigenous and other Australian males for pneumonia.

Children aged 0–4 years

Hospitalisation rates, rate ratios and rate differences between Indigenous and other children aged 0–4 years for pneumonia over the 9-year period 2001-02 to 2007-08 are presented in Table 1.04.5 and Figure 1.04.3.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant decrease in hospitalisation rates for pneumonia among Indigenous children aged 0–4 years during the period 2001–02 to 2007–08. The fitted trend implies an average yearly decrease in the rate of around 1.9 per 1,000 which is equivalent to a 40% decline over the period.
- Over the same period, there was a significant decrease in the rate of pneumonia hospitalisation among other children aged 0–4 years, with an average yearly decrease of 0.5 per 1,000 or a 44% decline in the rate over the period.
- There was a significant decrease in the hospitalisation rate difference, but not rate ratio between Indigenous and other children for pneumonia. The fitted trend implies an average yearly decrease of around 1.5 per 1,000 around in the rate difference (39% decline) for the period 2001–02 to 2007–08.

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 rates 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 1.04.4: Age-standardised hospitalisation rates, rate ratios and rate differences for pneumonia, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	1,838	1,753	1,816	1,617	1,638	1,532	1,670	–40.1*	–13.1*
Females	1,497	1,618	1,615	1,603	1,566	1,505	1,504	-9.1	-3.6
Persons	3,335	3,371	3,431	3,220	3,204	3,037	3,174	–19.2*	–8.9*
Other Australian[(d)] separations									
Males	10,639	10,711	10,863	10,832	10,958	9,762	11,476	25.3	1.4
Females	9,400	9,520	9,863	9,525	9,668	8,229	9,615	–76.1	–4.9
Persons	20,039	20,231	20,726	20,357	20,626	17,991	21,091	–50.9	–1.5
Indigenous rate (separations per 1,000)									
Males	17.2	16.8	16.8	16.4	15.7	15.3	15.2	–0.4*	–12.6*
Females	12.5	14.4	14.1	14.4	14.2	13.1	12.8	–0.1	–3.1
Persons	14.6	15.5	15.3	15.2	14.9	14.0	13.9	–0.2*	–8.2*
Other Australian[(d)] rate (separations per 1,000)									
Males	3.3	3.3	3.2	3.1	3.1	2.7	3.0	–0.1*	–13.7*
Females	2.6	2.5	2.6	2.4	2.4	2.0	2.3	–0.1*	–18.2*
Persons	2.9	2.8	2.9	2.7	2.7	2.3	2.6	–0.1*	–15.6*
Rate ratio[(e)]									
Males	5.2	5.2	5.2	5.2	5.1	5.7	5.0	0.0	1.8
Females	4.9	5.7	5.5	6.0	5.9	6.6	5.6	0.2*	19.9*
Persons	5.1	5.4	5.4	5.6	5.5	6.1	5.3	0.1	9.6
Rate difference[(f)]									
Males	13.9	13.6	13.6	13.2	12.7	12.6	12.2	–0.3*	–12.3*
Females	10.0	11.9	11.6	12.0	11.8	11.1	10.5	0.0	0.8
Persons	11.7	12.6	12.5	12.5	12.2	11.7	11.3	–0.1	–6.4

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

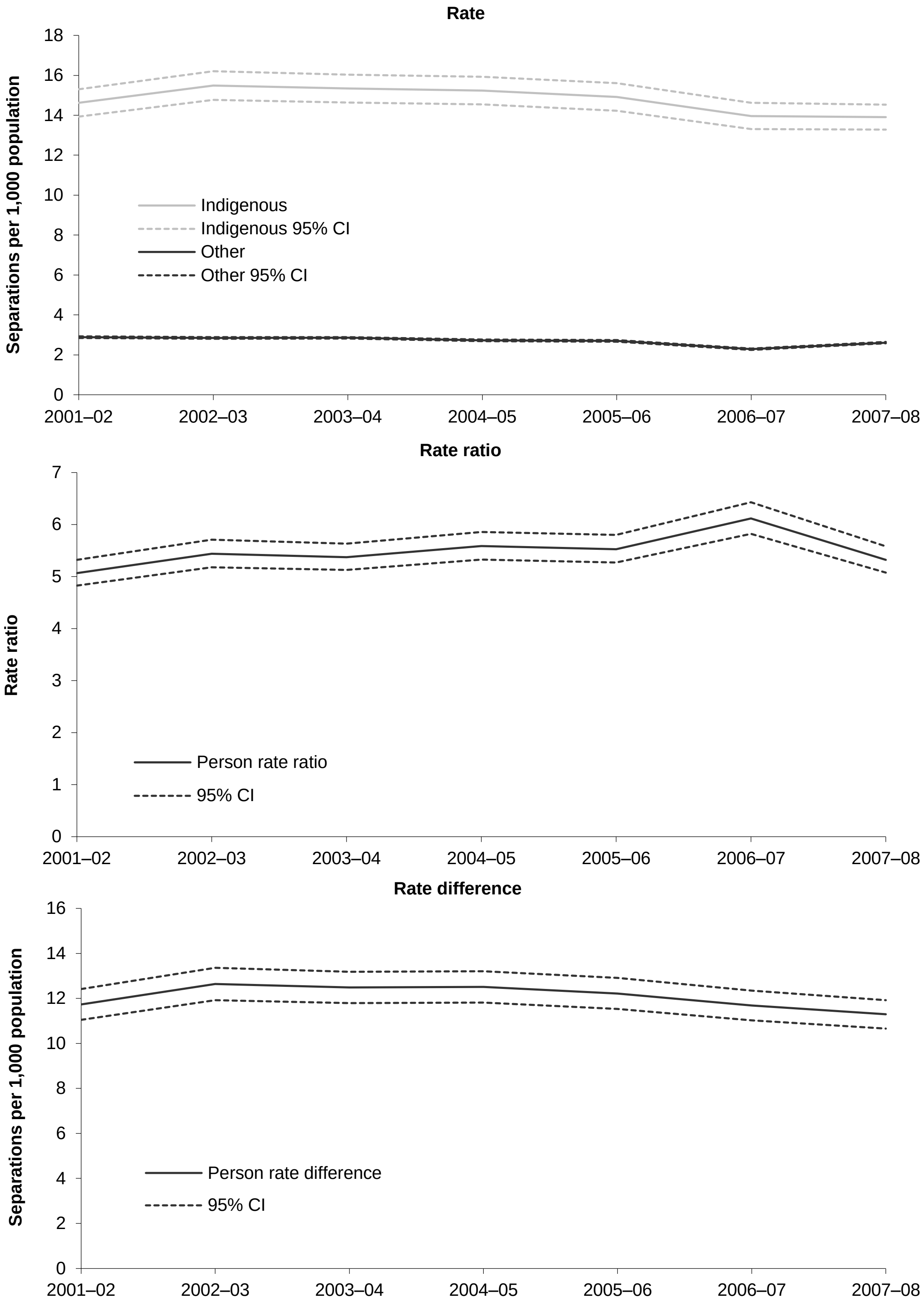
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes

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

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.04.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for pneumonia, Qld, WA, SA and NT, 2001–02 to 2007–08

Table 1.04.5: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences for pneumonia, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations	1,135	1,085	1,065	771	755	748	744	–77*	–41*
Other Australian[(d)] separations	2,809	2,816	2,845	2,506	2,098	1,667	2,211	–173*	–37*
Indigenous rate (separations per 1,000)	29.1	27.6	27.2	19.8	19.5	19.4	19.1	–1.9*	–39.8*
Other Australian[(d)] rate (separations per 1,000)	6.3	6.3	6.3	5.5	4.5	3.5	4.5	–0.5*	–43.8*
Rate ratio[(e)]	4.6	4.4	4.3	3.6	4.3	5.5	4.3	0.0	6.0
Rate difference[(f)]	22.8	21.3	20.9	14.3	15.0	15.9	14.7	–1.5*	–38.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

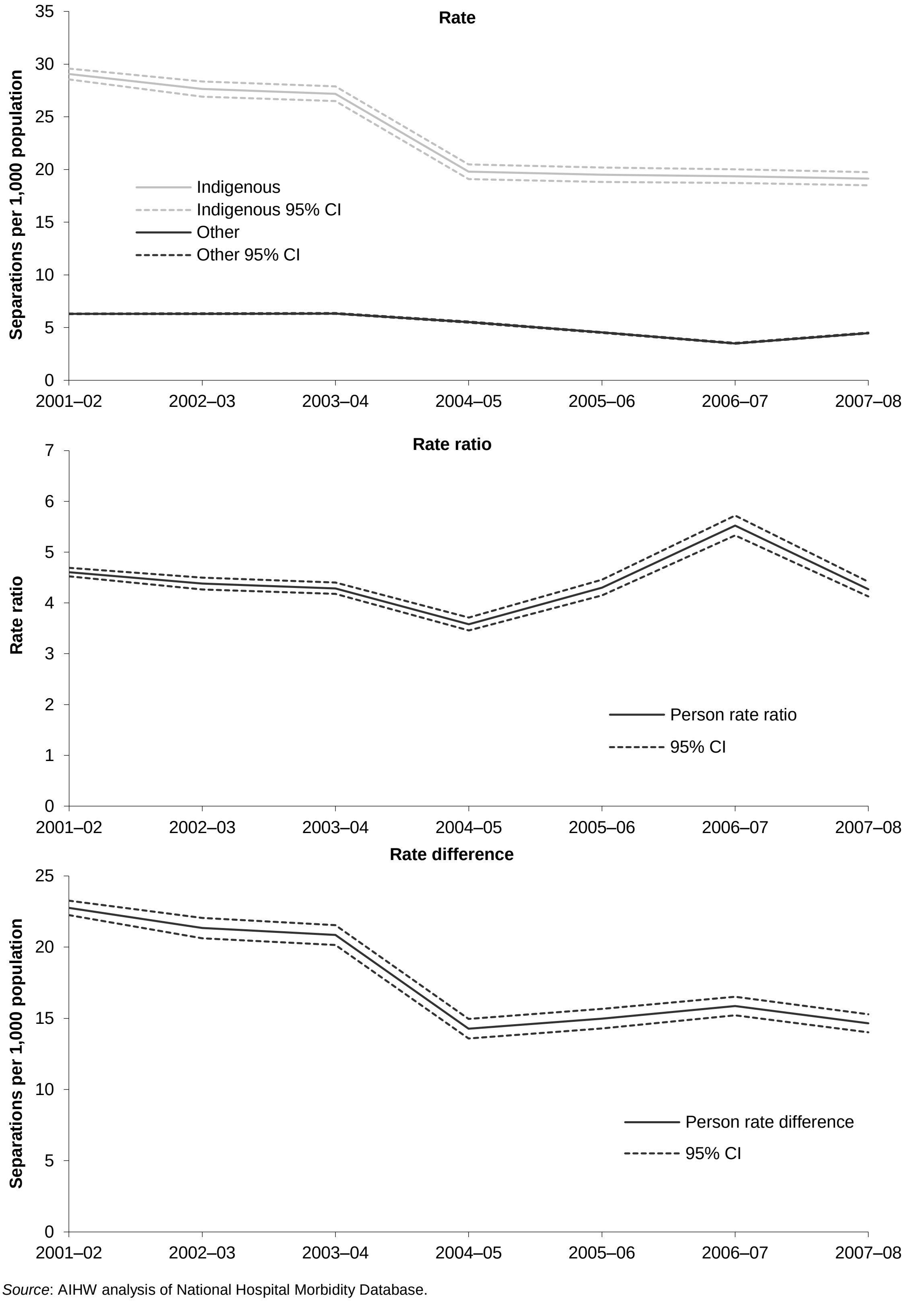
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes

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

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.04.3: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for pneumonia, Qld, WA, SA and NT, 2001–02 to 2007–08

Pneumonia — 2004–05 to 2007–08

All ages

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for pneumonia over the four year period 2004–05 to 2007–08 are presented in Table 1.04.6 and Figure 1.04.4.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant decreases in hospitalisation rates for pneumonia among Indigenous females and persons overall during the period 2004–05 to 2007–08, with an average yearly decrease in hospitalisation rates of 0.3 per 1,000 for both Indigenous females and persons. Hospitalisation rates for pneumonia decreased by 9% for Indigenous females, and 7% for Indigenous persons over the period.
- There were no significant changes in hospitalisation rates among other Australian persons over the same period.
- There were also no significant changes in the hospitalisation rate ratios between Indigenous and other Australian persons for the period 2004–05 to 2007–08.
- There were significant declines in the hospitalisation rate differences between Indigenous and other Australian females, and persons for pneumonia. The fitted trend implies an average yearly decrease of 0.3 in the rate difference for females (10% decline) and 0.2 per 1,000 for persons (8% decline) for the period 2004–05 to 2007–08.

Children aged 0–4 years

Hospitalisation rates, rate ratios and rate differences between Indigenous and other children aged 0–4 years for pneumonia over the four year period 2004–05 to 2007–08 are presented in Table 1.04.7 and Figure 1.04.5.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant decline in hospitalisation rates for pneumonia among Indigenous children aged 0–4 years during the period 2004–05 to 2007–08. The fitted trend implies an average yearly decrease in the rate of around 0.2 per 1,000 which is equivalent to a 3% drop in the rate over the period.
- Over the same period, there were no significant changes in the hospitalisation rates among other children aged 0–4 years for pneumonia.
- There were also no significant changes in both the hospitalisation rate ratios and rate differences between Indigenous and other children for pneumonia during the period.

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 rates 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 1.04.6: Age-standardised hospitalisation rates, rate ratios and rate differences for pneumonia, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	1,969	2,082	1,927	2,060	12	1.8
Females	1,956	1,936	1,870	1,884	–28*	–4.3*
Persons	3,925	4,018	3,797	3,944	–16	–1.3
Other Australian[(d)] separations						
Males	30,830	30,090	28,781	32,240	292	2.8
Females	27,074	27,012	24,886	28,346	169	1.9
Persons	57,906	57,102	53,667	60,586	461	2.4
Indigenous rate (separations per 1,000)						
Males	12.2	12.1	11.2	11.7	–0.2	–5.8
Females	10.9	10.7	10.1	10.1	–0.3*	–8.9*
Persons	11.5	11.4	10.6	10.8	–0.3*	–7.3*
Other Australian[(d)] rate (separations per 1,000)						
Males	3.4	3.3	3.1	3.3	0.0	–4.2
Females	2.6	2.5	2.3	2.5	0.0	–4.7
Persons	3.0	2.9	2.6	2.9	0.0	–4.4
Rate ratio[(e)]						
Males	3.6	3.7	3.7	3.5	0.0	–1.6
Females	4.2	4.2	4.4	4.0	-0.1	–4.1
Persons	3.9	4.0	4.0	3.7	0.0	–2.8
Rate difference[(f)]						
Males	8.8	8.8	8.2	8.3	–0.2	–6.5
Females	8.3	8.2	7.8	7.5	–0.3*	–10.2*
Persons	8.5	8.5	8.0	7.9	–0.2*	–8.3*

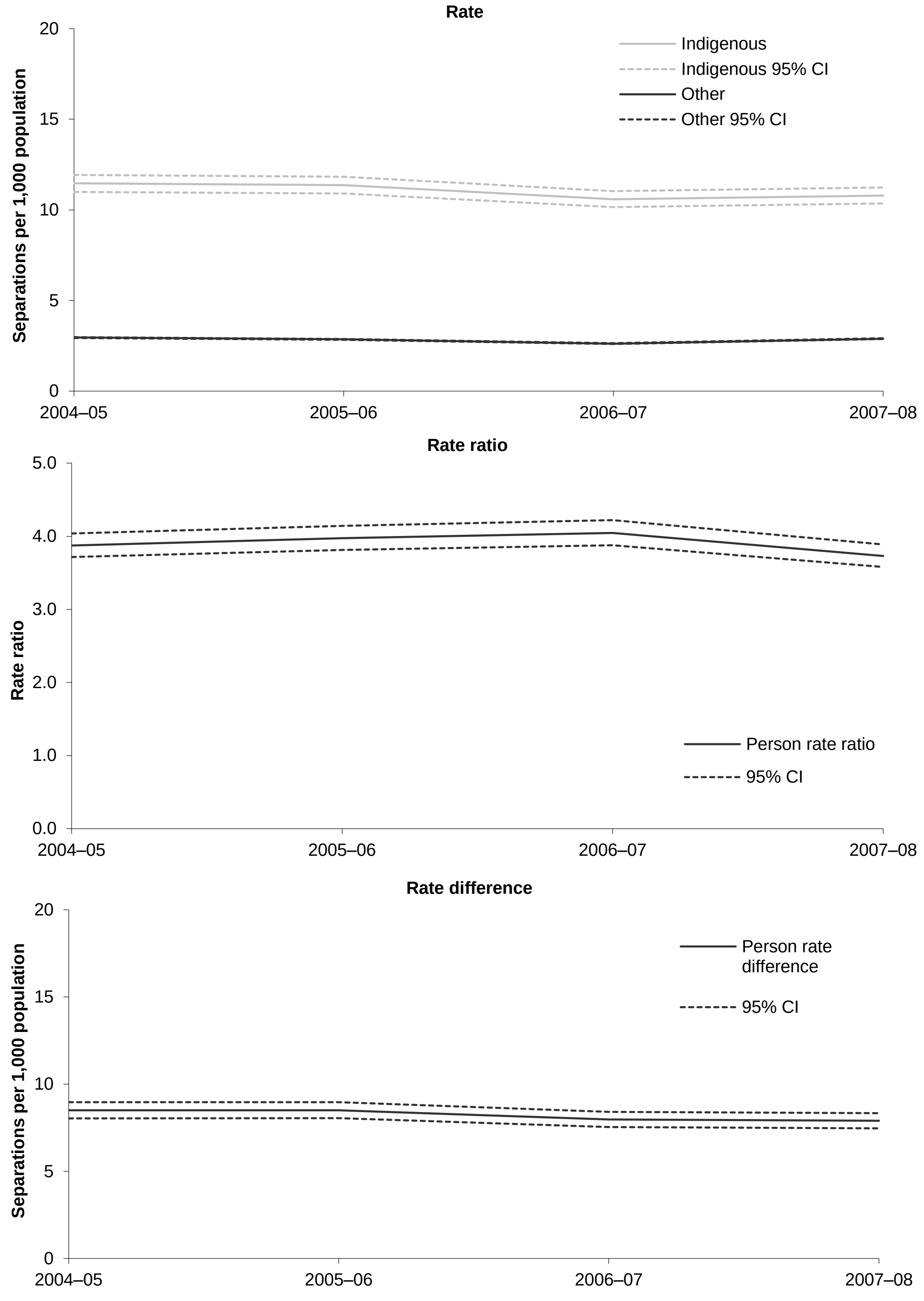
* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.
(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other Australians.

Notes

1. Rates have been directly age-standardised using the 2006 Australian standard population.
2. Population estimates are based on the 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: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for pneumonia, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

Table 1.04.7: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences for pneumonia, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations	951	940	921	936	–6	–2.0
Other Australian[(d)] separations	6,242	5,254	4,730	5,693	–217	–10.4
Indigenous rate (separations per 1,000)	15.3	15.2	14.9	15.0	–0.2*	–3.0*
Other Australian[(d)] rate (separations per 1,000)	5.3	4.4	3.9	4.6	–0.3	–15.6
Rate ratio[(e)]	2.9	3.4	3.8	3.3	0.2	16.0
Rate difference[(f)]	10.0	10.8	11.0	10.4	0.1	3.8

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

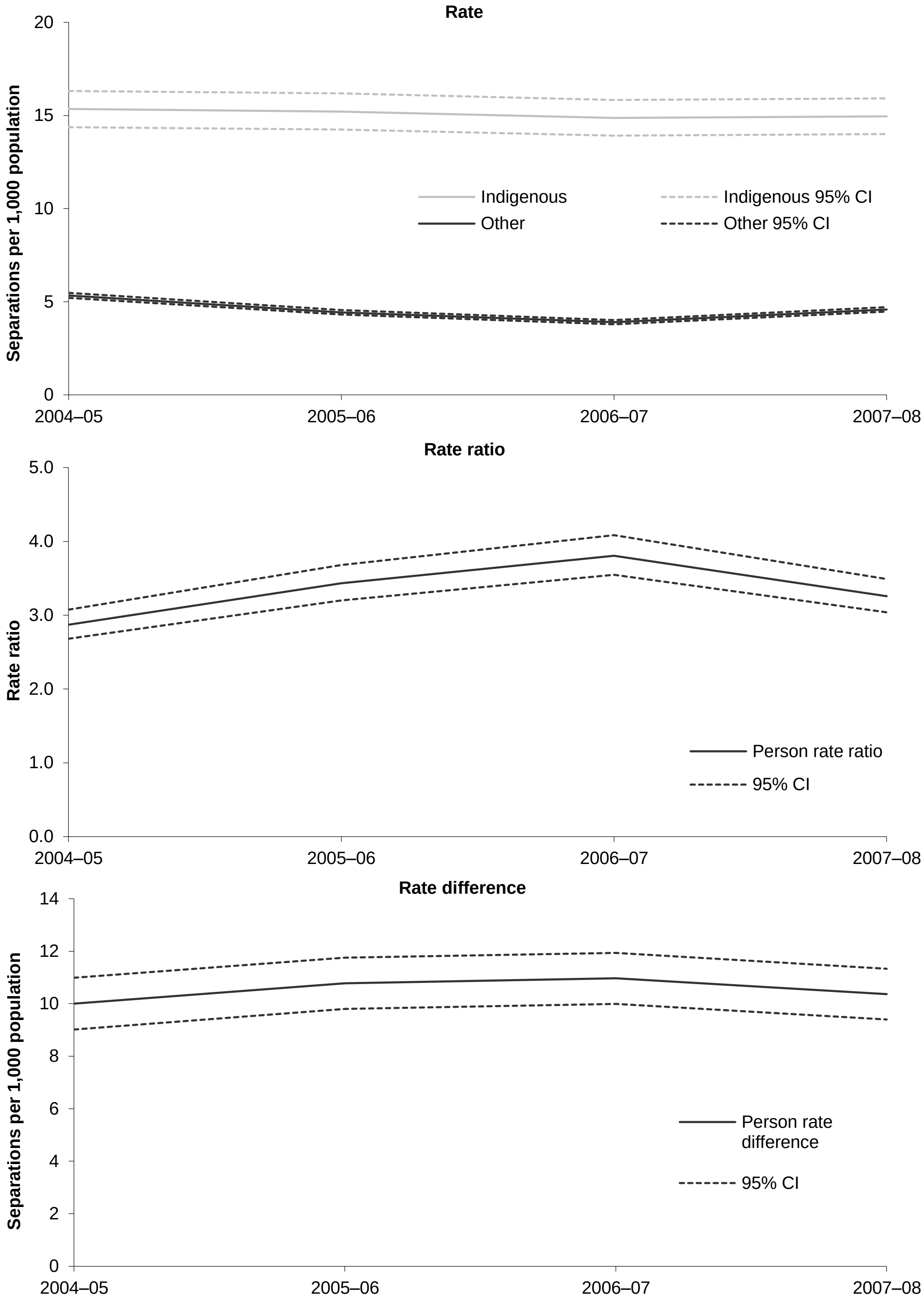
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes

1. Rates have been directly age-standardised using the 2006 Australian standard population.
2. Population estimates are based on the 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 1.04.5: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for pneumonia, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

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, pneumonia) or enter the bloodstream. Manifestations include meningitis, pneumonia and septicaemia. Invasive pneumococcal disease is defined as a sterile site isolate of *Streptococcus pneumoniae*, usually from blood (Menzies et al. 2008).

Incidence

For the period 2006–2008, there were 534 invasive pneumococcal disease notifications among Indigenous persons in New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory. The age standardised notification rate for Indigenous persons was 46 per 100,000, which was seven times the rate for other persons (6.3 per 100,000). Notification rates were highest among those aged 65 years and over 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.

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 12 times the rate of other Australians (Table 1.04.8 and Figure 1.04.6).

Table 1.04.8: Invasive pneumococcal disease notification rate, by age group and Indigenous status, NSW, Vic, Qld, WA, SA, Tas and NT, 2006–2008(a)(b)(c)

	Number		Number per 100,000		
	Indigenous	Other(d)	Indigenous	Other(d)	Rate ratio(e)
0-4	112	587	57.9	15.6	3.7*
5-14	42	173	10.9	2.2	4.9*
15-24	41	142	13.2	1.7	7.8*
25-34	58	241	26.5	2.9	9.3*
35-44	99	380	50.1	4.3	11.8*
45-54	81	427	58.4	5.1	11.5*
55-64	42	577	55.0	8.5	6.5*
65+	56	1,399	113.7	17.2	6.6*
Total	**534**	**3,969**	**34.0**	**6.5**	**5.2***
Total age-standardised(f)			**46.1**	**6.3**	**7.3***

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

(a) Calendar 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.

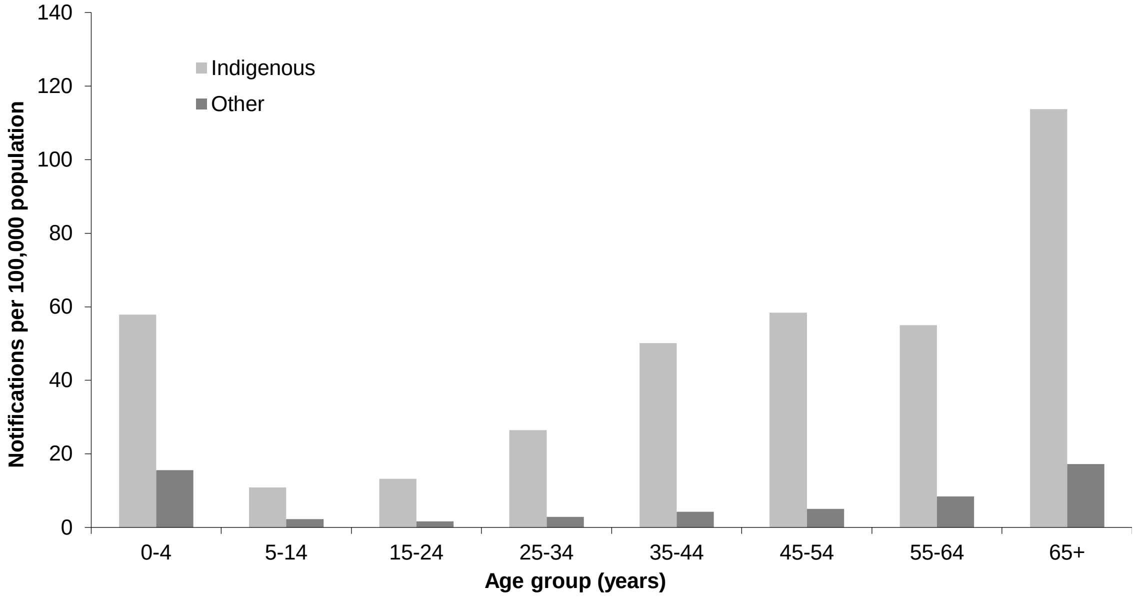
(c) Data are reported for New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory (2008 Northern Territory data is preliminary). These seven jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(d) Includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.

(e) Rate ratio Indigenous: other.

(f) Directly age-standardised using the Australian 2001 standard population using five year age groups up to 65+.

Source: AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

(a) Calendar 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 New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory (2008 Northern Territory data is preliminary). These seven jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(d) Other includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.

Figure 1.04.6: Invasive pneumococcal disease notification rate, by age group and Indigenous status, NSW, Vic, Qld, WA, SA, Tas and NT, 2006–2008(a)(b)(c)(d)

Hospitalisations

Over the period June 2006 to July 2008, there were 75 hospitalisations of Indigenous people in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined for invasive pneumococcal disease. Almost one in three (31%) of these hospitalisations were among Indigenous children aged 0–4 years.

Time series analysis

Time series data from 2001–02 to 2007–08 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 2007–08 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.

Invasive pneumococcal disease 2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other children aged 0–4 years in Queensland, Western Australia, South Australia and the Northern

Territory for invasive pneumococcal disease over the 7-year period 2001–02 to 2007–08 are shown in Table 1.04.9.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant changes in the hospitalisation rates for invasive pneumococcal disease among Indigenous children aged 0–4 years during the period 2001–02 to 2007–08. The fitted trend implies an average yearly decrease in the rate of around 0.02 per 1,000, which is equivalent to a 57% decline over the period.
- Over the same period, there was a significant decline in the hospitalisation rate for invasive pneumococcal disease among other children aged 0–4 years, at an average yearly rate of 0.04 per 1,000 or a 94% change over the period.
- There was a significant decrease in the hospitalisation rates for other 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.
- There was a significant increase in the hospitalisation rate ratio between Indigenous and other children for invasive pneumococcal disease, and an increase in the rate difference over the period 2001–02 to 2007–08, but this change was not significant.

Table 1.04.9: Children aged 0–4 years, hospitalisation rates, rate ratios and rate differences for invasive pneumococcal disease, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations	7	15	10	9	5	5	9	–1	–58.2
Other Australian[(d)] separations	117	99	79	63	8	14	29	–18*	–92.5*
Indigenous rate (separations per 1,000)	0.2	0.4	0.3	0.2	0.1	0.1	0.2	0.02	–56.8
Other Australian[(d)] rate (separations per 1,000)	0.3	0.2	0.2	0.1	0.0	0.0	0.1	–0.04*	–94.2*
Rate ratio[(e)]	0.7	1.7	1.4	1.7	7.5	4.4	3.9	0.8*	663.9*
Rate difference[(f)]	–0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.0	–174.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

(d) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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. Population estimates are based on the 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.

Invasive pneumococcal disease 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other 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 four year period 2004–05 to 2007–08 are shown in Table 1.04.10.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were non-significant decreases in hospitalisation rates for invasive pneumococcal disease among Indigenous and other children aged 0–4 years during the period 2004–05 to 2007–08.
- Over the same period there were non-significant increases in the hospitalisation rate ratios and rate differences between Indigenous and other children for invasive pneumococcal disease over the period 2004–05 to 2007–08.

Table 1.04.10: 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 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations	12	8	14	9	0	–7.5
Other Australian [(d)] separations	162	48	54	80	–24	–44.4
Indigenous rate (separations per 1,000)	0.2	0.1	0.2	0.1	0.0	–8.2
Other Australian[(d)] rate (separations per 1,000)	0.1	0.0	0.0	0.1	0.0	–47.2
Rate ratio[(e)]	1.4	3.2	5.1	2.2	0.4	93.9
Rate difference[(f)]	0.1	0.1	0.2	0.1	0.0	90.4

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

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

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 to 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

National Hospital Morbidity data

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery, can affect the number and pattern of hospitalisations.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The ‘not stated’ category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

‘Not stated’ responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a ‘not stated’ Indigenous status (AIHW 2009).

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. Based on an analysis of a sample of data conducted in 2010, an estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08 (AIHW 2010). In other words, 11% of Indigenous patients were not identified, and the ‘true’ number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data in all states and territories. Results from this assessment indicate that all hospitals in New South Wales, Victoria, Queensland, Western Australia and South Australia and public hospitals in the Northern Territory have adequate Indigenous identification (80% or higher overall levels of Indigenous identification in public hospitals only) in their separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also 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.
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.

- Bias may have been introduced due to the sampling method of hospitals used in the study. Hospitals with high proportions of Indigenous separations were used in the study to ensure sufficient numbers of Indigenous people were included in the study. Proportions of Indigenous separations should therefore not be taken to represent the NHMD overall.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

National Notifiable Diseases Surveillance System (NNDSS)

Notifications

Notification statistics do not measure the incidence or prevalence of infections in the community. Under-reporting of these infections can occur at a number of stages:

- a person infected may not feel ill
- a person may not seek medical care
- 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.

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. The case definitions for surveillance also vary among jurisdictions. 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.

Under-identification

The incompleteness of Indigenous identification means the number of notifications recorded as Indigenous is an underestimate of Aboriginal and Torres Strait Islander notifications rates. In 2009, Indigenous status was not reported in 51% cases of chlamydia, 37% of cases of gonorrhoea and 63% of cases of hepatitis C (NCHECR 2010).

The completeness of Indigenous identification in notifiable disease registries varies between the states and territories.

The identification of Indigenous notifications is incomplete in all states and territories, but three jurisdictions (Western Australia, South Australia and the Northern Territory) have been assessed as having adequate identification in 2001–2002 in the NNDSS.

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 peoples expressed as a rate by age group, age-standardised rate and rate 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 and the AIHW 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which is conducted by the AIHW Australian General Practice Statistics and Classification Unit. 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. A more detailed explanation of the BEACH methods can be found in *General practice activity in Australia 2008–09* (Britt et al. 2009).

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). 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.'

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.3% 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.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were around 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). ‘Separation’ also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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 heart and circulatory conditions among Aboriginal and Torres Strait Islander people are presented in the tables in this section and Figure 1.05.1.

Prevalence by age and sex

- In 2004–05, approximately 12% of Indigenous Australians reported having a 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.
- High blood pressure was the most common type of heart and circulatory condition that Indigenous and non-Indigenous Australians reported (15% and 11% respectively) (Table 1.05.1), followed by high cholesterol (7% for both population groups).
- 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 (Figure 1.05.1).

Table 1.05.1: 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.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio**
							Per cent						
Total with heart or circulatory condition	**2**	**2**	**17**	**12**	**35**	**28**	**57**	**53**	**12**	**20**	**23***	**20***	**1.2***
Has current and/or long-term high blood pressure	—(c)	—(c)	8*	4*	23*	14*	43*	34*	7	11	15*	11*	1.4*
Heart murmur/heart valve disorder	1	1	3*	1*	2(c)	2	4	3	2	2	2*	2*	1.0*
Total persons ('000)	**272.7**	**6,396.2**	**128.8**	**5,660.9**	**39.6**	**2,705.6**	**33.2**	**4,529.7**	**474.3**	**19,292.4**	**474.3**	**19,292.4**	**. .**

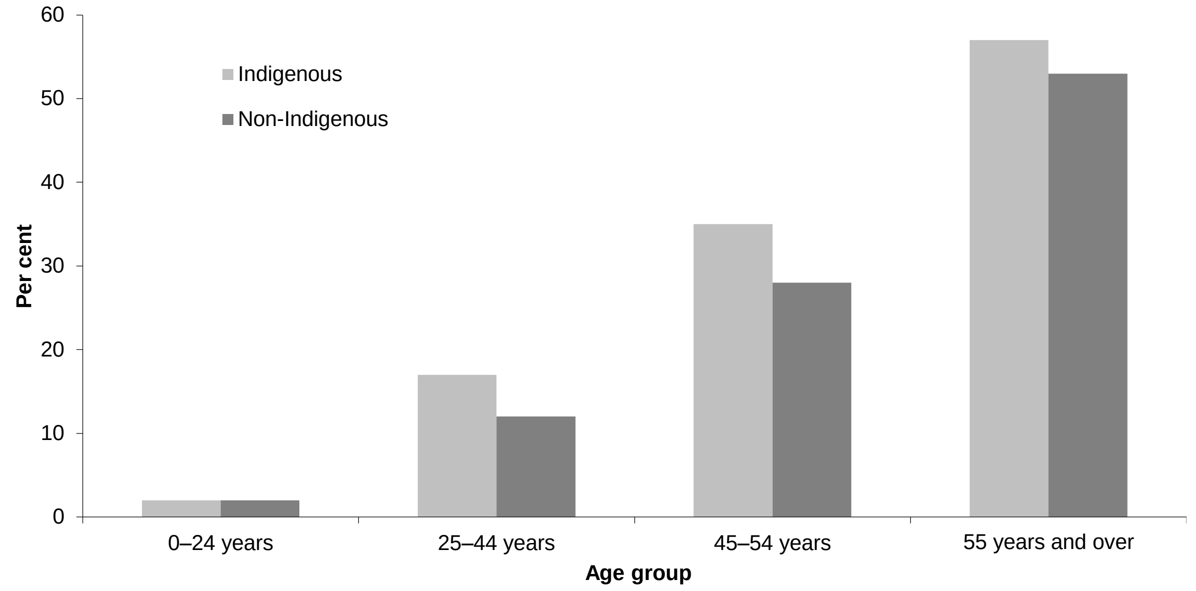
* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(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.



Source: AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

Figure 1.05.1: Proportion of persons reporting heart and circulatory conditions, by Indigenous status and age group, 2004–05

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 1.05.2).
- There has been little change in the prevalence of heart/circulatory conditions among Aboriginal and Torres Strait Islander peoples between 2001 and 2004–05.

Table 1.05.2: 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 1.05.3).
- 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 hypertension, diabetes or high cholesterol than if they did not report these conditions. This was also the case for non-Indigenous Australians.

Table 1.05.3: 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 1.05.3 (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
Hypertension				
Yes	97.4	2.6	94.4	5.6
No	11.6	88.4	10.9	89.1
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.

Hospitalisations

- For the 2-year period July 2006 to June 2008, there were 906,745 hospitalisations for circulatory diseases in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 16,530 (1.8%) of which were hospitalisations of Aboriginal and Torres Strait Islander peoples.
- 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% of all hospitalisations of Indigenous Australians were for circulatory diseases.

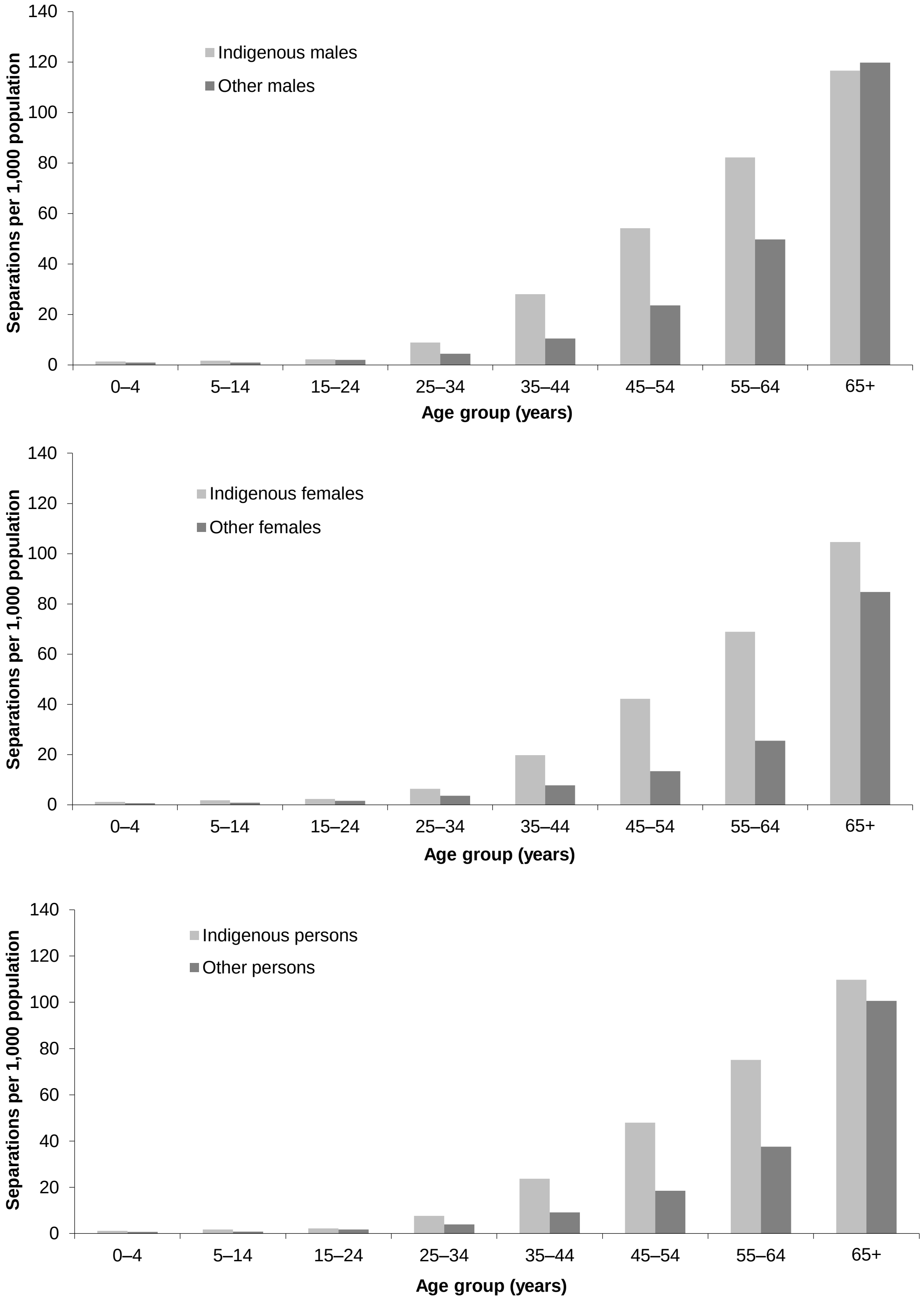
Hospitalisations by age and sex

- For the 2-year period July 2006 to June 2008, 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 other females across all age groups. Indigenous males had higher hospitalisation rates for circulatory diseases than other males across all age groups except for those aged over 65 years (Table 1.05.4 and Figure 1.05.2).
- 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 other 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 other Australian females.
- Hospitalisation rates for circulatory diseases increased with age for both Indigenous and other Australians.
- Approximately 52% of Indigenous Australians hospitalised for circulatory diseases were males (8,630) and 48% were females (7,900).

Table 1.05.4: Age-specific hospitalisation rates for a principal diagnosis of circulatory disease, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+
Males				Number per 1,000 population				
Indigenous	1.3	1.7	2.2	8.9	28.0	54.2	82.2	116.6
Other	0.9	0.9	1.9	4.4	10.5	23.6	49.6	119.8
Females								
Indigenous	1.1	1.8	2.3	6.4	19.8	42.2	68.9	104.7
Other	0.6	0.8	1.6	3.6	7.8	13.4	25.5	84.8
Persons								
Indigenous	1.2	1.7	2.3	7.6	23.7	48.0	75.1	109.7
Other	0.8	0.8	1.8	4.0	9.1	18.5	37.6	100.6

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.05.2: Age-specific hospitalisation rates for a principal diagnosis of circulatory disease, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Hospitalisations by state/territory

Table 1.05.5 presents hospitalisations for a principal diagnosis of diseases of the circulatory system for the 2-year period July 2006 to June 2008 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

Over the period July 2006 to June 2008, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for circulatory disease at 1.6 times the rate of other Australians.

- When hospital rates are adjusted at the national level for Indigenous under-identification, Indigenous persons were hospitalised for circulatory disease at 1.7 times the rate of other Australians.
- In Queensland, Western Australia, South Australia and the Northern Territory, Indigenous persons were hospitalised for circulatory diseases at around twice the rate of other Australians. Indigenous persons were hospitalised at 1.6 times the rate of other Australians for circulatory disease in the Australian Capital Territory, 1.4 times the rate of other Australians in New South Wales, and at similar rates to other Australians in Victoria and Tasmania.

Table 1.05.5: 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 2006 to June 2008(a)(b)(c)(d)(e)

	Indigenous				Other(f)				
	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)
NSW									
Males	2,443	32.8	31.2	34.4	177,488	25.9	25.8	26.0	1.3*
Females	2,036	26.0	24.7	27.3	130,891	16.3	16.2	16.4	1.6*
Persons	4,479	29.2	28.2	30.2	308,384	20.8	20.7	20.9	1.4*
Vic									
Males	385	22.9	20.3	25.6	140,195	27.3	27.1	27.4	0.8*
Females	422	23.5	21.1	25.9	108,212	17.9	17.8	18.0	1.3*
Persons	807	23.2	21.4	25.0	248,408	22.3	22.2	22.4	1.0
Qld									
Males	2,450	40.7	38.7	42.7	104,170	26.3	26.1	26.4	1.5*
Females	2,405	35.8	34.1	37.5	74,433	17.0	16.8	17.1	2.1*
Persons	4,855	38.1	36.8	39.4	178,603	21.4	21.3	21.5	1.8
WA									
Males	1,519	43.8	41.1	46.6	45,300	23.0	22.8	23.2	1.9*
Females	1,319	34.6	32.4	36.7	31,210	14.4	14.2	14.5	2.4*
Persons	2,838	38.8	37.1	40.4	76,510	18.5	18.4	18.7	2.1*
SA									
Males	538	40.1	36.2	44.1	42,388	25.0	24.8	25.3	1.6*
Females	518	32.7	29.6	35.8	32,665	16.0	15.8	16.2	2.0*
Persons	1,056	36.0	33.5	38.4	75,053	20.2	20.1	20.4	1.8*
NT									
Males	1,295	38.1	35.5	40.8	2,245	19.4	18.4	20.4	2.0*
Females	1,200	29.8	27.9	31.7	1,012	11.8	11.0	12.7	2.5*
Persons	2,495	33.3	31.7	34.8	3,257	16.0	15.3	16.6	2.1*
NSW, Vic, Qld, WA, SA & NT(k)									
Males	**8,630**	**36.8**	**35.9**	**37.8**	**511,786**	**25.9**	**25.9**	**26.0**	**1.4***
Females	**7,900**	**30.6**	**29.8**	**31.3**	**378,423**	**16.6**	**16.5**	**16.6**	**1.8***
Persons	**16,530**	**33.5**	**32.9**	**34.1**	**890,215**	**21.0**	**21.0**	**21.1**	**1.6***
Tas									
Males	101	13.0	10.1	16.0	8,196	15.5	15.2	15.9	0.8
Females	91	9.7	7.4	11.9	5,983	10.0	9.7	10.2	1.0
Persons	192	11.2	9.4	13.0	14,179	12.6	12.4	12.8	0.9

(continued)

Table 1.05.5 (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 2006 to June 2008[a][b][c][d][e]

	Indigenous				Other[f]				
	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]
ACT									
Males	30	25.6	13.0	38.3	4,675	16.7	16.2	17.2	1.5
Females	17	18.2	8.2	28.2	3,375	10.8	10.4	11.2	1.7
Persons	47	21.6	13.7	29.5	8,050	13.6	13.3	13.9	1.6*

* 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 fifth edition (National Centre for Classification in Health 2006).

(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 group 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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 people are calculated using population estimates based on 2006 Census (SERIES B).
2. Care types 7.3, 9 and10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by Australian Standard Geographical Classification

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 1.05.6, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for circulatory diseases than other Australians. The ratio of hospitalisations of Indigenous people compared to other 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 51 per 1,000. The rate was highest for other Australians who lived in *Inner regional* areas, at 24 per 1,000. The lowest rates were observed in *Major cities* for both Indigenous people (28 per 1,000) and other Australians (21 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 *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of 1.4 times that of other Australians. Nationally, the rate was 1.7 times.

Table1.05.6: Hospitalisations for principal diagnosis of diseases of the circulatory system, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other[(g)]				
	Number	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Number	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Ratio[(k)]
Major cities	4,038	28.4	27.4	29.4	586,641	21.0	20.9	21.0	1.4*
Inner regional	3,374	38.1	36.7	39.6	205,060	23.6	23.5	23.7	1.6*
Outer regional[(l)]	4,349	43.2	41.8	44.7	88,157	23.0	22.8	23.1	1.9*
Remote	2,650	51.2	49.0	53.4	10,473	22.0	21.6	22.4	2.3*
Very remote	2,936	32.5	30.3	34.7	3,160	22.1	21.9	22.3	1.5*
Missing	7	. .	. .	. .	383	. .	. .	. .	. .
Total[(m)]	**17,354**	**36.5**	**35.9**	**37.1**	**893,874**	**21.7**	**21.7**	**21.8**	**1.7***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

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 and 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 1.05.7 presents hospitalisations with a principal diagnosis of diseases of the circulatory system by type of circulatory disease for the 2-year period July 2006 to June 2008 for the six jurisdictions.

- In 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 peoples (44%), 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 other 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 other males and females respectively.
- Indigenous Australians were hospitalised at almost 3 times the rate of other Australians for hypertension disease.

Table 1.05.7: 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 2006 to June 2008(a)(b)(c)(d)

	Males						Females						Persons					
Principal diagnosis	**No.**	**%(e)**	**No. per 1,000(f)**	**LCL 95%(g)**	**UCL 95%(h)**	**Ratio(i)**	**No.**	**%(e)**	**No. per 1,000(f)**	**LCL 95%(g)**	**UCL 95%(h)**	**Ratio(i)**	**No.**	**%(e)**	**No. per 1,000(f)**	**LCL 95%(g)**	**UCL 95%(h)**	**Ratio(i)**
Ischaemic heart disease (I20–I25)	4,069	47.1	17.2	16.6	17.9	1.7*	3,143	39.8	12.4	11.9	12.9	2.8*	7,212	43.6	14.6	14.3	15.0	2.1*
Acute myocardial infarction (I21)	*1,742*	*20.2*	*7.2*	*6.8*	*7.6*	*2.2**	*1,129*	*14.3*	*4.6*	*4.3*	*4.9*	*3.1**	*2,871*	*17.4*	*5.8*	*5.5*	*6.0*	*2.5**
Subsequent myocardial infarction (I22)	*14*	*0.2*	*0.1*	*0.03*	*0.1*	*4.3**	*20*	*0.3*	*0.1*	*0.04*	*0.1*	*9.9**	*34*	*0.2*	*0.1*	*0.1*	*0.1*	*6.2**
Pulmonary heart disease and other forms of heart disease (I26–I52)	2,516	29.2	11.5	10.9	12.1	1.5*	2,469	31.3	10.2	9.7	10.7	1.9*	4,985	30.2	10.8	10.4	11.2	1.7*
Cerebrovascular disease (I60–I69)	646	7.5	3.5	3.1	3.8	1.6*	683	8.6	3.0	2.8	3.3	1.9*	1,329	8.0	3.2	3.0	3.4	1.8*
Stroke (I60–I64)	*557*	*6.5*	*3.0*	*2.7*	*3.3*	*1.7**	*603*	*7.6*	*2.8*	*2.5*	*3.0*	*2.1**	*1,160*	*7.0*	*2.9*	*2.7*	*3.1*	*1.9**
Acute rheumatic fever and chronic rheumatic heart disease (I00–I09)	274	3.2	0.5	0.4	0.6	5.3*	428	5.4	0.9	0.8	1.0	8.2*	702	4.2	0.7	0.6	0.8	6.9*
Hypertension disease (I10–I15)	200	2.3	0.7	0.6	0.8	2.6*	269	3.4	1.0	0.8	1.1	2.5*	469	2.8	0.8	0.8	0.9	2.6*
Other diseases of the circulatory system (I70–I99)(j)	925	10.7	3.4	3.1	3.7	0.6*	908	11.5	3.1	2.8	3.3	0.6*	1,833	11.1	3.2	3.0	3.4	0.6*
Total	**8,630**	**100.0**	**36.8**	**35.9**	**37.8**	**1.4***	**7,900**	**100.0**	**30.5**	**29.8**	**31.3**	**1.8***	**16,530**	**100.0**	**33.4**	**32.8**	**34.0**	**1.6***

(continued)

Table 1.05.7 (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 2006 to June 2008[(a)(b)(c)(d)]

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006); ICD-10-AM codes I00–I99.

(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 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 2006–07 to 2007–08.

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

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: other.

(j) 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 2006 Census (SERIES B).
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 additional diagnosis

Table 1.05.8 presents hospitalisations for additional causes of diseases of the circulatory system for Aboriginal and Torres Strait Islander peoples in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- For the 2-year period July 2006 to June 2008, hospitalisations of Indigenous Australians with a principal diagnosis of circulatory diseases were commonly reported with other diseases of the circulatory system (67%) and the disease category 'contact with health services and factors influencing health status' which includes dialysis (67%). Furthermore, over half 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 (52%).
- In particular, hospitalisations with a principal diagnosis of ischaemic heart disease, cerebrovascular disease and other heart disease were commonly reported with an additional diagnosis of endocrine, metabolic and nutritional disorders (61%, 54% and 53% 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 (59%), as well as symptoms, signs and abnormal clinical and laboratory findings (49%).

Table 1.05.8: Hospitalisations of Indigenous persons for principal diagnosis of circulatory disease, by additional diagnoses of hospitalisation, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(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 circulatory system (I00–I99)	79.8	81.8	85.3	67.6	71.3	72.2	46.0	16.6	32.3	67.0
Contact with health services & factors influencing health status (includes dialysis) (Z00–Z99)	75.3	77.2	79.4	63.8	65.9	66.3	44.6	48.0	54.3	66.7
Endocrine, nutritional & metabolic diseases (E00–E90)	61.4	60.4	67.6	53.4	53.6	54.6	18.7	26.2	25.9	51.6
Diseases of the genitourinary system (N00–N99)	16.9	20.1	29.4	24.8	21.9	21.9	7.0	21.7	14.7	19.1
Diseases of the respiratory system (J00–J99)	10.8	14.1	23.5	21.9	14.4	14.7	12.8	6.8	6.3	13.9
Symptoms, signs & abnormal clinical & laboratory findings (R00–R99)	8.0	9.8	8.8	15.8	48.5	50.9	12.7	22.4	12.1	14.7

(continued)

Table 1.05.8 (continued): Hospitalisations of Indigenous persons for principal diagnosis of circulatory disease, by additional diagnoses of hospitalisation, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(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					
Mental & behavioural disorders (F00–F99)	10.4	12.1	14.7	14.2	17.6	17.9	4.8	11.9	9.1	11.8
Diseases of the nervous system (G00–G99)	4.9	5.7	11.8	7.8	59.3	63.4	1.7	4.7	5.0	10.0
Diseases of the digestive system (K00–K93)	5.0	6.0	5.9	9.0	10.1	10.8	5.4	5.3	15.4	7.8
Certain infectious and parasitic diseases (A00–B99)	4.9	6.5	2.9	8.6	12.3	13.4	10.7	4.3	8.3	7.2
Diseases of the blood and disorders involving immune mechanism (D50–D89)	5.5	7.1	17.6	7.9	7.4	7.6	12.7	3.4	7.1	6.8
Diseases of the eye and adnexa (H00–H59)	3.9	4.5	14.7	5.2	12.9	13.7	0.7	4.3	3.4	4.8

(continued)

Table 1.05.8 (continued): Hospitalisations of Indigenous persons for principal diagnosis of circulatory disease, by additional diagnoses of hospitalisation, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(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									
Injury & poisoning and other consequences of external causes (S00–T98)	4.2	5.4	2.9	3.8	7.0	7.2	6.1	2.6	5.7	4.5
Other[(f)]	5.7	6.8	11.8	11.6	13.5	13.3	16.1	10.4	12.9	9.5
Total number	**7,212**	**2,871**	**34**	**4,985**	**1,329**	**1,160**	**702**	**469**	**1,833**	**16,530**

(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 fifth edition (National Centre for Classification in Health 2006); 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 and 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 2007–08 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 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.

Circulatory disease—2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for diseases of the circulatory system over the 7-year period 2001–02 to 2007–08 are presented in Table 1.05.9 and Figure 1.05.3.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there was a non-significant increase in hospitalisation rates for circulatory diseases among Indigenous Australians during the period 2001–02 to 2007–08. The fitted trend implies an average yearly increase in the rate of 0.04 per 1,000 which is equivalent to an increase of 1% over the period.
- There were significant declines in hospitalisation rates among other Australians during the same period, with an average yearly decrease in the rate of around 0.3 per 1,000 population. This is equivalent to an 8% 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 other Australians for circulatory diseases over the period 2001–02 to 2007–08. The fitted trend implies an average yearly increase of 0.03 in the rate ratio (10% increase over the period) and 0.3 per 1,000 in the rate difference between Indigenous and other Australians (13% increase) for the period 2001–02 to 2007–08. This reflects a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other Australians for circulatory diseases.

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 1.05.9: Age-standardised hospitalisation rates, rate ratios and rate differences from circulatory diseases, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	2,383	2,507	2,678	2,687	2,979	2,803	2,999	98*	24.6*
Females	2,359	2,276	2,354	2,635	2,658	2,672	2,770	83*	21.2*
Persons	4,742	4,783	5,032	5,322	5,637	5,475	5,769	181*	22.9*
Other Australian separations									
Males	88,311	88,697	89,412	91,043	92,278	96,094	98,009	1,670*	11.3*
Females	66,943	66,061	66,072	67,742	66,961	69,119	70,201	599*	5.4*
Persons	155,254	154,758	155,484	158,785	159,239	165,213	168,210	2,269*	8.8*
Indigenous rate (separations per 1,000)									
Males	39.7	41.3	43.4	39.1	43.1	39.4	42.4	0.1	2.0
Females	34.8	34.0	32.3	35.0	35.0	33.6	34.0	0.0	–0.4
Persons	37.1	37.4	37.2	37.0	38.8	36.2	37.7	0.0	0.6
Other Australian[(d)] rate (separations per 1,000)									
Males	27.0	26.3	25.7	25.4	24.9	25.2	24.9	–0.3*	–7.4*
Females	17.7	17.0	16.6	16.6	16.0	16.1	15.9	–0.3*	–9.5*
Persons	22.1	21.4	20.9	20.8	20.3	20.5	20.3	–0.3*	–8.0*
Rate ratio[(e)]									
Males	1.5	1.6	1.7	1.5	1.7	1.6	1.7	0.0	10.5
Females	2.0	2.0	1.9	2.1	2.2	2.1	2.1	0.03*	10.0*
Persons	1.7	1.7	1.8	1.8	1.9	1.8	1.9	0.03*	9.6*

(continued)

Table 1.05.9 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from circulatory diseases, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(f)]									
Males	12.7	15.0	17.7	13.7	18.2	14.2	17.5	0.5	22.1
Females	17.1	17.0	15.7	18.4	19.0	17.5	18.0	0.3	8.9
Persons	15.0	16.0	16.3	16.2	18.5	15.8	17.5	0.3	13.4

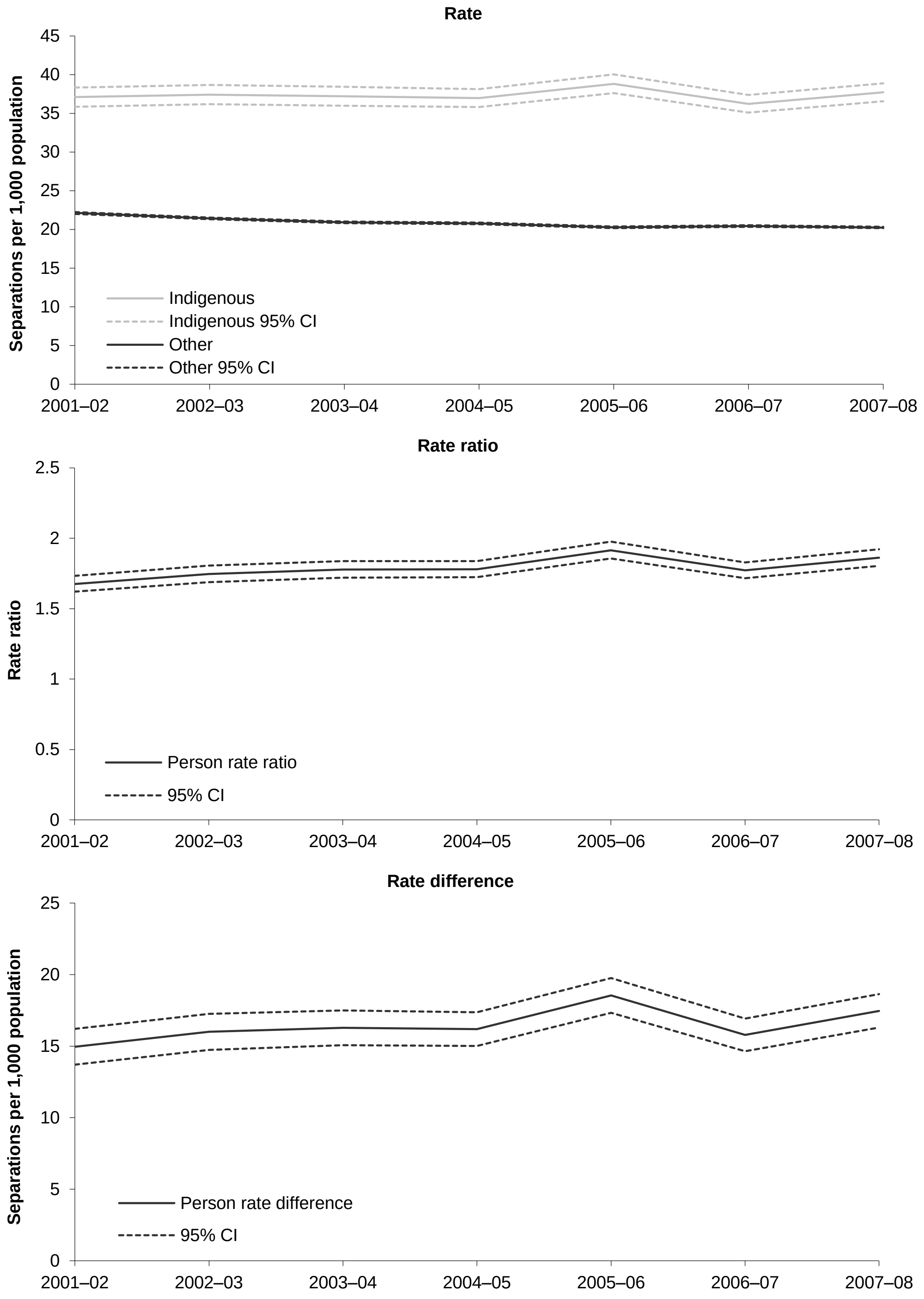
* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.
(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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 and 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis because of changes in coding since earlier years.

Source: AIHW analysis of National Hospital Morbidity Database.



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

Figure 1.05.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from circulatory diseases, Qld, WA, SA and NT, 2001–02 to 2007–08

Circulatory disease—2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for diseases of the circulatory system over the three-year period 2004–05 to 2007–08 are presented in Table 1.05.10 and Figure 1.05.4.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a non-significant increase in hospitalisation rates for circulatory diseases among Indigenous Australians during the period 2004–05 to 2007–08. The fitted trend implies an average yearly increase in the rate of 0.5 per 1,000 which is equivalent to an increase of 5% over the period.
- There were significant declines in hospitalisation rates among other Australians during the same period, with an average yearly decrease in the rate of around 0.1 per 1,000 population. This is equivalent to a 2% decline over the period.
- There were no significant changes in the hospitalisation rate ratio or rate differences between Indigenous and other Australians for circulatory diseases over the period 2004–05 to 2007–08. The fitted trend implies an average yearly increase of 0.04 in the rate ratio (7% increase over the period) and 0.7 per 1,000 in the rate difference between Indigenous and other Australians (18% increase) for the period 2004–05 to 2007–08. This reflects a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other Australians for circulatory diseases.

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 1.05.10: Age-standardised hospitalisation rates, rate ratios and rate differences from circulatory diseases, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	3,860	4,181	4,170	4,460	179*	13.9*
Females	3,595	3,678	3,815	4,085	161*	13.4*
Persons	7,455	7,859	7,985	8,545	340*	13.7*
Other Australian separations						
Males	243,509	247,621	254,202	257,584	4,881*	6.0*
Females	182,350	183,610	188,363	190,060	2,788*	4.6*
Persons	425,875	431,232	442,570	447,645	7,665*	5.4*
Indigenous rate (separations per 1,000)						
Males	35.0	36.8	35.7	37.9	0.8	6.6
Females	29.8	30.2	29.8	31.3	0.4	4.1
Persons	32.2	33.4	32.5	34.3	0.5	5.1
Other Australian[(d)] rate (separations per 1,000)						
Males	26.3	26.1	26.1	25.8	–0.2*	–1.8*
Females	16.8	16.6	16.7	16.5	–0.1*	–1.8*
Persons	21.3	21.1	21.2	20.9	–0.1*	–1.7*
Rate ratio[(e)]						
Males	1.3	1.4	1.4	1.5	0.0	8.6
Females	1.8	1.8	1.8	1.9	0.0	6.0
Persons	1.5	1.6	1.5	1.6	0.0	7.0
Rate difference[(f)]						
Males	8.7	10.7	9.6	12.2	0.9	32.2
Females	12.9	13.6	13.1	14.8	0.5	11.8
Persons	10.9	12.3	11.3	13.5	0.7	18.4

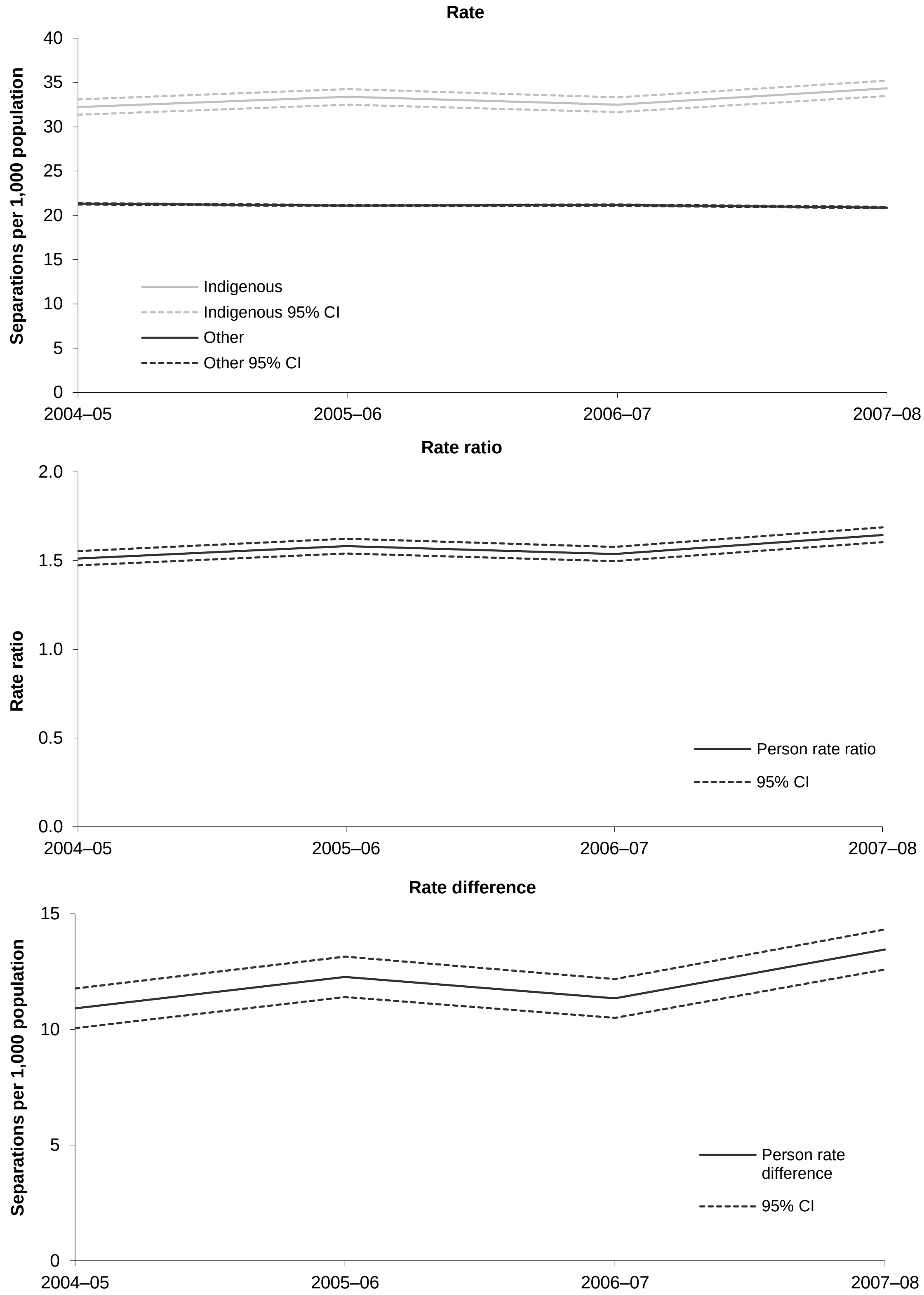
* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.
(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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 and 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 1.05.4: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from circulatory diseases, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

General practitioner encounters

Information about general practitioner (GP) encounters is available from the BEACH survey. Data for the 5-year period April 2004–March 2005 to April 2008–March 2009 are presented below. Circulatory problems are among the five most common types of problems managed at GP encounters with Indigenous patients.

- In the period April 2004–March 2005 to April 2008–March 2009, there were a total of 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,305 problems were managed. Of these, 8.6% (802) were circulatory problems (Table 1.05.11).
- Circulatory problems were managed at a rate of around 13 per 100 encounters among Indigenous patients.
- After adjusting for differences in age distribution:
  - Circulatory problems were managed at similar rates during GP encounters with Indigenous patients and other patients.
  - There were almost three times as many GP encounters for heart failure and twice as many GP encounters for ischaemic heart disease with Indigenous patients than with other patients over the BEACH 5-year reporting period.

Table 1.05.11: Circulatory problems(a) managed by general practitioners, by Indigenous status of the patient, BEACH survey years April 2004–March 2005 to April 2008–March 2009 inclusive(b)(c)

Problem managed	Number		Per cent		Crude rate (no. per 100 encounters)						Age-standardised rate (no. per 100 encounters)(d)		
	Indigenous	Other(e)	Indigenous	Other(e)	Indigenous	95% LCL(f)	95% UCL(g)	Other	95% LCL(f)	95% UCL(g)	Indigenous	Other(e)	Ratio(h)
Hypertension (K86, K87)	405	46,025	4.4	6.3	6.6	5.7	7.5	9.6	9.4	9.8	10.6	9.5	1.1
Ischaemic heart disease (K74, K76)	84	5,784	0.9	0.8	1.4	1.0	1.7	1.2	1.2	1.3	2.5	1.2	2.1
Heart failure (K77)	53	3,283	0.6	0.4	0.9	0.6	1.2	0.7	0.7	0.7	1.8	0.7	2.6
Cardiac check-up (K30, K31)	40	5,825	0.4	0.8	0.7	0.4	0.9	1.2	1.1	1.3	0.9	1.2	0.8
Atrial fibrillation/ flutter (K78)	31	4,904	0.3	0.7	0.5	0.3	0.7	1.0	1.0	1.1	0.8	1.0	0.8
Total circulatory problems (K00–K99)	*802*	*84,270*	*8.6*	*11.5*	*13.1*	*11.9*	*14.2*	*17.5*	*17.2*	*17.9*	*20.2*	*17.3*	*1.2*
Other problems managed	8,503	648,738	91.4	88.5	138.6	134.6	142.5	135.1	134.4	135.8	140.7	134	1.1
Total problems	**9,305**	**733,008**	**100.0**	**100.0**	**151.6**	**147.3**	**155.9**	**152.6**	**151.8**	**153.5**	**160.9**	**151.3**	**1.1**

(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 2004–March 2005 to April 2008–March 2009 inclusive.

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

(d) Directly age-standardised rate (no. per 100 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 Indigenous: other.

Source: AIHW analysis of BEACH survey of general practice, Australian General Practice Statistics and Classification Centre (AGPSCC).

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 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).

General Practitioner data (BEACH)

Information about general practitioner (GP) 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. 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 GPs, but the extent of this undercount is not measurable.

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population that these six jurisdictions cover is 96%. The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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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1.06 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 peoples 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 (ARF/RHD) program in the Northern Territory. Published data on the incidence of acute rheumatic fever in North Queensland (Hanna & Clark 2010) are also summarised here.

Prior to 2009, data on ARF/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.

Age-standardised rates and ratios have been used for data on acute ARF/RHD 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 other Australians, taking into account differences in age structures.

Incidence data for acute rheumatic fever are for the period 2006–2009. Prevalence data for rheumatic heart disease are at 31 December 2009.

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 acute rheumatic fever

- Between 2006 and 2009 there were 216 new and recurrent cases of acute rheumatic fever in the Northern Territory, of which 213 (98.6%) were Aboriginal and Torres Strait Islander peoples (Table 1.06.1).

Incidence by sex and age group

- During the 4-year period 2006–2009, Aboriginal and Torres Strait Islander children aged 5–14 years in the Northern Territory accounted for over half (62%) of new and recurrent cases of acute rheumatic fever in these regions. There are very few cases of acute rheumatic fever in non-Indigenous children of the same age.
- The incidence of acute rheumatic fever 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 2.7 per 1,000 among females (Table 1.06.1).
- Approximately 39% of new and recurrent cases of acute rheumatic fever in the Indigenous population were of males and 61% were of females (Table 1.06.1).

Table 1.06.1: New and recurrent cases of acute rheumatic fever among Indigenous persons in the Northern Territory, by age group and sex, 2006–2009[(a)]

	Males					Females					Persons				
	Number	**Per cent**	**Number per 1,000[(b)]**	**95% LCL[(c)]**	**95% UCL[(d)]**	**Number**	**Per cent**	**Number per 1,000[(b)]**	**95% LCL[(c)]**	**95% UCL[(d)]**	**Number**	**Per cent**	**Number per 1,000[(b)]**	**95% LCL[(c)]**	**95% UCL[(d)]**
0–4	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.
5–14	55	66.3	1.8	1.3	2.3	78	60.0	2.7	2.1	3.4	133	62.4	2.3	1.9	2.7
15–24	18	21.7	0.7	0.4	1.0	26	20.0	1.0	0.6	1.4	44	20.7	0.9	0.6	1.1
25–34	6	7.2	0.3	0.1	0.5	12	9.2	0.6	0.2	0.9	18	8.5	0.4	0.2	0.6
35–44	n.p.	n.p.	n.p.	n.p.	n.p.	6	4.6	0.3	0.1	0.6	7	3.3	0.2	0.1	0.4
45+	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.
Total	**83**	**100.0**	**0.7**	**0.5**	**0.8**	**130**	**100.0**	**1.0**	**0.8**	**1.2**	**213**	**100.0**	**0.8**	**0.7**	**0.9**

(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 2005–2008 divided by the 2006 estimated resident Indigenous population for the Northern Territory.

(c) LCL = lower confidence limit.

(d) UCL = upper confidence limit.

Source: Northern Territory Rheumatic Heart Disease Program data.

Incidence by region

- During the 4-year period 2006–2009, there were over 150 new or recurrent cases of acute rheumatic fever in the Top End of the Northern Territory—99% of these were Indigenous Australians. For the same period in Central Australia, there were over 60 cases of acute rheumatic fever registered—98% of which were Indigenous Australians (Table 1.06.2).
- In 2006–2009, incidence of acute rheumatic fever 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 acute rheumatic fever among Indigenous Australians in the Northern Territory were around 117 times those for non-Indigenous Australians, which is the result of the very small number of notifications among non-Indigenous Australians.
- Over the 5-year period 2004–2009, there were 203 notifications of acute rheumatic fever in 194 Indigenous Australians in North Queensland. This is a 41% increase over the total number of notifications in the preceding five years. From mid-2004 to mid-2009, the annual incidence rate of acute rheumatic fever in North Queensland was 59 per 100,000. The incidence rate for children aged 5–14 years was 155 per 100,000, 65% (131) of the total number of cases were in this age group (Hanna & Clark 2010).

Table 1.06.2: 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, 2006–2009(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)
NT Top End											
Males	61	n.p.	98.4	1.6	0.4	0.3	0.5	n.p.	n.p.	n.p.	95.5*
Females	90	n.p.	98.9	1.1	0.7	0.6	0.9	n.p.	n.p.	n.p.	175.8*
Persons	151	n.p.	98.7	1.3	0.6	0.5	0.7	n.p.	n.p.	n.p.	132.9*
Central Australia(g)											
Males	22	0	100.0	0.0	0.4	0.2	0.6	0.0	. .	. .	. .
Females	40	n.p.	97.6	2.4	0.7	0.5	1.0	n.p.	n.p.	n.p.	43.4*
Persons	62	n.p.	98.4	1.6	0.6	0.4	0.7	n.p.	n.p.	n.p.	67.4*
Northern Territory											
Males	83	n.p.	98.8	1.2	0.4	0.3	0.5	n.p.	n.p.	n.p.	118.3*
Females	130	n.p.	98.5	1.5	0.7	0.6	0.8	n.p.	n.p.	n.p.	114.4*
Persons	213	n.p.	98.6	1.4	0.6	0.5	0.7	n.p.	n.p.	n.p.	116.7*

* 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 2006–2009.

(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) Excludes cases in Western Australia and South Australia because of difficulties in ascertaining denominator populations.

Source: Northern Territory Rheumatic Heart Disease Program data.

Time series analyses by age

Incidence rates for acute rheumatic fever among Indigenous Australians in the Northern Territory are presented by age group and year for the period 2006 to 2009 in Table 1.06.3.

- Over the period 2006 to 2009 there were no significant changes in the incidence rates of acute rheumatic fever among Indigenous people in the Northern Territory.

Table 1.06.3: Rates[(a)] of acute rheumatic fever in the Northern Territory, Indigenous Australians by age group, 2006 to 2009

	2006	2007	2008	2009	Annual change[(b)]	Per cent change over period[(c)]
0–4	n.p.	n.p.	n.p.	n.p.	–0.04	–45.0
5–14	1.6	3.3	1.9	2.3	0.05	8.8
15–24	0.9	1.1	0.9	0.5	–0.16	–50.0
25–34	0.6	0.7	n.p.	n.p.	–0.12	–60.0
35–44	n.p.	n.p.	0.0	n.p.	–0.08	–105.0
45+	n.p.	0.0	0.0	0.0	–0.12	–90.0
Total	**0.8**	**1.2**	**0.7**	**0.7**	**–0.07**	**–28.2**

* Represents significant increases or decreases over the period 2006 to 2009 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 2009 based on the average annual change over the period.

Source: Northern Territory Rheumatic Heart Disease Program data.

Prevalence of rheumatic heart disease

- As at 31 December 2009, there were 1,479 cases of rheumatic heart disease in the Northern Territory, of which 1,374 (93%) were Indigenous peoples.

Prevalence by sex and age group

- The overall prevalence rate of rheumatic heart disease for Indigenous males in the Northern Territory was around 17 per 1,000. For Indigenous females, the prevalence rate was much higher at around 32 per 1,000 (Table 1.06.4).
- As at 31 December 2009, rates of rheumatic heart disease among Indigenous adults between the ages of 25 and 64 years in the Northern Territory were between 30 and 35 per 1,000 (Table 1.06.4).
- The biggest differences in rates of rheumatic heart disease between Indigenous and non-Indigenous Australians were in the 0–14 and 25–34 year age groups, where the respective rate ratios were around 178 and 108 (Table 1.06.4).
- Approximately 35% of cases of rheumatic heart disease in the Indigenous population were among Indigenous males and 65% among Indigenous females (Table 1.06.4).

Table 1.06.4: Rheumatic heart disease registrations for Indigenous persons in the Northern Territory, by age group and sex, as at 31 December 2009

	Males						Females						Persons					
	No.	**%**	**No. per 1,000[(a)]**	**95% LCL[(b)]**	**95% UCL[(c)]**	**Rate ratio[(d)]**	**No.**	**%**	**No. per 1,000[(a)]**	**95% LCL[(b)]**	**95% UCL[(c)]**	**Rate ratio[(d)]**	**No.**	**%**	**No. per 1,000[(a)]**	**95% LCL[(b)]**	**95% UCL[(c)]**	**Rate ratio[(d)]**
0–14	56	11.8	4.9	3.6	6.1	72.9*	81	9.0	7.4	5.8	9.0	. .	137	10.0	6.1	5.1	7.1	177.7*
15–24	133	27.9	20.9	17.3	24.4	110.0*	185	20.6	29.4	25.2	33.7	69.1*	318	23.1	25.1	22.4	27.9	83.5*
25–34	104	21.8	20.7	16.7	24.7	140.1*	205	22.8	38.0	32.8	43.2	91.6*	309	22.5	29.6	26.3	32.9	108.4*
35–44	87	18.3	21.3	16.9	25.8	96.3*	199	22.2	46.4	39.9	52.8	79.9*	286	20.8	34.2	30.2	38.1	87.5*
45–54	59	12.4	22.7	16.9	28.5	31.1*	131	14.6	45.0	37.3	52.7	32.8*	190	13.8	34.5	29.6	39.4	33.4*
55–64	24	5.0	19.7	11.8	27.6	29.3*	66	7.3	42.9	32.6	53.3	15.6*	90	6.6	32.6	25.9	39.4	21.1*
65+	13	2.7	18.5	8.5	28.6	6.9*	31	3.5	26.8	17.4	36.2	4.4*	44	3.2	23.7	16.7	30.7	5.7*
Total	**476**	**100.0**	**15.1**	**13.7**	**16.5**	**33.6***	**898**	**100.0**	**27.6**	**25.8**	**29.4**	**27.2***	**1,374**	**100.0**	**21.5**	**20.3**	**22.6**	**30.0***
Total ASR[(e)]	**. .**	**. .**	**17.3**	**15.3**	**19.3**	**30.9***	**. .**	**. .**	**31.6**	**29.2**	**33.9**	**21.4***	**. .**	**. .**	**24.8**	**23.3**	**26.4**	**25.4***

* 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 1.06.5 presents numbers and rates of rheumatic heart disease 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 2009.

- As at 31 December 2009, there were 1,153 cases of rheumatic heart disease in the Top End of the Northern Territory, of which 93% (1,067) were Indigenous Australians (Table 1.06.5).
- For the same reference period, there were 326 cases of rheumatic heart disease in Central Australia, of which 94% (307) were Indigenous Australians (Table 1.06.5).
- After adjusting for differences in age structures, rates of rheumatic heart disease among Indigenous males and females in the Top End of the Northern Territory were around 38 and 23 times the rates for non-Indigenous males and females respectively (Table 1.06.5).
- In 2009, the prevalence rate of rheumatic heart disease among Indigenous males and females in Central Australia was around 14 and 20 times the rates for non-Indigenous males and females respectively (Table 1.06.5).

Table 1.06.5: Total number of rheumatic heart disease registrations in the Top End of the Northern Territory and Central Australia, by Indigenous status and sex, as at 31 December 2009

	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]**
NT Top End											
Males	379	28	93.1	6.9	19.4	17.1	21.7	0.5	0.3	0.7	38.1*
Females	688	58	92.2	7.8	35.8	32.7	38.9	1.6	1.1	2.0	23.1*
Persons	1,067	86	92.5	7.5	28.1	26.1	30.1	1.0	0.7	1.2	28.7*
Central Australia[f]											
Males	97	7	93.3	6.7	12.1	8.9	15.3	0.9	0.1	1.6	14.2*
Females	210	12	94.6	5.4	22.9	19.5	26.3	1.2	0.4	1.9	19.9*
Persons	307	19	94.2	5.8	17.7	15.4	20.0	1.0	0.8	1.1	18.2*
Northern Territory											
Males	476	35	93.2	6.8	17.3	15.3	19.3	0.6	0.3	0.8	30.9*
Females	898	70	92.8	7.2	31.6	29.2	33.9	1.5	1.1	1.9	21.4*
Persons	1,374	105	92.9	7.1	24.8	23.3	26.4	1.0	0.8	1.2	25.4*

* 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) Excludes cases in Western Australia and South Australia because of difficulties in ascertaining denominator populations.

Source: Northern Territory Rheumatic Heart Disease Program data.

Time series analyses

Incidence rates for rheumatic heart disease among Indigenous Australians in the Northern Territory are presented in Table 1.06.6 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 rheumatic heart disease for Indigenous Australians. Caution should therefore be used in interpreting rates and changes over time.

- Over the period 2006 to 2009 there was a significant decrease in the rate of rheumatic heart disease among Indigenous Australians in the Top End of the Northern Territory, but no significant change in Central Australia (Table 1.06.6; Figure 1.06.1). The fitted trend for the Top End of the Northern Territory implies an average yearly decrease in the rate of around 0.1.

Table 1.06.6: Numbers and rates[(a)] of rheumatic heart disease registrations in the Top End of the Northern Territory, Central Australia and total Northern Territory, Indigenous Australians, 2006 to 2009

	2006	2007	2008	2009	Annual change[(b)]	Per cent change over period[(c)]
Top End NT						
Number	68	67	63	52	. .	. .
Rate[(d)]	1.6	1.5	1.4	1.2	–0.1*	–22.9
Central Australia						
Number	18	28	14	17	. .	. .
Rate[(d)]	0.9	1.4	0.7	0.8	–0.1	–28.3
Northern Territory						
Number	86	95	77	69	. .	. .
Rate[(d)]	1.3	1.5	1.2	1.1	–0.1	–24.1

* Represents significant increases or decreases over the period 2006 to 2009 at the $p < 0.05$ level.

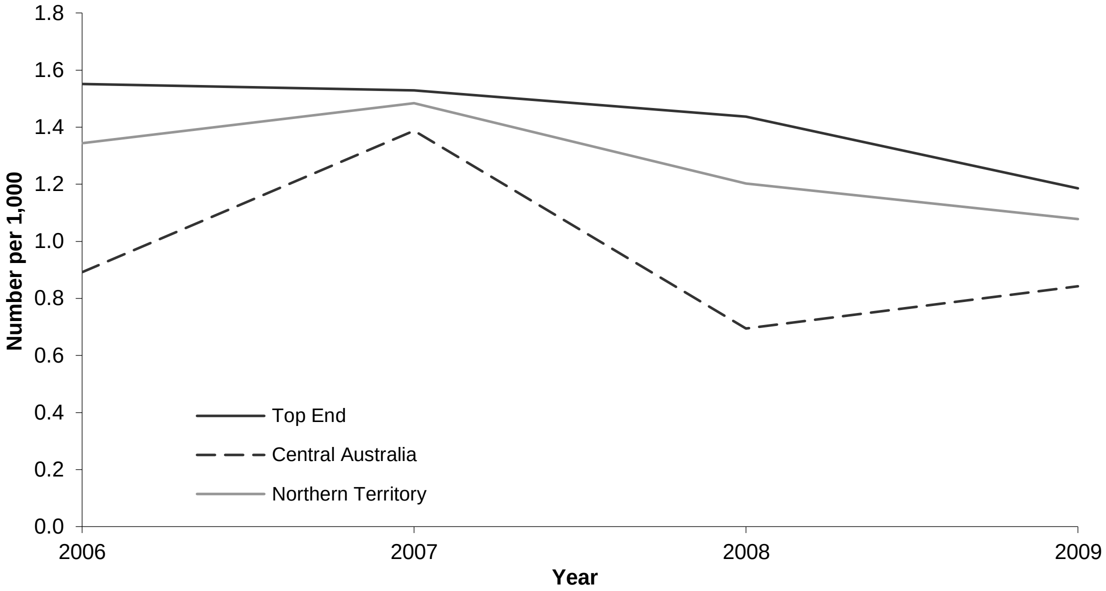
(a) Crude rates calculated using the 2006 estimated resident Indigenous population for the Top End, Central Australia and total Northern Territory.

(b) Average annual change in rates determined using linear regression analysis.

(c) Per cent change between 2006 and 2009 based on the average annual change over the period.

(d) Rate per 1,000.

Source: Northern Territory Rheumatic Heart Disease Program data.



Source: Northern Territory Rheumatic Heart Disease Program data.

Figure 1.06.1: Rates of 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 2009

Time series analyses by age

Incidence rates for rheumatic heart disease among Indigenous Australians in the Northern Territory are presented by age group for the period 2006 to 2009 in Table 1.06.7.

- Over the period 2006 to 2009 there were no significant changes in the rate of rheumatic heart disease in the Northern Territory for Indigenous Australians (Table 1.06.7).

Table 1.06.7: Rates[(a)] of new rheumatic heart disease in the Northern Territory, Indigenous Australians by age group[(b)], 2006 to 2009

	2006	2007	2008	2009	Annual change[(c)]	Per cent change over period[(d)]
0–14	0.7	1.2	1.4	1.1	0.1	52.5
15–24	2.1	1.5	1.3	1.6	–0.2	–23.1
25–34	1.6	1.8	1.6	0.8	–0.3	–51.2
35–44	1.1	1.7	1.2	0.8	–0.1	–33.3
45–54	2.2	2.4	n.p.	1.3	–0.5	–67.5
55–64	n.p.	n.p.	n.p.	n.p.	–0.2	–50
65+	n.p.	n.p.	n.p.	n.p.	–0.3	–60
Total	**1.3**	**1.5**	**1.2**	**1.1**	**–0.1**	**–24.1**

* Represents significant increases or decreases over the period 2005 to 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 2009.

(c) Average annual change in rates determined using linear regression analysis.

(d) Per cent change between 2006 and 2009 based on the average annual change over the period.

Source: 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 2009.

- Of the 1,083 Indigenous persons in the ARF/RHD program in 2009, 36% met less than 50% of their required doses in the previous 12 months, 41% met 50% to 80% of their required doses, and 23% 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, 2009

	Number		Per cent	
Percentage of required doses received in previous 12 months	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
NT Top End				
Less than 50%	259	n.p.	32.1	n.p.
50% to 80%	347	n.p.	43.1	n.p.
Greater than 80%	200	n.p.	24.8	n.p.
Central Australia(a)				
Less than 50%	132	0	47.7	. .
50% to 80%	97	0	35.0	. .
Greater than 80%	48	0	17.3	. .
Northern Territory				
Less than 50%	391	n.p.	36.1	n.p.
50% to 80%	444	n.p.	41.0	n.p.
Greater than 80%	248	n.p.	22.9	n.p.

(a) Excludes cases in Western Australia and South Australia because of difficulties in ascertaining denominator populations

Source: 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.

Liaison with the data custodian for the program will be needed to identify any particular data quality issues to be taken into account in the use of these data.

Data are presented in 4-year groupings because of small numbers each year.

Under-identification

The accurate identification of Aboriginal and Torres Strait Islander peoples within this data collection is less likely to be a problem. This is due to the high proportion of Aboriginal and Torres Strait Islander peoples in the Top End of the Northern Territory and in Central Australia, and the predominance of Aboriginal and Torres Strait Islander peoples with this disease. In north Queensland, between mid-2004 and mid-2009, there were 203 notifications of acute rheumatic fever between in 194 Indigenous persons (Hanna &Clark 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

Reference

Hanna JN & Clark MF 2010. Acute rheumatic fever in Indigenous people in North Queensland: some good news at last? The Medical Journal of Australia, 192(10):581–584.

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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

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 and the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2011–12. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which the AIHW Australian General Practice Statistics and Classification Unit conducts. 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. A more detailed explanation of the BEACH methods can be found in *General practice activity in Australia 2008–09* (Britt et al. 2009).

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). Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998–2008, (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.'

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.3% of total GP encounters in the survey.

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. State and territory health departments provide information annually on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the AIHW.

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. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. An aggregate of 2 years of data has been used, as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in the change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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 and NATSISS 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).
- In 2008, 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 the Australian Capital Territory (21%) (Table 1.07.3).
- In 2008, 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 1.07.4).

Table 1.07.1: Persons reporting high blood pressure/ hypertension, by Indigenous status, sex and age group, 2004–05[a]

Age group	Males		Females		Persons		Ratio (persons)
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	
				Per cent			
0–14	—[b]	—[b]	—[b]	—[b]	—[c]	—[b]	0.8
15–24	1[b]	—[b]	1[c]	—[b]	1[c]	—[c]	2.1
25–34	4	3	5*[c]	2*[c]	5*	2*	2.3
35–44	14*	6*	11*	4*	12*	4*	2.7
45–54	22	15	24*	13*	22*	14*	1.6
55 years and over	39	32	46*	36*	42*	33*	1.2
Total	**7**	**10**	**8**	**12**	**7**	**11**	**0.7**
Total standardised[d]	**14***	**10***	**16***	**10***	**15***	**10***	**1.5**
Total number	**232,632**	**9,600,405**	**241,948**	**9,691,973**	**474,310**	**19,292,387**	**. .**

* Statistically significant differences 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.

Table 1.07.3: 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*	21.0*
NT	688	13.5
Total	**7,295**	**14.3**

* 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 1.07.4: 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.

Hospitalisations

- In the 2-year period July 2006 to June 2008 there were 14,434 hospitalisations for hypertensive disease in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of which 469 (3.2%) were hospitalisations of Aboriginal and Torres Strait Islander people (Table 1.07.6).
- Hospitalisations for hypertensive disease accounted for 0.2% of total hospitalisations of Aboriginal and Torres Strait Islander people.

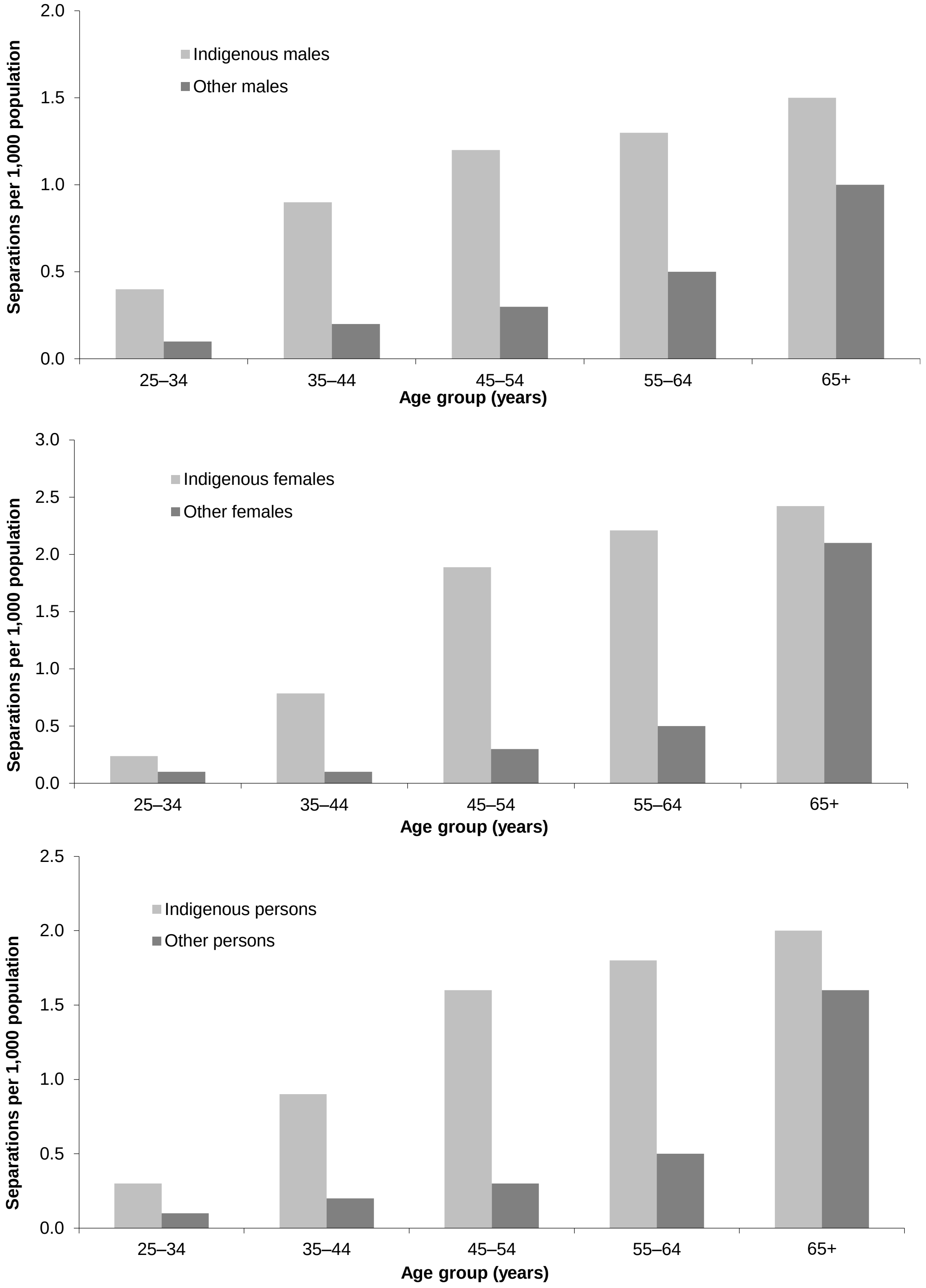
Hospitalisations by age and sex

- For the two-year period July 2006 to June 2008, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, Indigenous males and females had higher hospitalisation rates for hypertensive disease than other males and females from age 15-24 years onwards (Table 1.07.5 and Figure 1.07.1).
- The greatest difference in rates for males occurred in the 35–44 and 45–54 year age groups where Indigenous males were hospitalised at between four and five times the rate of other males. For Indigenous females, the greatest difference in hospitalisation rates was among those aged 35–44, 45–54 and 55–64 where Indigenous females were hospitalised at eight, six and four times the rate of other females, respectively (Table 1.07.5).
- For both Indigenous and other Australian males and females, hospitalisation rates for hypertensive disease were highest in the age group 65 years and over.
- Approximately 43% of Indigenous Australians hospitalised for hypertensive disease were males (200) and 57% were females (269) (Table 1.07.6).

Table 1.07.5: Age-specific hospitalisation rates for a principal diagnosis of hypertensive disease, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

	Separations per 1,000 population							
	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+
Males								
Indigenous	—	—	0.1	0.4	0.9	1.2	1.3	1.5
Other	—	—	—	0.1	0.2	0.3	0.5	1.0
Females								
Indigenous	—	—	0.1	0.2	0.8	1.9	2.2	2.4
Other	—	—	—	0.1	0.1	0.3	0.5	2.1
Persons								
Indigenous	—	—	0.1	0.3	0.9	1.6	1.8	2.0
Other	—	—	—	0.1	0.2	0.3	0.5	1.6

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.07.1: Age-specific hospitalisation rates for a principal diagnosis of hypertensive disease, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Overall hospitalisation rates

Table 1.07.6 presents hospitalisations for the 2-year period July 2006 to June 2008 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, there were around 2.6 times as many hospitalisations for hypertensive disease among Indigenous males and females as would be expected, based on the rates for other males and females.

Table 1.07.6: Hospitalisations of Indigenous persons for principal diagnosis of hypertensive disease, by sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2006 to June 2008[a][b][c][d][e]

	Indigenous				Other[f]				
	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]
NSW, Vic, Qld, WA, SA & NT[k]									
Males	200	0.7	0.6	0.8	5,254	0.3	0.3	0.3	2.6*
Females	269	1.0	0.8	1.1	8,710	0.4	0.4	0.4	2.5*
Persons	469	0.8	0.8	0.9	13,965	0.3	0.3	0.3	2.6*
Australia[l]									
Males	204	0.7	0.6	0.8	5,463	0.3	0.3	0.3	2.6*
Females	274	0.9	0.8	1.1	9,016	0.4	0.4	0.4	2.5*
Persons	478	0.8	0.7	0.9	14,480	0.3	0.3	0.3	2.5*

* 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.

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006); ICD-10-AM codes I10–I15.

(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 group 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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.

(l) 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. Indigenous 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 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 1.07.7, covering the period July 2007 to June 2009.

- 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 to 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 1.4 per 1,000. The rate was highest for other Australians who lived in *Very remote* areas, at 1.0 per 1,000. The lowest rates were observed in *Major cities* for both Indigenous people (0.4 per 1,000) and other Australians (0.3 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 2.1 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 2.5 times.

Table 1.07.7: Hospitalisations for hypertensive disease, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other[(g)]				
	Number	**No. per 1,000[(h)]**	**LCL 95%[(i)]**	**UCL 95%[(j)]**	**Number**	**No. per 1,000[(h)]**	**LCL 95%[(i)]**	**UCL 95%[(j)]**	**Ratio[(k)]**
Major cities	70	0.4	0.3	0.5	7,483	0.3	0.3	0.3	1.5*
Inner regional	104	1.0	0.8	1.2	3,359	0.4	0.4	0.4	2.5*
Outer regional[(l)]	136	1.2	0.9	1.4	2,197	0.6	0.5	0.6	2.0*
Remote	78	1.4	1.1	1.8	309	0.7	0.6	0.7	2.1*
Very remote	78	0.8	0.5	1.1	144	1.0	1.0	1.1	0.8
Total[(m)]	**466**	**0.8**	**0.8**	**0.9**	**13,500**	**0.3**	**0.3**	**0.3**	**2.5***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

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.

General practitioner encounters

Information about general practitioner (GP) encounters is available from the BEACH survey. Data for the 5-year BEACH reporting period April 2004–March 2005 to April 2008–March 2009 are presented in Table 1.07.8. 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 2004–March 2005 to April 2008–March 2009 there were a total of 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,305 problems were managed. Of these, 405 (4.4% of all problems managed) were for hypertension.
- Hypertension was managed at GP encounters with Indigenous patients at a rate of 6.6 per 100 encounters.
- After adjusting for differences in age distribution, hypertension was managed at GP encounters at similar rates with both Indigenous and other patients.

Table 1.07.8: Hypertension[(a)] managed by general practitioners, by Indigenous status, BEACH years April 2004–March 2005 to April 2008–March 2009[(b)(c)]

	Number		Crude rate (no. per 100 encounters)						Age-standardised rate (no. per 100 encounters)[(e)]		
	Indigenous	Other[(f)]	Indigenous	95% LCL[(g)]	95% UCL[(h)]	Other[(f)]	95% LCL[(g)]	95% UCL[(h)]	Indigenous	Other[(f)]	Ratio[(i)]
Males	178	19,566	2.9	2.4	3.4	4.1	4.0	4.2	6.8	7.0	1.0
Females	223	26,075	3.7	3.0	4.3	5.5	5.3	5.6	16.1	13.0	1.2
Persons	**401**[(i)]	**45,641**[(j)]	**6.6**	**5.7**	**7.5**	**9.6**	**9.4**	**9.8**	**10.6**	**9.5**	**1.1**

(a) ICPC–2 codes: K86, K87.

(b) Data from five combined BEACH years April 2004–March 2005 to April 2008–March 2009 inclusive.

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

(d) Directly age-standardised rate (no. per 100 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 Indigenous: other.

(i) Total excludes four cases where sex was not recorded.

(j) Total excludes 384 cases where sex was not recorded.

Source: AIHW analysis of BEACH survey of general practice, AGPSCC.

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

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population that these six jurisdictions cover is 96%.

The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of the jurisdictions not included.

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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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

General Practitioner Data (BEACH)

Information about general practitioner (GP) 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. 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 under-counts the number of Indigenous Australians visiting GPs, but the extent of this under-count is not measurable.

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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1.08 Diabetes

Prevalence of diabetes for Aboriginal and Torres Strait Islander peoples 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 and the (Australian Institute of Health and Welfare) AIHW National Hospital Morbidity Database.

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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2011–12. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

Bettering the Evaluation and Care of Health (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which the AIHW Australian General Practice Statistics and Classification Unit conducts. 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. A more detailed explanation of the BEACH methods can be found in *General practice activity in Australia 2008–09* (Britt et al. 2009).

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). Further detailed analyses of this issue are covered in *General practice in Australia, heath priorities and policies 1998–2008* (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.'

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.3% of total GP encounters in the survey.

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. State and territory health departments provide information annually on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the AIHW.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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

Data on the self-reported prevalence of diabetes were measured in the 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.
- The greatest difference in prevalence rates between Indigenous and non-Indigenous Australians was among those aged 25–34 years. Indigenous Australians were 6.8 times as likely to report diabetes as non-Indigenous Australians in this age group (Table 1.08.1; Figure 1.08.1).
- Prevalence of diabetes was highest among those aged 55 years and over for both Indigenous Australians (32%) and non-Indigenous Australians (12%) (Figure 1.08.1).
- 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 1.08.2).
- Prevalence of diabetes was higher among Indigenous Australians in remote areas than among Indigenous Australians in non-remote areas (9% compared with 5%) (Table 1.08.3).
- There was no significant change in the prevalence of diabetes among Indigenous Australians between 1995, 2001 and 2004–05 (Table 1.08.3).

Table 1.08.1: Persons reporting diabetes/high sugar levels, by Indigenous status and age group, 2004–05[(a)]

Age group	Indigenous	Non-Indigenous	Ratio[(b)]
	Per cent	**Per cent**	
0–14	—[(c)]	—[(d)]	n.p.
15–24	1.0[(d)]	0.5[(d)]	1.9
25–34	4.3	0.6	6.8*
35–44	10.0	2.0	5.1*
45–54	20.7	4.0	5.2*
55 years and over	32.1	11.6	2.8*
Total	**6.0**	**4.0**	**1.5***
Total (age-standardised)[(e)]	**12.0**	**4.0**	**3.0***

* Represents statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Self-reported data from the National Aboriginal and Torres Strait Islander Health Survey 2004–05.

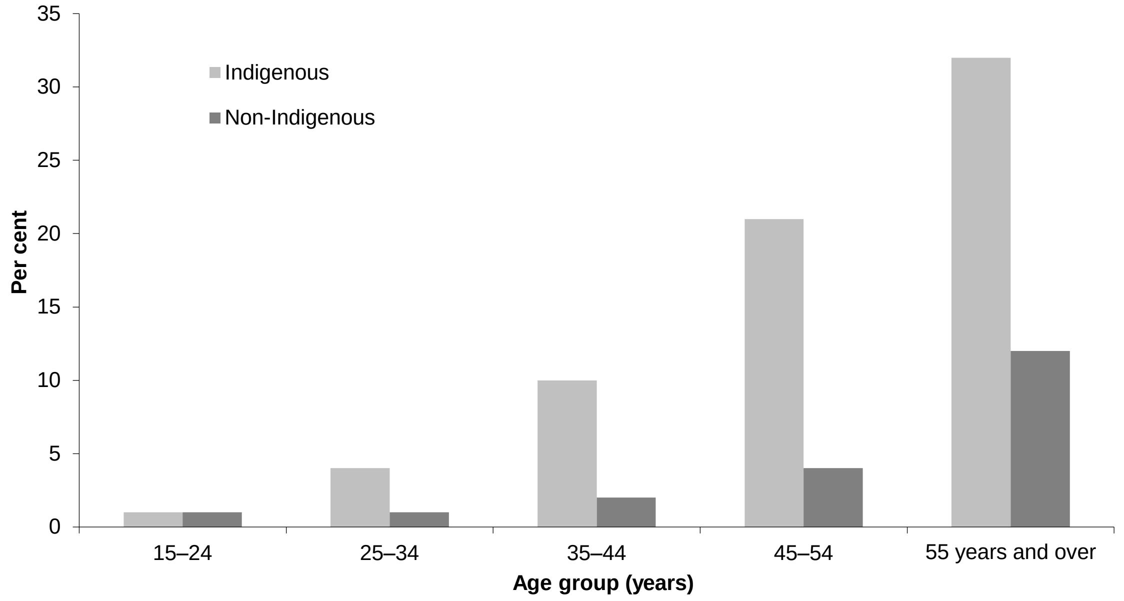
(b) Indigenous proportion divided by non-Indigenous proportion

(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 of 25% to 50% and should be used with caution.

(e) Total is a directly age-standardised proportion.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.



Source: AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

Figure 1.08.1: Proportion of persons reporting diabetes/high sugar levels, by Indigenous status and age group, 2004–05

Table 1.08.2: 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 1.08.3: 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 1.08.4).
- 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 (8.1% compared to 17%).
- Indigenous people who smoked daily in the last 12 months reported a lower incidence of diabetes (13% and 19%).
- A lower proportion of Indigenous people reported diabetes who had used substances in the previous 12 months (4% and 11%).
- 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 1.08.4: 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 [(b)]
	Has diabetes	Does not have diabetes	Has diabetes	Does not have diabetes	Has diabetes
	Per cent				
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[(c)]					
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[(c)]					
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[(c)]					
Yes	8.1	91.9	2.9	97.1	2.8
No	17.4	82.6	5.0	95.0	3.5

(continued)

Table 1.08.4 (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		Non-Indigenous		Ratio
	Has diabetes	Does not have diabetes	Has diabetes	Does not have diabetes	Has diabetes
			Per cent		
Whether used substances in last 12 months[(c)(d)]					
Yes	3.7	96.3	n.a.	n.a.	n.a.
No	10.7	89.3	n.a.	n.a.	n.a.
Physical activity[(d)]					
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**	**4.6**	**95.4**	**2.1**
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) Indigenous proportion divided by non-Indigenous proportion who have diabetes.

(c) Persons aged 18 years and over.

(d) Non-remote areas only.

Source: AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey.

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%) (Table 1.08.5).
- 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 1.08.6).

Table 1.08.5: 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*	8.3*
Vic	215	6.6
Qld	1,578*	9.8*
WA	519*	8.2*
SA	103*	3.8*
Tas	39**	2.2**
NT	577	11.1
Total	**4,361**	**8.5**

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

** 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 1.08.6: 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*	11.0*
Inner regional	552*	4.4*
Outer regional	1,054*	9.4*
Total non-remote	*3,438*	*8.5*
Remote	279*	6.6*
Very remote	644	9.6
Total remote	*923*	*8.4*
Total	**4,361**	**8.5**

* 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.

Hospitalisations

- In the 2-year period July 2006 to June 2008, there were 154,111 hospitalisations for diabetes in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, of which 7,456 hospitalisations (4.8%) were of Aboriginal and Torres Strait Islander peoples (Table 1.08.8).

- Diabetes was the principal diagnosis in 1.4% of all hospital separations for Aboriginal and Torres Strait Islander Australians.

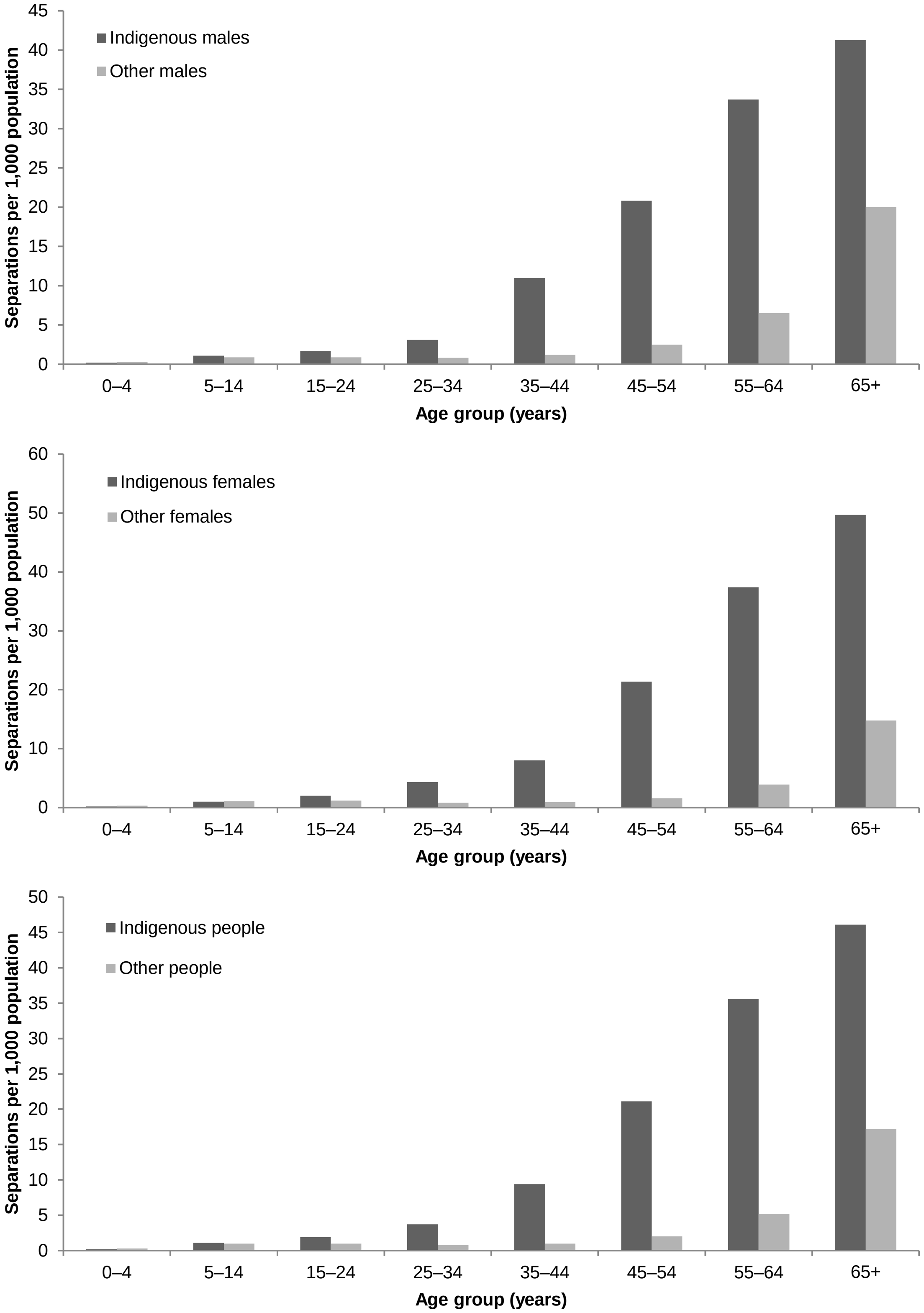
Hospitalisations by age and sex

- For the 2-year period July 2006 to June 2008, 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 other males and females in all age groups from 15–24 years onwards (Figure 1.08.2).
- The greatest difference in rates for males occurred in the 35–44 year age group, where Indigenous males were hospitalised at around 9 times the rate of other males. The greatest difference in rates for females occurred in the 45–54 year age group, where Indigenous females were hospitalised at around 13 times the rate of other females.
- For Indigenous males and females and other males and females, hospitalisation rates for diabetes were highest among those aged 65 years and over (Table 1.08.7).
- Approximately 46% of Indigenous Australians hospitalised for diabetes were males (3,430) and 54% were females (4,026) (Table 1.08.8).

Table 1.08.7: Age-specific hospitalisation rates for a principal diagnosis of diabetes, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+
Males								
Indigenous	0.2	1.1	1.7	3.1	11.0	20.8	33.7	41.3
Other	0.3	0.9	0.9	0.8	1.2	2.5	6.5	20.0
Females								
Indigenous	0.2	1.0	2.0	4.3	8.0	21.4	37.4	49.7
Other	0.3	1.1	1.2	0.8	0.9	1.6	3.9	14.8
Persons								
Indigenous	0.2	1.1	1.9	3.7	9.4	21.1	35.6	46.1
Other	0.3	1.0	1.0	0.8	1.0	2.0	5.2	17.2

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.08.2: Age-specific hospitalisation rates for a principal diagnosis of diabetes, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Hospitalisations by state/territory

Table 1.08.8 presents hospitalisations for a principal diagnosis of diabetes for the 2-year period July 2006 to June 2008 for 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 5 times the rate of other Australian males and females respectively.
- In Western Australia, Indigenous females were hospitalised at almost 8 times the rate of other females, and in the Northern Territory, Indigenous females were hospitalised at 7 times the rate of other females.

Table 1.08.8: Hospitalisations for principal diagnosis of diabetes mellitus, 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				Other(f)				
	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)
NSW									
Males	758	9.2	8.4	10.0	24,534	3.6	3.6	3.7	2.6*
Females	793	9.7	8.9	10.4	20,692	2.6	2.6	2.7	3.7*
Persons	1,551	9.5	8.9	10.1	45,226	3.1	3.1	3.1	3.1*
Vic									
Males	101	5.6	4.2	6.9	23,016	4.5	4.4	4.6	1.2
Females	169	7.8	6.5	9.2	19,607	3.3	3.3	3.4	2.4*
Persons	270	6.7	5.8	7.6	42,623	3.9	3.8	3.9	1.7*
Qld									
Males	1,008	14.4	13.3	15.6	16,808	4.3	4.2	4.3	3.4*
Females	1,147	16.5	15.4	17.6	13,704	3.2	3.1	3.2	5.2*
Persons	2,155	15.7	14.9	16.5	30,512	3.7	3.7	3.7	4.2*
WA									
Males	699	19.5	17.8	21.2	7,799	4.0	3.9	4.1	4.8*
Females	905	24.1	22.4	25.9	6,739	3.1	3.1	3.2	7.7*
Persons	1,604	22.1	20.9	23.4	14,538	3.6	3.5	3.6	6.2*
SA									
Males	326	22.3	19.4	25.1	6,782	4.1	4.0	4.2	5.5*
Females	294	17.5	15.3	19.7	5,965	3.0	3.0	3.1	5.8*
Persons	620	19.6	17.8	21.3	12,747	3.5	3.4	3.6	5.6*
NT									
Males	538	17.8	15.9	19.7	747	6.2	5.7	6.7	2.9*
Females	718	18.8	17.3	20.3	262	2.8	2.4	3.1	6.8*
Persons	1,256	18.2	17.1	19.4	1,009	4.7	4.3	5.0	3.9*
NSW, Vic, Qld, WA, SA, NT(k)									
Males	**3,430**	**13.6**	**13.1**	**14.2**	**79,686**	**4.1**	**4.0**	**4.1**	**3.4***
Females	**4,026**	**15.0**	**14.5**	**15.5**	**66,969**	**3.0**	**3.0**	**3.0**	**5.0***
Persons	**7,456**	**14.4**	**14.1**	**14.8**	**146,655**	**3.5**	**3.5**	**3.5**	**4.1***
Tas									
Males	18	2.0	0.9	3.1	1,613	3.1	2.9	3.2	0.6
Females	26	2.1	1.1	3.0	1,008	1.9	1.7	2.0	1.1
Persons	44	2.0	1.3	2.7	2,621	2.4	2.3	2.5	0.8

(continued)

Table 1.08.8 (continued): Hospitalisations for principal diagnosis of diabetes mellitus, 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				Other[(f)]				
	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)]
ACT									
Males	6	3.7	0.0	8.1	614	2.2	2.0	2.4	1.7
Females	11	9.6	2.3	16.8	582	1.9	1.7	2.0	5.2*
Persons	17	7.0	2.5	11.5	1,196	2.0	1.9	2.1	3.5*

* 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 fifth edition (*National Centre for Classification in Health 2006*).

(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 group 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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. Indigenous rates are calculated using population estimates based on the 2006 Census (SERIES B).
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 Australian Standard Geographical Classification

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 1.08.9, covering the period July 2007 to June 2009.

- Indigenous Australians in all geographic areas were more likely to be hospitalised for diabetes than other Australians. The ratio of hospitalisations of Indigenous people compared to other 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 33 per 1,000. The rate was highest for other Australians who lived in *Very remote* areas, at 8.6 per 1,000. The lowest rates were observed in *Major cities* areas for both Indigenous people (9.4 per 1,000) and other Australians (2.5 per 1,000).
- Indigenous people were hospitalised for this condition at a rate of 12 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 2.5 times that of other Australians. Nationally, the rate was 5.5 times.

Table 1.08.9: Hospitalisations for diabetes mellitus by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other[(g)]				
	Number	**No. per 1,000[(h)]**	**LCL 95%[(i)]**	**UCL 95%[(j)]**	**Number**	**No. per 1,000[(h)]**	**LCL 95%[(i)]**	**UCL 95%[(j)]**	**Ratio[(k)]**
Major cities	1,505	9.4	8.8	9.9	101,770	2.5	2.5	2.5	3.7*
Inner regional	1,202	12.9	12.1	13.8	33,170	3.9	3.8	3.9	3.3*
Outer regional[(l)]	1,996	18.8	17.8	19.7	16,015	4.2	4.2	4.3	4.4*
Remote	1,648	33.0	31.2	34.8	1,370	2.8	2.7	3.0	11.7*
Very remote	1,751	21.4	19.6	23.3	1,173	8.6	8.4	8.7	2.5*
Missing	3	. .	. .	. .	62	. .	. .	. .	. .
Total[(m)]	**8,105**	**16.6**	**16.1**	**17.0**	**153,560**	**3.0**	**3.0**	**3.0**	**5.5***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria

(m) Total includes hospitalisations where ASGC is missing.

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 and 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 hospitalisations for a principal diagnosis of diabetes by type of diabetic condition for the 2-year period July 2006 to June 2008 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- For the period 2006–07 to 2007–08 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, Indigenous males and females were hospitalised for Type 2 non-insulin-dependent diabetes at much higher rates than other males and females (3.7 and 6.2 times respectively). Indigenous Australians were hospitalised for Type 1 diabetes at around twice the rate of other Australians.
- Indigenous males and females were hospitalised for other specified diabetes at 4.5 and almost six times the rate of other males and females respectively.
- Indigenous females were hospitalised for diabetes in pregnancy at 3.6 times the rate of other females.

Table 1.08.10: Hospitalisations of Indigenous persons for principal diagnosis of diabetes mellitus, by type of diabetes and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[a][b][c][d]

	Males						Females						Persons					
Principal diagnosis	**No.**	**%[e]**	**No. per 1,000[f]**	**LCL 95%[g]**	**UCL 95%[h]**	**Ratio[i]**	**No.**	**%[e]**	**No. per 1,000[f]**	**LCL 95%[g]**	**UCL 95%[h]**	**Ratio[i]**	**No.**	**%[e]**	**No. per 1,000[f]**	**LCL 95%[g]**	**UCL 95%[h]**	**Ratio[i]**
Type 2—non-insulin-dependent diabetes (E11)	2,817	82.1	12.2	11.6	12.7	3.7*	3,442	85.5	13.8	13.3	14.3	6.2*	6,259	83.9	13.1	12.7	13.5	4.8*
Type 1—insulin-dependent diabetes (E10)	555	16.2	1.3	1.2	1.4	1.7*	537	13.3	1.1	1.0	1.2	1.5*	1,092	14.6	1.2	1.1	1.3	1.6*
Other specified diabetes (E13)	32	0.9	0.1	0.1	0.1	4.5*	22	0.5	0.1	0.0	0.1	5.8*	54	0.7	0.1	0.1	0.1	5.1*
Unspecified diabetes (E14)	26	0.8	0.1	0.0	0.1	3.3*	25	0.6	0.1	0.0	0.1	4.0*	51	0.7	0.1	0.1	0.1	3.6*
Total[j]	**3,430**	**100.0**	**13.6**	**13.1**	**14.2**	**3.4***	**4,026**	**100.0**	**15.0**	**14.5**	**15.5**	**5.0***	**7,456**	**100.0**	**14.4**	**14.1**	**14.8**	**4.1***
Diabetes in pregnancy (O24)[k]	—	—	—	—	—	—	1,554	27.8	3.1	2.9	3.2	3.6*	—	—	—	—	—	—
Total incl. O24	**3,430**	**100.0**	**13.6**	**13.1**	**14.2**	**3.4***	**5,580**	**100.0**	**18.1**	**17.6**	**18.7**	**4.7***	**7,456**	**100.0**	**14.4**	**14.1**	**14.8**	**4.1***

(continued)

Table 1.08.10 (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 2006 to June 2008[a][b][c][d]

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006); ICD-10-AM codes E10–E14, 024.4.

(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 Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Hospitalisation data for these five jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Proportion of male, female and total hospitalisations of Indigenous people for diabetes (excluding diabetes in pregnancy) in the period 2006–07 to 2007–08. Proportions for diabetes in pregnancy are out of the total number of hospitalisations for diabetes, including diabetes in pregnancy.

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

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: other.

(j) Total excludes diabetes mellitus in pregnancy (O24).

(k) Indigenous females with diabetes mellitus in pregnancy (including pre-existing diabetes mellitus, Type 1, in pregnancy (O24.0); pre-existing diabetes mellitus, Type 2, in pregnancy (O24.1); pre-existing diabetes mellitus, other specified type, in pregnancy (O24.2); pre-existing diabetes mellitus, unspecified, in pregnancy (O24.3); gestational diabetes (O24.4); pre-existing impaired glucose regulation in pregnancy (O24.5) and diabetes mellitus in pregnancy, unspecified onset (O24.9)). Proportion calculated out of those with Type 1, Type 2, other specified, unspecified or diabetes mellitus in pregnancy (E10–E14 and O24).

Notes

1. There were no hospitalisations with a principal diagnosis of malnutrition-related diabetes mellitus (E13).
2. Indigenous rates are calculated using population estimates based on the 2006 Census (SERIES B).
3. 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 additional diagnosis

Table 1.08.11 presents hospitalisations with a principal diagnosis of diabetes by additional causes of hospitalisation for Aboriginal and Torres Strait Islander peoples in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- For the 2-year period July 2006 to June 2008, aside from factors influencing health status and contact with health services for which 67% 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 (60%), diseases of the genitourinary system (42%) and other endocrine, metabolic and nutritional disorders (33%).
- Aside from the diseases mentioned above, insulin-dependent diabetes was commonly reported with an additional diagnosis of diseases of the digestive system (13%), and non-insulin-dependent diabetes was commonly reported with an additional diagnosis of diseases of the eye and adnexa (30%).

Table 1.08.11: Hospitalisations of Indigenous persons for principal diagnosis of diabetes mellitus, by additional diagnosis of hospitalisation, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(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)	52.9	69.5	96.3	39.2	67.0
Diseases of the circulatory system (I00–I99)	17.3	68.2	48.1	19.6	60.2
Diseases of the genitourinary system (N00–N99)	20.6	45.8	25.9	11.8	41.7
Endocrine, nutritional & metabolic diseases (E00–E90) excluding (E10–E14)	20.1	34.9	33.3	11.8	32.6
Diseases of the eye & adnexa (H00–H59)	11.4	30.0	20.4	15.7	27.1
Certain infectious and parasitic diseases (A00–B99)	9.3	19.4	13.0	9.8	17.9
Diseases of the skin & subcutaneous tissue (L00–L99)	5.1	18.5	13.0	9.8	16.4
Diseases of the nervous system (G00–G99)	6.9	17.1	25.9	2.0	15.5
Symptoms, signs & abnormal clinical & laboratory findings (R00–R99)	10.7	14.6	11.1	3.9	13.9
Mental & behavioural disorders (F00–F99)	10.6	10.9	50.0	2.0	11.1
Diseases of the digestive system (K00–K93)	13.0	9.1	48.1	5.9	9.9
Neoplasms (C00–D48)	0.6	0.8	3.7	2.0	0.8
Injury & poisoning (S00–T98)	3.7	8.3	9.3	0.0	7.6
Diseases of the respiratory system (J00–J99)	4.9	7.8	7.4	0.0	7.3
Other[(e)]	6.6	17.7	11.1	5.9	15.9
Total number	**1,092**	**6,259**	**54**	**51**	**7,456**

(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 fifth edition (National Centre for Classification in Health 2006).

(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 and 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 2007–08 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 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.

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 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 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 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for diabetes over the period 2000–01 to 2007–08 are presented in Table 1.08.12 and Figure 1.08.3.

- 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 2000–01 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 0.5 per 1,000 population, which is equivalent to an increase of 20% in the hospitalisation rate over this period.
- There were also significant increases in hospitalisation rates among other 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 2007–08.
- There was a significant decrease in the hospitalisation rate ratio between Indigenous and other Australians for diabetes over the period 2000–01 to 2007–08 (a 23% decline over the period), but no significant change in the hospitalisation rate difference.

Table 1.08.12: Age-standardised hospitalisation rates, rate ratios and rate differences from diabetes, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	924	1,015	1,130	1,078	1,188	1,236	1,335	62*	40.2*
Females	1,084	1,118	1,245	1,278	1,440	1,527	1,537	85*	46.9*
Persons	2,009	2,133	2,375	2,356	2,628	2,763	2,872	147*	43.8*
Other Australian separations									
Males	10,417	11,045	11,985	12,994	14,010	15,143	16,993	1,070*	61.6*
Females	8,654	9,171	9,926	10,996	11,573	12,418	14,252	891*	61.7*
Persons	19,071	20,216	21,911	23,990	25,583	27,561	31,245	1,960*	61.7*
Indigenous rate (separations per 1,000)									
Males	14.8	14.4	16.9	14.9	16.6	17.1	17.1	0.4*	17.4*
Females	15.8	15.4	17.0	16.6	18.2	19.1	18.4	0.6*	22.4*
Persons	15.3	15.0	17.1	15.9	17.5	18.2	17.9	0.5*	20.3*
Other rate (separations per 1,000)[(d)]									
Males	3.2	3.3	3.5	3.6	3.8	4.0	4.4	0.2*	37.0*
Females	2.3	2.4	2.6	2.8	2.8	3.0	3.3	0.2*	39.3*
Persons	2.7	2.8	2.0	3.2	3.3	3.4	3.8	0.2*	45.4*
Rate ratio[(e)]									
Males	4.7	4.4	4.9	4.1	4.3	4.3	3.9	–0.1*	–14.3*
Females	6.8	6.3	6.6	6.0	6.4	6.4	5.6	–0.1*	–11.5*
Persons	5.6	5.3	8.4	5.0	5.3	5.3	4.7	–0.2	–22.7
Rate difference[(f)]									
Males	11.6	11.2	13.5	11.3	12.8	13.1	12.7	0.2	12.1
Females	13.5	12.9	14.4	13.8	15.3	16.1	15.1	0.4*	19.5
Persons	12.6	12.2	15.0	12.7	14.2	14.8	14.1	0.3	14.9

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

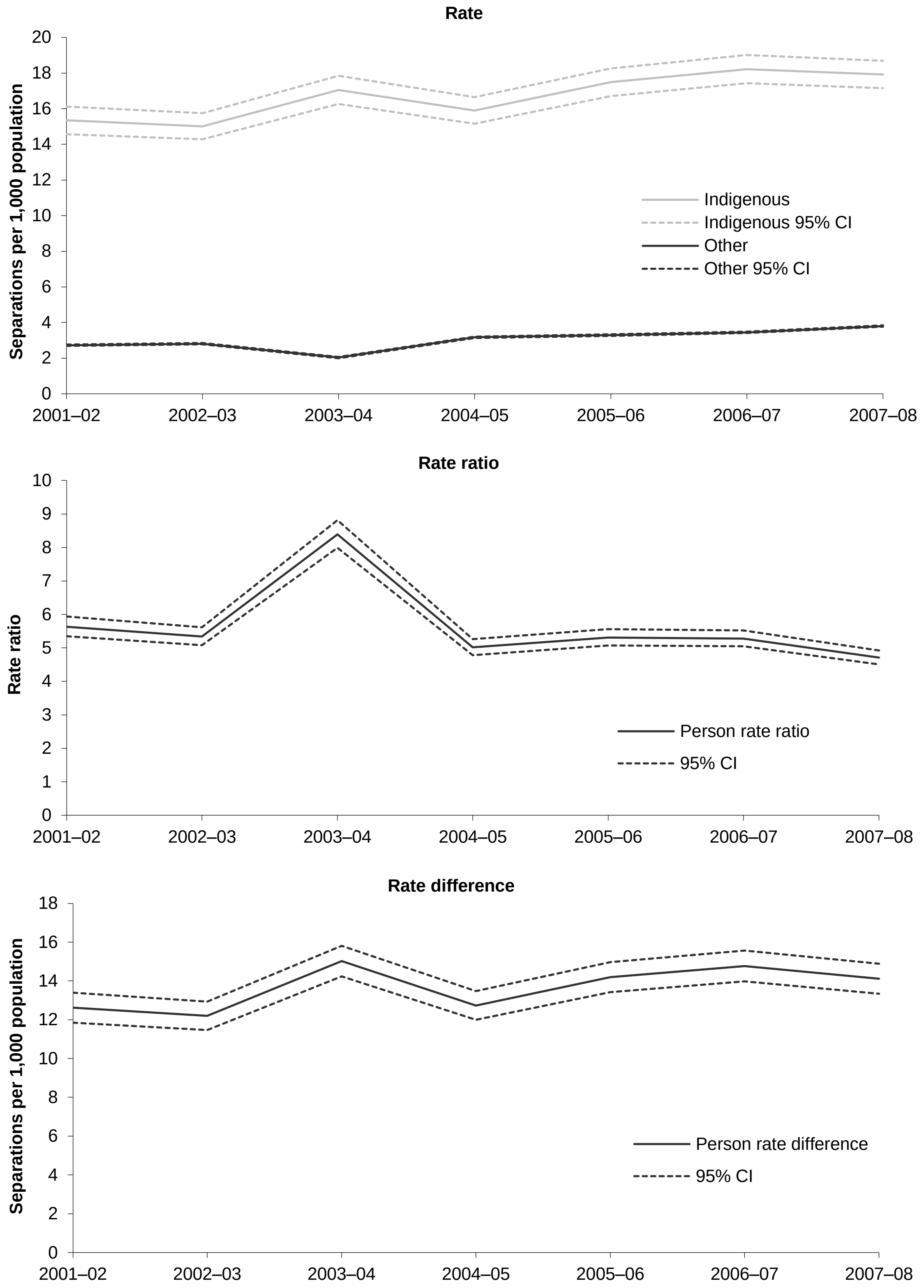
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.08.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from diabetes, Qld, WA, SA and NT, 2001–02 to 2007–08

Diabetes — 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for diabetes over the period 2004–05 to 2007–08 are presented in Table 1.08.13 and Figure 1.08.4.

- 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 2004–05 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 0.7 per 1,000 population, which is equivalent to an increase of 17% in the hospitalisation rate over this period.
- There were also significant increases in hospitalisation rates among other Australian males and females 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 15% increase in the hospitalisation rate between 2004–05 and 2007–08.
- There was no change in the hospitalisation rate ratio between Indigenous and other Australians for diabetes over the period 2004–05 to 2007–08, but there was a significant increase in the hospitalisation rate difference (an 18% increase over the period).

Table 1.08.13: Age-standardised hospitalisation rates, rate ratios and rate differences from diabetes, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	1,384	1,585	1,677	1,753	120*	26.0
Females	1,614	1,815	2,014	2,012	139*	25.9
Persons	2,999	3,400	3,691	3,765	259*	25.9
Other Australian separations						
Males	33,100	35,589	38,381	41,305	2,741*	24.8
Females	28,556	30,651	32,370	34,599	1,985*	20.9
Persons	61,656	66,240	70,751	75,904	4,726*	23.0
Indigenous rate (separations per 1,000)						
Males	11.4	13.1	13.7	13.6	0.7*	18.8
Females	12.9	14.1	15.2	14.9	0.7*	16.2
Persons	12.3	13.7	14.5	14.4	0.7*	17.1
Other rate (separations per 1,000)[(d)]						
Males	3.6	3.8	4.0	4.2	0.2*	15.8
Females	2.7	2.8	2.9	3.1	0.1*	13.5
Persons	3.1	3.3	3.4	3.6	0.2*	14.8
Rate ratio[(e)]						
Males	3.2	3.5	3.4	3.3	0.0	2.4
Females	4.8	5.0	5.2	4.8	0.0	2.4
Persons	4.0	4.2	4.2	4.0	0.0	2.0
Rate difference[(f)]						
Males	7.8	9.4	9.7	9.5	0.5	20.2
Females	10.2	11.2	12.2	11.8	0.6*	17.0
Persons	9.2	10.4	11.1	10.8	0.5*	17.9

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

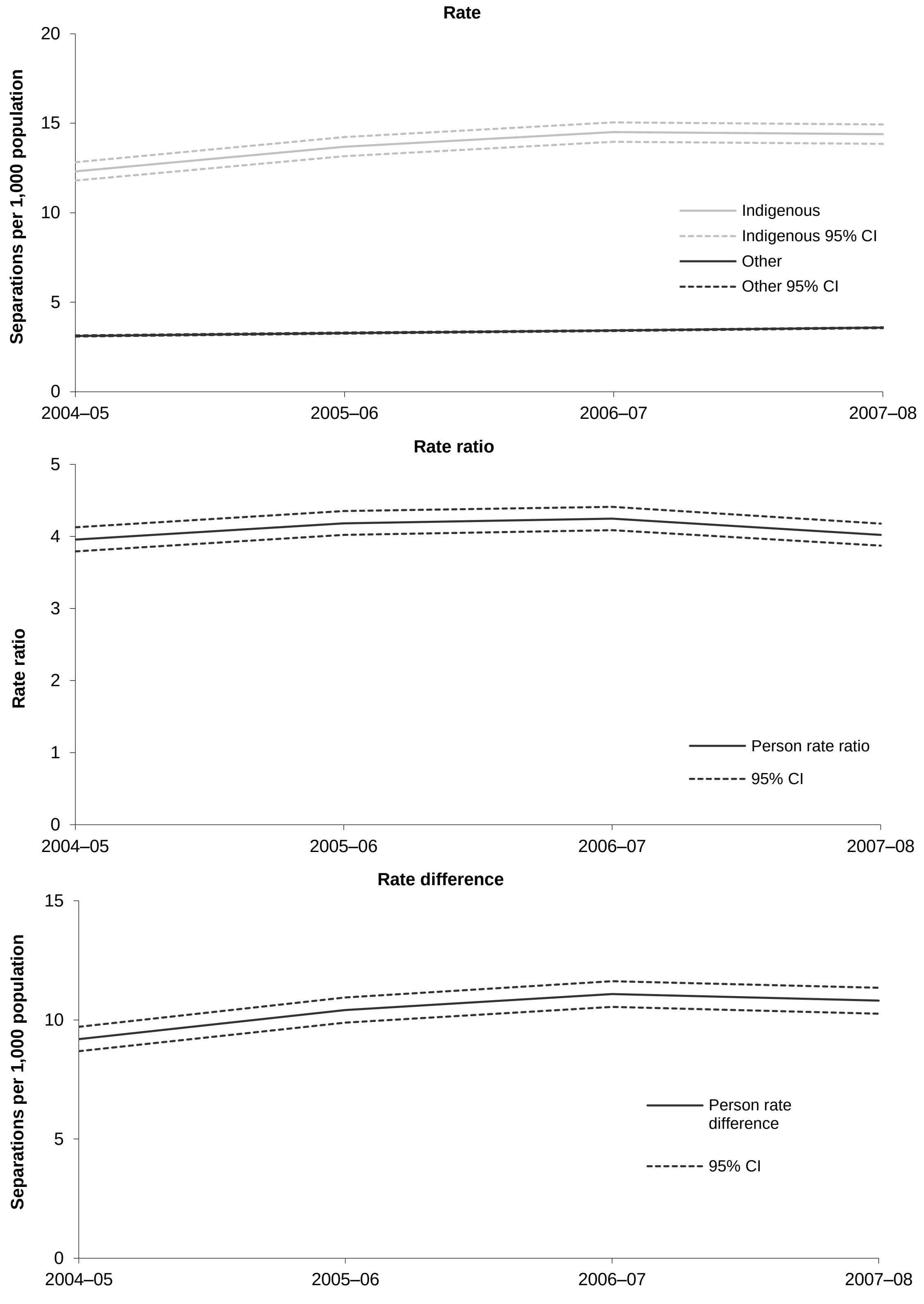
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.08.4: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from diabetes, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

General practitioner encounters

Information about general practitioner (GP) encounters is available from the BEACH survey. Data for the 5-year BEACH reporting period April 2004–March 2005 to April 2008–March 2009 are presented in Table 1.08.14. Diabetes is the most common individual problem managed at GP encounters with Indigenous patients.

- In the period April 2004–March 2005 to April 2008–March 2009 there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,305 problems were managed. Of these, 5.5% (516) of problems managed were for diabetes.
- Diabetes was managed at a rate of 8.4 per 100 GP encounters with Indigenous patients.
- After adjusting for differences in age distribution, diabetes was managed at encounters with Indigenous patients at over three times the rate of encounters with other patients.
- Non-insulin-dependent diabetes (Type 2) was the most common type of diabetes managed at encounters with Indigenous patients—at over three times the rate of encounters with other patients.
- Insulin-dependent diabetes (Type 1) was managed at encounters with Indigenous patients at around three times the rate of encounters with other patients.
- Gestational diabetes was managed at GP encounters with Indigenous females at around four times the management rate of encounters with other females.

Table 1.08.14: Diabetes problems[(a)] managed by general practitioners, by Indigenous status of patient, BEACH years April 2004–March 2005 to April 2008–March 2009[(b)(c)]

	Number		Per cent		Crude rate (no. per 100 encounters)						Age-standardised rate (no. per 100 encounters)[(d)]		
Problem managed	**Indigenous**	**Other[(e)]**	**Indigenous**	**Other[(e)]**	**Indigenous**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Other**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Indigenous**	**Other[(e)]**	**Ratio[(h)]**
Diabetes: non-insulin-dependent (T90)	484	15,467	5.2	2.1	7.9	6.8	9.0	3.2	3.1	3.3	10.8	3.2	3.4
Diabetes: insulin-dependent (T89)	25	1,335	0.3	0.2	0.4	0.2	0.6	0.3	0.3	0.3	0.8	0.3	2.9
Total diabetes: non-gestational	509	16,802	5.5	2.3	8.3	7.2	9.4	3.5	3.4	3.6	11.6	3.4	3.4
Gestational diabetes (W85)[(i)]	7	96	0.1	—	0.1	0.0	0.2	—	—	—	0.1	—	4.1
All diabetes	*516*	*16,898*	*5.5*	*2.3*	*8.4*	*7.3*	*9.6*	*3.5*	*3.4*	*3.6*	*11.6*	*3.5*	*3.4*
Total problems	**9,305**	**733,008**	**100**	**100**	**151.6**	**147.3**	**155.9**	**152.6**	**151.8**	**153.5**	**160.9**	**151.3**	**1.1**

(a) Classified according to ICPC-2 codes (Classification Committee of the World Organization of Family Doctors (WICC) 1998). ICPC-2 codes T90, T89, W85.

(b) Data from five combined BEACH years April 2004–March 2005 to April 2008–March 2009 inclusive.

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

(d) Directly age-standardised rate (no. per 100 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 Indigenous: other.

(i) Proportions, rates and ratios are for females only.

Source: AIHW analysis of BEACH survey of general practice, AGPSCC.

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*, *Inner regional* 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 data

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population that these six jurisdictions cover is 96%. The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

General Practitioner data (BEACH)

Information about general practitioner (GP) 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. 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 under-counts the number of Indigenous Australians visiting GPs, but the extent of this under-count is not measurable.

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 End stage renal 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 Australia and New Zealand Dialysis and Transplant Registry, the National Mortality Database and the AIHW National Hospital Morbidity Database.

Australia and New Zealand Dialysis and Transplant Registry (ANZDATA)

The data reported here on Indigenous persons with end-stage renal disease (ESRD) have been supplied by ANZDATA. 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.

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 in the Registry is based on self-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).

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. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

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

Additional revised 2007 and preliminary 2008 mortality data for this indicator was supplied by the ABS from the ABS Cause of Death database. For further information see *Causes of Death, Australia, 2008* (ABS 2010).

Data have been combined for the five-year period 2004–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

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.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period from July 2006 to June 2008. An aggregate of two years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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.

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 2006 and 2008, there were 7,279 new patients registered with ANZDATA, of whom 696 (10%) identified as Aboriginal or Torres Strait Islander. This is higher than the proportion of Indigenous people in the total population (2.6%).
- Indigenous people starting ESRD treatment were substantially younger than non-Indigenous Australians starting ESRD treatment. Over half (63%) of new Indigenous patients registered with ANZDATA were aged less than 55 years, whereas less than a third (30%) of non-Indigenous Australians registered were below that age (Table 1.09.1).
- 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 12 and 15 times those for non-Indigenous Australians.
- After adjusting for differences in age structure, the incidence rate of treated ESRD for Indigenous Australians was around eight times the incidence rate of non-Indigenous Australians.
- Between 2006 and 2008, Indigenous males and females were 6 and 12 times as likely to register for treatment of ESRD as non-Indigenous males and females (Table 1.09.2).
- 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 26 in the Northern Territory (Table 1.09.3).
- Incidence rates for ESRD among Indigenous Australians were higher in remote areas of Australia than in *Major cities*. Indigenous Australians were 18 and 20 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 times those for non-Indigenous Australians living in these areas (Table 1.09.4).

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 (AIHW 2005a).

Table 1.09.1: Incidence of end-stage renal disease, by Indigenous status and age group, 2006–2008[(a)]

	Number		Per cent[(b)]		No. per 100,000[(c)]		
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate ratio[(d)]**
0–24	16	219	2.3	3.3	1.8	1.1	1.6
25–44	195	857	28.0	13.0	46.4	4.9	9.5*
45–54	225	926	32.3	14.1	160.7	10.8	14.9*
55–64	180	1,353	25.9	20.6	233.8	19.5	12.0*
65+	80	3,228	11.5	49.0	161.6	39.2	4.1*
Total[(e)]	**696**	**6,583**	**100.0**	**100.0**	**80.4**	**10.1**	**8.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australians comparisons.

(a) Calendar year reporting. Data are presented in three-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 five year age group to 65+.

Source: AIHW analysis of ANZDATA data.

Table 1.09.2: Incidence of end-stage renal disease for Indigenous Australians, by age group and sex, 2006–2008(a)

	Male						Female						Total					
Age group years	**No.**	**Per cent(b)**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(e)**	**Rate ratio (f)**	**No.**	**Per cent**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(e)**	**Rate ratio (f)**	**No.**	**Per cent**	**No. per 100,000(c)**	**LCL 95%(d)**	**UCL 95%(e)**	**Rate ratio(f)**
0–14	n.p.	n.p.	n.p.	n.p.	n.p.	1.0	n.p.	n.p.	n.p.	n.p.	n.p.	0.6	n.p.	n.p.	n.p.	n.p.	n.p.	0.8
15–24	n.p.	n.p.	n.p.	n.p.	n.p.	2.2*	n.p.	n.p.	n.p.	n.p.	n.p.	2.7*	n.p.	n.p.	n.p.	n.p.	n.p.	2.4*
25–34	24	7.5	21.9	13.2	30.7	5.7*	28	7.4	25.0	15.8	34.3	7.8*	52	7.5	23.5	17.1	29.9	6.7*
35–44	70	22.0	73.4	56.2	90.6	9.6*	73	19.3	70.2	54.1	86.3	15.2*	143	20.5	71.7	60.0	83.5	11.7*
45–54	106	33.3	157.2	127.3	187.1	11.2*	119	31.5	164.0	134.5	193.4	21.5*	225	32.3	160.7	139.7	181.7	14.9*
55–64	74	23.3	202.7	156.5	248.9	8.0*	106	28.0	261.9	212.0	311.7	19.0*	180	25.9	233.8	199.7	268.0	12.0*
65 +	35	11.0	165.9	110.9	220.9	3.1*	45	11.9	158.5	112.2	204.8	5.9*	80	11.5	161.6	126.2	197.1	4.1*
Total(g)	**318**	**100.0**	**77.5**	**67.8**	**87.2**	**5.9***	**378**	**100.0**	**83.0**	**73.9**	**92.0**	**11.5***	**696**	**100.0**	**80.4**	**73.8**	**86.9**	**8.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australians comparisons.

(a) Calender year reporting. Data are presented in three-year groupings because of small numbers each year.

(b) Proportion of male, female and total registration rates for Indigenous persons in the period 2006–2008.

(c) Age-specific rates per 100,000 population.

(d) LCL = lower confidence limit.

(e) UCL = upper confidence limit.

(f) Rate ratio Indigenous: 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 five year age group to 65+.

Source: AIHW analysis of ANZDATA data.

Table 1.09.3: Incidence of end-stage renal disease, by Indigenous status, sex and state/territory, 2006–2008[(a)]

	Males			Females			Persons		
	No.	No. per 100,000[(b)]	Ratio[(c)]	No.	No. per 100,000[(b)]	Ratio[(c)]	No.	No. per 1,000[(b)]	Ratio[(c)]
NSW									
Indigenous	39	35.4	2.7*	41	31.2	4.1*	80	33.1	3.2*
Non-Indigenous	1,369	13.2	. .	869	7.6	. .	2,238	10.3	. .
Vic									
Indigenous	12	61.8	4.6*	11	42.7	6.7*	23	51.2	5.2*
Non-Indigenous	1,060	13.6	. .	553	6.4	. .	1,613	9.8	. .
Qld									
Indigenous	90	81.1	6.3*	94	82.5	10.3*	184	82.2	8.0*
Non-Indigenous	769	12.8	. .	515	8.0	. .	1,284	10.3	. .
WA									
Indigenous	66	108.2	8.1*	80	127.7	20.0*	146	118.9	12.2*
Non-Indigenous	401	13.4	. .	205	6.4	. .	606	9.7	. .
SA									
Indigenous	18	80.6	6.5*	25	93.3	14.5*	43	87.3	9.5*
Non-Indigenous	313	12.4	. .	178	6.4	. .	491	9.2	. .
Tas									
Indigenous	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Non-Indigenous	91	11.6	. .	66	7.7	. .	157	9.5	. .
ACT									
Indigenous	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	6	131.0	7.1*
Non-Indigenous	106	25.7	. .	60	12.5	. .	166	18.5	. .
NT									
Indigenous	88	168.9	18.1*	125	204.7	42.7*	213	188	25.7*
Non-Indigenous	20	9.3	. .	8	4.8	. .	28	7.3	. .
Australia									
Indigenous	**318**	**77.5**	**5.9***	**378**	**83.0**	**11.5***	**696**	**80.4**	**8.0***
Non-Indigenous	**4,129**	**13.2**	**. .**	**2,454**	**7.2**	**. .**	**6,583**	**10.1**	**. .**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons.

(a) Calendar year reporting. Data are presented in three-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 five year age group to 65+.

(c) Rate ratio Indigenous: non-Indigenous.

Source: AIHW analysis of ANZDATA data.

Table 1.09.4: Incidence of end-stage renal disease, by Indigenous status and remoteness, 2006–2008[(a)]

	Number		Per cent[(b)]		No. per 100,000[(c)]		
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate ratio[(d)]**
Major Cities	95	4,685	13.7	71.2	39.5	10.9	3.6*
Inner Regional	64	1,275	9.3	19.4	40.0	9.3	4.3*
Outer Regional	179	536	25.7	8.1	98.2	8.7	11.3*
Remote	126	64	18.1	1.0	148.6	8.4	17.7*
Very Remote	232	22	33.3	0.3	167.9	8.5	19.9*
Australia[(e)]	**696**	**6,583**	**100.0**	**100.0**	**80.4**	**10.1**	**8.0***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous Australian comparisons.

(a) Calendar year reporting. Data are presented in three-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 five year age group to 65+.

(d) Rate ratio Indigenous: non-Indigenous.

(e) 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 1991–2008 are presented below (Table 1.09.5; Figure 1.09.1).

- The number of Indigenous patients starting ESRD treatment has more than quadrupled since 1991 (from 54 in 1991 to 242 in 2008).
- Over the period 1991–2008, 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 2.4 per 100,000, which is equivalent to a 130% 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 96% for males and 48% 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 1991–2008 (143% in the rate difference and 23% 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 1.09.5: Age-standardised incidence rates, rate ratios and rate differences for end-stage renal disease, 1991–2008

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(a)]	Per cent change over period[(b)]
Indigenous																				
Males	26	25	41	45	58	46	57	67	59	66	71	81	81	88	90	103	105	110	4.7*	309.2*
Females	28	39	49	67	70	57	95	70	98	84	104	91	92	105	125	117	129	132	5.4*	330.1*
Persons	54	64	90	112	128	103	152	137	157	150	175	172	173	193	215	220	234	242	10.2*	320.0*
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	51.2*	161.1*
Females	385	429	473	499	507	563	551	586	644	672	692	661	725	673	808	842	770	842	25.4*	112.1*
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	76.6*	140.7*
Indigenous rate (no. per 100,000)[(c)]																				
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	2.6*	156.8*
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	2.2*	112.0*
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	2.4*	130.1*
Non-Indigenous[(c)] 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	0.4*	95.6*
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	0.1*	47.8*
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	0.2*	74.1*
Rate ratio[(d)]																				
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	0.1	21.8
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	0.1	34.8
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	0.1	22.7

(continued)

Table 1.09.5 (continued): Age-standardised incidence rates, rate ratios and rate differences for end-stage renal disease, 1991–2008

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[a]	Per cent change over period[b]
Rate difference[e]																				
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	2.2*	177.0*
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	2.1*	122.3*
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	2.1*	142.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991–2008.

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

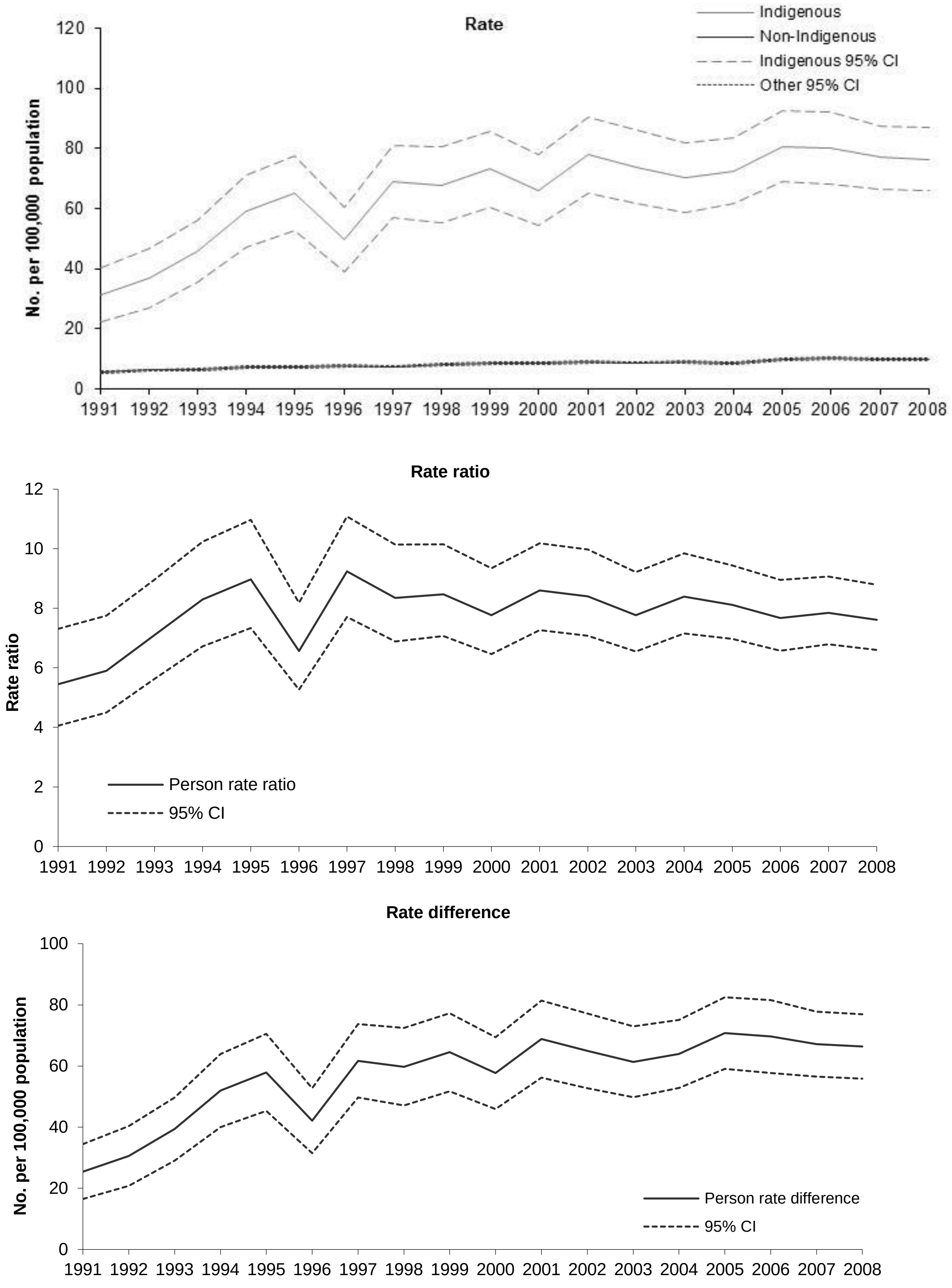
(b) Per cent change between 1991 and 2008 based on the average annual change over the period.

(c) Rates have been directly age-standardised using the 2001 Australian standard population. Age standardised rates have been calculated using the direct method, age standardised by five year age group to 75+.

(d) Incidence rate for Indigenous people divided by the rate for non-Indigenous Australians.

(e) 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 1.09.1: Age-standardised registration rates, rate ratios and differences for end-stage renal disease, by Indigenous status, 1991–2008

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 2008, of all Indigenous ESRD patients registered, 88% relied on dialysis and only 12% had received a kidney transplant. In contrast, 55% of non-Indigenous Australians living with ESRD relied on dialysis and 45% had received a kidney transplant (Table 1.09.6).
- Indigenous Australians with ESRD were 10 times as likely as non-Indigenous Australians to rely on dialysis.

Once dialysis treatment has started, Indigenous people are less likely than other 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 other 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 1.09.6: Total patients with end-stage renal disease, by Indigenous status and treatment, as at 31 December 2008[a]

	Number		Per cent[b]		No. per 100,000[c]		
Treatment	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Ratio**[d]
Dialysis	1,147	8,915	87.8	54.7	390.2	39.9	9.8*
Transplant	159	7,382	12.2	45.3	45.7	33.9	1.3*
Total	**1,306**	**16,297**	**100.0**	**100.0**	**435.9**	**73.8**	**5.9***

* Represents results with statistically significant differences 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 five year age group to 75+.

(d) Rate ratio Indigenous: non-Indigenous.

Source: AIHW analysis of ANZDATA data.

Hospitalisations

- Over the period June 2006 to July 2008, there were 1,916,287 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 224,457 (11.7%) 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 2006 to July 2008 are presented in Tables 1.09.7 and 1.09.8.

- 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 other Australians, and chronic renal failure at around six times the rate of other Australians.
- Approximately 45% of Indigenous Australians hospitalised for chronic kidney disease and its sequelae were males (101,300) and 55% were females (123,157).
- Indigenous males were hospitalised for chronic kidney disease with dialysis at over eight times the rate of other males, and Indigenous females were hospitalised for chronic kidney disease at over 15 times the rate of other females (Table 1.09.8).
- Over the period June 2006 to July 2008, there were 224,457 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 other Australians.

Table 1.09.7: Hospitalisations for chronic kidney disease and its sequelae, by Indigenous status and type of kidney disease, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[a][b][c][d]

	Number		Per cent[e]		Indigenous			Other[f]			
	Indigenous	Other[f]	Indigenous	Other[f]	No. per 1,000[g]	95% LCL[h]	95% UCL[i]	No. per 1000[g]	95% LCL[h]	95% UCL[i]	Rate Ratio[j]
Care involving dialysis (ESRD)	220,763	1,645,262	98.4	97.2	421.5	419.5	423.4	39.1	39.1	39.2	10.8*
Diabetic nephropathy	1,312	10,062	0.6	0.6	2.7	2.5	2.9	0.2	0.2	0.2	11.4*
Renal-tubulo interstitial diseases	966	12,780	0.4	0.8	1.2	1.1	1.3	0.3	0.3	0.3	3.6*
Chronic renal failure	626	9,448	0.3	0.6	1.2	1.1	1.3	0.2	0.2	0.2	5.5*
Glomerular diseases	459	4,904	0.2	0.3	0.3	0.3	0.4	0.1	0.1	0.1	2.6*
Hypertensive renal disease	55	1,395	–	0.1	0.1	0.1	0.1	–	–	–	2.7*
Other chronic diseases	276	7,979	0.1	0.5	0.3	0.3	0.4	0.2	0.2	0.2	1.7*
Total	**224,457**	**1,691,830**	**100.0**	**100.0**	**427.3**	**425.3**	**429.3**	**40.3**	**40.2**	**40.3**	**10.6***

* Represents results with statistically significant differences in the Indigenous/other comparisons.

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

(b) Categories are based on the ANZDATA for this measure. Other coding categories are based on the ICD-10-AM fifth edition (National Centre for Classification of Health 2006); ICD-10-AM codes Z49; E102, E112, E132 and E142; N11–N12 and N14–N16; N18–N19; N00–N08; I12–I13, I150 and I151; N25–N28, N391, N392, Q60–Q63, T824, T861, and Z940.

(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. Data for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. 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 other people in the period 2006–07 to 2007–08.

(f) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Directly age-standardised using the Australian 2001 standard population. Age standardised rates have been calculated using the direct method, age standardised by five year age group to 75+.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

Notes

1. Population estimates are 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.

Table 1.09.8: 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 2006 to June 2008[(a)(b)(c)(d)]

	Males						Females					
	No.	Per cent[(e)]	No. per 1,000[(f)]	95% LCL[(g)]	95% UCL[(h)]	Rate ratio[(i)]	No.	Per cent[(e)]	No. per 1,000[(f)]	95% LCL[(g)]	95% UCL[(h)]	Rate ratio[(i)]
Care involving dialysis (ESRD)	99,711	98.4	416.1	413.0	419.1	8.1*	121,052	98.3	430.8	428.2	433.4	14.9*
Diabetic nephropathy	636	0.6	2.7	2.5	3.0	8.9*	676	0.5	2.7	2.4	2.9	14.8*
Renal-tubulo interstitial diseases	114	0.1	0.3	0.3	0.4	3.0*	852	0.7	1.9	1.8	2.1	3.7*
Chronic renal failure	401	0.4	1.8	1.6	2.0	6.7*	225	0.2	0.7	0.6	0.9	4.0*
Glomerular diseases	263	0.3	0.4	0.3	0.4	2.4*	196	0.2	0.3	0.2	0.3	2.9*
Hypertensive renal disease	26	–	0.1	–	0.1	1.9*	29	–	0.1	0.1	0.1	4.0*
Other chronic diseases	149	0.1	0.4	0.3	0.5	1.7*	127	0.1	0.3	0.3	0.4	1.9*
Total	**101,300**	**100.0**	**421.8**	**418.8**	**424.9**	**8.1***	**123,157**	**100.0**	**436.8**	**434.2**	**439.4**	**14.5***

* Represents results with statistically significant differences in the Indigenous/other comparisons.

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

(b) Categories are based on the ANZDATA for this measure. Other coding categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006); ICD-10-AM codes Z49; E102, E112, E132 and E142; N11–N12 and N14–N16; N18–N19; N00–N08; I12–I13, I150 and I151; N25–N28, N391, N392, Q60–Q63, T824, T861, and Z940.

(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. Data for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. 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 other people in the period 2006–07 to 2007–08.

(f) Directly age-standardised using the Australian 2001 standard population. Age standardised rates have been calculated using the direct method, age standardised by five year age group to 75+.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: other.

Notes

1. Population estimates are 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.

Mortality

Data for this section come from the forthcoming report *Chronic kidney disease in Aboriginal and Torres Strait Islander people 2011* (AIHW forthcoming) report.

- Over the period 2003–2007, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 8,976 deaths for which chronic kidney disease was recorded as the underlying cause of death, of which 356 deaths (4.0%) were for Indigenous Australians.
- Approximately 45% of all Indigenous Australians who died from chronic kidney disease were males and 55% were females.
- After adjusting for differences in age structure, Indigenous Australians were 4.2 times as likely as non-Indigenous Australians to have died from chronic kidney disease between 2003 and 2007.
- Indigenous males died from chronic kidney disease at almost four times the rate of non-Indigenous males, and Indigenous females died from chronic kidney disease at almost five times the rate of non-Indigenous females.

Data quality issues

Australia and New Zealand Dialysis and Transplant Registry (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). Datasets 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

The completeness of identification of Indigenous people in the registry is not known. However the nature of the illness means that treatment centres have prolonged contact with patients and, therefore, have a considerable opportunity to collect accurate information (Disney et al. 1997).

Indigenous identification is based on self-identification and discussion with the treating physician. There is often significant concern about the quality of Indigenous identification in morbidity, mortality and demographic data sets. However, 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).

National Mortality Database

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 datasets 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 datasets.

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 under-estimates 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 & 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%, Tasmania and the Australian Capital Territory were not calculated because of small numbers, Australia 55% (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).

National Hospital Morbidity Database

Hospital separations data

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.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005b).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. Based on an analysis of a sample of data conducted in 2010, an estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08 (AIHW 2010). In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data in all states and territories. Results from this assessment indicate that all hospitals in New South Wales, Victoria, Queensland, Western Australia and South Australia and public hospitals in the Northern Territory have adequate Indigenous identification (80% or higher overall levels of Indigenous identification in public hospitals only) in their separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also 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.

- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.
- Bias may have been introduced due to the sampling method of hospitals used in the study. Hospitals with high proportions of Indigenous separations were used in the study to ensure sufficient numbers of Indigenous people were included in the study. Proportions of Indigenous separations should therefore not be taken to represent the NHMD overall.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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 2010* (ABS 2009b).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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 Decayed, missing and filled teeth

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 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 ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey, the Western Australian Aboriginal Child Health Survey and the AIHW National Hospital Morbidity Database.

Dental Health Survey Data—Child Dental Health Survey

The AIHW Dental Statistics Research Unit is responsible for a number of data collections in the areas of oral health, access to dental care and dental health services.

Data on children's dental health come from the Child Dental Health Survey, a national survey which monitors the dental health of children enrolled in school dental services that health departments in all states and territories operate. The latest report describes and discusses the survey and presents analyses for the combined years 2003–04. The data covers more than a quarter of a million children from all states and territories except for New South Wales.

The Indigenous status of both child and mother are considered to be two items important to a health monitoring survey. Both items were obtained from information on the patient's treatment card or medical history. However, due to the increasingly limited recording of this information by the state and territory school dental services, they were not included in the 2003–04 report.

The Oral health of Aboriginal and Torres Strait Islander children measure states that data from a total of 341,195 children were included in the analyses: 11,017 (3.2%) Indigenous children and 330,178 (96.8%) non-Indigenous children. The highest proportion of Aboriginal and Torres Strait Islander children was observed in the three-year-old category (6.8%).

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). 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.)

Data were gathered in terms of sociodemographic information (age, sex, and Indigenous status), self-care habits (tooth brushing 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 Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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. The Telethon Institute for Child Health Research, in conjunction with the Kulunga Research Network, undertook the survey in 2001 and 2002. 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.

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.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. An aggregate of 2 years of data has been used, as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in the change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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 the Indigenous children in the prescribed areas through this program by 30 June 2009. It also describes the demographic characteristics of those children who participated in this 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 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 2013.

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 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.

Decayed, missing and filled teeth

Oral health outcomes are usually measured in terms of the number of decayed, missing or filled (DMFT) baby (deciduous) and adult (permanent) teeth (AIHW 2000). The 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 and the Northern Territory. Data for New South Wales are for 2000, for South Australia they are for 2003 and for the Northern Territory they are for 2002.

Deciduous teeth

Mean DMFT

- In New South Wales, South Australia and the Northern Territory, the mean number of decayed, missing or filled deciduous teeth for Indigenous children aged 4–10 years was higher than for non-Indigenous children at all ages (Table 1.10.1, Figure 1.10.1).
- 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.
- 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.

- Children in New South Wales had lower mean numbers of decayed or filled teeth than children in South Australia and the Northern Territory. One possible explanation for this is the different type of dental examination used in New South Wales, where a screening is undertaken rather than a clinical examination as used in other states and territories.
- Indigenous children in the Northern Territory had much higher mean numbers of decayed teeth than Indigenous children in South Australia and New South Wales, whereas for non-Indigenous children, scores were similar across jurisdictions.

Table 1.10.1: Mean number of decayed, missing or filled deciduous teeth, children aged 4–10 years, by Indigenous status, NSW (2000), SA (2003) and NT (2002)

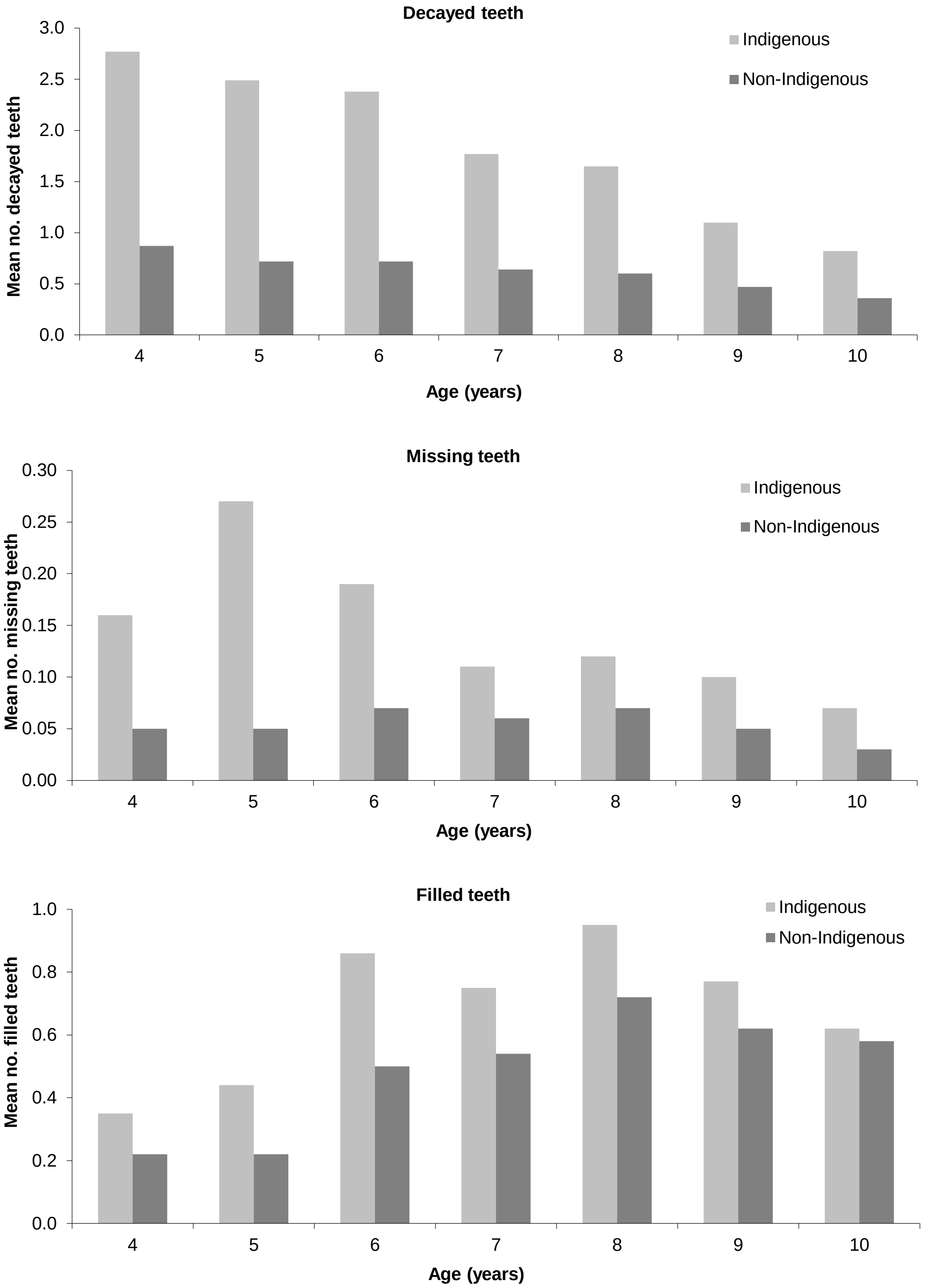
	New South Wales		South Australia		Northern Territory		NSW, SA & NT	
Age	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
				Decayed (d)				
4	1.90*	0.79*	2.48*	0.96*	3.07*	0.82*	2.77*	0.87*
5	1.64*	0.69*	2.11*	0.89*	3.62*	0.92*	2.49*	0.72*
6	1.36*	0.65*	2.10*	0.89*	3.10*	0.85*	2.38*	0.72*
7	1.05*	0.62*	1.54*	0.78*	2.90*	0.73*	1.77*	0.64*
8	0.98*	0.56*	1.22*	0.67*	2.19*	0.67*	1.65*	0.60*
9	0.74*	0.45*	1.27*	0.60*	1.54*	0.54*	1.10*	0.47*
10	0.43*	0.32*	0.58*	0.44*	1.17*	0.38*	0.82*	0.36*
				Missing (m)				
4	(b)0.16*	(a)0.04*	(a)0.33*	0.06*	(a)0.11	(a)0.05	(a)0.16*	0.05*
5	0.33*	0.04*	0.35*	0.09*	(a)0.15*	0.05*	0.27*	0.05*
6	(a)0.16*	0.05*	(a)0.31*	0.10*	(a)0.15*	(a)0.05*	0.19*	0.07*
7	(a)0.12*	0.068	(a)0.21*	0.08*	0.08	0.06	0.11*	0.06*
8	0.13*	0.06*	(a)0.24*	0.08*	(a)0.07	0.09	0.12*	0.07*
9	0.10*	0.048	(a)0.07	0.06	0.09	0.09	0.10*	0.05*
10	0.05	0.03	(b)0.05	0.03	(a)0.08	0.05	0.07*	0.03*
				Filled (f)				
4	(a)0.36*	0.15*	(a)0.58*	0.30*	0.26	0.19	0.35*	0.22*
5	0.30*	0.17*	1.18*	0.51*	0.32*	0.43*	0.44*	0.22*
6	0.57*	0.32*	1.54*	0.94*	0.69	0.76	0.86*	0.50*
7	0.57*	0.43*	1.45*	1.17*	0.72*	0.93*	0.75*	0.54*
8	0.68*	0.49*	1.81*	1.25*	0.76*	1.08*	0.95*	0.72*
9	0.51*	0.498	1.68*	1.29*	0.76*	1.08*	0.77*	0.62*
10	0.49*	0.40*	1.29	1.45	0.44*	0.70*	0.62	0.58*
				Decayed, missing & filled (DMFT)				
4	2.42*	0.98*	3.39*	1.32*	3.44*	1.06*	3.41*	1.33*
5	2.27*	0.90*	3.64*	1.49*	4.09*	1.40*	3.66*	1.31*
6	2.09*	1.02*	3.95*	1.93*	3.94*	1.66*	3.68*	1.54*
7	1.74*	1.11*	3.20*	2.03*	3.70*	1.72*	2.94*	1.54*
8	1.79*	1.11*	3.27*	2.00*	3.02*	1.84*	2.91*	1.60*
9	1.35*	0.98*	3.02*	1.95*	2.39*	1.71*	2.17*	1.34*
10	0.97*	0.75*	1.92	1.92	1.69*	1.13*	1.60*	1.09*

* 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) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

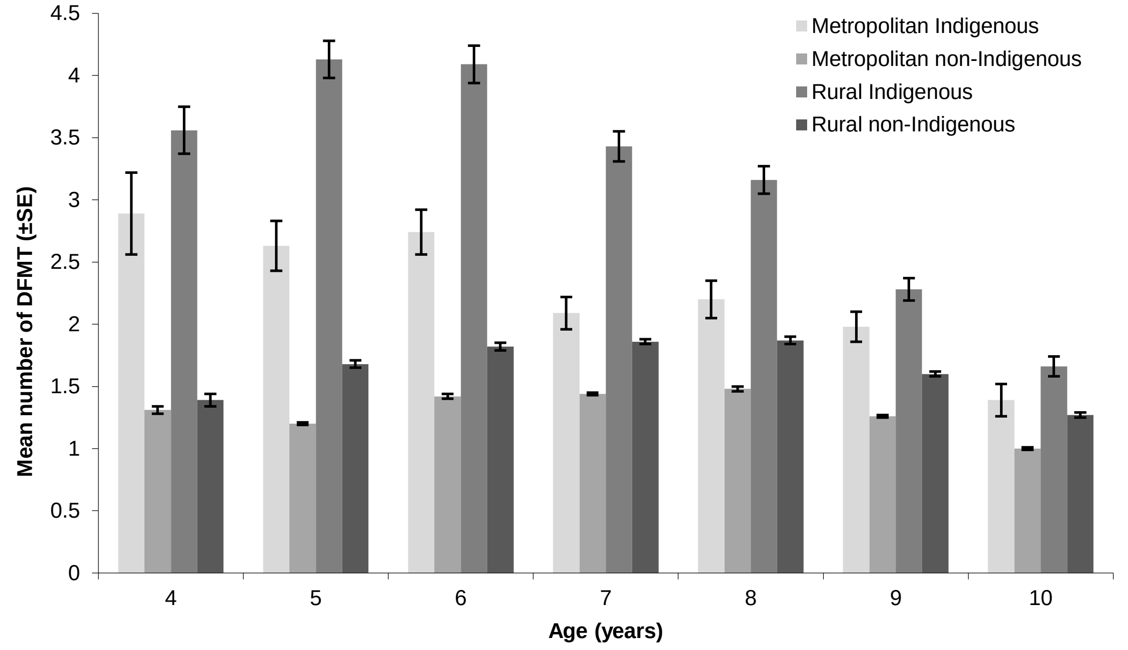
Source: AIHW Dental Statistics Research Unit.



Source: AIHW Dental Statistics Research Unit.

Figure 1.10.1: Mean number of decayed, missing or filled deciduous teeth, children aged 4–10 years, by Indigenous status, NSW (2000), SA (2003) and NT (2002)

- The mean DMFT of children aged 4–10 years by residential location is presented in Figure 1.10.2. In all age groups rural Indigenous children had the highest mean DMFT levels, followed by metropolitan Indigenous children, rural non-Indigenous children and metropolitan non-Indigenous children.



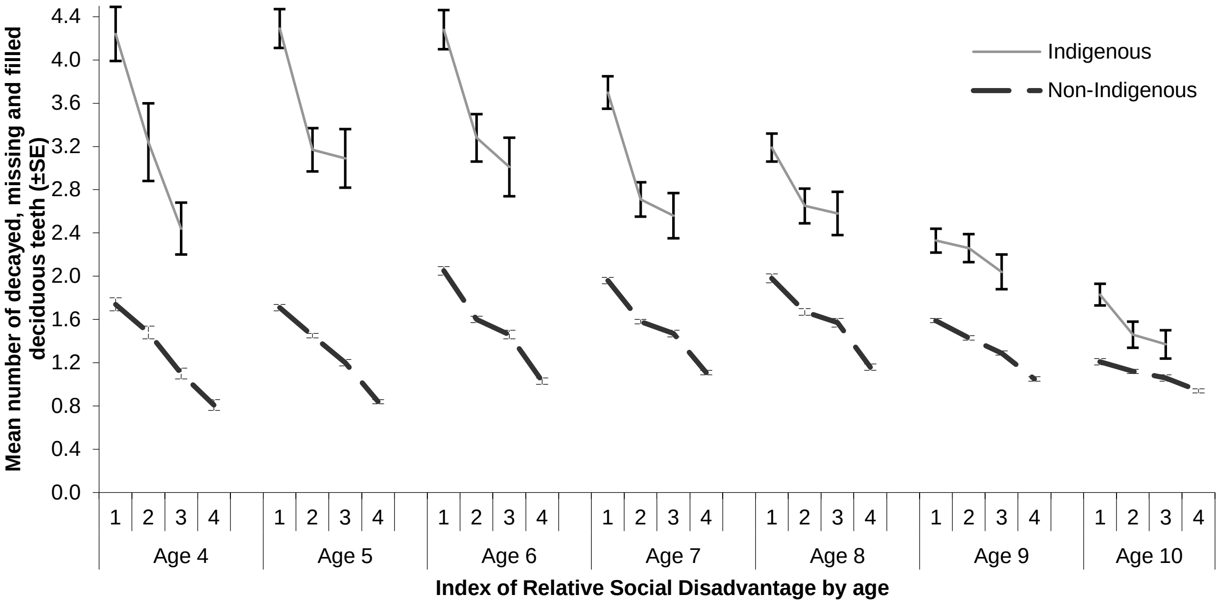
Note: SE = standard error

Source: AIHW DSRU 2007.

Figure 1.10.2: Mean DMFT for Indigenous and non-Indigenous children aged 4–10 years by residential location, NSW (2000), SA (2003) and NT (2002)

The mean DMFT of Indigenous and non-Indigenous children aged 4–10 years by the SEIFA Index of Relative Disadvantage is presented in Figure 1.10.3.

- Indigenous children across all age groups had higher DMFT than non-Indigenous children, and Indigenous children in the most disadvantaged category had higher DMFT than Indigenous children who were less disadvantaged.
- Indigenous children aged 4–6 years from disadvantaged areas had the highest DMFT scores, and this was around 2.5 times the DMFT of non-Indigenous children aged 4–6 years from disadvantaged areas.
- The DMFT difference among Indigenous and non-Indigenous children decreased with increasing age, although across all age groups the DMFT of Indigenous children from the most advantaged areas was less than the DMFT of non-Indigenous children from the most disadvantaged areas.



Notes

1. 1 = most disadvantaged and 4 = least disadvantaged.
2. SE = standard error.
3. $p < 0.05$.
4. The numbers of Indigenous children in the least disadvantaged Index of Relative Social Disadvantage were too small to allow for robust statistical analysis and thus were excluded from analyses.
5. Estimates with a relative standard error greater than 40% have been excluded.

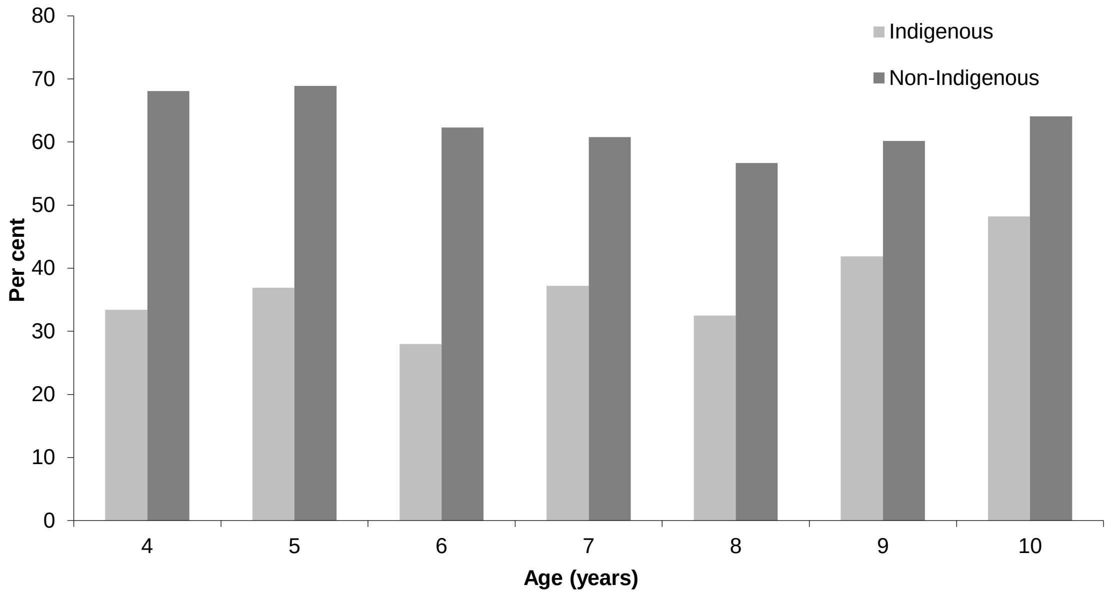
Source: AIHW DSRU 2007.

Figure 1.10.3: Mean DMFT for Indigenous and non-Indigenous children aged 4–10 years by SEIFA Index of Relative Disadvantage, NSW (2000), SA (2003) and NT (2002)

DMFT = 0

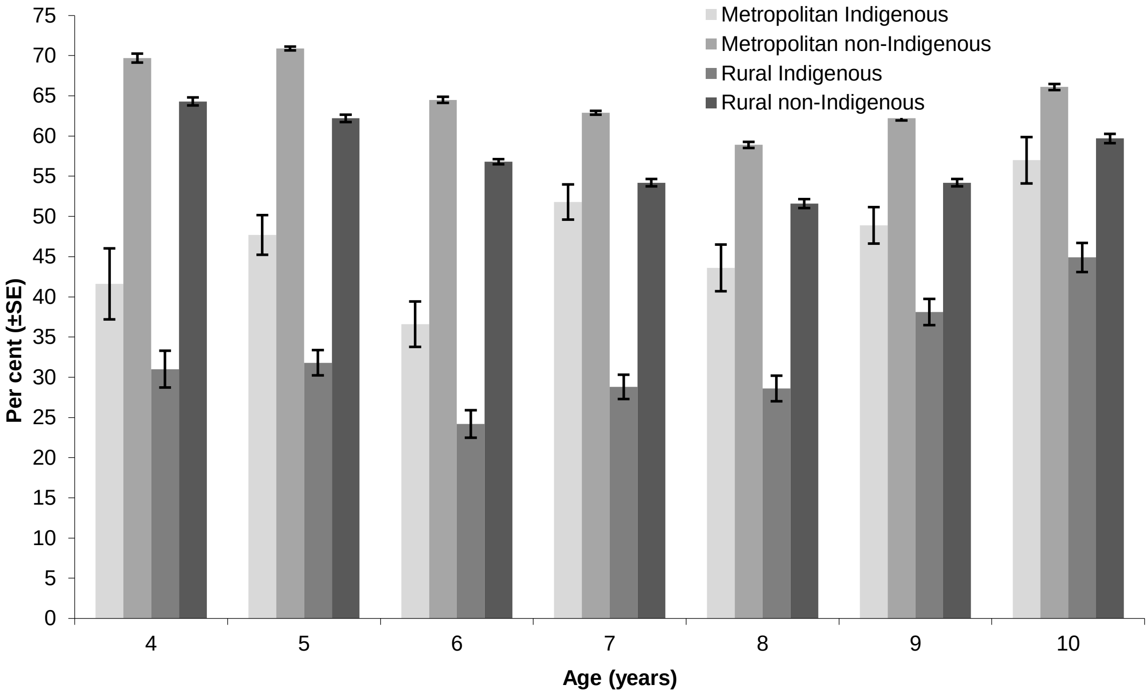
- At all ages, the proportion of Indigenous children in New South Wales, South Australia and the Northern Territory free of caries in their deciduous teeth (DMFT = 0) was lower than the proportion for non-Indigenous children. At age 6 years, twice as many non-Indigenous children had no clinical deciduous caries experience (62.3%) than Indigenous children (28.0%) (Figure 1.10.4).

The proportion of children aged 4–10 years with DMFT = 0 by residential location is presented in Figure 1.10.5. Across all age groups a higher proportion of metropolitan non-Indigenous children had no evidence of dental disease experience in their deciduous teeth, followed by rural non-Indigenous children, metropolitan Indigenous children and rural Indigenous children respectively.



Source: AIHW Dental Statistics Research Unit.

Figure 1.10.4: Proportion of children aged 4–10 years with no decayed, missing or filled deciduous teeth (DMFT = 0), by age and Indigenous status, NSW (2000), SA (2003) and NT (2002)



Note:

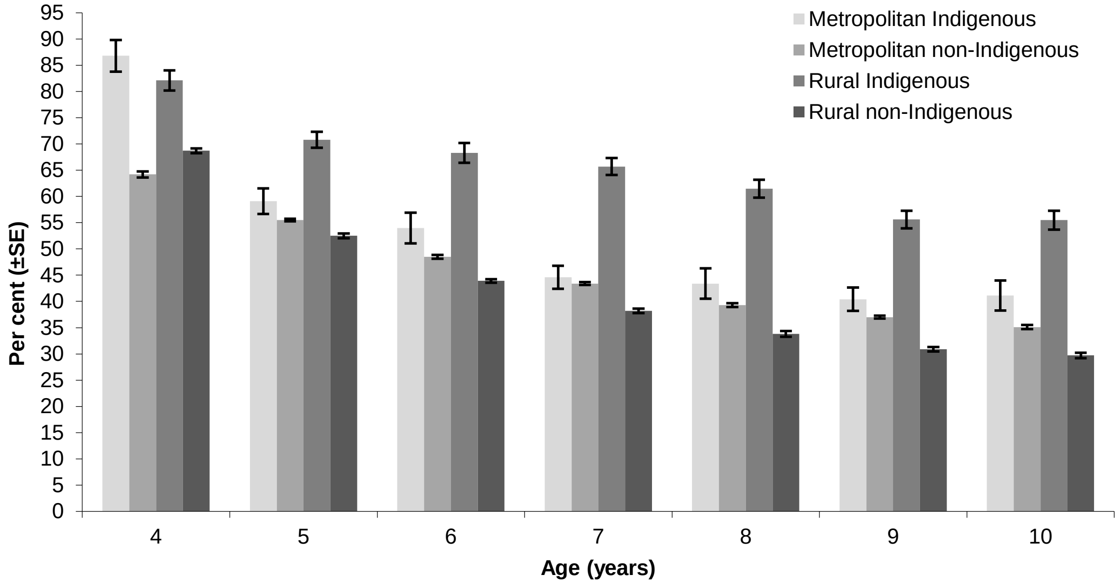
SE = standard error.

Source: AIHW DSRU 2007.

Figure 1.10.5: Proportion of Indigenous and non-Indigenous children aged 4–10 years with DMFT = 0 by residential location, NSW (2000), SA (2003) and NT (2002)

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, with the difference between rural Indigenous and rural non-Indigenous children becoming more marked with increasing age (Figure 1.10.6). Across all age groups, with the exception of 4-year-olds, rural Indigenous children had markedly higher proportions of d/DMFT than their metropolitan and non-Indigenous counterparts.



Note: SE = standard error.

Source: AIHW Dental Statistics Research Unit.

Figure 1.10.6: Children aged 4–10 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 (2000), SA (2003) and NT (2002)

Permanent teeth

Mean DMFT

- In New South Wales, South Australia and the Northern Territory, the mean numbers of decayed and filled 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 1.10.2, Figure 1.10.7). Data are not presented separately for missing permanent teeth because of low numbers.
- As with deciduous teeth, children in New South Wales had lower mean numbers of decayed or filled permanent teeth than children in South Australia and the Northern Territory.
- Indigenous children in the Northern Territory had the highest mean number of decayed teeth, whereas Indigenous children in South Australia had the highest mean number of filled teeth.

Table 1.10.2: Mean number of decayed, missing and filled permanent teeth for children aged 6–15 years, by age and Indigenous status, NSW (2000), SA (2003) and NT (2002)

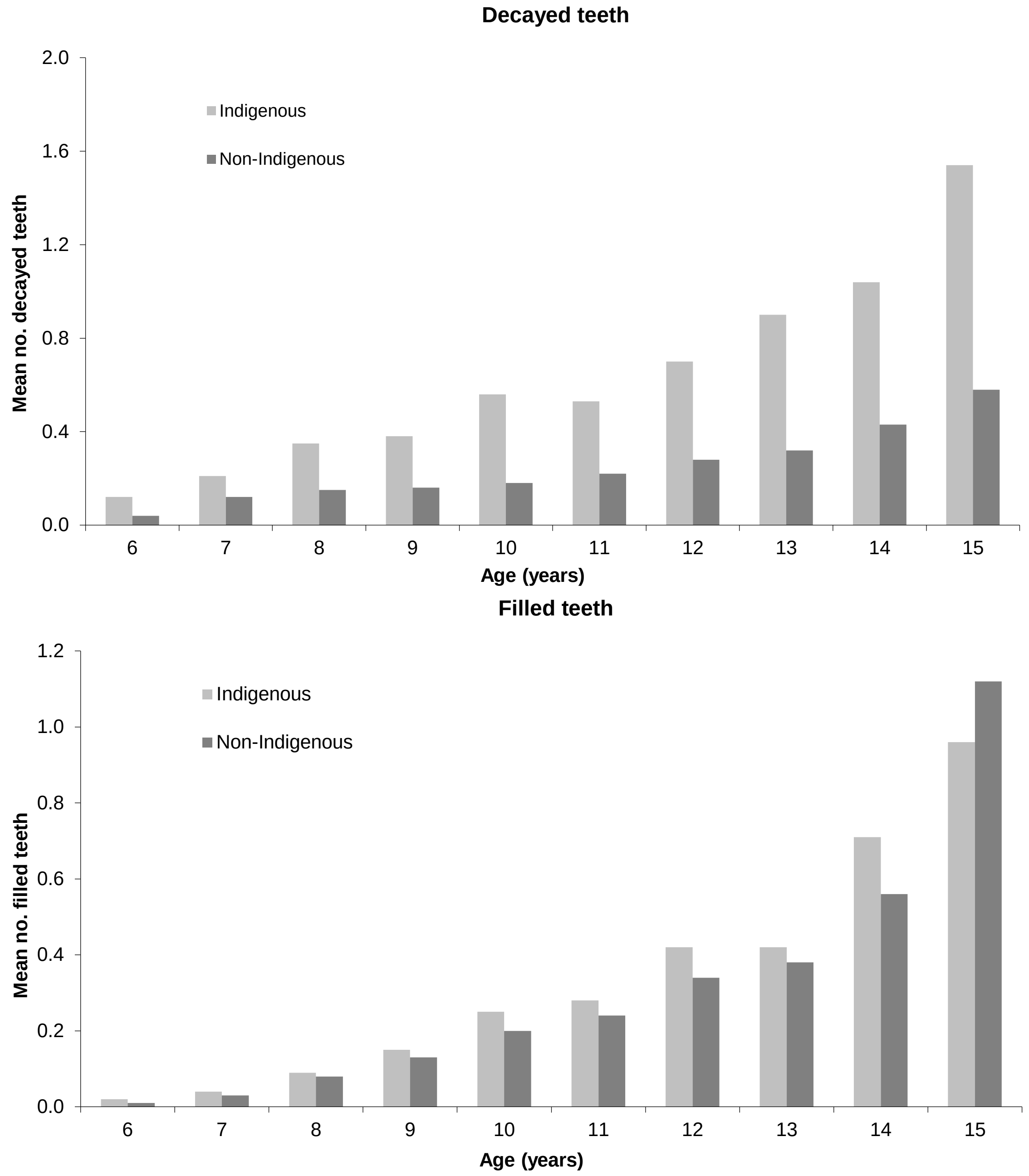
	New South Wales		South Australia		Northern Territory		NSW, SA & NT	
Age	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Decayed (D)								
6	0.09*	0.03*	0.14*	0.06*	0.12*	0.06*	0.12*	0.04*
7	0.17*	0.12*	0.30*	0.17*	0.25*	0.12*	0.21*	0.12*
8	0.29*	0.13*	0.39*	0.18*	0.40*	0.12*	0.35*	0.15*
9	0.29*	0.15*	0.53*	0.19*	0.45*	0.14*	0.38*	0.16*
10	0.37*	0.16*	0.51*	0.21*	0.69*	0.17*	0.56*	0.18*
11	0.36*	0.21*	0.55*	0.24*	0.72*	0.21*	0.53*	0.22*
12	0.54*	0.26*	0.59*	0.31*	0.78*	0.25*	0.70*	0.28*
13	0.66*	0.31*	1.00*	0.41*	1.45*	0.25*	0.90*	0.32*
14	0.82*	0.38*	1.24*	0.50*	1.24	(a)0.74	1.04*	0.43*
15	n.a.	n.a.	1.59*	0.54*	(a)1.31*	(b)0.48*	1.54*	0.58*
Filled (F)								
6	(b)0.01	0.01	(b)0.03	0.01	(b)0.01	0.01	0.02	0.01
7	(a)0.03	0.03	(a)0.06	0.06	(a)0.04	(a)0.04	0.04	0.03
8	(a)0.06	0.06	(a)0.13	0.14	(a)0.08	0.08	0.09	0.08
9	0.11	0.10	0.33	0.27	0.15	0.18	0.15*	0.13*
10	0.22*	0.13*	0.47*	0.35*	0.19	0.21	0.25*	0.20*
11	0.25*	0.20*	0.55*	0.43*	0.21*	0.29*	0.28*	0.24*
12	0.33	0.27	0.67*	0.48*	0.32	0.39	0.42*	0.34*
13	0.34	0.32	0.78	0.66	(a)0.36	0.41	0.42	0.38
14	0.45	0.39	1.12*	0.81*	(a)0.43	(b)0.77	0.71*	0.56*
15	n.a.	n.a.	1.18	1.14	(b)0.11	(b)0.39	0.96	1.12
Decayed, missing & filled (DMFT)								
6	(a)0.11*	0.04*	0.17*	0.07*	0.13*	0.07*	0.16*	0.06*
7	0.21*	0.15*	0.36*	0.22*	0.29*	0.16*	0.31*	0.22*
8	0.36*	0.20*	0.53*	0.32*	0.49*	0.20*	0.51*	0.29*
9	0.42*	0.26*	0.87*	0.47*	0.61*	0.32*	0.64*	0.38*
10	0.61*	0.30*	1.09*	0.57*	0.93*	0.40*	0.94*	0.46*
11	0.63*	0.43*	1.11*	0.68*	0.99*	0.52*	0.96*	0.59*
12	0.87*	0.54*	1.28*	0.80*	1.13*	0.71*	1.25*	0.75*
13	1.03*	0.65*	1.83*	1.09*	1.87*	0.78*	1.62*	0.90*
14	1.37*	0.81*	2.43*	1.34*	1.87	(a)1.51	2.09*	1.18*
15	n.a.	n.a.	2.79*	1.73*	(a)1.60	(b)0.86	2.65*	1.80*

* 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) Estimate has a relative standard error of greater than 50% and is considered too unreliable for general use.

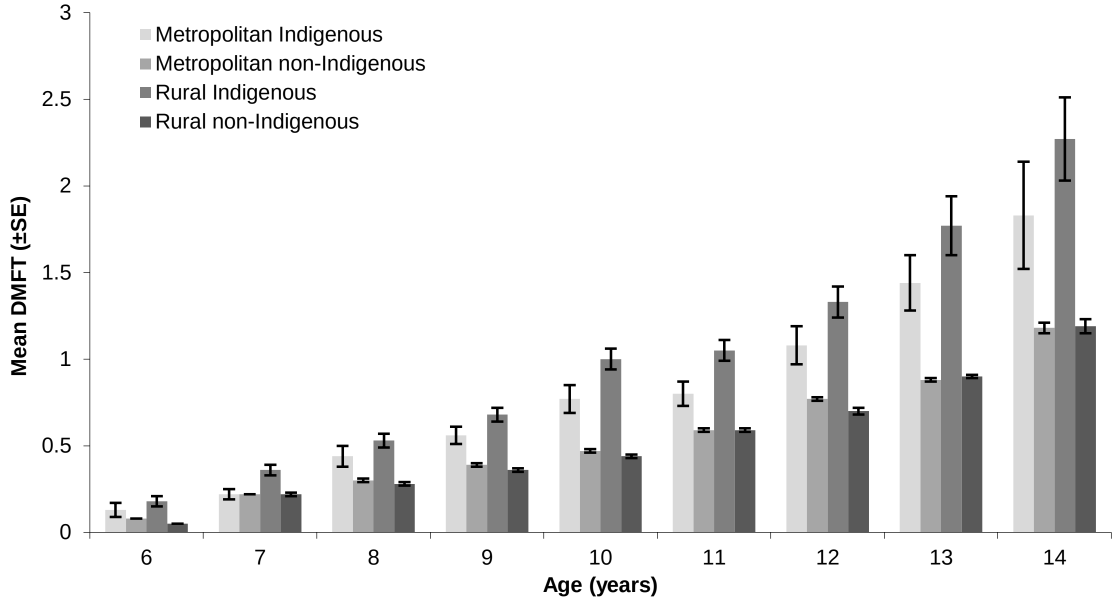
Source: AIHW Dental Statistics Research Unit.



Source: AIHW Dental Statistics Research Unit.

Figure 1.10.7: Mean number of decayed and filled permanent teeth, children aged 6–15 years, by age and Indigenous status, NSW (2000), SA (2003) and NT (2002)

- The mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by residential location is presented in Figure 1.10.8. Indigenous children had higher DMFT than non-Indigenous children across all age groups except metropolitan children aged 7 years, with the difference becoming more marked with increasing age. Across all age groups, rural Indigenous children had greater DMFT than their metropolitan counterparts but rural and metropolitan non-Indigenous DMFT levels were relatively similar. The mean DMFT increased with increasing age for all children, with the steepest gradient occurring among rural Indigenous children.



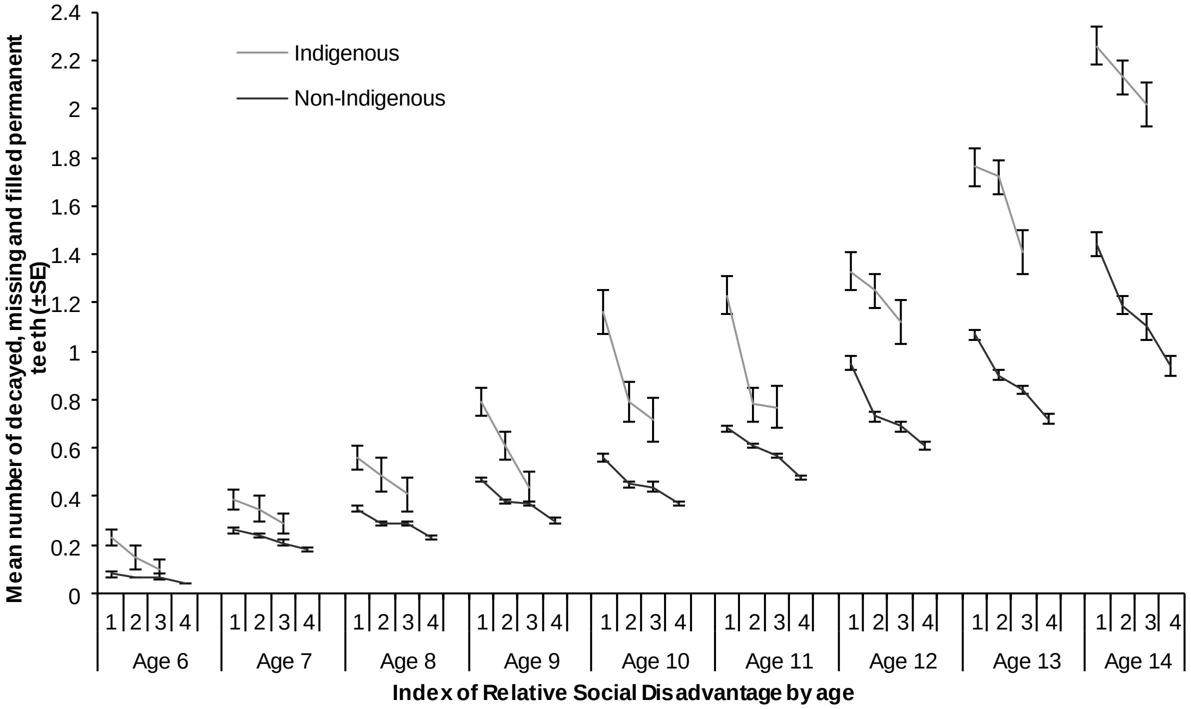
Note: SE = standard error.

Source: AIHW DSRU 2007.

Figure 1.10.8: Mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by residential location, NSW (2000), SA (2003) and NT (2002)

The mean DMFT of Indigenous and non-Indigenous children aged 6–14 years by the SEIFA Index of Relative Disadvantage is presented in Figure 1.10.9.

- Across all age groups, Indigenous children had higher DMFT than non-Indigenous children and this difference increased with increasing age. Indigenous and non-Indigenous children in the most disadvantaged SES category had higher DMFT than their counterparts in more advantaged categories across all age groups, with mean DMFT decreasing with increasing social advantage.
- The highest DMFT was observed among Indigenous children aged 14 years in the most disadvantaged category, and this was 1.6 times the DMFT of similarly disadvantaged non-Indigenous children aged 14 years.
- The greatest DMFT difference among disadvantaged Indigenous and non-Indigenous children was observed among those aged 10 years (Indigenous children aged 10 years from disadvantaged areas had 2.1 times the DMFT of their non-Indigenous counterparts from disadvantaged areas). Across all age groups, except six and nine years, Indigenous children in the least disadvantaged categories had higher DMFT than the most disadvantaged non-Indigenous children.



Notes

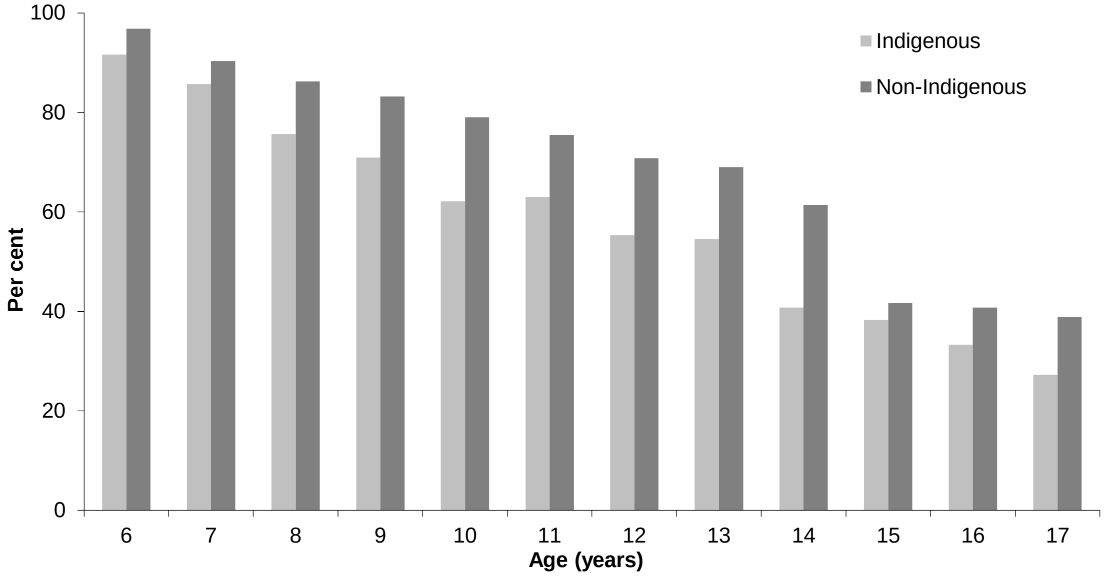
1. 1 = most disadvantaged and 4 = least disadvantaged.
2. SE = standard error.
3. $p < 0.05$.
4. The numbers of Indigenous children in the least disadvantaged Index of Relative Social Disadvantage were too small to allow for robust statistical analysis and thus were excluded from analyses.
5. Estimates with a relatvie standard error greater than 40% have been excluded.

Source: AIHW DSRU 2007.

Figure 1.10.9: Mean DMFT for Indigenous and non-Indigenous children aged 6–14 years by SEIFA Index of Relative Disadvantage, NSW (2000), SA (2003) and NT (2002)

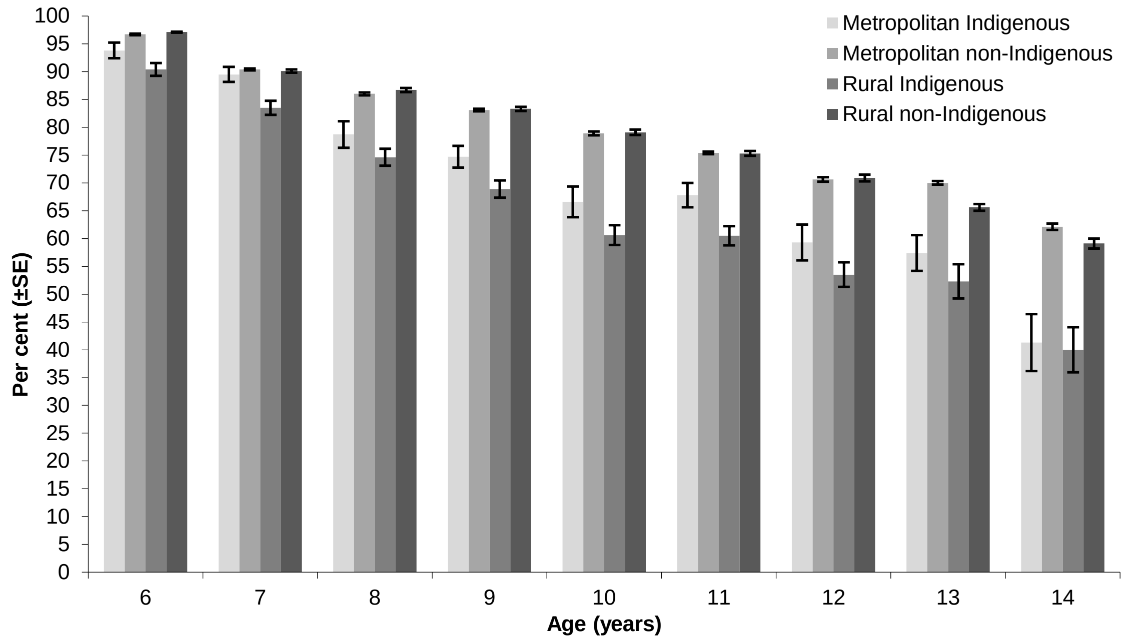
DMFT = 0

- The proportion of Indigenous children in New South Wales, South Australia and the Northern Territory 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, but the differences between Indigenous and non-Indigenous children in the proportion with no clinical caries experience was less marked than with their deciduous teeth (Figure 1.10.10).
- Across all age groups the proportion of children with no evidence of dental disease experience in their permanent teeth was highest among metropolitan and rural non-Indigenous groups, followed by metropolitan Indigenous children and rural Indigenous children respectively (Figure 1.10.11). The highest proportion of children who were caries-free in their permanent teeth were metropolitan and rural non-Indigenous children aged 6 years. The proportion of children with DMFT = 0 generally decreased with increasing age across Indigenous and non-Indigenous groups, with the trend being most marked among rural and metropolitan Indigenous children.



Source: AIHW Dental Statistics Research Unit.

Figure 1.10.10: Proportion of children aged 6–14 years with no decayed, missing or filled permanent teeth (DMFT = 0), by age and Indigenous status, NSW (2000), SA (2003) and NT (2002)



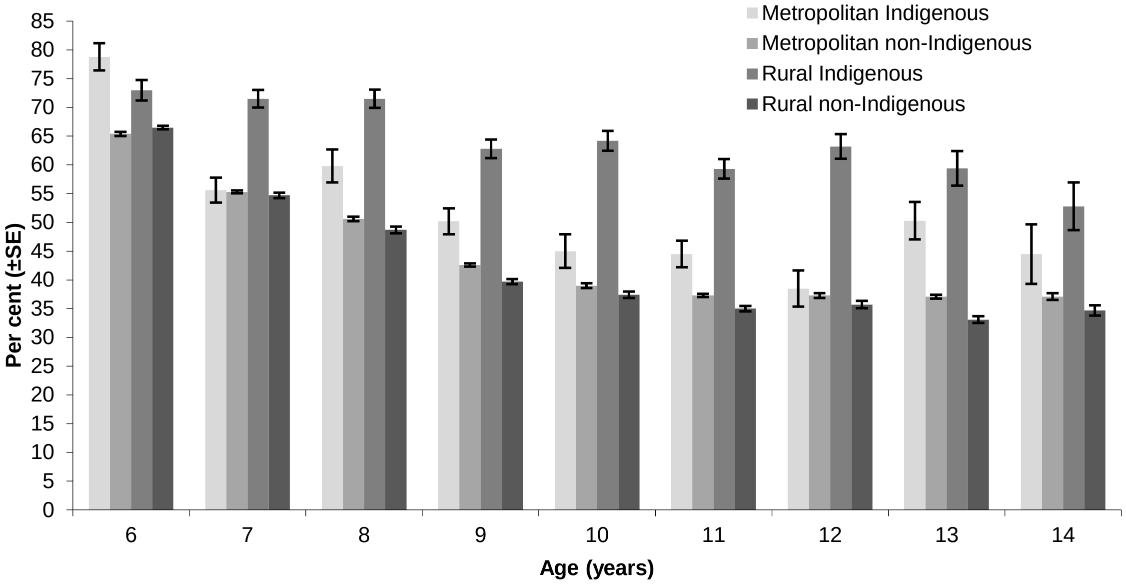
Note: SE = standard error

Source: AIHW DSRU 2007.

Figure 1.10.11: Proportion of Indigenous and non-Indigenous children aged 6–14 years with DMFT = 0 by residential location NSW (2000), SA (2003) and NT (2002)

d/DMFT

- At all ages between 6 and 14 years, there was a higher proportion of Indigenous children in rural areas with untreated permanent decayed teeth as a percentage of those with decayed, missing or filled teeth (d/DMFT) than non-Indigenous children in rural areas (Figure 1.10.12). This was also the case in metropolitan areas for most ages, but the differences between Indigenous and non-Indigenous children with untreated permanent decayed teeth were not as marked as in rural areas.



Source: AIHW Dental Statistics Research Unit.

Note: SE = standard error

Figure 1.10.12: Children aged 6–14 years with decayed deciduous teeth as a proportion of total children with decayed, missing or filled permanent teeth (d/DMFT), by age and Indigenous status, metropolitan and rural areas, NSW (2000), SA (2003) and NT (2002)

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 1.10.3. Overall, the mean DMFT for Indigenous children aged 2–16 years was 4.03 and the mean DMFT score was 1.06.

Indigenous children aged under 5 years and aged 5–9 years had higher mean DMFT than those in older age groups (3.69 to 6.27 compared with 0.08 to 1.99). In contrast, older children had higher mean DMFT scores than their younger counterparts. Indigenous children aged 15–16 years had mean DMFT scores of 3.67 compared with 0.55 and 1.62 for Indigenous children aged 5–9 years and 10–14 years respectively.

Table 1.10.3: Mean DMFT and DMFT scores of remote Indigenous children, by age group, 2000–2003

	Age group				
	<5 years	5–9 years	10–14 years	15–16 years	All children (2–16 years)
Mean DMFT	3.69	6.27	1.99	0.08	4.03
Mean DMFT score	—	0.55	1.62	3.67	1.06

Source: AIHW DSRU 2007.

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 1.10.4.

Dental disease experience in primary teeth was greater for remote Indigenous children (DMFT = 2.94 for 5–6 years) compared with children in South Australia, the Northern Territory and total Australia (DMFT = 1.46 to 2.26 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 1.10.4: Caries experience of remote Indigenous children compared with South Australia, the Northern Territory and total Australia child populations

Population	DMFT (5–6 years)	Per cent DMFT > 0	DMFT (> 12 years old)	Per cent DMFT > 0
Remote Indigenous	2.94	69.0	0.92	43.6
SA	1.46	58.5	0.60	31.4
NT	2.26	47.6	0.97	37.5
Australia	1.56	59.1	0.84	35.1

Source: AIHW DSRU 2007.

Comparison of remote Indigenous child oral health and state/territory Indigenous oral health

Indigenous children aged 6 years in remote communities had higher DMFT levels than their non-remote New South Wales counterparts, but lower levels than non-remote Indigenous children in the Northern Territory and South Australia (Table 1.10.5). Average DMFT levels for Indigenous children aged 12 years were highest among those in the Northern Territory (DMFT = 1.33) and lowest among those in New South Wales (DMFT = 0.87). A higher proportion of Indigenous children aged 6 years in remote communities had caries experience in their deciduous teeth than children in New South Wales and South Australia, and a higher percentage of Indigenous children aged 12 years in remote locations had caries experience in their permanent teeth compared with their New South Wales and South Australia counterparts (Table 1.10.5).

Table 1.10.5: Remote and state/territory caries experience of Indigenous children

Population	DMFT (6 years old)	Per cent DMFT > 0	DMFT (12 years old)	Per cent DMFT > 0
Remote Indigenous	2.94	69.0	0.92	43.6
NSW Indigenous	2.09	55.0	0.87	35.9
SA Indigenous	3.64	49.3	1.28	37.0
NT Indigenous	3.96	67.8	1.33	46.1

Source: AIHW DSRU 2007.

Time series analysis

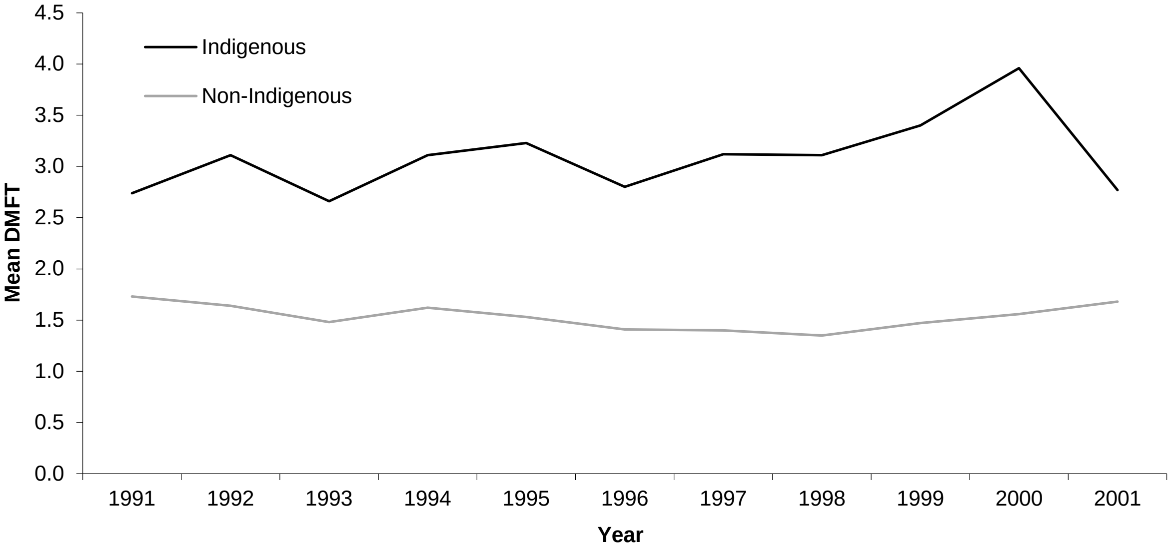
Time series data for caries experience among Indigenous children are available for the Northern Territory and are presented in Table 1.10.6 and Figures 1.10.13 and 1.10.14.

- Between 1991 and 2001, the mean number of decayed, missing and filled deciduous teeth (DMFT) for Indigenous children in the Northern Territory at 6 years of age varied from year to year.
- For the period 1991–2001, there was little change in the number of decayed, missing and filled deciduous (DMFT) and permanent teeth (DMFT) for Indigenous and non-Indigenous children.
- The mean DMFT and DMFT scores were higher for Indigenous children than for non-Indigenous children over the period 1991–2001.
- The decline in Indigenous DMFT in 2001 may be part of normal variation in Indigenous data which may relate to particular remote communities receiving school dental services in any particular year.

Table 1.10.6: Mean DMFT and DMFT scores for Indigenous children in NT, 1991–2001

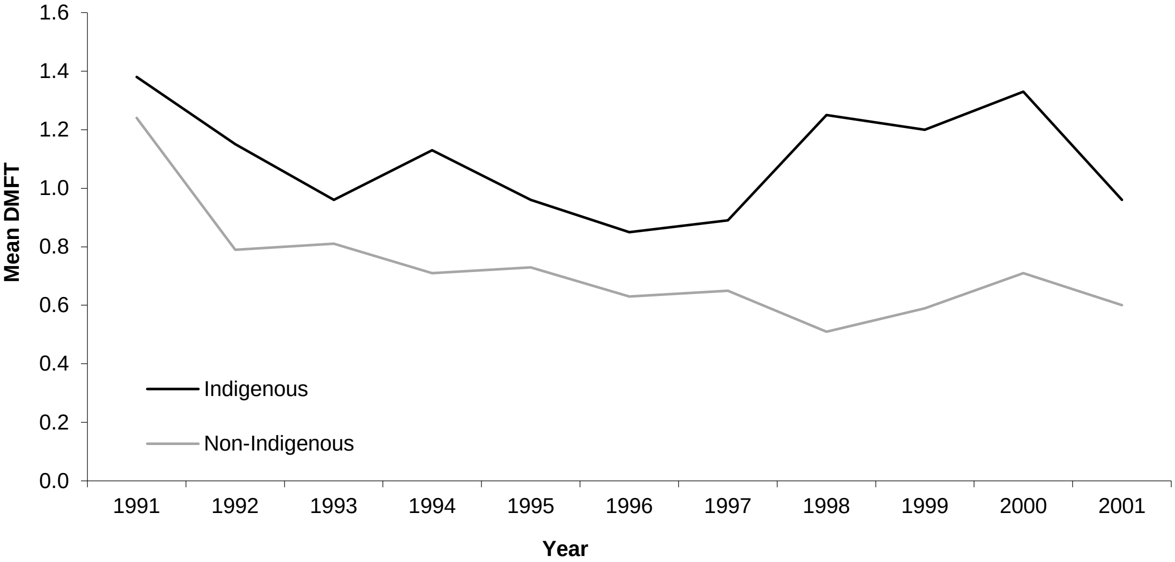
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Mean DMFT scores, children aged 6 years											
Indigenous	2.74	3.11	2.66	3.11	3.23	2.80	3.12	3.11	3.4	3.96	2.77
Non-Indigenous	1.73	1.64	1.48	1.62	1.53	1.41	1.40	1.35	1.47	1.56	1.68
Mean DMFT scores, children aged 12 years											
Indigenous	1.38	1.15	0.96	1.13	0.96	0.85	0.89	1.25	1.20	1.33	0.96
Non-Indigenous	1.24	0.79	0.81	0.71	0.73	0.63	0.65	0.51	0.59	0.71	0.60

Source: AIHW Dental Statistics Research Unit.



Source: AIHW Dental Statistics Research Unit.

Figure 1.10.13: Mean DMFT scores for children at 6 years of age in NT, by Indigenous status, 1991–2001



Source: AIHW Dental Statistics Research Unit.

Figure 1.10.14: Mean DMFT scores for children at 12 years of age in NT, by Indigenous status, 1991–2001

Adult oral health

The latest available data on DMFT scores and complete loss of all natural teeth for Indigenous adults come from the 2004–06 Adult Dental Health Survey.

- 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 1.10.7, Figure 1.10.15).
- 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%) (Figure 1.10.16). 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 1.10.7: 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[(c)]	4.1[(c)]	1.4[(c)]	n.p.	2.7[(c)]
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[(a)]					
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[(c)]	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[(c)]	15.8	23.3	n.p.	14.8
Non-Indigenous	4.5	14.3	22.2	24.4	12.8

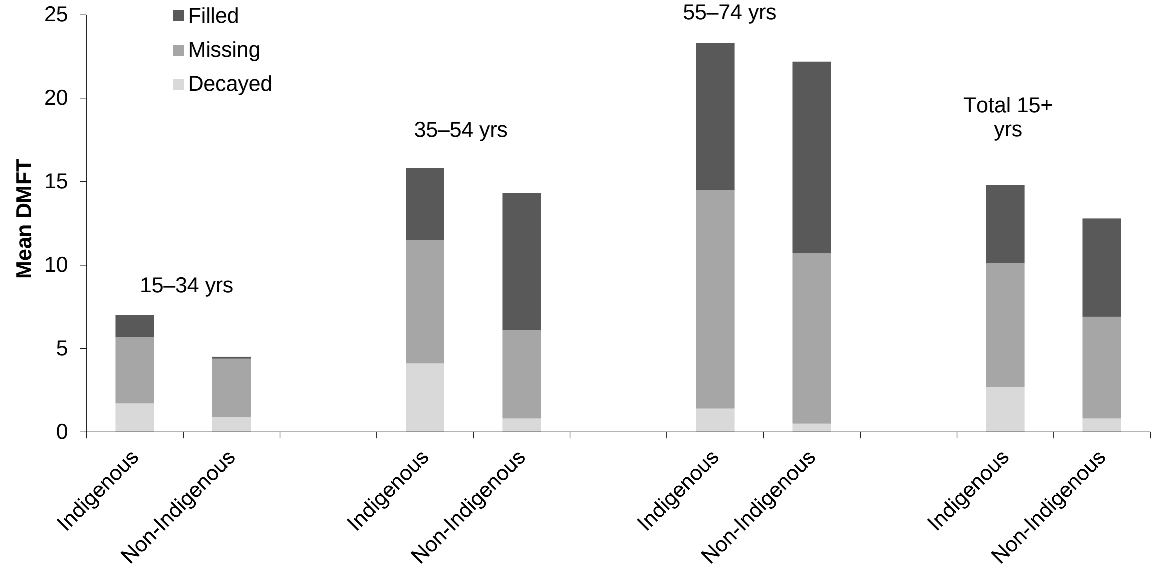
(a) No relative standard error estimates for mean number of filled teeth available.

(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.

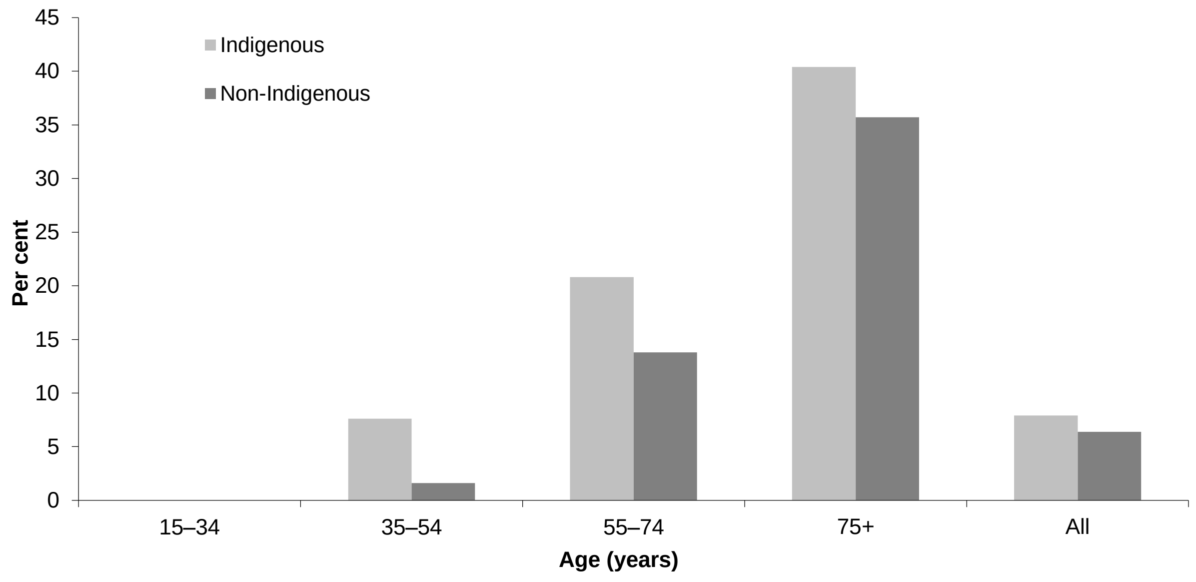
Note: Excludes those with no natural teeth.

Source: Roberts-Thomson & Do 2007.



Source: Roberts-Thomson & Do 2007.

Figure 1.10.15: Mean number of decayed, missing or filled teeth for persons aged 15 years and over, by age group and Indigenous status, 2004–06



Source: Roberts-Thomson & Do 2007.

Figure 1.10.16: Persons aged 15 years and over with no natural teeth (complete tooth loss), by Indigenous status, 2004–06

Hospitalisations for dental problems

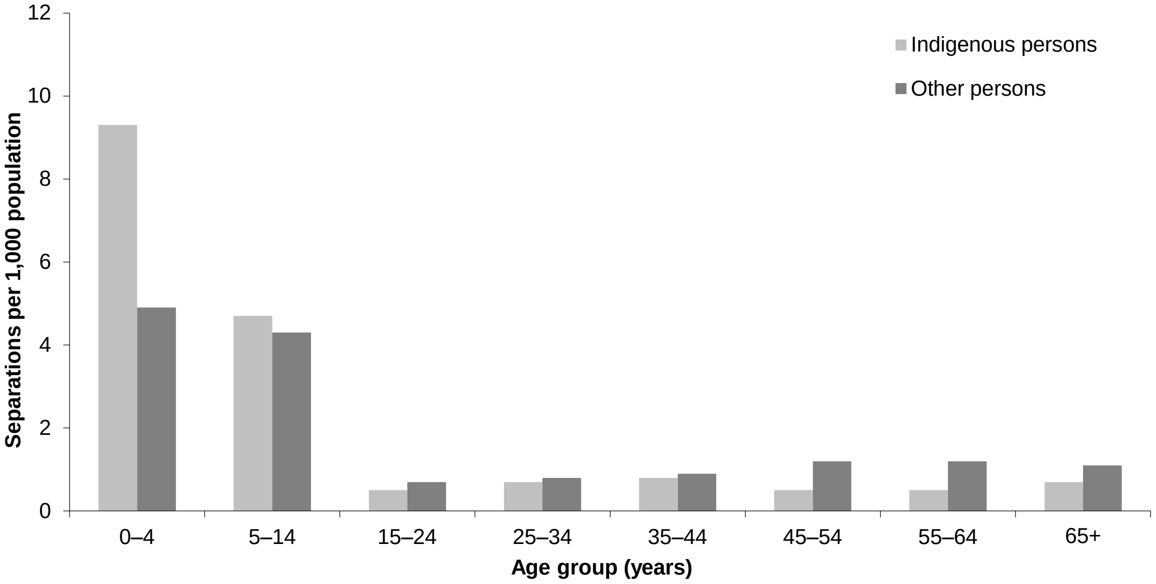
- For the 2-year period July 2006 to June 2008, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 67,133 hospitalisations for dental problems, of which 2,710 (4%) were Aboriginal and Torres Strait Islander people.
- Indigenous children aged 0–4 years had higher hospitalisation rates for dental problems (dental caries and tooth extractions) than other children of the same age. Between the ages of 5–14 years and 35–44 years, the hospitalisation rate for dental problems among Indigenous Australians was similar to that of other Australians. Other Australians aged 45 years and over had a higher hospitalisation rate than Indigenous Australians (Figure 1.10.17).
- After adjusting for differences in age structure between the two population groups, Indigenous and other Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised at similar rates for dental problems (1.8 per 1,000 and 1.7 per 1,000, respectively)

Table 1.10.8: Age-specific hospitalisation rates (separations per 1,000 population) for dental problems, by Indigenous status, NSW, Vic, Qld, WA, SA and NT[(a)], July 2006 to June 2008

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+
Indigenous persons	9.3	4.7	0.5	0.7	0.8	0.5	0.5	0.7
Other persons	4.9	4.3	0.7	0.8	0.9	1.2	1.2	1.1

(a) Private hospitals in the Northern Territory are excluded.

Source: AIHW analysis of National Hospital Morbidity Database.



Note: ICD-10-AM codes: K02, K08.1.

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.10.17: Age-specific hospitalisation rates for dental problems, by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Additional information

Child oral health

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%).

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 1.10.9. 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 1.10.9: 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 1.10.10. 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 1.10.10: 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.

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).

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 1.10.11).

Table 1.10.11: 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[(c)]	11.4
Wear dentures[(a)]	11.5[(c)]	15.0
Untreated coronal decay[(a)]	57.0[(c)]	25.1
Untreated root decay[(a)]	7.7[(d)]	6.7
One or more filled teeth[(a)]	82.5	83.9
No dental decay[(a)]	3.8[(d)]	10.0
Moderate or severe periodontitis[(b)]	29.0[(c)]	22.9
Periodontitis[(b)]	21.2[(c)]	19.0
4mm periodontal pocket depth[(b)]	21.4[(c)]	19.7
2+mm gingival recession[(b)]	56.1[(c)]	52.8
Gingival inflammation[(b)]	26.8[(c)]	19.6

(a) Excludes those with no natural teeth.

(b) Includes those who were periodontally examined only.

(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: Roberts-Thomson & Do 2007.

Dental care

Information on the dental care of Indigenous and non-Indigenous Australians is presented in Table 1.10.12.

- 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 1.10.12: 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 1.10.13.

- 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 1.10.13: 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[(c)]	16.3
Experiences toothache[(a)]	27.0[(c)]	15.0
Experiences orofacial pain	27.1[(c)]	22.5
Needs dentures	15.8[(c)]	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)(b)]	82.9	69.1

(a) Excludes those with no natural teeth.

(b) People who need an extraction or filling.

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

Source: Harford & Spencer 2007.

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).

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 1.10.14, 1.10.15, 1.10.16, 1.10.17, 1.10.18, 1.10.19, and 1.10.20.

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 1.10.14).

Table 1.10.14: 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 1.10.15).

Table 1.10.15: 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 1.10.16).

Table 1.10.16: 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
Australia	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 1.01.17).

Table 1.10.17: Number and percentage of Indigenous children aged 0–14 years[(a)] with reported teeth or gum problems, by remoteness, 2008

	Number	Per cent
Non-remote	47,307	34.1
Remote	9,748	24.0
Total	**57,055**	**31.8**

(c) Excludes Indigenous children who do not have teeth and not known responses

(d) 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 1.10.18).

Table 1.10.18: 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 1.10.19).

Table 1.10.19: 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 1.10.20).

Table 1.10.20: 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.

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 DMFT and DMFS scores of their non-Native American counterparts. The mean DMFT 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).

Northern Territory Emergency Response Child Health Check Initiative

In total, 3,738 dental records had been received by the AIHW that related to services conducted on or before 30 June 2009 for the NTER CHCI (Northern Territory Emergency Response Child Health Check Initiative). After removing duplicate records and records for children outside the applicable age range, 3,608 processed records remained. These represented 3,608 occasions of service provided to 2,349 children. Of these 2,349 children, 1,456 had one check, 621 children had two checks, 199 children had three checks and 73 children had four or more checks (Table 1.10.21).

Table 1.10.21: Number of dental checks[(a)] per child, Indigenous children who had a dental check as part of the NTER CHCI

	Checks		Children	
	Number	Per cent of all checks	Number	Per cent of children with consent[(b)]
Dental checks with consent				
1 dental check[(b)]	1,456	28.5	1,456	62.0
2 dental checks	1,242	24.3	621	26.4
3 dental checks	597	11.7	199	8.5
4 dental checks	228	4.5	57	2.4
5 dental checks	60	1.2	12	0.5
6 dental checks	18	0.4	<5	0.1
7 dental checks	7	0.1	<5	< 0.1
Total checks with consent	*3,608*	*70.7*	*2,349*	*100.0*
Dental checks without consent	*1,498*	*29.3*	*1,006*	. .
Total number of dental checks	**5,106**	**100.0**	**3,355**	**. .**

(a) This excludes duplicate forms and forms for children outside of the applicable age range that were found during the processing stage.

(b) Consent to transfer children's information to AIHW.

Source: AIHW analysis of NTER CHCI Dental data for services on or before 30 June 2009.

Nearly one in four (24%) children who had dental checks were aged 0 to 5 years, while 56% were aged 6 to 11 years and almost 20% were aged 12 to 15 years (Table 1.10.22). An equal proportion of boys and girls had had a dental check (both 50%).

Table 1.10.22: Demographic characteristics, Indigenous children who had a dental check as part of the NTER CHCI

	Children	
	Number	**Per cent**
Age group		
0–5 years	565	24.1
6–11 years	1,315	56.0
12–15 years	462	19.7
Missing	7	0.3
Sex		
Male	1,170	49.8
Female	1,178	50.2
Missing	<5	<0.1
Total	**2,349**	**100.0**

Note: These figures are based on each child's latest check.

Source: AIHW analysis of NTER CHCI Dental data for services on or before 30 June 2009.

As part of the dental check, health professionals were asked to record which dental services were provided. More than nine out of 10 (93%) children who received an NTER CHCI dental check received a diagnostic service. In addition, nearly three in five (59%) children who received a dental check received a preventative service, half (50%) received a restorative service and 16% received a surgical service. Less than 2% of children received a periodontal service, endodontic service, orthodontic service, or work on a crown or bridge. No children received a prosthetics service. Approximately 7% of children received some other type of treatment (Table 1.10.23).

Table 1.10.23: Dental services provided by dental clinicians, by number of Indigenous children who received a dental check as part of the NTER CHCI

Dental services provided	Number	Per cent
Diagnostic	2,185	93.0
Preventative	1,385	58.9
Restorative	1,183	50.3
Surgery	366	15.5
Endodontic	43	1.8
Periodontal	36	1.5
Crown or bridge	19	0.8
Orthodontic	6	0.2
Prosthetics	0	0.0
Other	174	7.4
Total number of children	**2,349**	**100.0**

Note: This is a multiple response item. If a child was provided with a dental service at any one of their dental checks, they were counted once against that particular service. Data about dental services were missing for 1.7% of children.

Source: AIHW analysis of NTER CHCI Dental data for services on or before 30 June 2009.

As part of the dental check, health professionals were asked to record which problems were treated. Approximately half (54%) of children who received a NTER CHCI dental check were treated for previously untreated caries. Half (50%) of the children who received a dental check were provided with oral health education and 24% (about a quarter) were treated for inadequate dental hygiene (including plaque and calcification). Around one in 18 (6%) children were treated for mouth infection or mouth sores and one in 36 (3%) were treated for gum disease. Less than 2% of children were treated for broken or chipped teeth due to trauma, abnormal teeth growth or missing teeth. Around 9% of children who received a dental check were treated for other problems (Table 1.10.24).

Table 1.10.24: Dental problems treated by dental clinicians, by number of Indigenous children who received a dental check as part of the NTER CHCI

Problems treated	Number	Per cent
Untreated caries	1,268	53.9
Oral health education	1,177	50.1
Dental hygiene (including plaque and calcification)	574	24.4
Mouth infection or mouth sores	134	5.7
Gum disease	67	2.8
Abnormal teeth growth	37	1.5
Broken or chipped teeth due to trauma	35	1.4
Missing teeth	13	0.5
Other	222	9.4
Total number of children	**2,349**	. .

Note: This is a multiple response item. If a child was treated for a dental problem at any one of their dental checks, they were counted once against that particular problem. Data about problems treated were missing for 3.4% of children.

Source: AIHW analysis of NTER CHCI Dental data for services on or before 30 June 2009.

Table 1.10.25 shows the problems treated among children who had at least one dental check, with or without a previous CHC. Although 'problems treated' cannot directly evaluate oral health, it can be used as a proxy measure. There are no dramatic differences in oral health status between these two groups of children, though the proportion of children with untreated caries is nearly ten percentage points higher in those with no CHC than in those who had a CHC. Where there are differences between oral health problems treated, they are very low for both groups of children.

It should be noted that Table 1.10.25 looks at problems treated across all dental checks provided to children, instead of the first dental check provided. This is because each check, or 'occasion of service', does not accurately reflect all of the services provided during the entire 'course of care' to which it belongs (a 'course of care' is a grouping of related occasions of service).

Table 1.10.25: Problems treated by whether or not a Child Health Check was undertaken, Indigenous children who had dental check as part of the NTER CHCI

	CHC		No CHC	
	Number	**Per cent**	**Number**	**Per cent**
Problems treated				
Untreated caries	797	47.7	357	57.3
Gum disease	905	54.1	347	55.7
Broken or chipped teeth due to trauma	40	2.3	25	4.0
Abnormal teeth growth	25	1.4	10	1.6
Missing teeth	29	1.7	8	1.2
Mouth infection or mouth sores	5	0.2	8	1.2
Dental hygiene (including plaque and calcification)	92	5.5	41	6.5
Other	383	22.9	187	30.0
Total number of children	**1,670**	**..**	**622**	**..**

Note: This is a multiple response item. If a child was treated for a dental problem at any one of their dental checks, they were counted once against that particular problem. Data about problems treated were missing for 3.4% of children.

Source: AIHW analysis of NTER CHCI Dental data and Child Health Check data for services on or before 30 June 2009.

Data quality issues

Dental health survey data

The assessment of Decayed, Missing and Filled Teeth (DMFT) is based on the World Health Organization protocol. The accuracy of DMFT will depend on the quality of the assessment and the accuracy of recording.

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. Different sampling procedures are used across the states and territories (Armfield et al. 2003). 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).

Counts of children from New South Wales, South Australia and the Northern Territory have been merged for the purpose of this analysis.

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, as part of a study that the Australian Research Centre for Population Oral Health undertook. 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). 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 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).

National Hospital Morbidity data

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and patterns of hospitalisations.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population that these six jurisdictions cover is 96%. The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of the jurisdictions not included.

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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

Northern Territory Emergency Response Child Health Check Initiative

Data coverage for the Child Health Check Initiative (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, apart from Table 1.10.21, the Northern Territory Emergency Response (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. First, dental checks were only provided to children who volunteered for them. Second, 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 2 of *Progress of the Northern Territory Emergency Response Child Health Check Initiative: Update on results from the Child Health Check and follow-up data collections* (AIHW and DoHA 2009).

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.

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 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. 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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1.11 HIV/AIDS, hepatitis C and sexually transmissible infections

The rate of notified sexually transmissible infections (STIs) for chlamydia, donovanosis, gonorrhoea, syphilis, hepatitis C and HIV/AIDS for Aboriginal and Torres Strait Islander people expressed as a rate by age group, gender, 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 and National HIV database held at the 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 the Australian Government Department of Health and Ageing manages.

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 Australian Institute of Health and Welfare (AIHW) with data on Indigenous status completeness by disease and jurisdiction. Using a cut-off of 50% completeness of Indigenous status Western Australia, South Australia, Tasmania and the Northern Territory were assessed to have adequate identification for chlamydia, syphilis, gonorrhoea and hepatitis C. Of the remaining states/territories, Queensland and Victoria had insufficient Indigenous identification for chlamydia, but adequate identification for syphilis, gonorrhoea and hepatitis C; New South Wales only had adequate identification for hepatitis C and the Australian Capital Territory did not have adequate identification for any of the STIs. Only Queensland and the Northern Territory had adequate identification for donovanosis.

The NNDSS extracted current period data (2006–2008) for this indicator in April 2010.

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 notifications only (excluding Queensland, as hepatitis C data are reported in a separate category).

All categories of syphilis (including infectious, latent and unknown duration) have been included in the analysis in this indicator.

Detailed accounts of the methods of data collection and methods that the National Notifiable Disease Surveillance System (NNDSS) uses within the Department of Health and Ageing can be found here <http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-nndss-nndssintro.htm>.

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). Recording of Indigenous status in the NCHECR data is considered reliable in all states and territories.

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 2006–2008 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 donovanosis

Age-specific notification rates for chlamydia, syphilis, gonorrhoea and hepatitis C are presented in Table 1.11.1.

- For the 3-year period 2006–2008, chlamydia was the most frequently reported notifiable condition among both Indigenous and other males and females. The highest notification rates for chlamydia were in the 15–24 and 25–34 year age groups for both Indigenous and other males and females.
- For the 3-year period 2006–2008, in Western Australia, South Australia, Tasmania and the Northern Territory notification rates for chlamydia, syphilis, gonorrhoea and hepatitis C were higher among Indigenous males and females than among other males and females across all age groups, except for rates of hepatitis C in females aged 0–14, 45–54 and 65+ and males aged 0–14, 45–54 and 65+ where the numbers were too small to be reported.
- Rate ratios were generally highest among males and females aged 0–14 years. This is likely to be due to the very small number of notifications among other Australians in these age groups. Chlamydia notification rates among Indigenous males and females aged 0–14 years were 21–40 times the rates for other males and females; syphilis notification rates were 31–48 times as high; gonorrhoea notification rates were 154–202 times as high and Hepatitis C notification rates were 0–5 times as high as the other males and females of the same age.
- Rates for chlamydia and gonorrhoea were highest among males and females aged 15–24 years for both Indigenous and other Australians.

HIV and AIDS

Age-specific notification rates for AIDS and HIV are presented in Table 1.11.2 below.

- For the period 2006–2008, the rates of newly diagnosed HIV infections were similar for Indigenous and other males across most age groups. Over the same period, HIV notification rates were higher among Indigenous females than among other females across most age groups.

- Between 2006 and 2008, notification rates for AIDS were higher among Indigenous males than among other males in the 15–24 year age groups (rate ratio of 6.8). Indigenous females had higher notification rates than other females for AIDS in the 25–34 year age group (ratio of 8.0).
- The rates of newly diagnosed HIV infections were highest among those aged 25–34 and 35–44 years in both the Indigenous and other Australian populations.
- HIV and AIDS notification rates were generally higher among males than females across age groups in both population groups.

Table 1.11.1: Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and sex, 2006–2008(a)(b)

	Males			Females			Persons		
	Indigenous	Other(c)	Rate ratio(d)(e)	Indigenous	Other(c)	Rate ratio(d)(e)	Indigenous	Other(d)	Rate ratio(e)(f)
Chlamydia(f)									
0–14	69.4	1.7	40.3*	352.5	16.9	20.9*	208.9	9.1	23.0*
15–24	3,509.6	831.5	4.2*	6,276.6	1,726.1	3.6*	4,911.7	1,266.4	3.9*
25–34	1,876.7	520.9	3.6*	2,571.4	503.8	5.1*	2,261.4	513.1	4.4*
35–44	770.0	135.7	5.7*	810.0	104.2	7.8*	807.4	120.6	6.7*
45–54	309.4	57.5	5.4*	260.2	26.4	9.8*	285.9	42.1	6.8*
55–64	132.3	28.5	4.6*	94.6	6.7	14.1*	116.1	17.8	6.5*
65+	156.3	5.6	28.1*	n.p.	n.p.	40.1*	82.3	2.9	28.1*
Total	1,155.6	220.8	5.2*	1,875.1	319.2	5.9*	1,533.5	270.4	5.7*
Total age standardised(c)	**959.9**	**220.9**	**4.3***	**1,471.4**	**333.6**	**4.4***	**1,224.7**	**275.7**	**4.4***
Syphilis(g)(h)									
0–14	6.3	0.2	31.0*	16.6	0.3	47.7*	11.4	0.3	41.5*
15–24	192.9	8.4	22.9*	223.7	4.0	55.7*	214.9	6.3	34.0*
25–34	207.8	23.2	9.0*	162.1	7.1	22.9*	186.0	15.3	12.2*
35–44	226.6	28.3	8.0*	196.2	5.7	34.2*	212.3	17.0	12.5*
45–54	242.1	21.2	11.4*	218.9	3.6	60.4*	230.0	12.4	18.6*
55–64	189.0	14.4	13.1*	170.6	2.8	61.7*	179.2	8.6	20.9*
65+	279.6	11.8	23.7*	200.7	4.9	40.8*	236.6	8.0	29.4*
Total	135.1	14.7	9.2*	133.4	3.9	33.8*	136.0	9.3	14.6*
Total age standardised(c)	**180.3**	**14.6**	**12.3***	**159.6**	**3.9**	**40.8***	**170.6**	**9.3**	**18.4***

(continued)

Table 1.11.1 (continued): Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and sex, 2006–2008[(a)(b)]

	Males			Females			Persons		
	Indigenous	Other[(c)]	Rate ratio[(d)(e)]	Indigenous	Other[(c)]	Rate ratio[(d)(e)]	Indigenous	Other[(c)]	Rate ratio[(d)(e)]
				Gonorrhoea[(g)]					
0–14	43.1	0.3	154.2*	200.2	1.0	201.7*	122.0	0.6	194.8*
15–24	2,526.7	69.3	36.5*	3,086.1	32.2	95.7*	2,826.9	51.5	54.9*
25–34	1,865.0	80.0	23.3*	1,590.3	15.9	99.7*	1,742.9	48.3	36.1*
35–44	786.3	52.4	15.0*	584.4	7.8	75.3*	695.4	30.2	23.0*
45–54	348.0	28.6	12.2*	150.6	3.1	48.6*	250.9	15.8	15.8*
55–64	168.4	12.4	13.6*	50.8	1.1	46.3*	109.8	6.7	16.3*
65+	43.0	3.0	14.5*	30.9	0.3	89.8*	35.9	1.6	23.1*
Total	930.3	34.7	26.8*	991.3	8.5	117.0*	971.4	21.6	44.9*
Total age standardised[(c)]	**817.2**	**34.6**	**23.6***	**812.4**	**8.7**	**93.2***	**821.3**	**21.8**	**37.6***
				Hepatitis C[(j)]					
0–14	n.p.	n.p.	4.5	0.0	n.p.	0.0	n.p.	n.p.	2.5
15–24	26.3	5.8	4.6*	22.1	4.2	5.2*	24.2	5.0	4.8*
25–34	33.6	8.8	3.8*	17.6	4.4	4.0*	25.5	6.6	3.9*
35–44	10.3	2.9	3.5*	8.1	2.2	3.6*	9.2	2.6	3.5*
45–54	n.p.	n.p.	1.5	n.p.	n.p.	15.3*	4.9	0.9	5.3*
55–64	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.3	0.0
65+	0.0	n.p.	0.0	0.0	n.p.	0.0	0.0	0.1	0.0
Total	11.6	2.7	4.2*	8.5	1.6	5.2*	10.0	2.2	4.6*
Total age standardised[(c)]	**10.6**	**2.8**	**3.8***	**7.9**	**1.7**	**4.7***	**9.2**	**2.2**	**4.1***

(continued)

Table 1.11.1 (continued): Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and sex, 2006–2008(a)(b)

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

(a) Calendar 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 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 Western Australia, South Australia, Tasmania and the Northern Territory (note 2008 Northern Territory data is preliminary). These four 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 Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory (note 2008 Northern Territory data is preliminary). 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 includes all nominations of syphilis, including cases of more than 2 years or unknown duration.

(i) Data are reported for New South Wales, Victoria, Western Australia, South Australia, Tasmania and the Northern Territory (note 2008 Northern Territory data is preliminary). These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(j) Directly age-standardised using the Australian 2001 standard population using 5 year age groups up to 65+.

Source: AIHW analysis of NNDSS data.

Table 1.11.2: Age-specific notification rates per 100,000 for HIV and AIDS, by Indigenous status and sex, 2006–2008[(a)][(b)]

	Males			Females			Persons		
	Indigenous	Other[(c)]	Rate ratio[(d)]	Indigenous	Other[(c)]	Rate ratio[(d)]	Indigenous	Other[(c)]	Rate ratio[(d)]
				HIV					
0–14	0.0	n.p.	0.0	0.0	0.2	0.0	0.0	n.p.	0.0
15–24	5.0	4.8	1.0	n.p.	n.p.	0.4	2.9	3.2	0.9
25–34	13.7	17.7	0.8	6.3	4.0	1.6	9.9	10.9	0.9
35–44	17.8	19.7	0.9	n.p.	n.p.	1.8	10.5	10.9	1.0
45–54	n.p.	n.p.	0.3	n.p.	n.p.	1.3	n.p.	n.p.	0.4
55–64	0.0	5.2	0.0	0.0	0.4	0.0	0.0	2.8	0.0
65+	0.0	1.5	0.0	0.0	n.p.	0.0	0.0	0.7	0.0
Total	5.3	8.4	0.6*	1.6	1.3	1.3	3.5	4.8	0.7*
Total age-standardised[(e)]	**6.0**	**8.5**	**0.7***	**1.8**	**1.3**	**1.4**	**3.9**	**4.9**	**0.8**
				AIDS[(f)]					
0–14	0.0	n.p.	0.0	0.0	n.p.	0.0	0.0	n.p.	0.0
15–24	n.p.	n.p.	6.8	0.0	n.p.	0.0	n.p.	n.p.	4.5
25–34	n.p.	n.p.	0.6	n.p.	n.p.	8.0*	n.p.	n.p.	1.9
35–44	n.p.	n.p.	0.3	0.0	0.3	0.0	n.p.	n.p.	0.3
45–54	0.0	3.0	0.0	0.0	0.2	0.0	0.0	1.6	0.0
55–64	0.0	1.6	0.0	0.0	0.2	0.0	0.0	0.9	0.0
65+	0.0	0.6	0.0	0.0	n.p.	0.0	0.0	0.3	0.0
Total	n.p.	n.p.	0.3*	n.p.	n.p.	2.7	0.4	0.8	0.5
Total age-standardised[(e)]	**n.p.**	**n.p.**	**0.3***	**n.p.**	**n.p.**	**2.9**	**0.4**	**0.8**	**0.5**

(continued)

Table 1.11.2 (continued): Age-specific notification rates per 100,000 for HIV and AIDS, by Indigenous status and sex, 2006–2008[(a)(b)]

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

(a) Calendar 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 Indigenous:other.
(e) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 65+.
(f) Excludes 2008 data from NSW, data not available due to incompleteness.

Source: AIHW analysis of NCHECR data.

Notification rates by state/territory

Notification rates for chlamydia, syphilis, gonorrhoea and hepatitis C for the period 2006–2008 for New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory are presented in Table 1.11.3, and notification rates for HIV and AIDS for all states and territories are presented in Table 1.11.4.

Chlamydia

- For the period 2006–2008, there were 42,762 notifications of chlamydia in Western Australia, South Australia, Tasmania and the Northern Territory, 20% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people ranged from 2% in Tasmania to 61% in the Northern Territory.
- In Western Australia, South Australia, Tasmania and the Northern Territory combined, notifications rates of chlamydia among Indigenous males and females were four times those of other males and females.
- Rate ratios for chlamydia among males and females were highest in Western Australia (Indigenous rates were around four times those of other males and females) and lowest in Tasmania (Indigenous rates were 0.3 times those of other males and females).

Syphilis

- For the period 2006–2008, there were 5,268 notifications of syphilis in Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, 29% 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 (89%).
- In Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, notification rates for syphilis among Indigenous males and females were 12 and 41 times the rates for other males and females.
- In Western Australia rates of syphilis among Indigenous people were markedly higher than among other people (37 times as high).
- Notification rates for syphilis among Indigenous males and females were similar (180 and 160 per 100,000 respectively); however the notification rate for other males was four times the rate for other females (15 compared to 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 2006–2008, there were 19,446 notifications of gonorrhoea in Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, 55% 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 (88%) followed by Western Australia (74%).
- In Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, notification rates of gonorrhoea among Indigenous males and females were 24 and 93 times the rates of other males and females respectively.

- Rates of gonorrhoea among Indigenous females were much higher than among other females in Western Australia and South Australia (132 and 89 times as high respectively).
- Notification rates for gonorrhoea among Indigenous males and females were similar (817 and 812 per 100,000 respectively); however the notification rate for other males was four times the rate for other females (35 compared to 9). 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 (newly acquired)

Hepatitis C (newly acquired) rates should be interpreted with caution as they are highly reliant on public health follow-up, therefore completeness and identification of newly acquired status of cases varies by jurisdiction.

- For the period 2006–2008, there were 1,170 notifications of hepatitis C (newly acquired) in New South Wales, Victoria, Western Australia, South Australia, Tasmania and the Northern Territory combined, 10% of which were notifications of Aboriginal and Torres Strait Islander people.
- In New South Wales, Victoria, Western Australia, South Australia, Tasmania and the Northern Territory combined, Indigenous males and females were four and five times as likely to contract hepatitis C as other males and females.
- In Western Australia, notification rates of hepatitis C among Indigenous males and females were six and seven times those of other males and females. In South Australia, the rates among Indigenous males and females were five and six times those of other males and females respectively.

Donovanosis

- For the period 2006–2008, there were five notifications of donovanosis in Australia, four of which were notifications of Aboriginal and Torres Strait Islander people. All of these recorded notifications took place in Queensland and the Northern Territory. Rates have not been calculated for these states and territories because of the small numbers of notifications.

HIV

- Over the period 2006–2008, there were 3,041 HIV notifications in Australia, 2% of which were notifications of Indigenous Australians.
- After adjusting for differences in age structure, notification rates for HIV were similar among Indigenous males and other males for the period 2006–08. HIV notification rates for Indigenous females were around 1.4 times those for other females over the same period.
- Of the states and territories for which rates could be calculated, Indigenous males in South Australia were approximately twice as likely to contract HIV as other males, and Indigenous females in Western Australia were approximately four times as likely to contract HIV as other females.

AIDS

- Over the period 2006–2008, there were 459 cases of AIDS in Australia, 1% of which were notifications of Indigenous Australians.

- The notification rate for AIDS among Indigenous Australians was half that of other Australians. Of the states and territories for which numbers were large enough to calculate rates, only Indigenous persons in Western Australia had rates greater than other Australians.

Table 1.11.3: Notification rates for Chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and state/territory, 2006-2008(a)(b)

				Males			Females			Persons		
		Indigenous	Other(d)	Indigenous	Other(d)		Indigenous	Other(d)		Indigenous	Other(d)	
	Number	Per cent		Number per 100,000		Ratio(e)(f)	Number per 100,000		Ratio(e)(f)	Number per 100,000		Ratio(e)(f)
						Chlamydia						
WA	22,291	16.3	83.7	1,021.2	249.2	4.1*	1,605.6	356.8	4.5*	1,304.6	300.8	4.3*
SA	10,244	7.8	92.2	605.7	167.2	3.6*	887.5	259.3	3.4*	746.2	211.9	3.5*
Tas	3,668	2.0	98.0	43.4	192.7	0.2*	137.2	367.7	0.4*	88.5	278.3	0.3*
NT(g)	6,559	60.9	39.1	1,302.1	412.3	3.2*	1,953.6	640.1	3.1*	1,659.9	532.4	3.1*
WA, SA, Tas & NT(h)	**42,762**	**19.9**	**80.1**	**959.9**	**220.9**	**4.3***	**1,471.4**	**333.6**	**4.4***	**1,224.7**	**275.7**	**4.4***
						Syphilis(i)						
Vic	2,243	1.6	98.4	52.6	22.5	2.3*	38.7	5.6	6.9*	46.8	14.0	3.3*
Qld	1,288	27.8	72.2	122.5	11.8	10.4*	100.0	3.6	28.0*	111.0	7.7	14.5*
WA	693	49.4	50.6	209.5	8.4	24.8*	209.0	2.8	74.0*	208.6	5.7	36.9*
SA	142	21.8	78.2	35.7	4.6	7.8*	31.6	0.3	92.6*	33.5	2.5	13.5*
Tas	80	n.p.	n.p.	n.p.	n.p.	0.5	—	3.3	—	n.p.	n.p.	0.3
NT(g)	822	89.2	10.8	469.7	29.8	15.8*	400.3	7.2	55.7*	435.0	19.4	22.4*
Vic, Qld, WA, SA, Tas & NT(j)	**5,268**	**28.5**	**71.5**	**180.3**	**14.6**	**12.3***	**159.6**	**3.9**	**40.8***	**170.6**	**9.3**	**18.4***

(continued)

Table 1.11.3 (continued): Notification rates for Chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and state/territory, 2006-2008(a)(b)

				Males			Females			Persons		
		Indigenous	Other(d)	Indigenous	Other(d)		Indigenous	Other(d)		Indigenous	Other(d)	
	Number	Per cent		Number per 100,000(c)		Ratio(e)(f)	Number per 100,000(c)		Ratio(e)(f)	Number per 100,000(c)		Ratio(e)(f)
						Gonorrhoea						
Vic	3,253	0.6	99.4	21.3	35.8	0.6	10.7	5.7	1.9	16.0	20.8	0.8
Qld	4,586	39.6	60.4	309.2	35.6	8.7*	342.5	10.4	33.1*	324.4	23.0	14.1*
WA	5,119	74.1	25.9	1,547.5	31.8	48.6*	1,412.7	10.7	132.4*	1,476.9	21.4	68.9*
SA	1,445	51.4	48.6	819.3	24.0	34.1*	671.2	7.5	89.1*	741.8	15.8	47.0*
Tas	81	n.p.	n.p.	n.p.	n.p.	0.8	n.p.	n.p.	2.3	n.p.	n.p.	1.1
NT(g)	4,962	87.5	12.5	1,722.9	164.4	10.5*	1,870.3	74.1	25.2*	1,839.6	127.8	14.4*
Vic, Qld, WA, SA, Tas & NT(j)	**19,446**	**55.1**	**44.9**	**817.2**	**34.6**	**23.6***	**812.4**	**8.7**	**93.2***	**821.3**	**21.8**	**37.6***
						Hepatitis C						
NSW	131	10.7	89.3	2.5	0.7	3.7*	2.6	0.5	5.1*	2.5	0.6	4.3*
Vic	513	3.9	96.1	13.6	4.0	3.4*	18.6	2.4	7.9*	16.1	3.2	5.1*
WA	291	19.6	80.4	29.9	4.9	6.1*	18.0	2.8	6.5*	24.1	3.8	6.3*
SA	168	10.1	89.9	20.7	4.2	4.9*	15.8	2.7	5.8*	18.3	3.5	5.2*
Tas	54	n.p.	n.p.	n.p.	n.p.	2.0	n.p.	n.p.	3.0	n.p.	n.p.	2.3
NT(g)	13	n.p.	n.p.	n.p.	n.p.	0.3	n.p.	n.p.	—	n.p.	n.p.	0.2
NSW, Vic, WA, SA, Tas & NT(k)	**1,170**	**9.7**	**90.3**	**10.6**	**2.8**	**3.8***	**7.9**	**1.7**	**4.7***	**9.2**	**2.2**	**4.1***

(continued)

Table 1.11.3 (continued): Notification rates for Chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and state/territory, 2006-2008[(a)(b)]

* 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 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 ratio 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) 2008 data for Northern Territory is preliminary.

(h) Data are reported for Western Australia, South Australia, Tasmania and the Northern Territory. These four jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(i) Data includes all nominations of syphilis, including cases of more than 2 years or unknown duration

(j) Data are reported for Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory. These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(k) Data are reported for New South Wales, Victoria, Western Australia, South Australia, Tasmania and the Northern Territory. These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

Source: AIHW analysis of NNDSS data.

Table 1.11.4: Notification rates for HIV and AIDS, by Indigenous status, sex and state/territory, 2006–2008[(a)(b)]

				Males			Females			Persons		
		Indig.	Other[(d)]	Indig.	Other[(d)]		Indig.	Other[(d)]		Indig.	Other[(d)]	
	Number	Per cent		Number per 100,000[(c)]		Ratio[(e)]	Number per 100,000[(c)]		Ratio[(e)]	Number per 100,000[(c)]		Ratio[(e)]
						HIV						
NSW	1,168	1.7	98.3	8.7	10.2	0.9	2.2	1.4	1.6	5.3	5.8	0.9
Vic	855	0.7	99.3	11.5	9.8	1.2	0.0	1.2	0.0	5.6	5.5	1.0
Qld	559	1.9	98.1	4.3	7.8	0.5	n.p.	n.p.	0.6	2.5	4.6	0.5
WA	229	3.5	96.5	6.1	5.3	1.2	6.3	1.7	3.6*	6.2	3.5	1.8
SA	n.p.	2.9	97.1	n.p.	n.p.	1.9	n.p.	n.p.	2.3	6.9	3.5	1.9
Tas	15	0.0	100.0	0.0	1.7	0.0	0.0	n.p.	0.0	0.0	1.1	0.0
NT	n.p.	4.2	95.8	n.p.	n.p.	0.1*	n.p.	2.4	0.0	n.p.	n.p.	0.1*
ACT	16	0.0	100.0	0.0	3.1	0.0	0.0	1.0	0.0	0.0	2.0	0.0
Australia[(f)]	**3,041**	**1.6**	**98.4**	**6.0**	**8.5**	**0.7***	**1.8**	**1.3**	**1.4**	**3.9**	**4.9**	**0.8**
						AIDS						
NSW[(g)]	159	n.p.	n.p.	n.p.	n.p.	0.4	n.p.	n.p.	3.1	n.p.	n.p.	0.6
Vic	170	n.p.	n.p.	n.p.	n.p.	0.7	0.0	0.2	0.0	n.p.	n.p.	0.7
Qld	60	0.0	100.0	0.0	0.9	0.0	n.p.	n.p.	0.0	0.0	0.5	0.0
WA	33	n.p.	n.p.	n.p.	n.p.	1.3	n.p.	n.p.	15.2*	n.p.	n.p.	3.1
SA	24	0.0	100.0	0.0	1.0	0.0	n.p.	n.p.	0.0	0.0	0.5	0.0
Tas	n.p.	0.0	100.0	0.0	n.p.	0.0	0.0	0.0	0.0	0.0	n.p.	0.0
NT	6	0.0	100.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	1.5	0.0
ACT	n.p.	0.0	100.0	0.0	n.p.	0.0	0.0	0.0	0.0	0.0	n.p.	0.0
Australia[(f)]	**459**	**1.3**	**98.7**	**n.p.**	**n.p.**	**0.3***	**n.p.**	**n.p.**	**2.9**	**0.4**	**0.8**	**0.5**

(continued)

Table 1.11.4 (continued): Notification rates for HIV and AIDS, by Indigenous status, sex and state/territory, 2006–2008[(a)(b)]

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

(a) Calendar 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 ratio Indigenous: other.
(f) Excludes 2008 data from NSW, data not available due to incompleteness.
(g) NSW data for 2006-07 only, 2008 data not available due to incompleteness.

Source: AIHW analysis of NCHECR data.

HIV/AIDS by exposure categories

Table 1.11.5 presents HIV and AIDS notifications in Australia by exposure category over the period 2006–2008.

- For the period 2006–2008, the most common method of contracting HIV among Indigenous Australians was male homosexual/bisexual contact (49%) followed by injecting drug use (26%), and heterosexual contact (20%). The most common ways of contracting HIV among other Australians was male homosexual/bisexual contact (65%), heterosexual contact (23%), and other (6%).
- Over the same period, rates of AIDS among Indigenous Australians were not high enough to compare AIDS exposure categories. Among other Australians the most common way of contracting AIDS was male homosexual/bisexual contact (58%), followed by heterosexual contact (25%).

Table 1.11.5: Exposure categories for HIV/AIDS, by Indigenous status, 2006–2008[a]

	Number		Per cent		No. per 100,000[b][c]		
Exposure category	**Indigenous**	**Other[d]**	**Indigenous**	**Other[d]**	**Indigenous**	**Other[d]**	**Ratio[e]**
				HIV			
Male homosexual/bisexual contact	27	1,803	49.1	64.8	2.0	3.3	0.6*
Male homosexual/bisexual contact and injecting drug use	n.p.	87	n.p.	3.1	n.p.	n.p.	1.1
Heterosexual contact	11	652	20.0	23.4	0.9	1.2	0.8
Injecting drug use	14	64	25.5	2.3	1.1	0.1	9.5*
Mother with/at risk of HIV infection	0	20	0.0	0.7	0.0	0.0	0.0
Other[f]	n.p.	155	n.p.	5.6	n.p.	n.p.	0.2
Total	**55**	**2,781**	**100.0**	**100.0**	**4.3**	**5.1**	**0.8**
				AIDS[g]			
Male homosexual/bisexual contact	n.p.	263	n.p.	57.9	n.p.	n.p.	0.2
Male homosexual/bisexual contact and injecting drug use	0	22	0.0	4.8	0.0	0.0	0.0
Heterosexual contact	n.p.	113	n.p.	24.9	n.p.	n.p.	1.1
Injecting drug use	0	12	0.0	2.6	0.0	0.0	0.0
Mother with/at risk of HIV infection	0	n.p.	0.0	n.p.	n.p.	n.p.	0.0
Other[f]	n.p.	n.p.	n.p.	9.0	n.p.	n.p.	1.8
Total	**6**	**454**	**100.0**	**100.0**	**0.4**	**0.8**	**0.5**

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

(a) Calendar 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 ratio Indigenous:other.
(f) Includes: Haemophilia/coagulation disorder, receipt of blood/tissue, and exposure category undetermined.
(g) Excludes 2008 data from NSW, data not available due to incompleteness.

Source: AIHW analysis of NCHECR 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 2006–2008, and hepatitis C (newly acquired) for the period 1997–1999 to 2006–2008, are presented in the following tables and figures. HIV and AIDS notifications for the period 1998–2000 to 2007–2008 are also presented here. Data are presented in 2- to 3-year groupings because of the small number of notifications each year.

Chlamydia

- In Western Australia, South Australia and the Northern Territory combined there were significant increases in notification rates for chlamydia among Indigenous Australians during the period 1994–1996 to 2006–2008. The fitted trend line shows an average yearly increase in the age-standardised rate of around 73 per 100,000 which is equivalent to a 199% increase in the age-standardised rate over the period (Table 1.11.6). 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 (608% increase for males and 474% increase for females) (Table 1.11.6).
- Notification rate ratios between Indigenous and other Australians for chlamydia also showed a significant increase over the 12-year period (Figure 1.11.1). The fitted trend line showed an average yearly increase in the ratio of around 55 which is equivalent to a 165% increase in the rate ratio over the period.
- Although rate ratios showed an increase over the period, the difference in notification rates between Indigenous and other Australians declined significantly for both males and females.

Table 1.11.6: Crude and age-standardised notification rates, rate differences and rate ratios for chlamydia, WA, SA and NT, 1994–1996 to 2006–2008[(a)]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[(b)]	Per cent change over period[(c)]
Indigenous notifications							
Males	823	1,219	1,703	2,508	3,174	199.7*	339.7*
Females	1,668	2,200	3,153	4,427	5,166	307.4*	258.0*
Persons	2,493	3,419	4,857	6,997	8,431	515.1*	289.3*
Other Australian notifications[(d)]							
Males	1,913	3,099	4,801	7,740	12,773	878.7*	643.1*
Females	3,303	4,372	6,671	10,794	17,835	1,182.9*	501.4*
Persons	5,256	7,482	11,536	18,573	30,663	2,063.5*	549.6*
Indigenous crude rate per 100,000							
Males	429.9	592.7	772.0	1,069.6	1,281.2	72.6*	236.6*
Females	861.1	1,060.3	1,417.6	1,870.4	2,063.8	107.2*	174.3*
Persons	647.3	827.5	1,096.4	1,485.0	1,692.8	91.6*	198.2*
Indigenous age-standardised rate per 100,000[(e)]							
Males	365.9	508.5	657.4	905.8	1,058.3	59.4*	227.3*
Females	665.2	842.7	1,127.2	1,483.9	1,621.4	85.1*	179.2*
Persons	515.2	674.6	892.1	1,203.0	1,350.4	73.3*	199.2*
Other Australian age-standardised rate per 100,000[(d)(e)]							
Males	35.5	58.0	91.0	143.9	223.9	15.4*	608.4*
Females	64.3	86.4	131.9	208.9	329.2	21.7*	473.7*
Persons	49.8	71.8	111.4	175.6	275.1	18.5*	519.1*
Rate difference[(f)]							
Males	330.4	450.5	566.4	761.9	834.4	-0.5*	-61.7*
Females	600.9	756.4	995.3	1,275.1	1,292.2	-0.5*	-60.9*
Persons	465.3	602.8	780.7	1,027.4	1,075.4	-0.4*	-60.5*
Rate ratio[(g)]							
Males	10.3	8.8	7.2	6.3	4.7	44.0*	186.4*
Females	10.4	9.8	8.6	7.1	4.9	63.4*	147.6*
Persons	10.3	9.4	8.0	6.9	4.9	54.8*	164.9*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(a) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years

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

(c) Per cent change between 1994–1996 and 2006–2008 based on the annual rate of change over the period.

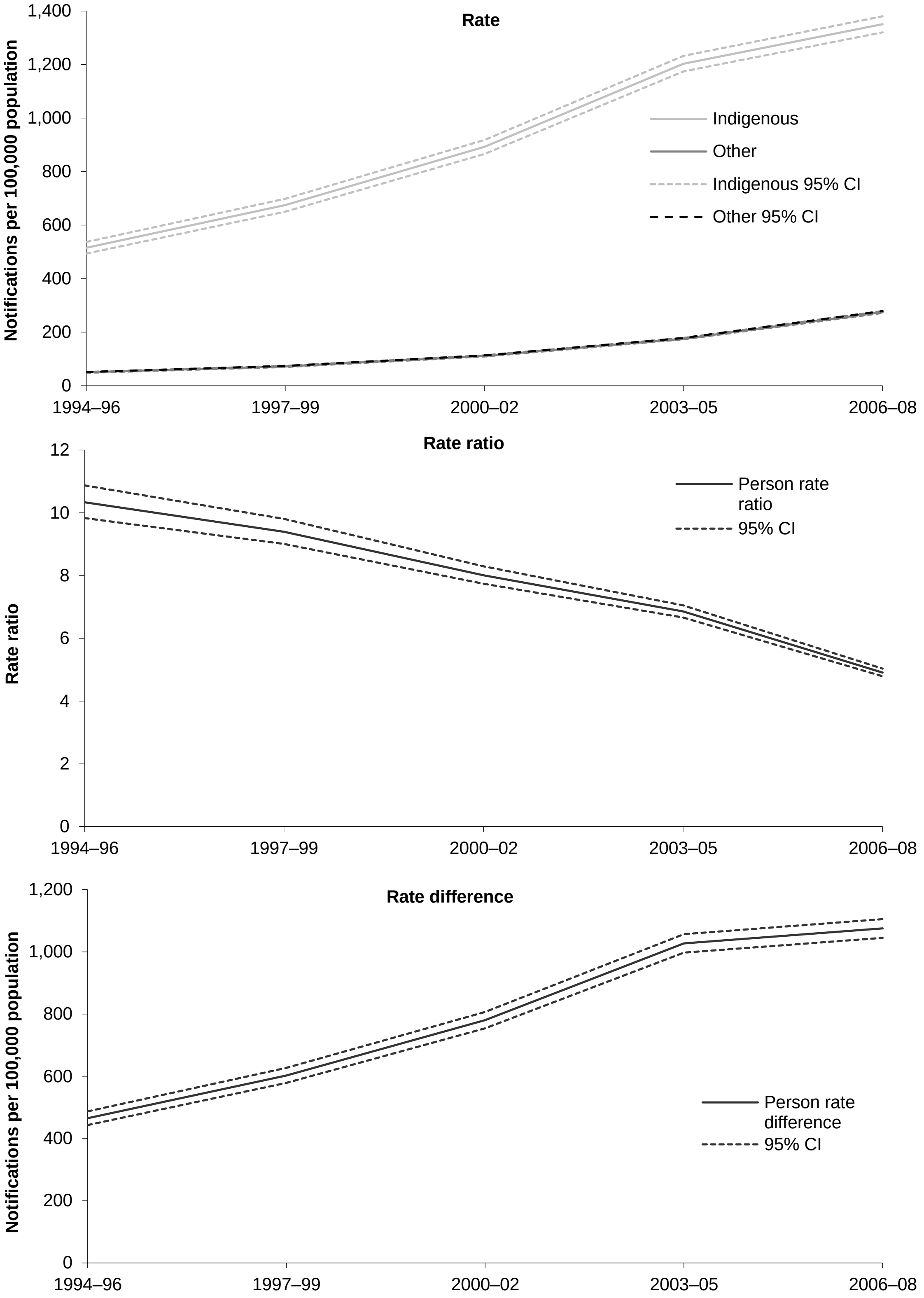
(d) ‘Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Directly age-standardised using the Australian 2001 standard population using 5-year age groups up to 75+

(f) Notification rate for Indigenous Australians minus the notification rate for other Australians.

(g) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

Source: AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

Figure 1.11.1: Age-standardised notification rates, rate differences and rate ratios for chlamydia, WA, SA and NT, 1994–1996 to 2006–2008

Syphilis

- Over the period 1994–1996 to 2006–2008 in Western Australia, South Australia and the Northern Territory combined, there were significant decreases in the annual change of notification rates for syphilis among Indigenous Australians (from around 10 to 8 notifications per 100,000 over the time period). The fitted trend line shows an average yearly decline in the age-standardised rate of around 3 per 100,000 which is equivalent to a 14% reduction in the rate over the period (Table 1.11.7).
- There were significant increases in notification rates for syphilis among other Australians males during the same period. The fitted trend line showed an average yearly increase in the rate of around 0.4 per 100,000 which was equivalent to a 186% increase in the rate over the period (Table 1.11.7 and Figure 1.11.2).
- There was a significant decline in notification rate ratios between Indigenous and other Australians for syphilis over the 12-year period. The fitted trend showed an average yearly decline in the rate ratio of around 4 which was equivalent to a 60% reduction in the rate ratio over the period. These declines were statistically significant for both males and females.

Table 1.11.7: Crude and age-standardised notification rates, rate differences and rate ratios for syphilis[(a)], WA, SA and NT, 1994–1996 to 2006–2008[(b)]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[(c)]	Per cent change over period[(d)]
Indigenous notifications							
Males	669	542	685	552	527	-9.1	-19.1
Females	647	506	657	552	560	-4.3	-9.2
Persons	1,318	1,049	1,342	1,109	1,106	-12.1	-12.9
Other Australian notifications[(e)]							
Males	136	195	250	239	440	21.7*	223.7*
Females	99	79	114	102	111	1.6	22.2
Persons	237	275	371	341	551	23.1*	136.7*
Indigenous crude rate per 100,000							
Males	349.5	263.5	310.5	235.4	212.7	-10.1*	-40.3*
Females	334.0	243.9	295.4	233.2	223.7	-7.7*	-32.3*
Persons	342.2	253.9	302.9	235.4	222.1	-8.6*	-35.3*
Indigenous age-standardised rate per 100,000[(f)]							
Males	342.3	300.3	349.4	299.4	278.4	-4.3	-17.5
Females	304.6	235.9	294.0	260.3	253.8	-2.6	-11.8
Persons	322.6	265.2	320.0	278.0	266.7	-3.3	-14.3
Other Australian age-standardised rate per 100,000[(e)(f)]							
Males	2.7	3.7	4.7	4.4	7.7	0.4*	186.3*
Females	2.0	1.5	2.2	1.9	2.0	0.0	9.9
Persons	2.3	2.7	3.5	3.1	4.9	0.2*	110.1*
Rate difference[(g)]							
Males	339.6	296.5	344.7	295.1	270.7	-6.5	-19.1
Females	302.6	234.4	291.8	258.4	251.8	-2.4	-12.0
Persons	320.3	262.6	316.5	274.9	261.8	-5.9	-15.2
Rate ratio[(h)]							
Males	128.1	80.2	74.6	68.6	36.2	-4.6*	-71.2*
Females	153.7	154.2	134.3	135.2	127.2	-2.6*	-21.8*
Persons	137.5	99.7	91.5	88.5	54.7	-3.5*	-60.0*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(a) Data includes all nominations of syphilis, including cases of more than 2 years or unknown duration.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years

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

(d) Per cent change between 1994–1996 and 2006–2008 based on the annual rate of change over the period.

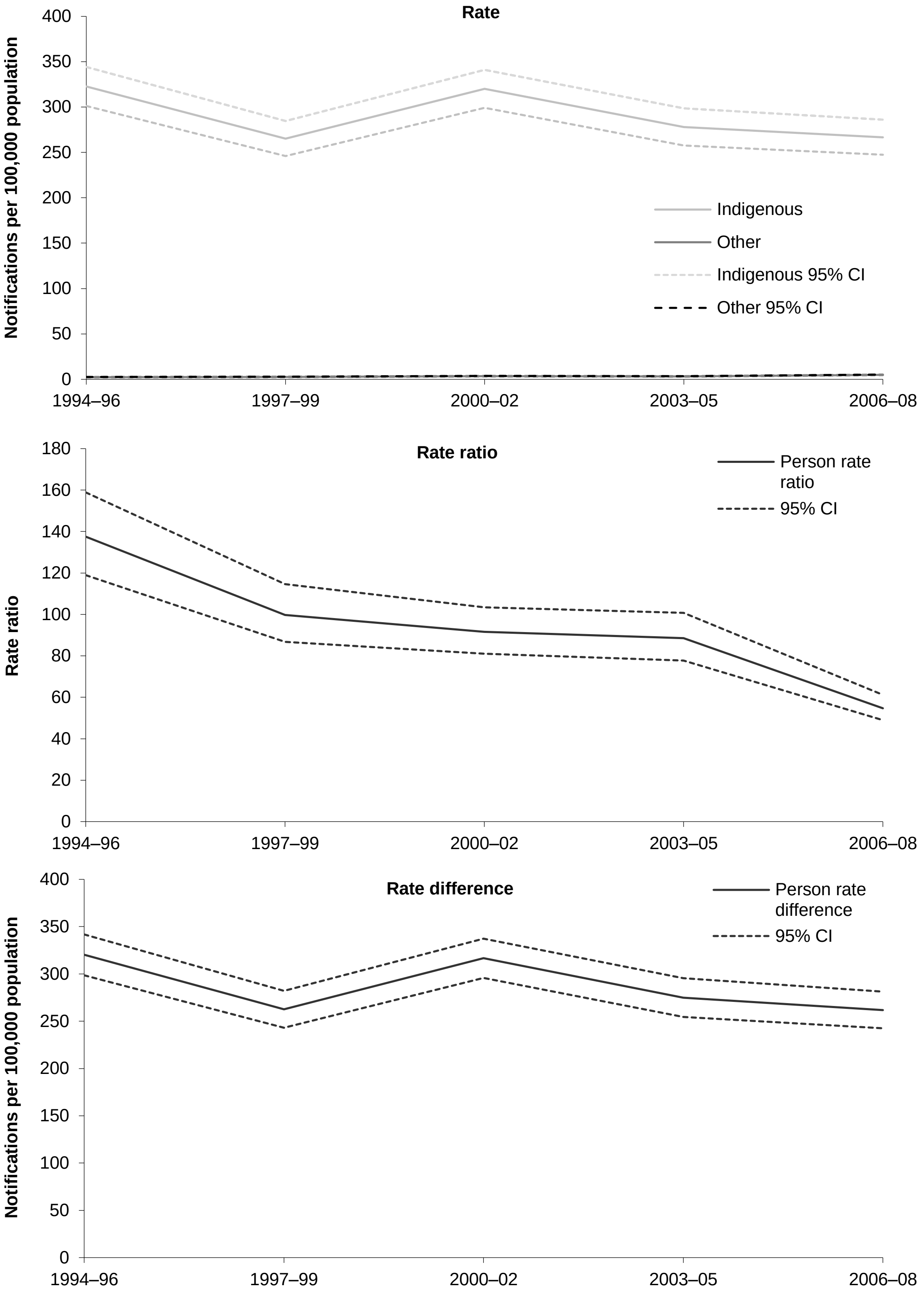
(e) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(f) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+

(g) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

(h) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Source: AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

Figure 1.11.2: Age-standardised notification rates, rate differences and rate ratios for syphilis, WA, SA and NT, 1994–1996 to 2006–2008

Gonorrhoea

- In Western Australia, South Australia and the Northern Territory combined, there were significant increases in notification rates for gonorrhoea among Indigenous Australians during the period 1994–1996 to 2006–2008. The fitted trend line shows an average yearly increase in the age-standardised rate of around 43 per 100,000 which is equivalent to a 61% increase in the rate over the period (Table 1.11.8). There were significant increases in notification rates for both Indigenous males and females.
- There were also increases in notification rates for gonorrhoea among other Australians during the same period. Rates showed a significant increase for males (98% increase over the period) but not for females.
- Notification rate ratios between Indigenous and other Australians for gonorrhoea showed no significant changes for males or females over the 12-year period (Figure 1.11.3).
- 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 42 per 100,000 (61% increase). These increases were statistically significant for both males and females.

Table 1.11.8: Crude and age-standardised notification rates, rate differences and rate ratios for gonorrhoea, WA, SA and NT, 1994–1996 to 2006–2008[(a)]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[(b)]	Per cent change over period[(c)]
Indigenous notifications							
Males	2,595	2,645	3,066	3,730	4,261	147.2*	79.4*
Females	1,850	2,881	3,416	4,163	4,505	219.7*	166.3*
Persons	4,457	5,529	6,482	7,968	8,881	376.2*	118.2*
Other Australian notifications[(d)]							
Males	968	1,373	1,608	1,767	1,969	79.9*	115.5*
Females	397	821	809	613	649	9.9	34.8
Persons	1,377	2,208	2,459	2,389	2,645	90.6*	92.1*
Indigenous crude rate per 100,000							
Males	1,355.6	1,286.1	1,389.9	1,590.7	1,720.0	34.5*	35.6*
Females	955.0	1,388.5	1,535.8	1,758.8	1,799.7	68.7*	100.6*
Persons	1,157.2	1,338.3	1,463.2	1,691.1	1,783.2	53.5*	64.7*
Indigenous age-standardised rate per 100,000[(e)]							
Males	1,200.3	1,137.6	1,223.2	1,368.3	1,493.0	27.2*	31.7*
Females	771.9	1,132.1	1,251.5	1,411.6	1,466.1	55.6*	100.8*
Persons	982.7	1,130.8	1,234.7	1,399.4	1,494.8	43.1*	61.4*
Other Australian age-standardised rate per 100,000[(d)(e)]							
Males	18.5	26.0	30.3	32.7	34.6	1.3*	98.7*
Females	7.7	16.1	15.8	11.9	12.0	0.1	26.7
Persons	13.2	21.1	23.5	22.5	23.7	0.7*	78.6*
Rate difference[(f)]							
Males	1,181.8	1,111.6	1,192.9	1,335.5	1,458.4	25.9*	30.7*
Females	764.2	1,116.0	1,235.7	1,399.8	1,454.1	55.4*	101.6*
Persons	969.5	1,109.7	1,211.2	1,377.0	1,471.1	42.3*	61.1*
Rate ratio[(g)]							
Males	65.0	43.8	40.4	41.8	43.1	-1.5	-32.9
Females	99.9	70.5	79.2	118.8	122.0	3.1	43.2
Persons	74.2	53.5	52.6	62.3	63.0	-0.5	-8.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(a) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years

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

(c) Per cent change between 1994–1996 and 2006–2008 based on the annual rate of change over the period.

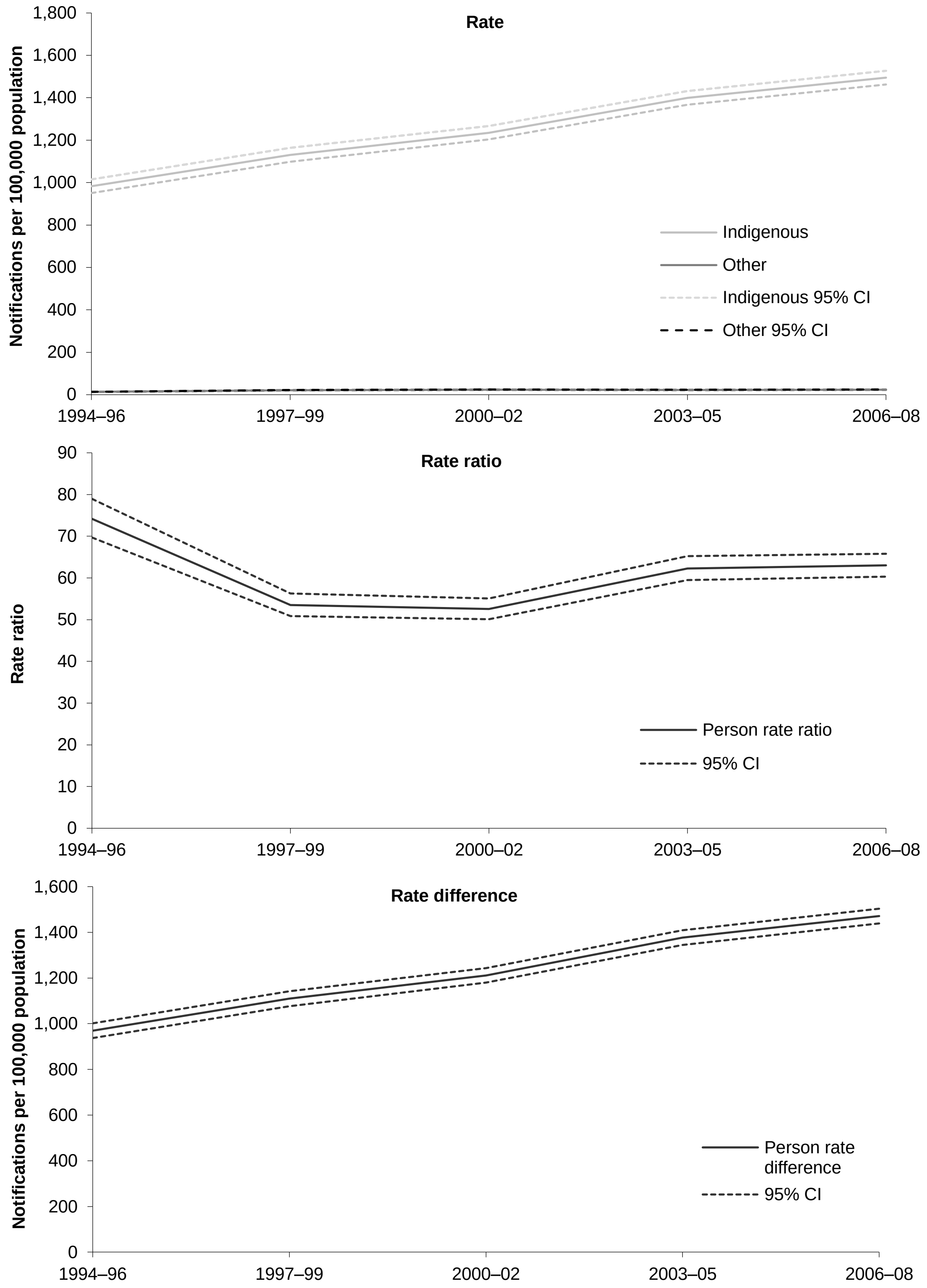
(d) ‘Other’ includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+

(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.

Source: AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

Figure 1.11.3: Age-standardised notification rates, rate differences and rate ratios for gonorrhoea, WA, SA and NT, 1994–1996 to 2006–2008

Hepatitis C (newly acquired)

Time trends data for hepatitis C notifications are presented for the period 1997–1999 to 2006–2008, as complete and consistent data on hepatitis C notifications are not available before 1997 in the three states and territories.

- In Western Australia, South Australia and the Northern Territory combined, there were no significant increases in notification rates for hepatitis C among Indigenous females during the period 1997–1999 to 2006–2008 (Table 1.11.9). There were small increases in the age-standardised rates of hepatitis C notifications for Indigenous Australians during this period.
- There were small non-significant decreases in the rate of hepatitis C notifications for other Australians over the same period.
- Notification rate ratios between Indigenous and other Australians for hepatitis C showed small increases for both males and females over the period 1997–1999 to 2006–2008 (an increase of 80% for males and 47% for females). The rate difference between Indigenous and other Australian notifications for hepatitis C also showed slight increases for both males and females (Figure 1.11.4).

Table 1.11.9: Crude and age-standardised notification rates, rate differences and rate ratios for hepatitis C (newly acquired), WA, SA and NT, 1997–1999 to 2006–2008[(a)]

	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[(b)]	Per cent change over period[(c)]
Indigenous notifications						
Males	34	61	85	47	2.1	67.9
Females	28	37	49	28	0.4	15.7
Persons	62	98	134	75	2.5	44.4
Other Australian notifications[(d)]						
Males	301	332	296	253	-6.0	-21.9
Females	178	201	191	144	-3.7	-23.1
Persons	480	533	487	397	-9.8	-22.5
Indigenous crude rate per 100,000						
Males	16.5	27.7	36.2	19.0	0.5	35.3
Females	13.5	16.6	20.7	11.2	-0.1	-7.8
Persons	15.0	22.1	28.4	15.1	0.2	15.8
Indigenous age-standardised rate per 100,000[(e)]						
Males	14.2	24.5	32.3	16.8	0.5	40.3
Females	10.8	14.0	19.6	10.4	0.1	13.9
Persons	12.5	19.2	25.9	13.6	0.3	29.4
Other Australian age-standardised rate per 100,000[(d)(e)]						
Males	5.6	6.3	5.6	4.5	-0.1	-26.7
Females	3.5	4.0	3.7	2.7	-0.1	-28.2
Persons	4.6	5.2	4.7	3.6	-0.1	-27.3
Rate difference[(f)]						
Males	8.6	18.2	26.7	12.3	0.7	84.5
Females	7.3	10.1	15.9	7.7	0.2	33.9
Persons	7.9	14.0	21.3	10.0	0.4	62.4
Rate ratio[(g)]						
Males	2.5	3.9	5.8	3.7	0.2	80.2
Females	3.1	3.5	5.3	3.8	0.1	47.4
Persons	2.7	3.7	5.6	3.7	0.2	66.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1997–1999 to 2006–2008.

(a) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.

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

(c) Per cent change between 1997–1999 and 2006–2008 based on the annual rate of change over the period.

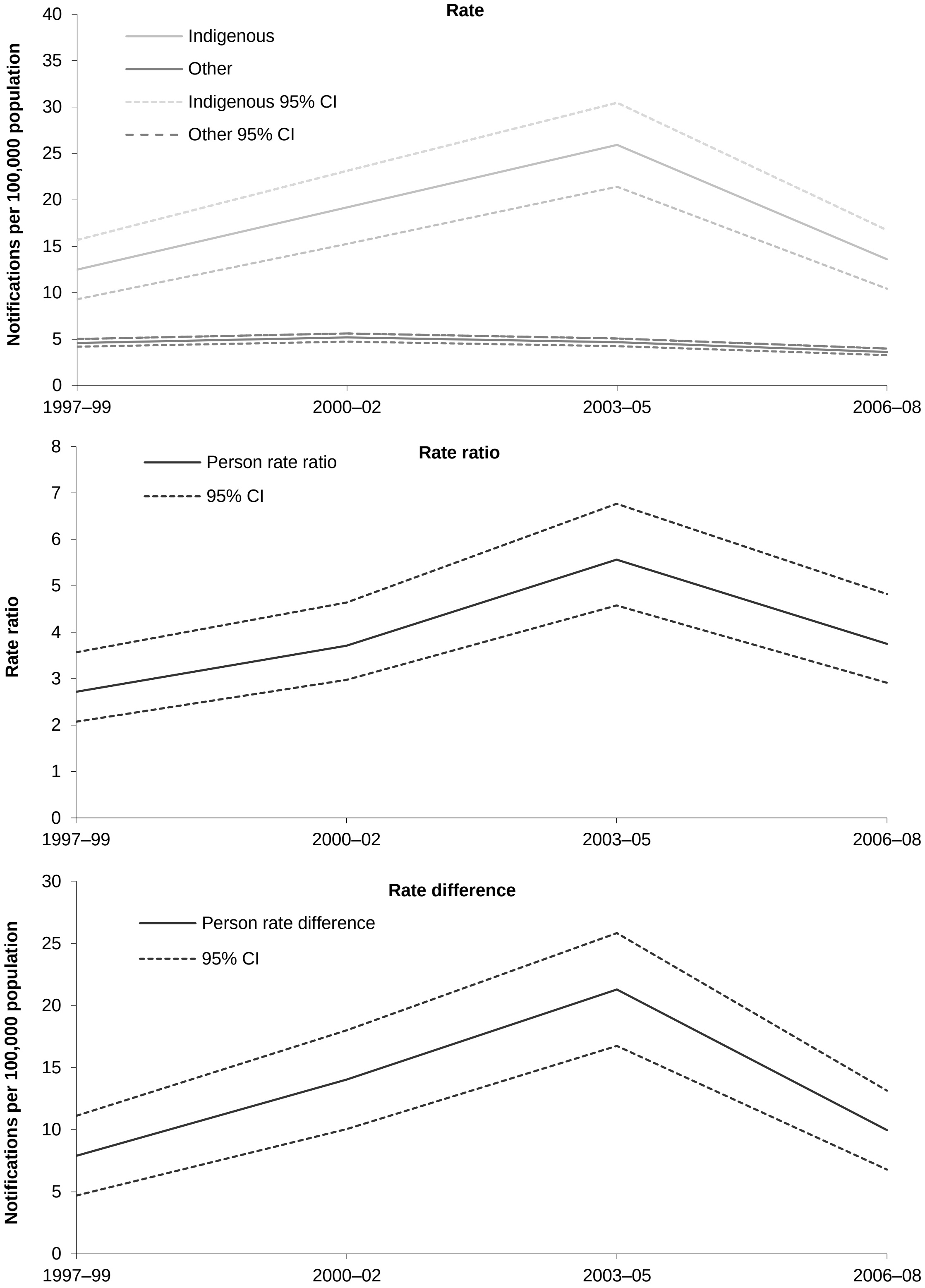
(d) ‘Other’ includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+.

(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.

Source*:* AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

Figure 1.11.4: Age-standardised notification rates, rate differences and rate ratios for hepatitis C (newly acquired), WA, SA and NT, 1997–1999 to 2006–2008

HIV

- There were apparent increases in the rate of HIV notifications among Indigenous Australians over the period 1998–2000 to 2007–2008, but this trend was not significant (Table 1.11.10, Figure 1.11.5).
- Over the same period, there were significant increases in notification rates for HIV among other Australians. The fitted trend implies an average yearly increase in the age-standardised rate of around 0.1 per 100,000 which is equivalent to a 38% increase in the rate over the period.
- There were no significant changes in the notification rate ratios and rate differences between Indigenous and other Australians for HIV between 1998–2000 and 2007–2008.

Table 1.11.10: Crude and age-standardised notification rates, rate differences and rate ratios for HIV, NSW, Vic, Qld, WA, SA and NT combined,1998–2000 to 2007–2008[(a)][(b)]

	1998–2000	2001–03	2004–06	2007–08	Annual change[(c)]	Per cent change over period[(d)]
Indigenous notifications	34	61	58	36	0.2	7.3
Other Australian notifications[(e)]	2,082	2,388	2,766	1,984	7.0	3.4
Indigenous crude rate per 100,000	2.7	4.5	4.0	3.5	0.1	28.3
Indigenous age-standardised rate per 100,000[(f)]	3.1	5.0	4.3	4.0	0.1	21.5
Other Australian age-standardised rate per 100,000[(e)]	3.9	4.3	4.9	5.1	0.1*	38.3*
Rate difference[(g)]	-0.7	0.7	-0.6	-1.1	-0.1	110.7
Rate ratio[(h)]	0.8	1.2	0.9	0.8	0.0	-14.7

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

(a) Calendar year reporting. Data are presented in 2 or 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) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1998–2000 and 2007–2008 based on the annual rate of change over the period.

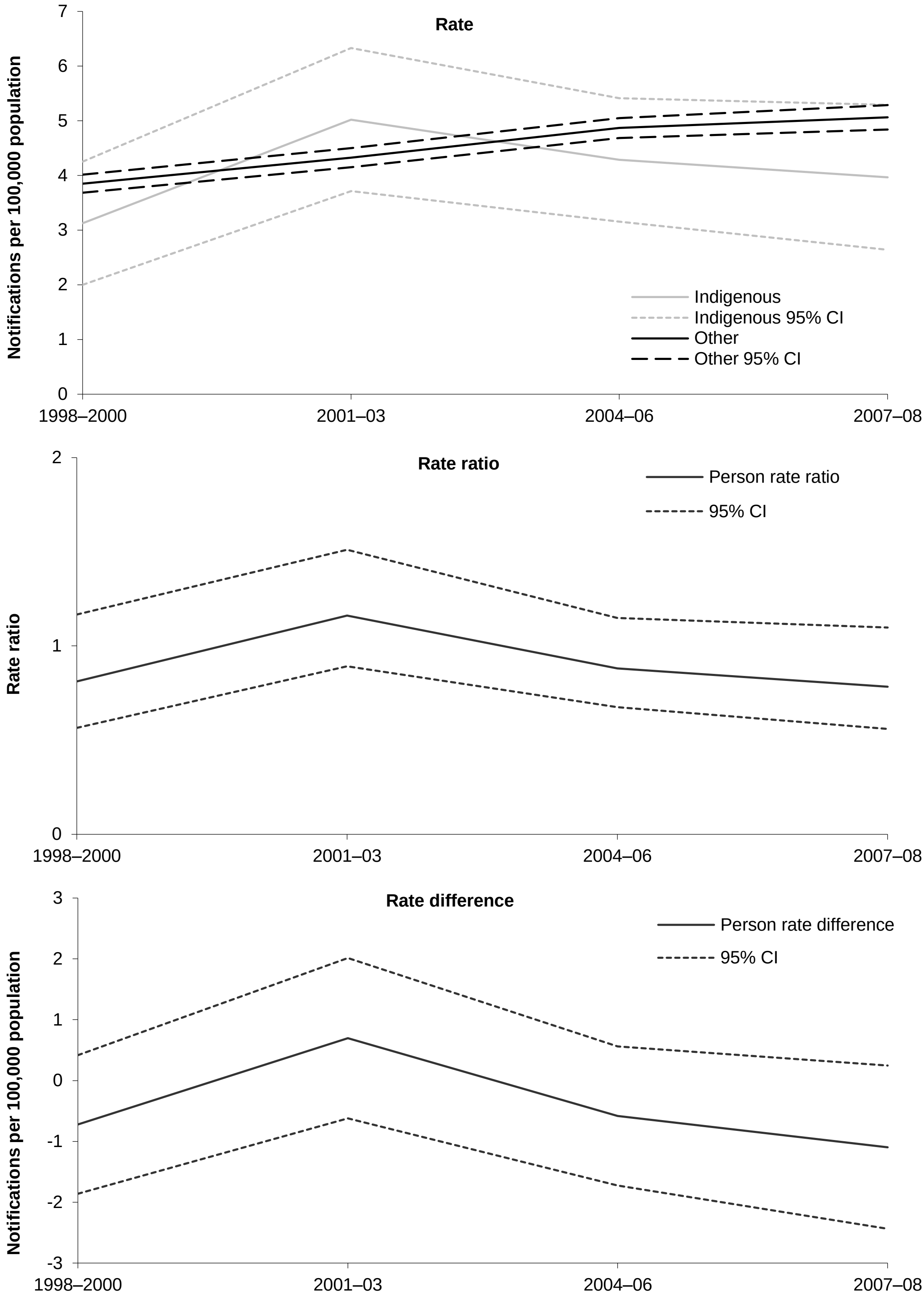
(e) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(f) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+

(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

(h) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

Source: AIHW analysis of NCHECR data.



Source: AIHW analysis of NCHECR data.

Figure 1.11.5: Age-standardised notification rates, rate differences and rate ratios for HIV, NSW, Vic, Qld, WA, SA and NT combined,1998–2000 to 2007–2008

AIDS

- There was no significant change in the rate of AIDS notifications among Indigenous Australians over the period 1998–2000 to 2007–2008 (Table 1.11.11, Figure 1.11.6).
- Over the period 1998–2000 to 2007–2008, there were no significant changes in notification rates for AIDS among other Australians.
- There were non-significant increases in both notification rate ratios and rate differences between Indigenous and other Australians for AIDS between 1998–2000 and 2007–2008.

Table 1.11.11: Age-standardised notification rates, rate differences and rate ratios for AIDS, Vic, Qld, WA, SA and NT, 1998–2000 to 2007–08(a)(b)

	1998–2000	2001–03	2004–06	2007–08	Annual change(c)	Per cent change over period(d)
Indigenous crude rate per 100,000	1.4	1.5	1.5	0.4	-0.1	-69.3
Indigenous age-standardised rate per 100,000(e)	1.5	1.6	1.9	0.4	-0.1	-65.5
Other Australian age-standardised rate per 100,000(e)(f)	0.9	0.9	0.8	0.7	0.0	-32.4*
Rate difference(g)	0.6	0.7	1.1	-0.3	-0.1	-120.1
Rate ratio(h)	1.6	1.8	2.4	0.6	-0.1	-47.6

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

(a) Calendar year reporting. Data are presented in 2 or 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) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(d) Per cent change between 1998–2000 and 2007–2008 based on the annual rate of change over the period.

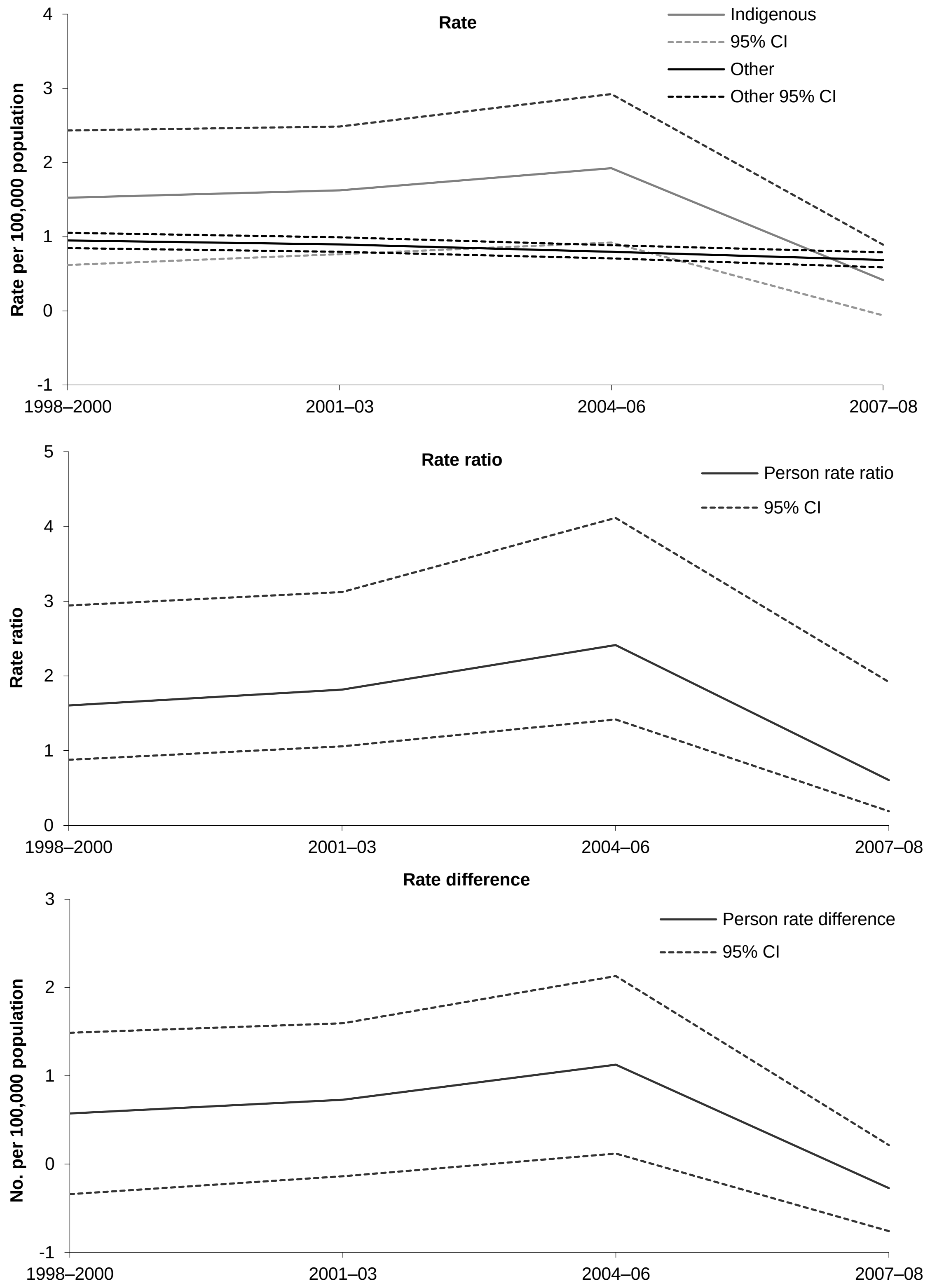
(e) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+

(f) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

(h) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

Source: AIHW analysis of NCHECR data.



Source: AIHW analysis of NCHECR data.

Figure 1.11.6: Age-standardised notification rates, rate differences and rate ratios for AIDS, Vic, Qld, WA, SA and NT, 1998–2000 to 2007–08

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 are included in this indicator, sexual transmission is not considered the main route of transmission as hepatitis C primarily occurs among those with a history of injecting drug use.

Under-identification

The incompleteness of Indigenous identification means the number of notifications recorded as Indigenous is likely to be an underestimate of Aboriginal and Torres Strait Islander notifications rates. In 2007-08, Indigenous status was not reported in 54% cases of chlamydia, 25% cases of syphilis, 29% of cases of gonorrhoea and 13% of cases of hepatitis C (newly acquired).

The completeness of Indigenous identification in notifiable disease registries varies between the states and territories. 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 2007-08.

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

References

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1.12 Children's hearing loss

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 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 and the AIHW National Hospital Morbidity Database. Limited data are presented on child hearing screening from the state and territory health departments.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 2013.

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. The Telethon Institute for Child Health Research, in conjunction with the Kulunga Research Network, undertook this survey in 2001 and 2002. 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 (BEACH) survey

Information about encounters in general practice is available from the BEACH survey, which the AIHW Australian General Practice Statistics and Classification Unit conducts. 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. A more detailed explanation of the BEACH methods can be found in *General practice activity in Australia 2008–09* (Britt et al. 2009).

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). Further detailed analyses of this issue are covered in *General practice in Australia, heath priorities and policies 1998–2008* (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.'

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.3% of total GP encounters in the survey.

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. State and territory health departments provide information annually on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the AIHW.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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.

Analysis

Age-standardised rates and ratios have been used for this indicator 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 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) on the prevalence of diseases of the ear and mastoid are presented in tables 1.12.1 and 1.12.7 and in Figure 1.12.1. 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 1.12.2, 1.12.3, 1.12.4 and 1.12.5. Table 1.12.6 provides data using both the NATSIHS and NATSISS.

Prevalence by age

- 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 1.12.1).
- 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%) (Figure 1.12.1).
- 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.

Table 1.12.1: 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 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.

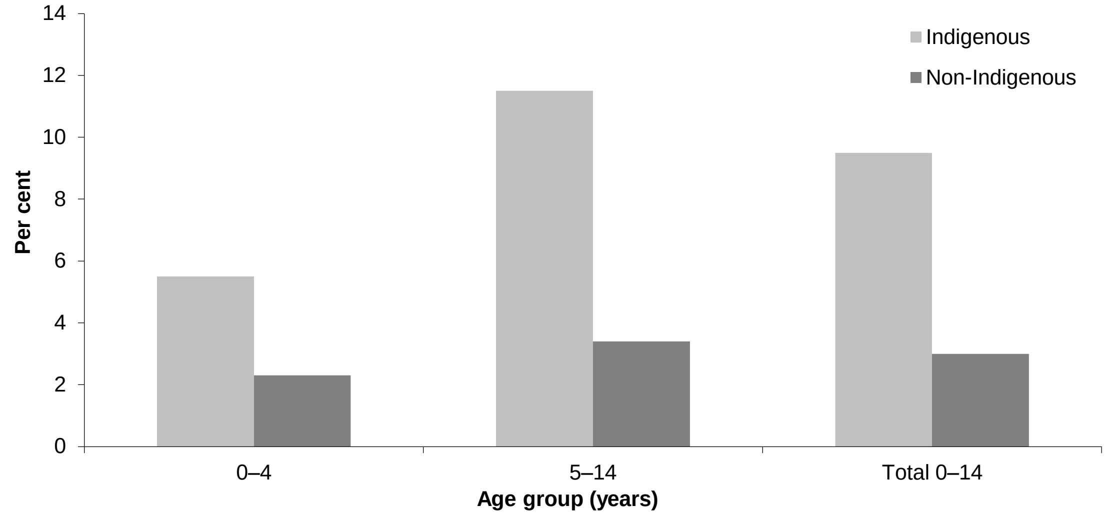
(b) Estimates having a relative standard error of between 25% and 50% and should be used with caution.

(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.



Source: ABS and AIHW analysis of National Aboriginal and Torres Strait Islander Health Survey 2004–05.

Figure 1.12.1: Proportion of children aged 0–14 years reporting ear and hearing problems, by Indigenous status and age group, 2004–05

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.
- The prevalence was similar for males (around 9%) and females (around 9%).

Table 1.12.2: 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 1.12.3).
- Victoria had the lowest proportion of Indigenous children reporting ear and hearing problems (6%).

Table 1.12.3: 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 1.12.4 and 1.12.5 present the proportion of Indigenous children with ear or hearing problems by remoteness. The type of ear or hearing problem is presented in Table 1.12.4 and the type of treatment received is presented in Table 1.12.5.

- In remote areas, 10% of Indigenous children aged 0–14 years old had some type of ear or hearing problem, compared to 8% in non-remote areas (Table 1.12.4).
- 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 1.12.4).
- During 2008, in remote areas 23% of Indigenous children with an ear or hearing problem received treatment from a hearing specialist, compared to 40% in non-remote areas (Table 1.12.5).
- 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 1.12.5).

Table 1.12 4: 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	. .

(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 1.12.5: 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% males and 8% females) (Table 1.12.6).
- 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% in 2001 to 11% in 2008, and for Indigenous females it was from 18% in 2001 to 10% in 2008.

Table 1.12.6: 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.	18	18	18	12	13	13	10.5	10.1	10.0
Non-remote	7.2	5.0	5.9	6.4[(b)]	11	9	9	8	9	8.0	8.0	8.0
Total[(c)]	**n.a.**	**n.a.**	**n.a.**	**10**	**13**	**11**	**10**	**10**	**10**	**9.0**	**9.0**	**9.0**
Total no.	**54,392**	**52,401**	**106,793**	**90,615**	**85,878**	**176,493**	**92,767**	**87,902**	**180,699**	**97,460**	**94,083**	**191,543**

(a) Data for the National Aboriginal and Torres Strait Islander Health Survey 1995 are available for non-remote areas only.

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

Source: ABS and AIHW analysis of 1995 and 2001 NHS (Indigenous supplement), 2004–05 NATSIHS; and 2008 NATSISS.

Prevalence by selected population and health characteristics

Table 1.12.7 presents the proportion of Indigenous children aged 0–14 years who had ear and circulatory problems by selected demographic characteristics and risk factors.

- 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 to 8%).
- 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%).
- 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%).
- 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 to 8% of Indigenous children who whose last GP or specialist consultation was 3 or more months ago.

Table 1.12.7: 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 2006 to June 2008, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, there were 53,754 hospitalisations from diseases of the ear and mastoid process among children aged 0–14 years, 5% of which were hospitalisations of Aboriginal and Torres Strait Islander children.
- Diseases of the ear and mastoid process accounted for 4.3% of total hospitalisations among Indigenous children aged 0–14 years.

Hospitalisations by age and principal diagnosis

- For the 2-year period July 2006 to June 2008, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, for diseases of the ear and mastoid process there were 1,129 hospitalisations among Indigenous children aged 0–4 years, and 1,527 hospitalisations among those aged 5–14 years. This represented 3% and 6% of total hospitalisations among Indigenous children respectively (Table 1.12.8).
- While Indigenous children aged 0–4 years were less likely to be hospitalised for diseases of the ear and mastoid process than other children, Indigenous children aged 5–14 years were 1.4 times as likely as to be hospitalised for these diseases.
- Over the period July 2006 to June 2008, Indigenous children aged 0–14 years in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for diseases of the ear and mastoid process at similar rates to other Australians.

Hospitalisations for tympanoplasty procedures

Indigenous children aged 0–14 years had reported rates of tympanoplasty procedures with a principal diagnosis of otitis media at four times the rate of other children. 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 1.12.8: Hospitalisations for diseases of the ear and mastoid process, by Indigenous status, children aged 0–14 years, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[a][b][c][d][e]

	Number		Per cent[f]		Indigenous			Other[f]			
	Indigenous	Other[f]	Indigenous	Other[f]	No. per 1,000[g]	LCL 95%[h]	UCL 95%[i]	No. per 1,000[g]	LCL 95%[h]	UCL 95%[i]	Rate ratio[j]
Aged 0–4 years											
Diseases of middle ear and mastoid (H65–H75)	1,028	27,378	2.7	4.8	8.3	7.8	8.8	11.2	11.0	11.3	0.7*
Other disorders of ear (H90–H95)	52	1,376	0.1	0.2	0.4	0.3	0.5	0.6	0.5	0.6	0.7*
Diseases of the external ear (H60–H62)	47	570	0.1	0.1	0.4	0.3	0.5	0.2	0.2	0.3	1.6*
Diseases of inner ear (H80–H83)	2	31	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3
Total	**1,129**	**29,355**	**3.0**	**5.1**	**9.1**	**8.5**	**9.6**	**12.0**	**11.8**	**12.1**	**0.8***
Aged 5–14 years											
Diseases of middle ear and mastoid (H65–H75)	1,413	19,738	6.0	4.6	5.7	5.4	6.0	3.9	3.9	4.0	1.4*
Other disorders of ear (H90–H95)	54	894	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	1.2
Diseases of the external ear (H60–H62)	55	1,043	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	1.1
Diseases of inner ear (H80–H83)	5	68	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
Total	**1,527**	**21,743**	**6.4**	**5.1**	**6.1**	**5.8**	**6.5**	**4.3**	**4.3**	**4.4**	**1.4***
Aged 0–14 years											
Diseases of middle ear and mastoid (H65–H75)	2,441	47,116	3.9	4.7	6.5	6.3	6.8	6.2	6.1	6.2	1.1*
Other disorders of ear (H90–H95)	106	2,270	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	1.0
Diseases of the external ear (H60–H62)	102	1,613	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.2	1.3*
Diseases of inner ear (H80–H83)	7	99	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Total NSW, Vic, Qld, WA, SA & NT	**2,656**	**51,098**	**4.3**	**5.1**	**7.1**	**6.8**	**7.4**	**6.7**	**6.6**	**6.8**	**1.1***
Total Australia[k]	**2,697**	**53,067**	**4.3**	**5.1**	**6.9**	**6.7**	**7.2**	**6.8**	**6.8**	**6.9**	**1.0**

(continued)

Table 1.12.8 (continued): Hospitalisations for diseases of the ear and mastoid process, by Indigenous status, children aged 0– 14 years, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(a)(b)(c)(d)(e)]

* Represents results with a statistically significant difference in the Indigenous/other comparisons.

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

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006); ICD-10-AM codes H60–H95.

(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 2006–07 to 2007–08.

(f) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Age-specific hospitalisation rate using the average Indigenous December populations for the relevant years.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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. Indigenous rates are calculated using population estimates based on the 2006 Census (SERIES B).
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 children with 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 1.12.9, covering the period July 2007 to June 2009.

- Indigenous children in all *Remote* and *Very remote* areas were more likely to be hospitalised for these conditions than other Australians. The ratio of hospitalisations of Indigenous people compared to other Australians was higher and the difference was statistically significant only for *Remote* and *Very remote* areas.
- Rates of hospitalisations per 1,000 children were highest for Indigenous children living in *Very remote* areas, at 3.0 per 1,000. The rate was also highest for other Australian children who lived in *Very remote* areas, at 1.6 per 1,000. The lowest rates were observed in *Major cities* for Indigenous children (1.2 per 1,000) and *Remote* areas for other Australian children (1.2 per 1,000).
- Indigenous children were hospitalised for these conditions at a rate of two times that of other Australians in *Remote* and *Very remote* areas of Australia. In *Major cities* areas, where the lowest ratio of 0.8 was observed, other Australian children were hospitalised more frequently than Indigenous children, however this difference was not statistically significant.

Table1.12.9: Hospitalisations for diseases of the ear and mastoid process, children aged 0 to 14 years, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[a][b][c][d][e][f]

	Indigenous				Other[g]				
	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Ratio[k]
Major cities	693	1.2	1.1	1.3	38,327	1.5	1.5	1.5	0.8
Inner regional	585	1.5	1.4	1.6	10,485	1.5	1.5	1.5	1.0
Outer regional[l]	540	1.4	1.2	1.5	4,248	1.3	1.3	1.3	1.0
Remote	421	2.5	2.3	2.8	654	1.2	1.1	1.3	2.0*
Very remote	806	3.0	2.7	3.4	254	1.6	1.5	1.6	2.0*
Total[m]	**3,047**	**1.7**	**1.6**	**1.7**	**53,977**	**1.5**	**1.5**	**1.5**	**1.1***

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

(n) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory.

(o) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006).

(p) Financial year reporting.

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

(r) 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+.

(s) 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.

(t) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(v) LCL = lower confidence limit.

(w) UCL = upper confidence limit.

(x) Rate ratio Indigenous: other.

(y) *Outer regional* includes remote Victoria.

(z) Total includes hospitalisations where ASGC is missing.

Notes

3. Rates for Indigenous are calculated using the 2006 population estimates based on the 2006 Census (Series B).
4. 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.

Time series analysis

Time series data from 2001–02 to 2007–08 for children aged 0–14 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 (Table 1.12.10).

Additional trend analysis for children aged 0–14 years 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 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.

Diseases of the ear and mastoid process—2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for diseases of the ear and mastoid process over the 7-year period 2001–02 to 2007–08 are presented in Table 1.12.10 and Figure 1.12.2.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were declines in hospitalisation rates for diseases of the ear and mastoid process among Indigenous children aged 0–14 years during the period 2001–02 to 2007–08, with an average yearly decline in the rate of around 0.1 per 1,000 population. This is equivalent to a 10% reduction in the rate over the period. However, the declines in hospitalisation rates were only significant for females.
- There were significant declines in hospitalisation rates among other Australian children, with an average yearly decline in the rate of 0.3 per 1,000. This is equivalent to a 22% decline in the rate over the period. The declines in hospitalisation rates were significant for both males and females.
- There was a significant increase of 13% in the hospitalisation rate ratio between Indigenous and other children during the period 2001–02 to 2007–08. During the same period, there was a fall in the rate difference of two and one quarter times.

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 1.12.10: Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, children aged 0–14 years, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	520	469	532	490	504	472	511	–2	–2.0
Females	484	411	434	417	389	384	416	–11*	–13.4*
Persons	1,004	880	966	907	893	856	927	–13	–7.5
Other Australian separations									
Males	7,764	7,733	7,483	7,445	6,963	6,677	6,790	–198*	–15.3*
Females	5,342	5,114	4,982	4,882	4,588	4,572	4,550	–138*	–15.5*
Persons	13,106	12,848	12,465	12,327	11,551	11,249	11,340	–336*	–15.4*
Indigenous rate per 1,000									
Males	8.9	8.0	9.0	8.3	8.5	7.9	8.6	–0.1	–3.6
Females	8.9	7.4	7.8	7.4	6.9	6.8	7.3	–0.2*	–16.7*
Persons	8.9	7.7	8.4	7.9	7.7	7.4	7.9	–0.1	–10.0
Other Australian[(d)] rate (no. per 1,000)									
Males	10.8	10.8	10.4	10.2	9.4	8.8	8.8	–0.4*	–21.7*
Females	7.9	7.5	7.3	7.1	6.5	6.4	6.2	–0.3*	–21.3*
Persons	9.4	9.2	8.9	8.7	8.0	7.7	7.5	–0.3*	–21.5*
Rate ratio[(e)]									
Males	0.8	0.7	0.9	0.8	0.9	0.9	1.0	0.03*	21.5*
Females	1.1	1.0	1.1	1.1	1.1	1.1	1.2	0.0	4.7
Persons	0.9	0.8	1.0	0.9	1.0	1.0	1.1	0.02*	13.3*

(continued)

Table 1.12.10 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, children aged 0–14 years, Qld, WA, SA and NT, 1998–99 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(f)]									
Males	–1.9	–2.8	–1.3	–1.9	–0.9	–0.9	–0.2	0.3*	–104.3*
Females	1.0	–0.1	0.5	0.4	0.4	0.4	1.1	0.0	18.4
Persons	–0.5	–1.5	–0.4	–0.8	–0.3	–0.3	0.4	0.2*	–228.9*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2007–08.

(a) 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 2007–08 based on the average annual change over the period.

(d) ‘Other’ includes hospitalisations for non-Indigenous people and those for whom Indigenous status was not stated.

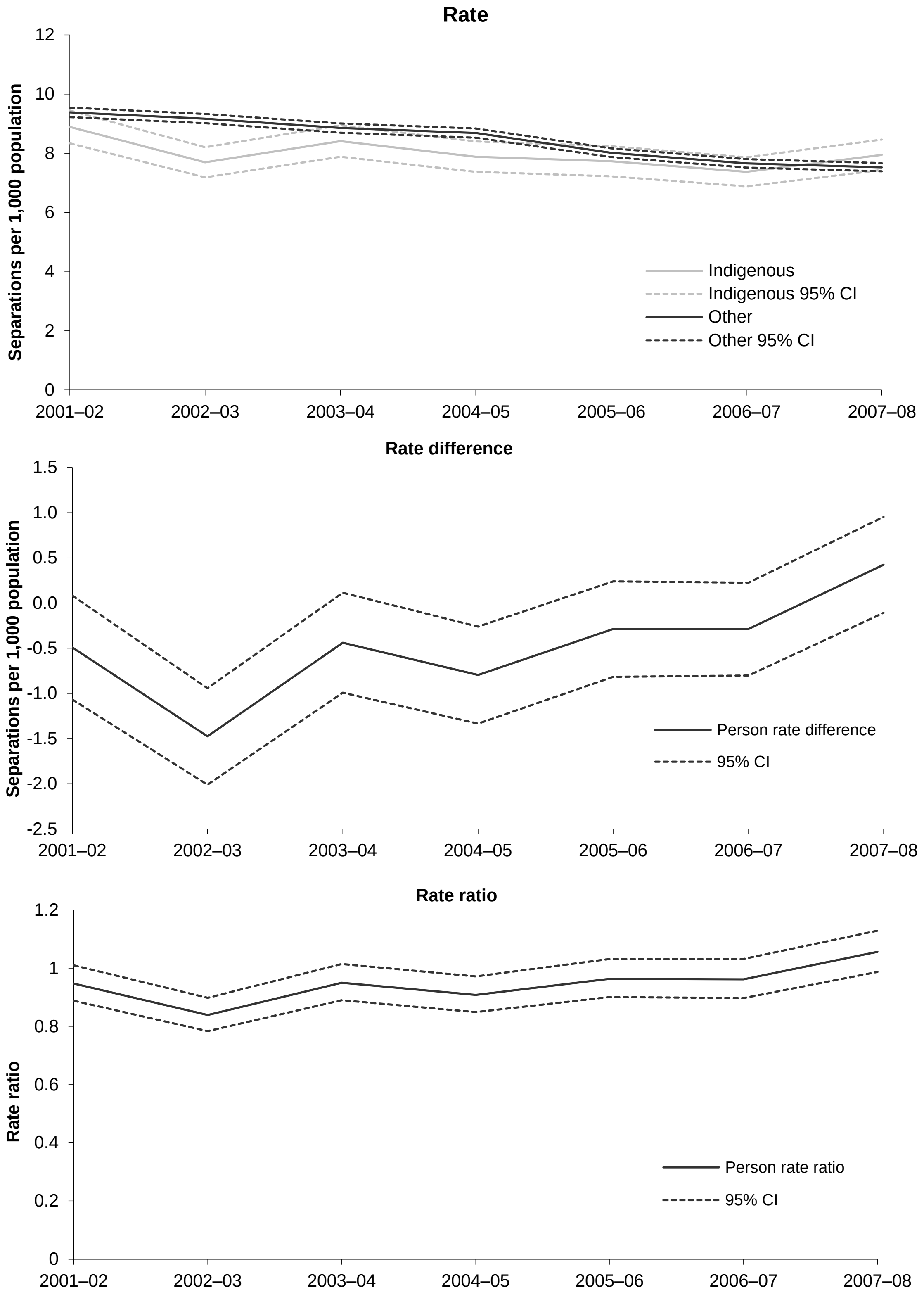
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. Care types 7.3, 9 and 10 (Newborn – unqualified days only; organ procurement; hospital boarder) included in analysis because of changes in coding since earlier years.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.12.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and other children aged 0–14 years from diseases of the ear and mastoid process, Qld, WA, SA and NT, 1998–99 to 2007–08

Diseases of the ear and mastoid process—2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for diseases of the ear and mastoid process over the three year period 2004–05 to 2007–08 are presented in Table 1.12.11 and Figure 1.12.3.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant changes in hospitalisation rates for diseases of the ear and mastoid process, among Indigenous children aged 0–14 years during the period 2004–05 to 2007–08. Overall, there was an average yearly increase in the rate of around 0.1 per 1,000 population. This is equivalent to a 3% increase in the rate over the period.
- There were significant declines in hospitalisation rates among other Australian children, with an average yearly decline in the rate of 0.3 per 1,000. This is equivalent to a 11% decline in the rate over the period. The declines in hospitalisation rates were significant for both males and females.
- There was a significant increase of 16% in the hospitalisation rate ratio between Indigenous and other children during the period 2004–05 to 2007–08. During the same period, the rate difference between Indigenous and other children declined by 1.65 times.

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 1.12.11: Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, children aged 0–14 years, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	720	722	718	768	14	5.8
Females	594	563	563	607	4	2.0
Persons	1,314	1,285	1,281	1,375	18	4.1
Other Australian separations						
Males	16,936	15,635	15,024	15,552	–476	–8.4
Females	11,071	10,422	10,131	10,391	–233	–6.3
Persons	28,007	26,057	25,155	25,943	–709	–7.6
Indigenous rate (no. per 1,000)						
Males	7.6	7.6	7.5	8.0	0.1	4.9
Females	6.5	6.2	6.2	6.6	0.0	0.7
Persons	7.1	6.9	6.8	7.3	0.1	3.0
Other Australian[(d)] rate (no. per 1,000)						
Males	9.1	8.3	7.9	8.0	–0.4*	–11.9*
Females	6.3	5.8	5.6	5.7	–0.2*	–9.7*
Persons	7.7	7.1	6.8	6.9	–0.3*	–11.0*
Rate ratio[(e)]						
Males	0.8	0.9	1.0	1.0	0.05*	19.2*
Females	1.0	1.1	1.1	1.2	0.04*	11.4*
Persons	0.9	1.0	1.0	1.1	0.05*	15.8*

(continued)

Table 1.12.11 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences from diseases of the ear and mastoid process, children aged 0–14 years, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(f)]						
Males	–1.5	–0.7	–0.4	–0.03	0.5*	–95.5*
Females	0.3	0.4	0.5	0.9	0.2*	224.5*
Persons	–0.6	–0.2	0.1	0.4	0.4*	–164.9*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) ‘Other’ includes hospitalisations for non-Indigenous people and those for whom Indigenous status was not stated.

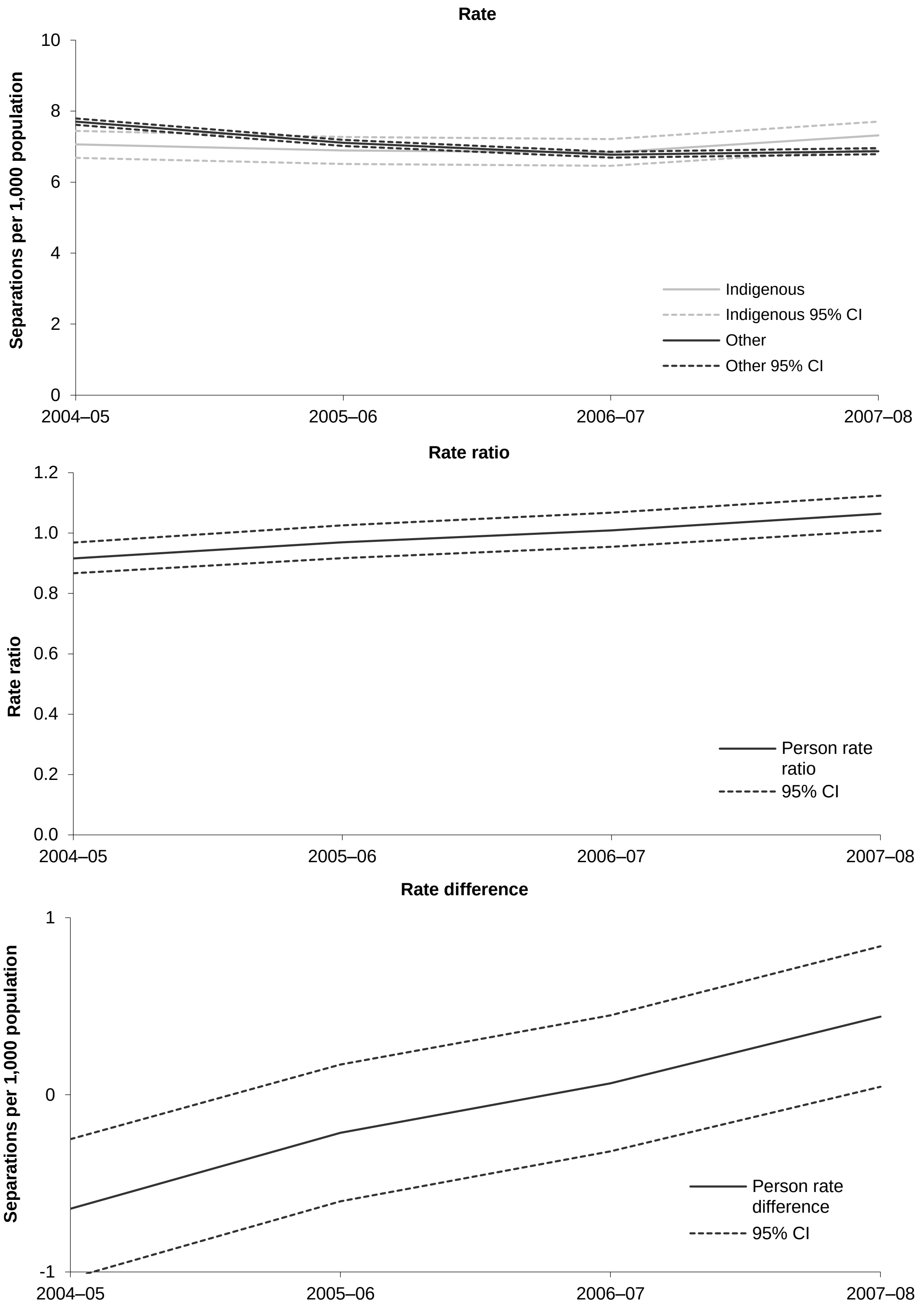
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.12.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other children aged 0–14 years from diseases of the ear and mastoid process, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

General practitioner encounters

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 2004–March 2005 to April 2008–March 2009 are presented in Table 1.12.12.

- In the period April 2004–March 2005 to April 2008–March 2009 there were 55,552 GP encounters with patients aged 0–14 years, 1,247 (2.2%) of which were with Aboriginal and Torres Strait Islander patients.
- Ear and hearing problems were responsible for 10% of total problems managed among Indigenous patients aged 0–14 years and 9.0% of total problems managed among other patients of the same age.
- Ear and hearing problems were managed at GP encounters with Indigenous children at similar rates to encounters with other children (at rates of 12.9 and 10.5 per 100 encounters for Indigenous and other children aged 0–14 years respectively).
- Acute otitis media/myringitis was the most common ear and hearing problem managed at GP encounters, responsible for 6.5% 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 (7.3%) than at encounters with children aged 5–14 years (5.6%).
- Acute otitis media/myringitis was managed at GP encounters with Indigenous children aged 0–14 years at similar rates than encounters with other children of the same age (8 and 7 per 100 encounters).

Table 1.12.12: Ear and hearing problems[a] managed by general practitioners, by Indigenous status of patient, BEACH years April 2004–March 2005 to April 2008–March 2009[b][c]

	Number		Per cent total problems[d]		Indigenous			Other[f]			
	Indigenous	Other[e]	Indigenous	Other[e]	Number per 100 encounters[f]	95% LCL[g]	95% UCL[h]	Number per 100 encounters[f]	95% LCL[g]	95% UCL[h]	Ratio[i]
					0–4 years						
Acute otitis media/ myringitis	61	2,421	7.3	7.1	9.2	6.9	11.5	8.3	7.9	8.7	1.1
Other infections of ear	15	394	1.8	1.2	2.3	1.0	3.6	1.4	1.2	1.5	1.7
Subtotal infections of ear	*76*	*2,815*	*9.1*	*8.3*	*11.5*	*9.1*	*13.8*	*9.7*	*9.2*	*10.1*	*1.2*
Hearing loss	0	9	0.0	—	0.0	. .	. .	—	. .	. .	0.0
Other diseases of the ear	5	396	0.6	1.2	0.8	—	1.5	1.4	1.2	1.5	0.6
Total diseases of the ear	**81**	**3,220**	**9.7**	**9.5**	**12.2**	**9.7**	**14.7**	**11**	**10.6**	**11.5**	**1.1**
					5–14 years						
Acute otitis media/ myringitis	40	1,342	5.6	4.6	6.8	4.7	9.0	5.3	5.0	5.6	1.3
Other infections of ear	22	693	3.1	2.4	3.8	2.0	5.5	2.8	2.5	3.0	1.4
Subtotal infections of ear	*62*	*2,035*	*8.6*	*7.0*	*10.6*	*7.8*	*13.4*	*8.1*	*7.7*	*8.5*	*1.3*
Hearing loss	0	24	0.0	0.1	0.0	. .	. .	0.1	0.1	0.1	0
Other diseases of the ear	18	412	2.5	1.4	3.1	1.6	4.5	1.6	1.5	1.8	1.9
Total diseases of the ear	**80**	**2,471**	**11.1**	**8.4**	**13.7**	**10.3**	**17.0**	**9.8**	**9.4**	**10.2**	**1.4**

(continued)

Table 1.12.12 (continued): Ear and hearing problems[(a)] managed by general practitioners, by Indigenous status of patient, BEACH years April 2004–March 2005 to April 2008–March 2009[(b)(c)]

	Number		Per cent total problems(e)		Indigenous			Other(f)			
	Indigenous	**Other(f)**	**Indigenous**	**Other(f)**	**Number per 100 encounters(g)**	**95% LCL(h)**	**95% UCL(i)**	**Number per 100 encounters(g)**	**95% LCL(h)**	**95% UCL(i)**	**Ratio(j)**
					0–14 years						
Acute otitis media/ myringitis	101	3,763	6.5	6.0	8.1	6.5	9.7	6.9	6.7	7.2	1.2
Other infections of ear	37	1,087	2.4	1.7	3.0	1.9	4.1	2.0	1.9	2.1	1.5
Subtotal infections of ear	*138*	*4,850*	*8.9*	*7.7*	*11.1*	*9.3*	*12.8*	*8.9*	*8.6*	*9.2*	*1.2*
Hearing loss	0	33	0.0	0.1	0.0	. .	. .	0.1	—	0.1	0.0
Other diseases of the ear	23	808	1.5	1.3	1.8	1.0	2.7	1.5	1.4	1.6	1.2
Total diseases of the ear	**161**	**5,691**	**10.4**	**9.0**	**12.9**	**10.9**	**14.9**	**10.5**	**10.2**	**10.8**	**1.2**

(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 = H00–H27, H29–H69, H75–H83, H87–H99.

(b) Data from five combined BEACH years April 2004–March 2005 to April 2008–March 2009 inclusive.

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

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

(e) Per cent of total problems within age group.

(f) 'Other' includes non-Indigenous patients and patients for whom Indigenous status was not stated.

(g) Age-specific rate (no. per 100 encounters). Figures do not add to 100 as more than one problem can be managed at each encounter.

(h) LCL = lower confidence interval.

(i) UCL = upper confidence interval.

(j) Rate ratio Indigenous: other.

Source: AIHW analysis of BEACH survey of general practice AGPSCC.

Additional information

Ear and hearing problems among Aboriginal children in Western Australia

The Western Australian Aboriginal Child Health Survey collected information on ear and hearing problems among Aboriginal children living in Western Australia in 2001 and 2002 (Zubrick et al. 2004).

- Carers assessed approximately 18% of Aboriginal children as having recurring ear infections. Children aged 12–17 years were less likely to have recurring ear infections (14%) than younger children aged 0–3 and 4–11 years (20%). Of those children with recurring ear infections, over two-thirds (69%) had at least one episode in which infection ruptured the eardrum, causing ear discharge.
- Overall, approximately 13% of Aboriginal children aged 4–17 years had recurring ear infections with at least one instance of discharging ears, and a further 9% had had an isolated case of discharging ears. The risk of discharging ears in children with recurring ear infections was highest in areas of high and extreme isolation (83%).
- Carers of children aged 4–17 years were also asked about their child's hearing and learning ability. Approximately 7% of children were assessed as having abnormal hearing, 9% with unintelligible speech, 10% as having difficulty with sounds, 5% with a stammer and 9% as having learning difficulties. Younger children aged 4–11 years were more likely to have language difficulties such as unintelligible speech (11%) and difficulty with sounds (13%) than children aged 12–17 years (5% and 4% respectively).
- Aboriginal children with ear infections had a significantly greater risk of abnormal hearing, language problems and learning difficulties. Approximately 30% of children with recurrent ear infections with discharge had abnormal hearing compared with 2% of children with no ear infections. Children with recurring ear infections with discharge were around three times as likely to have difficulty with sounds and twice as likely to have learning difficulties as children with no ear infection.

Child hearing screening

Limited data are currently available on the screening of Aboriginal and Torres Strait Islander children's hearing in most states and territories. Available data are summarised below.

- In South Australia, in 2003, the prevalence of otitis media leading to hearing loss and contributing to communication problems and long-term disability was estimated to be 11.1% for Aboriginal children compared with 4.7% for the general community (SIMC 2004).
- In Victoria, all children are screened for hearing loss at 500 Hz at 30 dB and 1,000, 2,000 and 4,000 Hz at 20 dB through two universal programs—Maternal and Child Health (2–8 weeks) and School Nursing (prep year of school at age 5–6 years). In 2004, 58,793 prep children were screened, of whom 724 were recorded as Aboriginal and/or Torres Strait Islander. Of the Indigenous children screened, 598 were recorded with hearing within normal limits and 141 were referred for further action.
- In the Northern Territory in 2004, 62% of school-aged children (aged 4–16 years) tested in remote communities in the Northern Territory were identified with varying degrees of hearing loss in one or both ears. Audiologists and nurse audiometrists who travelled to remote communities performed the tests. The numbers tested included mostly children who failed hearing screening at school entry (aged 4–5 years) and children with hearing

concerns, but also older children who have had existing hearing loss and were being monitored.

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 2008–09, 56% of Indigenous children aged 0–4 years and 38% of Indigenous children aged 5–14 years reporting to Deadly Ears outreach clinics were assessed as having bilateral hearing loss (Table 1.12.13).
- In 2009, 40% of Indigenous children aged 0–4 years and 29% of Indigenous children aged 5–14 years reporting to Deadly Ears outreach clinics had otitis media (Table 1.12.14).

Table 1.12.13: Proportion of Deadly Ears program clients by level of hearing loss and age, 2008–2009

	Clients	Hearing within normal limits	Unilateral hearing loss	Bilateral hearing loss
Year	**Number**	**Per cent**	**Per cent**	**Per cent**
				0–4 years
2008	51	22.2	10.1	67.7
2009	89	32.9	15.5	51.5
Total	140	29.9	14.0	56.1
				5–14 years
2008	168	39.9	24.7	35.4
2009	324	41.3	19.6	39.1
Total	**492**	**40.9**	**20.9**	**38.2**

Source: Deadly Ears Program data.

Table 1.12.14: Proportion of Deadly Ears program clients with otitis media, by age, 2008–2009

	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.

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 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).

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 (Zubrick et al. 2004).

General practitioner data (BEACH)

Information about general practitioner (GP) 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. 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 GPs, but the extent of this undercount is not measurable.

National Hospital Morbidity data

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population that these six jurisdictions cover is 96%. The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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.

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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1.13 Disability

The prevalence of disability among Aboriginal and Torres Strait Islander people, including children with special needs

Data sources

Data for this measure come from the National Aboriginal and Torres Strait Islander Social Survey, the 2006 Census of Population and Housing and the Western Australian Aboriginal Child 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 6 years with the next survey planned for 2013.

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 ABS Census of Population and Housing is conducted by the ABS at 5-yearly intervals, with 2006 being the most recent, 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but this was replaced by the Australian and New Zealand Standard Classification of Occupations for the 2006 Census.

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. The Telethon Institute for Child Health Research, in conjunction with the Kulunga Research Network, undertook this survey in 2001 and 2002. 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.

The International Classification of Functioning, Disability and Health defines disability as a multi-dimensional concept, relating to:

- body functions and structures of people
- activities people do and the life areas in which they participate
- factors in their environment which affect these experiences.

Analyses

NATSISS data

Disability status

Common criteria

The common criteria for disability are based on a set of common criteria used to identify Indigenous people aged 15 years and over with a disability in both remote and non-remote areas. This measure does not include people whose only reported disability was psychological (that is, a nervous or emotional condition and/or mental illness requiring supervision).

Tables 1.13.1, 1.13.2, 1.13.3 and 1.13.4 present data on the disability status of Indigenous Australians in 2002 based on the common criteria for disability.

- In 2008, 327,101 (50%) of Indigenous people aged 15 years and over had a disability or a long-term health condition according to the common criteria (Table 1.13.1). Of these, 25,841 or 8% of the population aged 15 years and over had a profound or severe core-activity limitation, meaning that they always or sometimes needed assistance with at least one activity of everyday living (self-care, mobility or communication).
- The rate of 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.
- Overall, the prevalence rate, or proportion of people with a disability or long-term health condition, was similar in males (49%) and females (51%) (Table 1.13.2).
- In 2008, there was little difference between the proportion of Indigenous persons aged 15 years and over reporting a disability or long-term condition in non-remote and remote areas (50% and 49% respectively) (Table 1.13.3).

Table 1.13.1: Disability type[(a)], by age group, Indigenous persons aged 15 years and over, 2008

Disability type	15–24	18–24	25–34	35–44	45–54	55 or 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 1.13.2: 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.

Table 1.13.3: 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***
				Per cent			
Has profound or severe core-activity limitation	9.0	7.0	7.2	7.9	6.7	8.9	*8.1*
Has unspecified limitation or restriction	44.6	39.2	41.7	42.3	45.3	38.0	*40.7*
Total with disability or long-term health condition	***53.6***	***46.2***	***48.9***	***50.2***	***52.0***	***46.9***	***48.8***
Has no disability or long-term health condition	46.4	53.8	51.1	49.8	48.0	53.1	*51.2*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	***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).

* Differences between Indigenous non-remote and remote rates are statistically significant.

Source: NATSISS 2008.

Table 1.13.4: 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.

Broader criteria

The broader criteria for disability were used in non-remote areas only. This includes Indigenous people with a psychological disability and is directly comparable to criteria used to identify non-Indigenous people with a disability in the ABS 2008 General Social Survey (GSS). The GSS collected information on non-Indigenous persons aged 18 years and over. Comparisons between Indigenous and non-Indigenous people are therefore limited to those aged 18 years and over in non-remote areas using the broader criteria.

Tables 1.13.5, 1.13.6 and 1.13.7 present disability rates for Indigenous and non-Indigenous Australians using the broader criteria for disability in non-remote areas of Australia.

- In 2008, after adjusting for differences in age structure, Indigenous Australians aged 18 years and over in non-remote areas were 1.5 times more likely to have a profound or severe core-activity limitation than non-Indigenous Australians in non-remote areas (Table 1.13.5).
- Indigenous people had a higher rate of profound and severe core-activity limitation than non-Indigenous people in all age groups (Table 1.13.6).
- In 2008, Indigenous Australians aged 18 years and over had higher rates of disability than non-Indigenous Australians in all states and territories (rate ratios of between 1.2 and 1.6) (Table 1.13.7).
- The proportion of Indigenous Australians with a profound or severe core-activity limitation was almost three times that for non-Indigenous Australians in South Australia and Tasmania.

Table 1.13.5: Disability status, by Indigenous status, persons aged 18 years and over, 2008, non-remote areas, age-standardised rates

	Major cities			Inner regional			Outer regional			Sub-total Non-remote		
	Indigenous	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**
Has profound or severe core-activity restriction (per cent)	18.8	10.5	1.8	16.1	11.1	1.5	14.6	13.0	1.1	16.7	10.8	1.5
Disability/restriction not defined (per cent)	81.2	89.5	0.9	83.9	88.9	0.9	85.4	87.0	1.0	83.3	89.2	0.9
Total with disability or long-term health condition (per cent)	**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**	**6,476,748**	**. .**

Sources: NATSISS 2008 and NHS 07–08.

Table 1.13.6: Disability status, by Indigenous status and age group, persons aged 15 years and 18 years and over, 2008(a)(b), non-remote only

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
				Per cent		
15–24	Indigenous	5.3*	32.2*	37.5*	62.5*	100
	Non-Indig.	2.5*	19.6*	22.1*	77.9*	100
18–24	Indigenous	6.3*	35*	41.3*	58.7*	100
	Non-Indig.	3*	21.5*	24.4*	75.6*	100
25–34	Indigenous	6.2*	37.2*	43.4*	56.6*	100
	Non-Indig.	2.4*	25.8*	28.2*	71.8*	100
35–44	Indigenous	6.2*	44.6*	50.9*	49.1*	100
	Non-Indig.	3*	30.7*	33.7*	66.3*	100
45–54	Indigenous	10.2*	56*	66.2*	33.8*	100
	Non-Indig.	4.1*	38.3*	42.4*	57.6*	100
55 and over	Indigenous	17.7*	60.1*	77.8*	22.2*	100
	Non-Indig.	8.5*	53.3*	61.8*	38.2*	100
Total (18+)	**Indigenous**	**8.6***	**44.8***	**53.3***	**46.7***	**100**
	Non-Indig.	**4.8***	**37.2***	**42***	**58***	**100**
Total 18+ age-standardised(b)	**Indigenous**	**10.3***	**48.58***	**58.9***	**41.1***	**100**
	Non-Indig.	4.7*	36.5*	41.2*	58.8*	100
Rate ratio		2.2	1.3	1.4	0.7	1
Total (15+)	**Indigenous**	**8***	**42.7***	**50.6***	**49.4***	**100**
	Non-Indig.	**4.7***	**36.1***	**40.8***	**59.2***	**100**
Total 15+ age-standardised(b)	**Indigenous**	**9.9***	**47.4***	**57.3***	**42.7***	**100**
	Non-Indig.	4.5*	35.4*	40*	60*	100
Rate ratio		2.2	1.3	1.4	0.7	1

* Differences between Indigenous and non-Indigenous rates are statistically significant 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.

Sources: NATSISS 2008 and NHS 07–08.

Table 1.13.7: Disability status, by Indigenous status and state/territory, persons aged 18 years and over, 2008[(a)]

			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
NSW	Indigenous	%	11.1*	49.6*	60.7*	39.3	100
	Non-Indig.	%	4.5*	35.1*	39.6*	60.4	100
	Ratio		2.5	1.4	1.5	0.7	. .
Vic	Indigenous	%	11.5*	52.3*	63.7*	36.3*	100
	Non-Indig.	%	4.9*	36.3*	41.2*	58.8*	100
	Ratio		2.4	1.4	1.6	0.6	. .
Qld	Indigenous	%	8(a)	46.8*	54.8*	45.2*	100
	Non-Indig.	%	4.5	39.9*	44.5*	55.5*	100
	Ratio		1.8	1.2	1.2	0.8	. .
WA	Indigenous	%	8.6	45.5*	54.1*	45.9*	100
	Non-Indig.	%	4.9	34*	38.9*	61.1*	100
	Ratio		1.8	1.3	1.4	0.8	. .
SA	Indigenous	%	13*	51.3*	64.4*	35.6*	100
	Non-Indig.	%	5*	37.2*	42.3*	57.7*	100
	Ratio		2.6	1.4	1.5	0.6	. .
Tas	Indigenous	%	12*	47*	59*	41*	100
	Non-Indig.	%	4.7*	37.8*	42.5*	57.5*	100
	Ratio		2.6	1.2	1.4	0.7	. .
ACT	Indigenous	%	12.1(a)	52.2	64.2*	35.8*	100
	Non-Indig.	%	n.p.	n.p.	43*	57*	100
	Ratio		n.p.	n.p.	1.5	0.6	. .
NT	Indigenous	%	11.8(a)	46.5	58.3*	41.7	100
	Non-Indig.	%	n.p.	n.p.	35.7*	64.3	100
	Ratio		n.a.	n.a.	1.6	0.7	. .
Australia	Indigenous	%	10.3	48.5*	58.9*	41.1*	100
	Non-Indig.	%	4.7	36.5*	41.2*	58.8*	100
	Rate ratio		2.2	1.3	1.4	0.7	. .

* Differences between Indigenous and non-Indigenous rates are statistically significant for these categories.

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

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.

Sources: NATSISS 2008 and NHS 07–08.

Disability type

Using the common criteria, disabilities and long-term health conditions have been grouped into broad disability types: physical, sensory/speech (sight, hearing or speech) and intellectual.

- In 2008, 50% of Indigenous people aged 15 years and over had a disability or long-term health condition, 33% had a physical disability, 17% had a sensory/speech disability and 8% had an intellectual disability (Table 1.13.8).
- The proportions of Indigenous people 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 people reported a sensory/speech disability, 59% reported a physical disability and 6% reported an intellectual disability.

Table 1.13.8: 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 by selected population characteristics

Table 1.13.9 presents disability status of Indigenous persons aged 15 years and over in non-remote areas of Australia by selected population characteristics. Data are based on the broader criteria used to identify persons with a disability in non-remote areas.

- In 2008, in non-remote areas, around 62% of Indigenous persons aged 15 years and over with a disability or long-term condition did not have a non-school qualification. Around 44% of Indigenous persons with a disability reported the highest year of school completed was Year 9 or below.
- 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.
- Approximately equal numbers of Indigenous persons aged 15 years and over with a disability or long-term condition were either employed (45%) or not in the labour force (also 45%) in 2008.
- Approximately 88% of Indigenous persons 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 persons 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 1.13.9: 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
	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 1.13.9 (continued): 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
	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 1.13.10: 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
		Per cent	
Education			
Attending post-school education institution	47.1	52.9	100.0
Non-school qualification[(a)]			
Has a non-school qualification	51.9	48.1	100.0
Does not have a non-school qualification	56.8	43.2	100.0
Highest school qualification attained[(b)]			
Completed Year 12	40.8	59.2	100.0
Completed Year 10/11	48.0	52.0	100.0
Completed Year 9 or below	63.2	36.8	100.0
Household income			
1st quintile	55.8	44.2	100.0
5th quintile	38.0	62.0	100.0
Total	52.7	47.3	100.0
Principle source of personal income			
Community Development Employment Program (CDEP)	42.3	57.7	100.0
Employee income	42.2	57.8	100.0
Government cash, pensions, allowances	60.8	39.2	100.0
Unincorporated business income	63.8	36.2	100.0
Other sources of income	57.6	42.4	100.0
Did not receive personal income	36.6	63.4	100.0
Employment			
Employed	43.7	56.3	100.0
Full time	44.9	55.1	100.0
Part time	47.6	52.4	100.0
Unemployed	46.9	53.1	100.0
Not in the labour force	58.9	41.1	100.0
Transport access			
Can easily get to places needed	46.6	53.4	100.0
Sometimes has difficulty getting to the places needed	56.5	43.5	100.0
Cannot, or often has difficulty, getting to places needed	61.2	38.8	100.0
Never go out and housebound	75.5	24.5	100.0

(continued)

Table 1.13.10 (continued): 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
		Per cent	
Family and culture			
Involved in social activities in last 3 months	49.3	50.7	100.0
Able to get support in time of crisis from someone outside the household	48.6	51.4	100.0
Has been removed from natural family	65.4	34.6	100.0
Relatives removed from natural family	55.6	44.4	100.0
Currently lives in homelands	50.2	49.8	100.0
Attended cultural event(s) in last 12 months	50.1	49.9	100.0
Total	**49.8**	**50.2**	**100.0**
Total number	**162,944**	**164,157**	**327,101**

(a) Rate for persons aged 25–64 years.

(b) Excludes persons still at school.

Note: Data based on the broader criteria for disability.

Source: AIHW analysis of 2008 NATSISS.

Census data

According to the 2006 Census, 19,613 Indigenous Australians (4.3%) had a core-activity need for assistance. After adjusting for differences in the age structures of the Indigenous and non-Indigenous populations, Aboriginal and Torres Strait Islander people were almost twice as likely as non-Indigenous people to have a core-activity need for assistance in 2006 (ABS & AIHW 2008).

Disability by age and sex

- The prevalence of core-activity need for assistance increased noticeably from about 35 years of age onwards for both Indigenous men and women (Table 1.13.11). The disability rate ranged from 1.1% of Indigenous children aged 0–4 years to 38% of Indigenous people aged 75 years and over.
- Indigenous Australians had a higher rate of core-activity need for assistance than non–Indigenous Australians across all age groups. The greatest differences 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 1.13.11).
- Indigenous males were slightly 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 1.13.11: Indigenous persons with core-activity need for assistance, by sex and age group, 2006

	Indigenous						Non-Indigenous								
Age group (years)	**Males**		**Females**		**Persons**		**Males**		**Females**		**Persons**		**Rate ratio**		
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**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
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
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
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
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
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
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
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
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
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
50–54	773	9.0	817	8.7	1,590	8.8	19,558	8.8	19,617	3.1	39,175	3.2	2.8	2.8	2.8
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
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
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
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
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
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**
Total—age-standardised[(a)]	**. .**	**7.5**	**. .**	**7.2**	**. .**	**7.4**	**. .**	**3.9**	**. .**	**4.2**	**. .**	**4.1**	**1.9**	**1.7**	**1.8**

(a) Age-standardised to the 2001 Australian standard population.

Source: ABS & AIHW analysis of 2006 Census data; ABS & AIHW 2008.

Disability by state/territory

- 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 (Table 1.13.12).
- The proportion of Indigenous Australians with core-activity need for assistance was around twice that for non-Indigenous Australians in all states and territories (Table 1.13.12).

Table 1.13.12: Indigenous persons with core-activity need for assistance, by state/territory, 2006

	Indigenous			Non-Indigenous			
	No.		Age standardised proportion[a]	No.	%	Age standardised proportion[a]	Age standardised Rate ratio
NSW	6,907	5.0	7.7	263,724	4.4	4.1	1.9
Vic	1,588	5.3	7.8	201,714	4.4	4.1	1.9
Qld	4,812	3.8	6.7	146,041	4.1	4.0	1.7
WA	2,278	3.9	7.5	64,471	3.6	3.6	2.1
SA	1,250	4.9	8.1	70,397	5.0	4.4	1.8
Tas	871	5.2	7.7	21,735	5.0	4.5	1.7
ACT	150	3.9	6.8	9,897	3.2	3.7	1.8
NT	1,750	3.3	7.2	2,795	2.3	3.3	2.2
Australia[b]	**19,613**	**4.3**	**7.4**	**780,817**	**4.3**	**4.1**	**1.8**

(a) Age-standardised to the 2001 Australian standard population.

(b) Australia total includes other territories.

Source: ABS & AIHW analysis of 2006 Census data.

Disability by remoteness

- After adjusting for differences in age structure, Indigenous Australians had higher rates of core-activity need for assistance than non-Indigenous Australians across all remoteness levels (Table 1.13.13).
- 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 1.13.13).

Table 1.13.13: Indigenous persons with core-activity need for assistance, by remoteness, 2006

	Indigenous			Non-Indigenous			
	Number	Per cent	Age standardised proportion[(a)]	Number	Per cent	Age standardised proportion[(a)]	Age standardised rate ratio
Major cities	7,007	4.8	7.5	520,953	4.1	4.0	1.8
Inner regional	4,824	4.9	7.7	175,193	4.8	4.3	1.8
Outer regional	4,105	4.2	7.1	74,279	4.5	4.1	1.8
Remote	1,466	3.7	7.3	7,212	3.1	3.3	2.3
Very remote	2,127	3.1	6.7	1,711	2.3	2.7	2.5
Australia[(b)]	**19,613**	**4.3**	**7.4**	**780,817**	**4.3**	**4.1**	**1.8**

(a) Age-standardised to the 2001 Australian standard population.

(b) Australia total includes No Usual Address.

Source: ABS & AIHW analysis of 2006 Census data.

Prevalence of disability among Indigenous children

The 2006 Census was the first national survey to include a question on disability which included Indigenous respondents less than 15 years of age.

Table 1.13.14 presents proportions of Indigenous children with core-activity need for assistance.

- In 2006, among Indigenous children aged 0–18 years, a higher proportion of males than females required assistance with core activities.
- Indigenous children aged 0–4 years were slightly 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 1.13.14: Indigenous children aged 0–18 years with a core-activity need for assistance, by sex, 2006

Age group (years)	Males		Females		Persons		Ratio		
	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).

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. Information on the carers of Indigenous children with a disability, chronic illness or pain is available from the Western Australian Aboriginal Child Health Survey. These data are presented below.

In 2006, the Census collected, for the first time, information on the number of carers aged 15 years and over in Australia. Table 1.13.15 presents data for carers by Indigenous status and age.

- 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.
- The median age of Indigenous carers was 37 years, compared with 49 years for non-Indigenous carers (ABS & AIHW 2008). The age groups 35–44 years and 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.
- Indigenous persons aged 15–34 years were almost twice as likely as non-Indigenous persons 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 people.

Table 1.13.15: carers[(a)] by Indigenous status and age, 2006

Age group (years)	Indigenous	Non–Indigenous	Rate ratio
	Per cent		
15–24	7.9	4.5	1.7
25–34	12.1	7.5	1.6
35–44	14.7	11.2	1.3
45–54	15.3	15.0	1.0
55–64	14.0	16.5	0.9
65 and over	10.4	10.4	1.0
Total(b)	**11.9**	**10.8**	**1.1**
Total—age-standardised(c)	**12.4**	**10.5**	**1.2**
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.

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

Census of Population and Housing

Hospital separations data

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).

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 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.

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 Australian Bureau of Statistics (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 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.

The 2008 NATSISS has a relatively large level of undercoverage when compared to other ABS surveys. There was also an increase in undercoverage compared to previous ABS Indigenous surveys. For example, the estimated undercoverage in the 2004–05 National Aboriginal and Torres Strait Islander Health Survey was 42%. The overall undercoverage 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.

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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1.14 Community functioning

Analysis of factors to describe community functioning for Aboriginal and Torres Strait Islander Australians

Data source

National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The 2008 NATSISS is the third national social survey of Aboriginal and Torres Strait Islander Australians. It was conducted by the ABS between August 2008 and April 2009. The survey provides information about Aboriginal and Torres Strait Islander Australians for a wide range of areas of social issues including family and culture, health, education, employment, income, financial stress, housing and justice. The 2008 NATSISS included, for the first time, questions relating to children aged below 15 years. The 2008 NATSISS collected information by personal interview from 13,300 Aboriginal and Torres Strait Islander people who were usual residents of private dwellings, across all states and territories of Australia and remoteness areas. Selected comparisons with data from the 2002 NATSISS are presented in this analysis, however it is noted that the sample for the 2002 NATSISS was for persons over 15 years of age only.

The NATSISS will be conducted every six years, with the next survey planned for 2014.

Analyses

Measures of community functioning

This measure is defined as the ability and freedom of Aboriginal and Torres Strait Islander community members and communities to determine the context of their lives (e.g. social, cultural, spiritual and organisational) and to translate their knowledge, skills, and understanding (capabilities) into positive actions towards a valued life incorporates a range of methods and analyses:

- A qualitative method to determine thematic descriptors of functioning determined by Aboriginal and Torres Strait Islander people. Each functioning was attributed with a numeric value (total sum of community functioning themes equivalent to 100). Subsequent to this, a similar qualitative process was undertaken to weight data items derived from the 2008 NATSISS within each theme ie. data items within each functioning were to add to 100 but some items given more weight than others.
- Collated survey results of community functioning themes to show the number and proportion of people who were affirmative in their response to the data items within each functioning eg. 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 select data, by gender, age-groups, remoteness, state/territory.

- Cross tabulation of community functioning themes, significance testing of ratios and chi-squared significance testing of associations between community functioning variables. Summaries of these findings are under development and it is anticipated these will be available in the detailed analyses of the 2012 HPF Report.
- Multivariate analyses of factors contributing to community functioning are also under development and it is anticipated these will be published in the detailed analyses of the 2012 HPF Report.

Development of community functioning 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 functioning (box 14.1). Following the 2010 workshop, survey data was then 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 differences in results between 2008 and 2010 workshops was the mapping of available data to the themes. At the workshops in 2008 the data was 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 remained similar.

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

Box 1.14.1: Community functioning themes identified at workshops

Workshop participants ranked functionings in order of importance, then a weight was applied to each theme in order to produce a score out of 100. Within each functioning, the data items available were then attributed with a weight (to add to the overall weight for that functioning) to produce overall 'scores' for community functioning for each survey respondent. The weighting of each functioning is important to consider in interpreting prevalence of an issue in comparison to how it contributes to the indicator of community functioning. 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 measure of socio-economic measure of disadvantage/advantage such as income, which sits within the theme of 'vitality' (weighted at 10%). Note that the community functioning theme 'leadership' is attributed with a weighting of 20%, however there were no suitable data items for persons aged 15 and over.

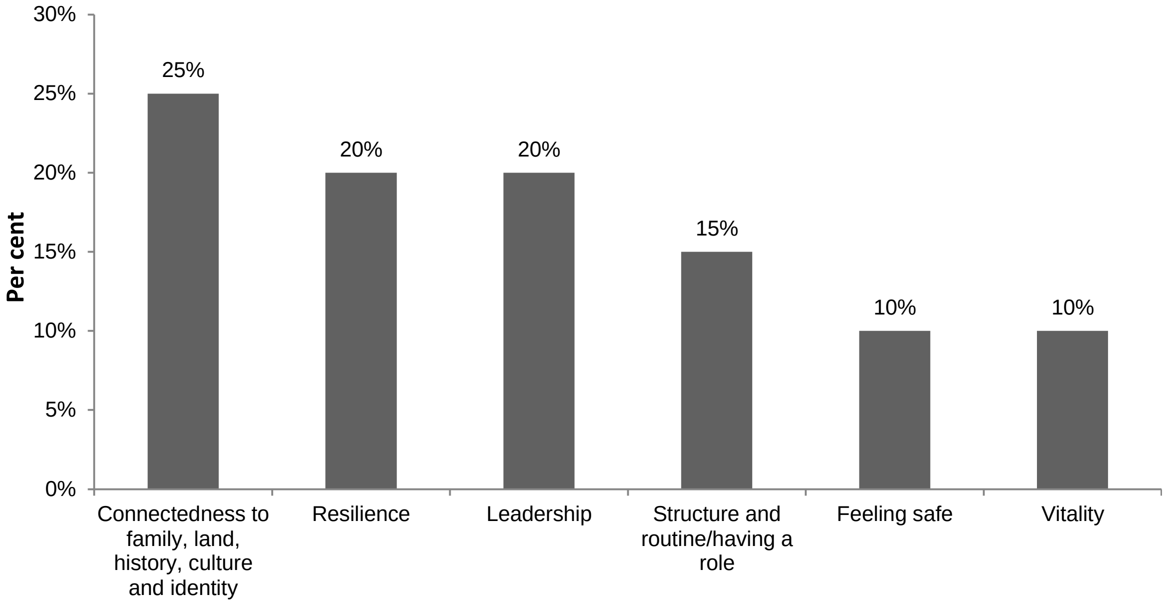

Figure 1.14.1: Themes contributing to community functionality for Aboriginal and Torres Strait Islander persons, Australia 2008

Table 1.14.1: Description of themes contributing to community functioning for Aboriginal and Torres Strait Islander persons, Australia 2008

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 (ie. 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 functioning, a range of data are available to describe capabilities contributing to the community functioning scores. A summary of select findings from tables 1.14.2a to 1.14.2f are outlined below:

Connectedness to country, land and history, culture, identity

- 72% of people recognise their homelands
- 19% of people speak an Aboriginal and Torres Strait Islander language
- 94% of people have contact with family or friends from outside of their household at least once a week
- 50% of parents used informal childcare in the last week for their children aged 0-12 years. Grandparents are the biggest source of informal childcare (52%).

Resilience

- 69% of people did not avoid situations due to past discrimination.
- 80% of people agree that their doctor can be trusted.
- 98% of children aged 5-14 years usually attend school.

Leadership

- 42% of children spent time with an Indigenous leader or elder in the last week.

Having a role, structure and routine

- In the last week, 94% of parents spent time with their children undertaking informal learning activities.
- In the last 12 months 78% of people lived in the same dwelling.

Feeling safe

- 80% of people felt safe at home alone after dark.
- 75% of people were not a victim of physical or threatened violence.
- 91% of people have never been incarcerated.
- 81% of children have not been bullied or treated unfairly at school because Indigenous

Vitality

- 82% of people have not consumed alcohol at risky/high risk levels in the last 12 months
- 67% of unemployed adults have used support services
- 71% of people live in a dwelling that has no major structural problems.
- 12% of smokers have tried to quit.
- 33% of adults are intend to study in the future
- 92% of children do not have eye or sight problems

Community and individual aspects contributing to community functioning scores

Table 1.14.2a: Variables contributing to community functioning '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 and 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 of 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 1.14.2a (continued): Variables contributing to community functioning ‘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 eg:			
	- 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 eg:	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 eg:			
	- 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 1.14.2b: Variables contributing to community functioning '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 1.14.2b (continued): Variables contributing to community functioning '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 eg:	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	. .
	- Domestic work, home maintenance or gardening	80,045	25	. .
	- Teaching, coaching or practical advice	37,496	12	. .
	- Other support	20,543	6	. .

(continued)

Table 1.14.2b (continued): Variables contributing to community functioning '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 eg:	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	. .
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.	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 1.14.2c: Variables contributing to community functioning '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 1.14.2d: Variables contributing to community functioning '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 1.14.2e: Variables contributing to community functioning '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[2]	136	0	. .
	- Adult or community education centre	2,576	1	. .
	- Industry skills centre[1]	417	0.1	. .
	- Other organisation	4,993	2	. .
	- None of the above[1]	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 1.14.2f: Variables contributing to community functioning '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 2500 grams and 4500 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 yrs)	40,649	75	. .
	Child was breastfed (0-3 years)	40,696	76	. .
	Child usually eats 2 or more serves of fruit per day - non Remote - (1-14 years)	82,580	60	. .
	Child usually eats 5 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 1.14.2f (continued): Variables contributing to community functioning '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 *	1,466	4	2
	Age*	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	109,245	33	. .
	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 1.14.2f (continued): Variables contributing to community functioning '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[1]	977	4	. .
	Parent looking for work[1]	537	2	. .
	Parental sport/social/volunteer/community activities[2]	319	1	. .
	To give parent a break or some time alone[1]	2,352	10	. .
	A good way to prepare child for school	1,665	7	. .
	Good for child's intellectual or language development[1]	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 on-line new/ used goods	48,457	11	. .
	- Entertainment or leisure on-line or general browsing	154,270	34	. .

(continued)

Table 1.14.2f (continued): Variables contributing to community functioning 'Vitality' for Aboriginal and Torres Strait Islander persons[(a)], Australia 2008 and 2002

Vitality		**2008 No.**	**2008 (%)**	**2002 (%)**
	- Talking/ communicating with people emails/ chat rooms	125,142	28	. .
	- Personal/ private reasons	88,461	20	. .
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.

Source: ABS analysis of 2008 NATSISS.

Score distribution

Figures 1.14.2a through to and 1.14.5b 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 because they are relative frequency distributions. Community functioning scores have been categorised into groupings each of width ‘5’. Each point on the curve represents the percentage of respondents with a score in that range. The greater the score, the stronger the community functioning. Medians have been noted in text to illustrate the middle 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 differ by sex for persons aged 0 to 14 years, but they do differ slightly between men (median score 44) and women (median score 43) aged 15 years and over.
- Community functioning scores are greater for persons aged 0 to 14 years in *Remote* (median score 22) and *Very remote* areas (median score 23), and are slightly greater by remoteness for persons aged 15 years and over (*Very remote* median score 45 compared to *Major cities* median score 44).
- 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 1.14.3a to 1.14.6b.

Table 1.14.3: 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	***Non remote***	***20***	***43***
Western Australia	20	44	Remote Australia	22	44
Tasmania	19	43	Very Remote Australia	23	45
Northern Territory	23	45	***Remote***	***23***	***44***
Australian Capital Territory	21	49			

Source: ABS analysis of 2008 NATSISS

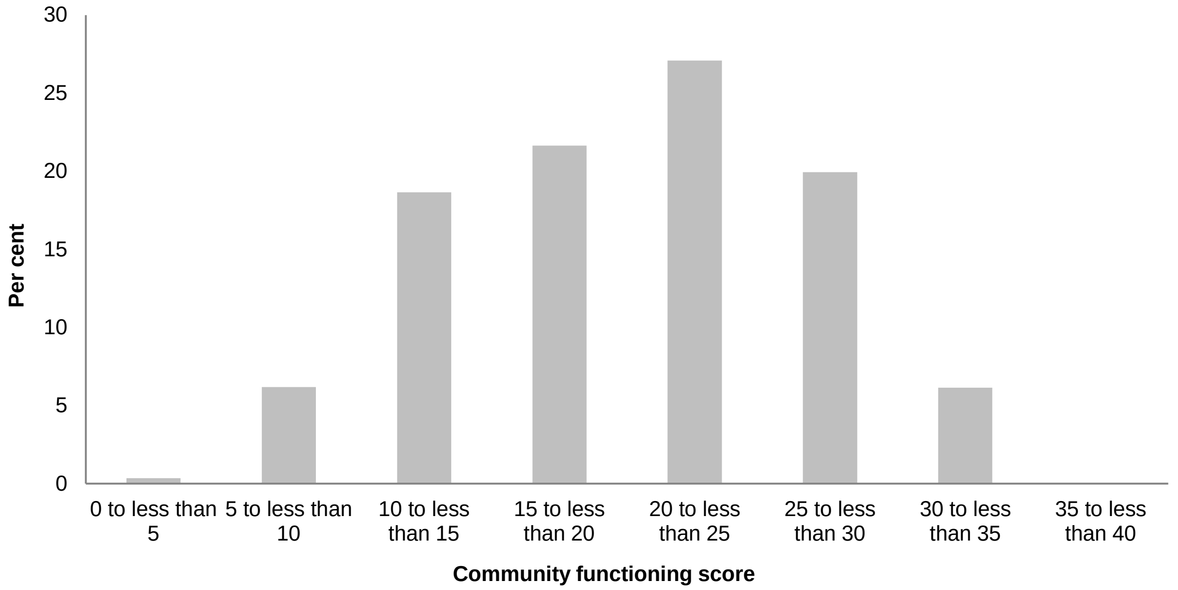

Figure 1.14.2a: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years, Australia 2008

Source: ABS analysis of 2008 NATSISS.

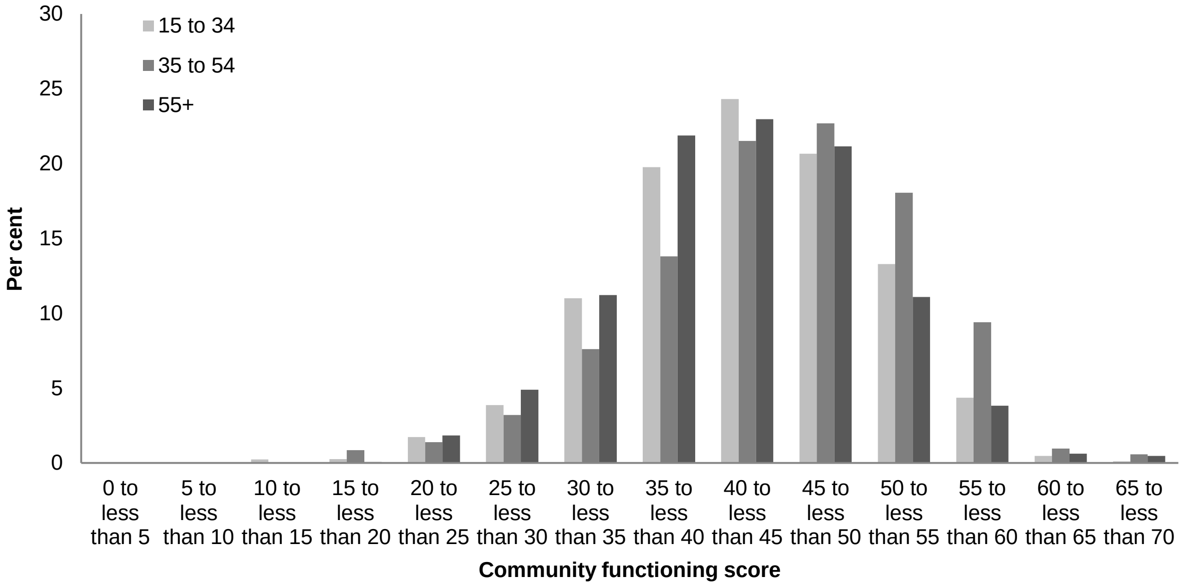

Figure 1.14.2b: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 15 years and over, Australia 2008

Source: ABS analysis of 2008 NATSISS.

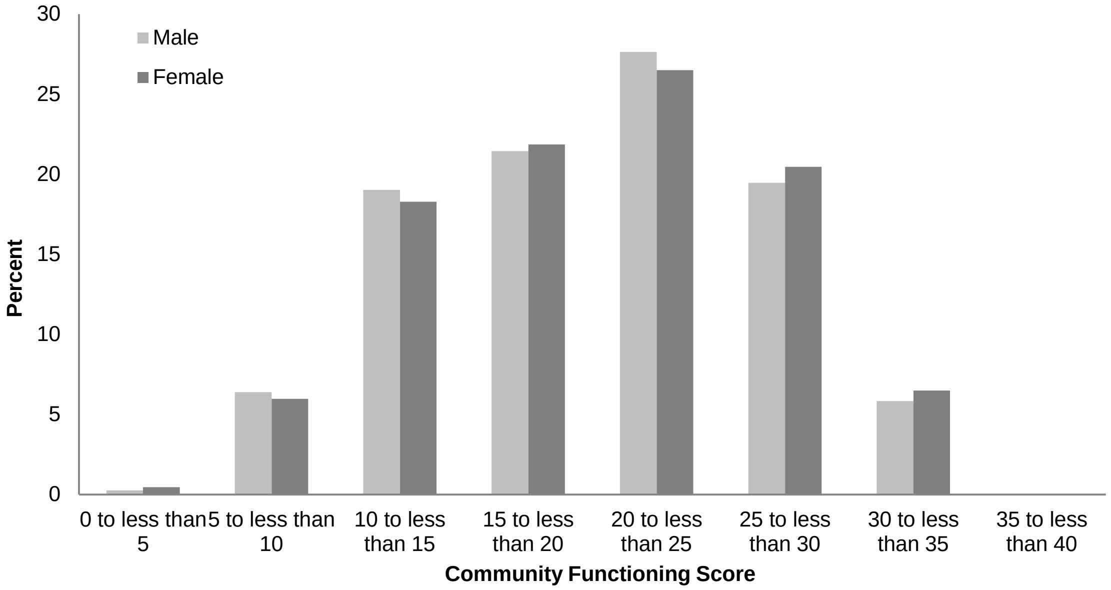

Figure 1.14.3a: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years, by sex, Australia 2008

Source: ABS analysis of 2008 NATSISS.

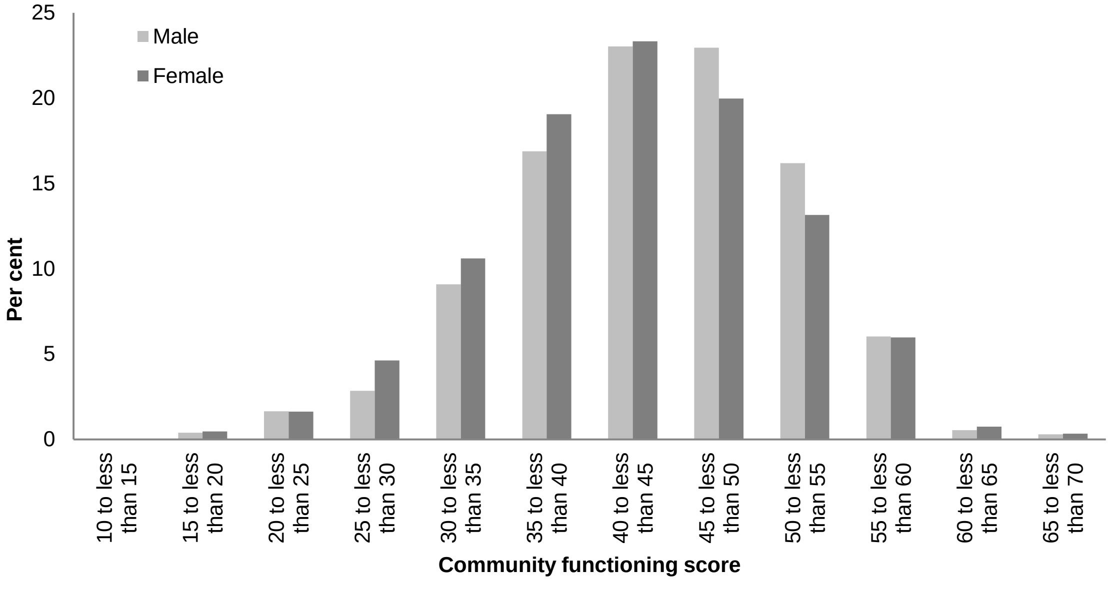

Figure 1.14.3b: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 15 years and over, by sex, Australia 2008

Source: ABS analysis of 2008 NATSISS.

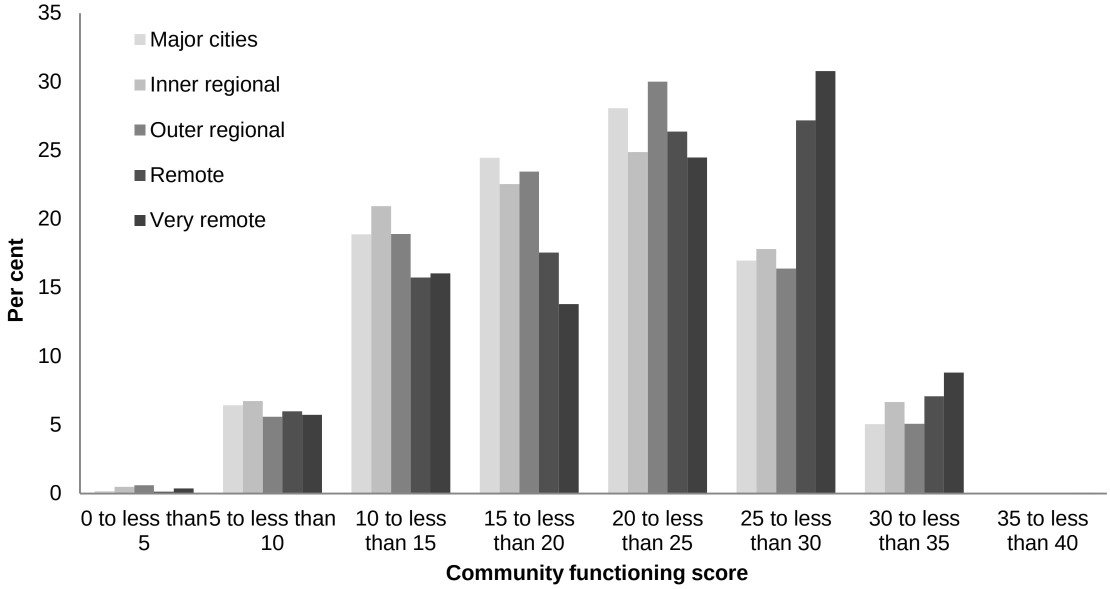

Figure 1.14.4a: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years, by remoteness, Australia 2008

Source: ABS analysis of 2008 NATSISS.

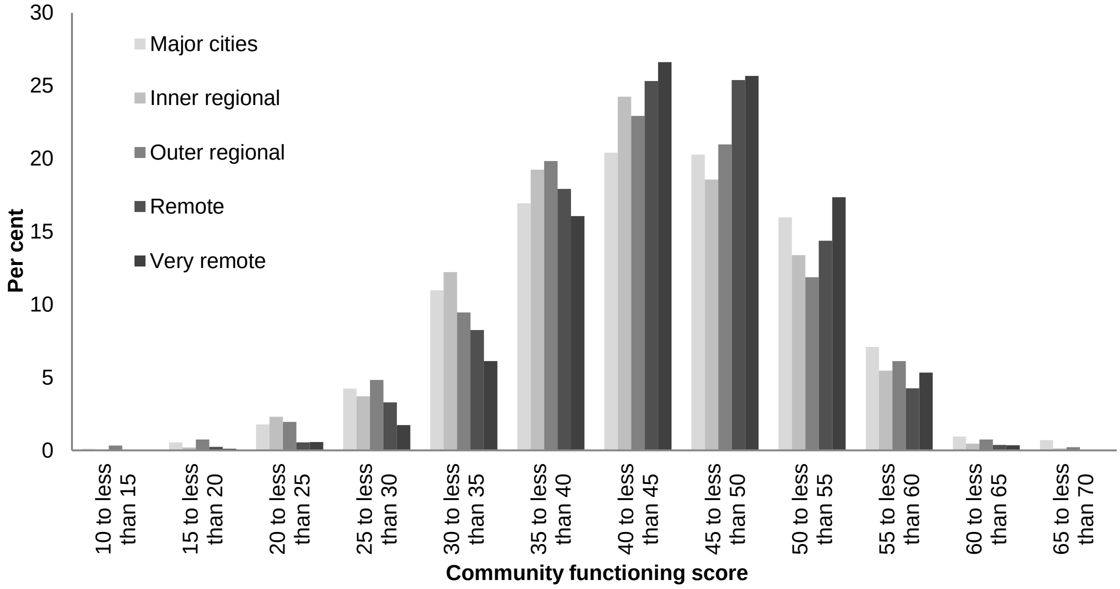

Figure 1.14.4b: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 15 years and over, by remoteness, Australia 2008

Source: ABS analysis of 2008 NATSISS.

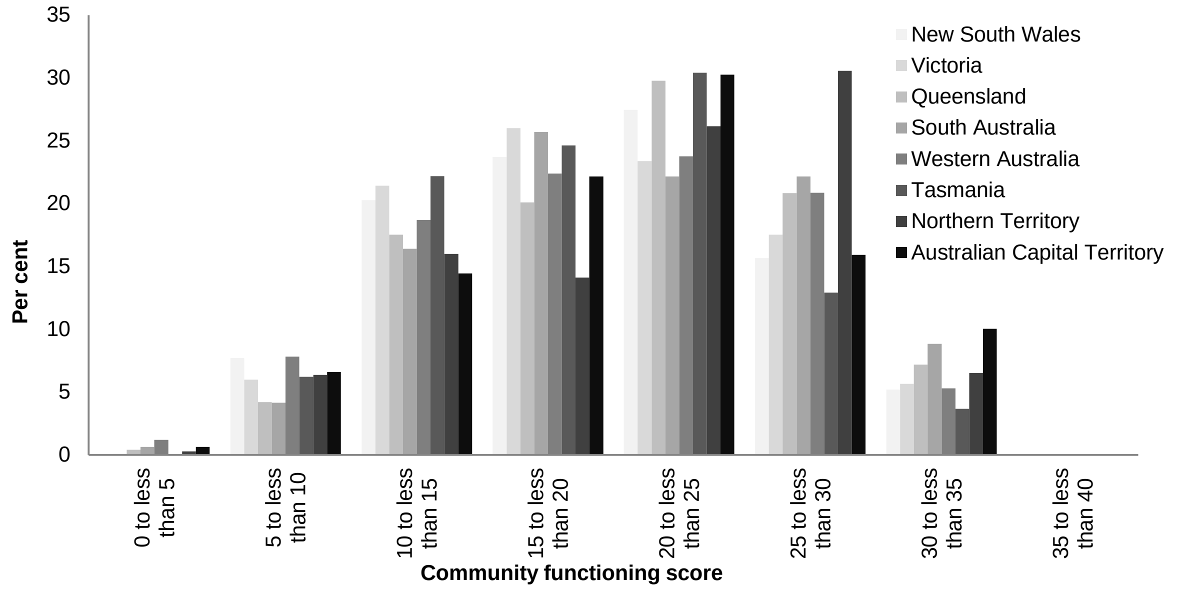

Figure 1.14.5a: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 0–14 years, by state/territory, Australia 2008

Source: ABS analysis of 2008 NATSISS.

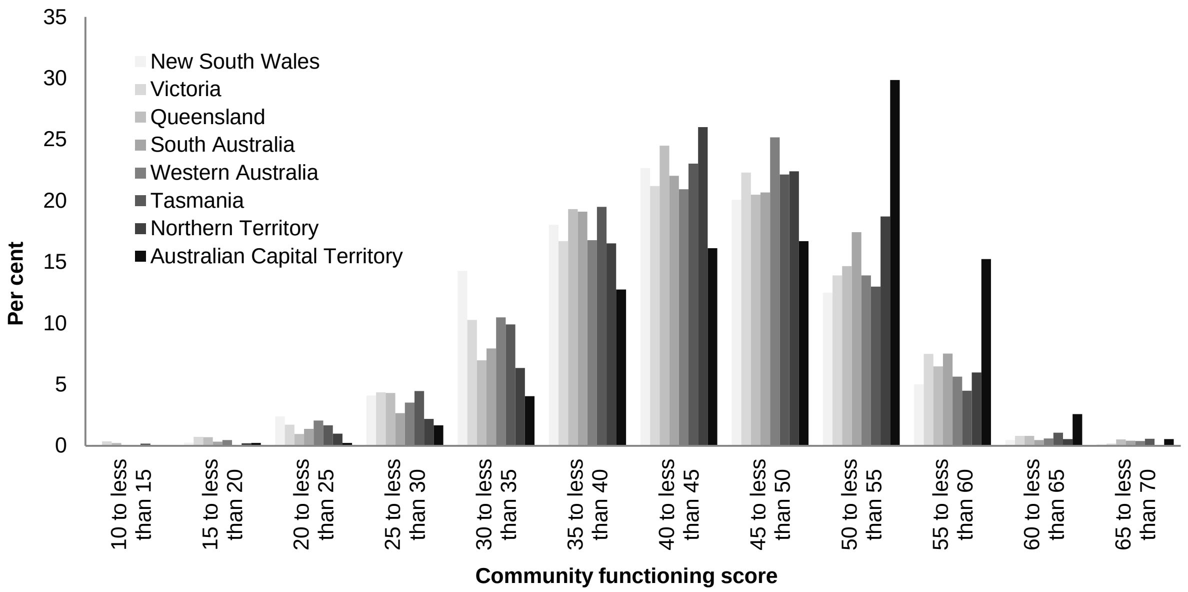

Figure 1.14.5b: Distribution of community functioning scores for Aboriginal and Torres Strait Islander persons aged 15 years and over, by state/territory, Australia 2008

Source: ABS analysis of 2008 NATSISS.

Table 1.14.4: 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	67,801	39	56,649	51	125	51	146,017	45
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	35,923	21	32,534	29	6,571	15	75,028	23
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 1.14.4 (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	54
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 complete year 12	. .	. .	. .	. .	. .	. .	7,504	22
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	. .	. .	. .	. .	. .	. .	87,833	53
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	55,497	17
Child neither bullied nor treated unfairly at school because Indigenous	. .	. .	. .	. .	. .	. .	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	60,671	35	63,065	57	19,965	47	142,632	46
Does not have an employment restriction due to disability	56,721	33	52,128	47	17,831	42	125,599	40
Low/ moderate level of psychological distress (5-11 K5 score)	119,341	69	73,076	66	29,301	69	221,717	68

(continued)

Table 1.14.4 (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 (persons aged 25-64 in the labour force)	87,546	50	69,604	63	11,948	28	169,098	52
Living in a dwelling that has no major structural problems	121,544	70	79,248	72	32,160	75	370,606	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	92,063	35
Total persons	**173,711**	**100**	**110,763**	**100**	**42,627**	**100**	**327,101**	**100**

Source: ABS analysis of 2008 NATSISS.

Table 1.14.5: Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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	70,387	45	75,629	44	146,017	45
Involvement with Aboriginal/Torres Strait Islander organisation	24,411	16	35,105	21	59,516	18
Work allows for cultural responsibilities—can meet responsibilities	41,488	27	33,541	20	75,028	23
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 1.14.5 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, by sex, Australia 2008

	Males		Females		Total	
	No.	%	No.	%	No.	%
Leadership						
Social contact/Education	. .	. .	. .	. .	. .	. .
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	67,946	44	75,754	44	143,701	44
Does not have an employment restriction due to disability	58,482	38	68,198	40	126,681	39
Low/ moderate level of psychological distress (5-11 K5 score)	111,245	71	110,473	65	221,717	68
Employed (persons aged 25-64 in the labour force)	94,464	61	74,633	44	169,098	52
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	**156,052**	**100**	**171,049**	**100**	**327,101**	**100**

Source: ABS analysis of 2008 NATSISS.

Table 1.14.6: Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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	58,248	55	23,890	35	30,581	42	112,719	46	13,672	46	19,626	38	33,297	41	146,017	45

(continued)

Table 1.14.6 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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	21,091	20	11,840	18	14,683	20	47,614	19	7,508	25	19,906	39	27,414	34	75,028	23
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 1.14.6 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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																
Social contact	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
Education	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
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 1.14.6 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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	49,251	47	27,877	41	31,607	43	108,736	44	13,791	46	21,174	41	34,965	43	143,701	44
Does not have an employment restriction due to disability	42,489	40	25,904	38	27,796	38	96,190	39	12,493	42	17,998	35	30,491	37	126,681	39
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 (persons aged 25-64 in the labour force)	59,986	57	32,762	49	35,745	49	128,493	52	13,927	47	26,677	52	40,605	50	169,098	52
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 1.14.6 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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**

Source: ABS analysis of 2008 NATSISS.

Table 1.14.7: Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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	36,309	88	2,151	77	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	25,837	63	326	12	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	33,554	81	2,033	72	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	35,265	85	1,983	71	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	34,107	83	2,658	95	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	38,278	93	2,733	97	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	23,503	57	2,334	83	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	30,136	73	1,803	64	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	28,508	69	1,662	59	225,507	69
Can visit homelands	31,698	33	10,473	48	49,716	55	10,711	60	19,223	44	3,024	25	19,277	47	1,895	68	146,017	45
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	6,886	17	1,169	42	59,516	18
Work allows for cultural responsibilities—can meet responsibilities	16,923	18	3,831	18	21,573	24	4,396	25	12,558	29	1,488	12	13,462	33	797	28	75,028	23
Used strategies to meet living expenses	35,055	36	8,347	38	30,020	33	7,094	40	18,393	42	3,649	30	15,778	38	811	29	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	11,478	28	717	26	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	23,052	56	2,063	73	192,138	59

(continued)

Table 1.14.7 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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	28,203	68	2,120	75	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	28,012	68	2,422	86	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	36,136	88	2,642	94	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	17,486	42	1,127	40	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	30,399	74	2,333	83	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	29,286	71	1,656	59	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	23,452	57	1,545	55	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	16,434	40	1,078	38	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	32,877	80	1,816	65	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	5,228	13	1,711	61	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	38,129	92	2,661	95	289,381	89
Leadership																		
Social contact/ Education	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
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	32,798	80	2,302	82	255,157	78

(continued)

Table 1.14.7 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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	38,739	94	2,643	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	32,836	80	2,305	82	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	23,194	56	1,497	53	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	31,734	77	1,948	69	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	22,747	55	1,326	47	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	15,673	38	313	11	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	19,517	47	1,297	46	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	22,159	54	1,231	44	164,157	50
Does not have an education restriction due to disability	43,524	45	10,838	49	38,549	43	8,673	48	17,944	41	5,344	43	17,392	42	1,437	51	143,701	44
Does not have an employment restriction due to disability	40,353	42	9,514	43	32,463	36	7,632	43	15,856	36	4,876	40	14,832	36	1,153	41	126,681	39
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	27,836	67	1,991	71	221,717	68
Employed (persons aged 25-64 in the labour force)	43,857	46	11,503	52	51,785	57	8,894	50	23,775	54	7,101	58	20,215	49	1,969	70	169,098	52
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	26,575	64	2,413	86	232,951	71

(continued)

Table 1.14.7 (continued): Community functioning for Aboriginal and Torres Strait Islander persons aged 15 years and over, 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	37,573	91	2,796	100	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	18,346	44	2,553	91	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	14,931	36	2,425	86	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	22,280	54	2,212	79	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	27,899	68	2,287	81	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	18,513	45	585	21	159,261	49
Total persons	**96,367**	**100**	**21,938**	**100**	**90,587**	**100**	**17,948**	**100**	**43,826**	**100**	**12,351**	**100**	**41,274**	**100**	**2,810**	**100**	**327,101**	**100**

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 2009. National Aboriginal and Torres Strait Islander Social Survey 2008. ABS cat. no. 4714.0. ABS: Canberra.

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1.15 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 2004–05 National Aboriginal and Torres Strait Islander Health Survey and the 2008 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 years. The NATSISS will be conducted every six years, with the next survey planned for 2013.

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 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 1.15.1).
- 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 1.15.2).

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 1.15.1).
- 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 1.15.3).

Table 1.15.1: Indigenous self-assessed health status by age group, 2008

	0–14[(a)]	**15–24**	**25–34**	**35–44**	**45–54**	**55 and over**	**Total non-age-standardised**
				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 1.15.2: 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		
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate ratio**
							Per cent						
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*
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*
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**
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*
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*
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*
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**
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 in the Indigenous/non-Indigenous comparisons.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 1.15.3: 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	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Ratio**	**Indigenous**	**Non-Indigenous**	**Ratio**
	Per cent				**Per cent**			**Per cent**		
Excellent	17.9	19.7	14.7	21.2	14.0	19.9	0.7*	12.4	21.6	0.6*
Very good	28.6	35.3	26.5	35.9	25.7	35.6	0.7*	23.8	36.2	0.7*
Subtotal excellent/very good	*46.5*	*55.1*	*41.2*	*57.1*	*39.7*	*55.4*	*0.7**	*36.3*	*57.7*	*0.6**
Good	32.0	29.5	35.9	28.4	32.2	29.4	1.1	35.4	28.3	1.3*
Fair	13.8	11.4	15.9	10.4	16.7	11.2	1.5*	19.1	10.1	1.9*
Poor	7.7	4.1	7.0	4.1	11.4	4.0	2.9*	9.2	3.9	2.4*
Subtotal fair/poor	*21.5*	*15.5*	*22.9*	*14.5*	*28.2*	*15.2*	*1.9**	*28.3*	*14.0*	*2.0**
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 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 1.15.4).
- 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 1.15.5). Indigenous Australians were around twice as likely to report their health as fair or poor as non-Indigenous Australians across all remoteness categories (Table 1.15.5).

Table 1.15.4: Self-assessed health status(a), by Indigenous status and state and 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 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 1.15.5: Self-assessed health status[(a)], by Indigenous status and remoteness, persons aged 15 years and over, 2008

Self-assessed health status		Excellent	Very good	Total excellent/ very good	Good	Fair	Poor	Total fair/poor	Total
					Per cent				
Major cities	Indigenous.	14.4	22.8	*37.2*	31.4	18.4	13.0	*31.4*	100.0
	Non-Indigenous.	21.5	35.6	*57.1*	28.9	10.2	3.7	*13.9*	100.0
	Rate ratio	0.7*	0.6*	*0.7**	1.1	1.8*	3.5*	*2.3**	. .
Inner regional	Indigenous.	14.1	27.8	*41.9*	29.5	20.2	8.4	*28.7*	100.0
	Non-Indigenous.	20.1	35.9	*56.1*	28.5	11.3	4.2	*15.5*	100.0
	Rate ratio	0.7*	0.8*	*0.7**	1.0	1.8*	2.0*	*1.9**	. .
Outer regional	Indigenous.	11.1	23.4	*34.5*	36.4	18.5	10.6	*29.1*	100.0
	Non-Indigenous.	16.1	37.2	*53.3*	30.2	11.9	4.6	*16.6*	100.0
	Rate ratio	0.7*	0.6*	*0.6**	1.2*	1.6*	2.3*	*1.8**	. .
Total non-remote	Indigenous.	*13.2*	*24.4*	*37.7*	*32.7*	*18.8*	*10.8*	*29.7*	*100.0*
	Non-Indigenous.	*20.8*	*35.9*	*56.6*	*28.9*	*10.6*	*3.9*	*14.5*	*100.0*
	Rate ratio	*0.6**	*0.7*	*0.7*	*1.1*	*1.8**	*2.8**	*2.0*	. .
Remote	Indigenous.	11.7	22.4	*34.1*	38.0	16.8	11.2	*28.0*	100.0
	Non-Indigenous.	18.3	38.9	*57.2*	25.5	12.5	4.8	*17.3*	100.0
	Rate ratio	0.6	0.6*	*0.6**	1.5*	1.3	2.3*	*1.6**	. .
Very remote	Indigenous.	13.7	27.3	*41.0*	37.2	15.0	6.8	*21.8*	100.0
	Non-Indigenous.	. .	. .	. .	. .	. .	. .	. .	. .
	Rate ratio	. .	. .	. .	. .	. .	. .	. .	. .
Total remote	Indigenous.	*13.0*	*25.4*	*38.4*	*37.4*	*15.7*	*8.5*	*24.2*	*100.0*
	Non-Indigenous.	. .	. .	. .	. .	. .	. .	. .	. .
	Rate ratio	. .	. .	. .	. .	. .	. .	. .	. .

(continued)

Table 1.15.5 (continued): Self-assessed health status[(a)], by Indigenous status and remoteness, persons aged 15 years and over, 2008

Self-assessed health status		Excellent	Very good	Total excellent/ very good	Good	Fair	Poor	Total fair/poor	Total
					Per cent				
Australia	Indigenous.	13.2	24.7	*37.9*	33.9	18.0	10.2	*28.2*	100.0
	Non-Indigenous.	20.7	35.9	*56.6*	28.8	10.6	3.9	*14.5*	100.0
	Rate ratio	*0.6**	*0.7**	*0.7**	*1.2**	*1.7**	*2.6**	*1.9**	. .

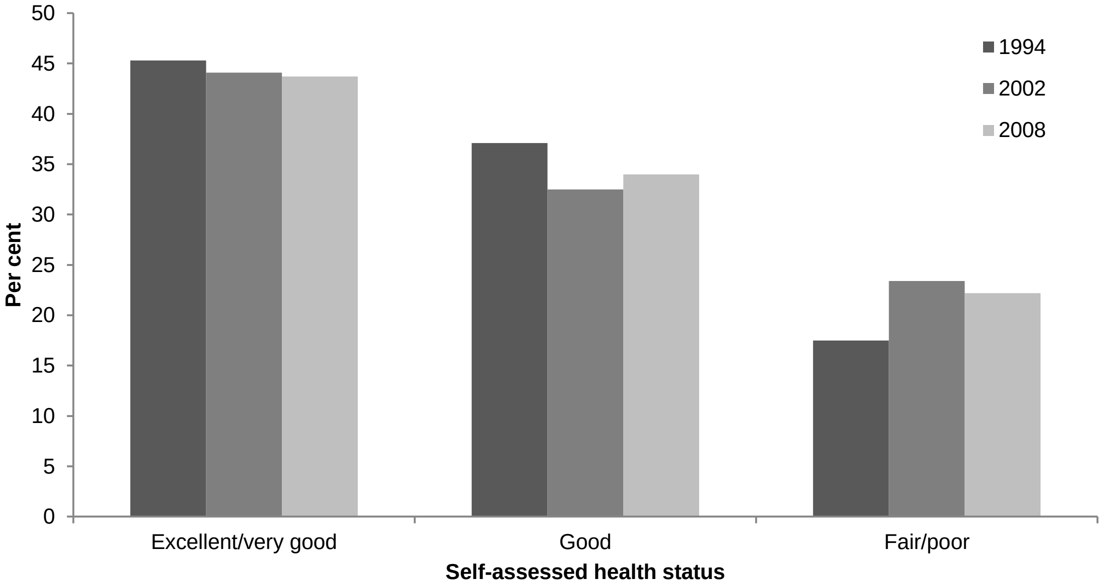
* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Data are age-standardised.

Source: 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 1.15.1; Table 1.15.6).
- Indigenous Australians were more likely than non-Indigenous Australians to report their health as fair or poor for every survey time period (Table 1.15.7).



Sources: ABS and AIHW analysis of NATSISS 1994, NATSISS 2002 and NATSISS 2008.

Figure 1.15.1: Self-assessed health status, Indigenous persons aged 15 years and over, 1994, 2002 and 2008

Table 1.15.6: 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 1.15.7: 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 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 1.15.8 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 1.15.8).
- 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 1.15.8: 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		
	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio
	Per cent			Per cent			Per cent			Per cent		
Main language spoken at home												
English	85.4	90.6	0.9	86.2	88.7	1.0	89.6	89.1	1.0	86.6	89.3	1.0
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	13.8	11.3	1.2	10.5	10.9	1.0	13.4	10.7	1.3
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	18.4	48.2	0.4	13.6	38.9	0.3	18.9	52.6	0.4
Year 11	12.2	10.0	1.2	11.6	10.4	1.1	10.7	9.6	1.1	11.2	9.8	1.1
Year 10	28.2	21.1	1.3	30.5	25.6	1.2	28.3	28.1	1.0	28.8	22.9	1.3
Year 9 or below(c)	37.3	10.6	3.5	39.5	15.8	2.5	47.4	23.3	2.0	41.1	14.7	2.8
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	32.3	51.8	0.6	31.1	43.7	0.7	33.5	53.0	0.6
Does not have a non-school qualification	61.2	43.4	1.4	67.7	48.2	1.4	68.9	56.3	1.2	66.5	47.0	1.4
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 1.15.8 (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**		
	Indigenous	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**
	Per cent			**Per cent**			**Per cent**			**Per cent**		
Employment												
Employed	60.9	72.6	0.8	51.1	66.4	0.8	34.5	50.1	0.7	49.2	66.8	0.7
Unemployed	7.0	2.0	3.5	7.9	2.9	2.7	10.2	4.4	2.3	7.9	2.5	3.2
Not in the labour force	32.1	25.4	1.3	41.0	30.7	1.3	55.3	45.5	1.2	42.8	30.7	1.4
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	50.6	15.0	3.4	61.7	27.9	2.2	51.6	15.4	3.4
5th quintile	6.1	25.1	0.2	4.8	18.6	0.3	2.5	14.1	0.2	4.6	21.3	0.2
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	51.2	17.1	3.0	51.6	27.1	1.9	50.9	16.7	3.0
5th quintile	4.3	26.0	0.2	3.3[(a)]	20.0	0.2	3.1[(a)]	13.8	0.2	3.8	22.4	0.2
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 1.15.8 (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		
	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio
	Per cent			Per cent			Per cent			Per cent		
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.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

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 2.14).
- 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 3.15).
- 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 2.17).
- 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 3.12).
- 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 2.20).
- 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 2.22).
- 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 2.16).

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*, *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. 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).

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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1.16 Social and emotional wellbeing

The social and emotional wellbeing of Aboriginal and Torres Strait Islander peoples 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 (NHS). The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 NHS.

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics 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 6 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

The Western Australian Aboriginal Child Health Survey (WAACHS) was a large-scale investigation into the health of 5,289 Western Australian Aboriginal and Torres Strait Islander children aged 0–17 years. The Telethon Institute for Child Health Research in conjunction with the Kulunga Research Network undertook the survey in 2001 and 2002. 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 Bettering the Evaluation and Care of Health (BEACH) survey, which the AIHW Australian General Practice Statistics and Classification Unit conducts. 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. A more detailed explanation of the BEACH methods can be found in *General practice activity in Australia 2008–09*, (Britt et al. 2009).

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). 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.'

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded, representing 1.3% of total GP encounters in the survey.

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. State and territory health departments provide information annually on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the AIHW.

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. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. An aggregate of 2 years of data has been used, as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in the change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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 AIHW maintains the database. Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and this is coded nationally by the Australian Bureau of Statistics (ABS). The medical practitioner certifying the death, or a coroner supplies information on the cause of death. 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 funeral director does not always directly ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010a).

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

The ABS supplied additional revised 2007 and preliminary 2008 mortality data for this indicator from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010).

Data have been combined for the 5-year period 2004–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

Community mental health care

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. Examples include community mental health services, outpatient clinics and day clinics. Information collected in the database is a nationally agreed set of common data elements collected by service providers based on the National Minimum Data Set for Community Mental Health Care.

In 2006-2007, 4.9% of service contacts of community mental health care services were for Aboriginal and/or Torres Strait Islander peoples.

The quality of Indigenous identification in this database varies by jurisdiction. In 2006–07, Queensland, Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory reported that the quality of their data was suitable for analysis.

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.

Residential mental health care

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. In 2006–07 there were no residential mental health care services in Queensland.

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, 2004–05 NATSIHS and the 2002 NATSISS. Data from these three 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.

As shown in Table 1.16.1, 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 1.16.1: Proportion of Indigenous people aged 18 years and over who reported psychological distress, by level of psychological distress, by demographic characteristics, 2008

Demographic characteristics	Low/ moderate	High/ very high	Total[(a)]
		Per cent	
Sex			
Male	70.0	27.8	100.0
Female	63.8	35.2	100.0
Age			
18–24 years	64.9	32.9	100.0
25–34 years	68.4	30.6	100.0
35–44 years	66.4	32.4	100.0
45–54 years	65.4	33.1	100.0
55 years and over	68.7	29.0	100.0
Remoteness			
Non-remote	66.5	32.5	100.0
Remote	67.4	29.3	100.0
Total[(a)]	**66.7**	**31.7**	**100.0**
Total no. of Indigenous people[(a)]	**194,112**	**92,225**	**290,937**

(a) Includes missing responses.

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.

- 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 1.16.2).

- Across all age groups, with the exception of the age group 18–24 years, the rate of distress for Indigenous Australians was at least twice the non-Indigenous rate (Table 1.16.2).
- 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 1.16.3).

Table 1.16.2: 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		
Age group	**Number**	**Per cent[a]**	**Number**	**Per cent[a]**	**Rate ratio[b]**
18–24 years	14,727	26.0	299,556	16.1	1.6
25–34 years	18,935	27.1	338,165	12.2	2.2
35–44 years	17,231	29.2	389,503	13.4	2.2
45–54 years	11,656	29.4	369,117	13.6	2.2
55 years and over	7,620	23.0	528,206	11.7	2.0
Total	*70,168*	*26.6*	*1,924,547*	*13.1*	*2.0*
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 1.16.3: 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		
Remoteness category	**Number**	**Per cent[b]**	**Number**	**Per cent[b]**	**Rate ratio[c]**
Major Cities	19,871	25.4	1,301,362	12.9	2.0
Inner Regional	14,995	27.9	403,581	13.9	2.0
Outer Regional	16,383	29.0	198,968	12.8	2.3
Total[d]	*70,168*	*26.6*	*1,924,547*	*13.1*	*2.0*
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

- The majority (85%) of those who reported at least some 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 (Table 1.16.4).

- Those who did seek help saw a health professional, on average, 2.8 times during the 4 weeks before interview.
- Indigenous women were more likely than Indigenous men to have visited a health professional about their distress (17% compared with 12%, respectively).
- Those aged 55 years and over were more likely to have seen a health professional about their distress than those aged 18–24 years (23% and 8%, respectively).

Table 1.16.4: 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

Demographic characteristics	Did not see a health professional	Saw a health professional (at least once)	Total[(c)]	Average number of visits in last 4 weeks
Males	87.7	12.3	100.0	2.8
Females	83.0	16.9	100.0	2.9
18 to 24 years	91.7	8.3	100.0	3.1
25 to 34 years	86.7	13.2	100.0	2.5
35 to 44 years	85.4	14.6	100.0	2.9
45 to 54 years	79.6	20.4	100.0	2.8
55 years and over	77.3	22.7	100.0	2.9
Major cities	84.2	15.8	100.0	2.9
Inner regional	84.1	15.9	100.0	2.7
Outer regional	87.4	12.4	100.0	2.5
Remote/Very remote	85.3	14.7	100.0	3.0
Total	**85.2**	**14.8**	**100.0**	**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.

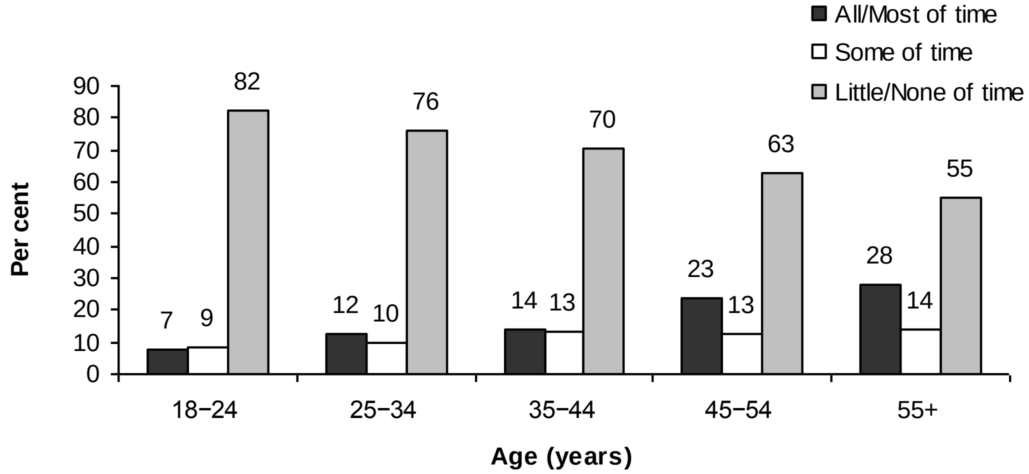
Source: ABS and AIHW analysis of 2008 NATSISS.

Relationship between physical and mental health

Of those who had indicated a level of psychological distress in the previous 4 weeks, 15% said that physical health problems were the main cause of their feelings all or most of the time. Thus, most of the psychological distress that Indigenous Australians reported was not an outcome of physical illness.

Although there was no significant difference by sex, there was a clear association with age—as age increased, physical health problems were more likely to be reported as the main cause of feelings of distress all or most of the time (Figure 1.16.1).

Indigenous Australians who lived in Major Cities (18%) were more likely than those who lived in Remote or Very Remote areas (11%) to indicate that physical health problems were the main cause of their feelings of distress all or most of the time.



Notes

1. Includes missing responses.
2. Analysis excludes those who had no stress–K5 score = 5 (18%).

Source: AIHW analysis of 2004–05 NATSIHS.

Figure 1.16.1: Proportion of Indigenous people aged 18 years and over who reported a level of psychological distress, by how often physical health problems were the main cause of their psychological distress, by age, 2004–05

Population characteristics

Table 1.16.5 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%).
- In Indigenous persons levels of high/very high psychological distress increased steadily with the number of stresses reported. Those 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 1.16.5: 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 (per cent)

	Low / moderate (5-11)[(b)]	High / very high (12-25)
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 1.16.5 (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 (per cent)

(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.

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 1.16.6).
- 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 1.16.6: 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 stressors					
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.

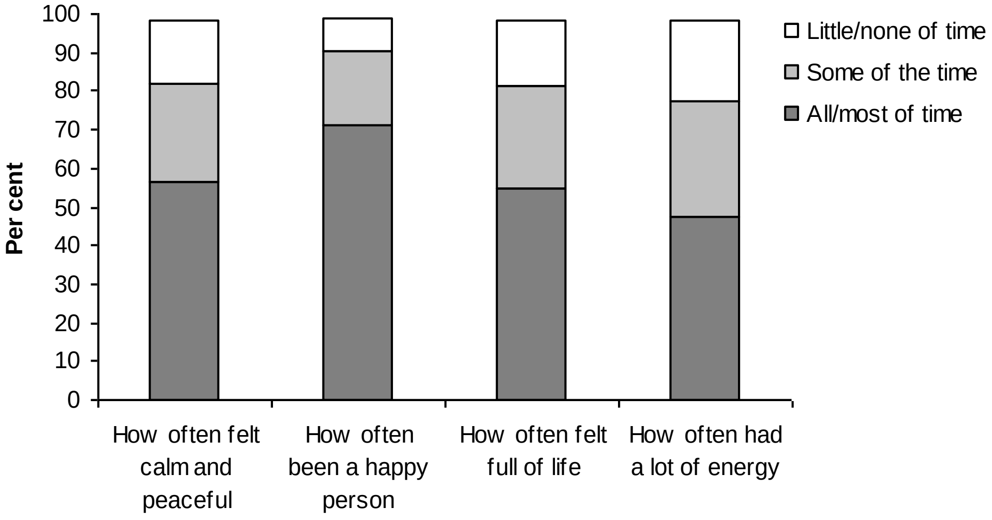
(b) Based on all persons reporting stressor(s).

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 1.16.2).
- Indigenous people aged 55 years and over were more likely than those in the younger age groups to report feeling happy and calm/peaceful all or most of the time, but the only significant difference was between this older group and those aged 25–34 years. Indigenous people aged 55 years and over were least likely to report feeling full of life or having a lot of energy all or most of the time (AIHW 2007b).



Note: Percentages exclude missing responses.

Source: AIHW analysis of the 2004–05 NATISHS.

Figure 1.16.2: 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 1.16.7).
- A higher proportion of Indigenous children living in non-remote areas reported experiencing a positive life event (63%) compared to Indigenous children in remote areas (58%) (Table 1.16.7).

Table 1.16.7: 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 1.16.8).
- In 2008 Indigenous people aged 18 years and over who reported that they or a relative had been removed from their natural family experienced a (Table 1.16.8).
- In 2008, 72% of Indigenous Australians 35-44 years old, reported they identified with a clan or tribal group, compared to 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 2.17 Indigenous people with access to their traditional lands* for more information).

Table 1.16.8: 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 peoples. 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 2.20 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 2.21: 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 2.21: Drug and other substance use* for more information).

Financial stress

The 2008 NATSISS also collected data on financial stress.

- In 2008, about half (50%) of all Indigenous persons aged 18 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 24% 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 2.13 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). Incarceration separates Indigenous people and other nationalities from their communities and culture. However, removal from extended family or community tends to have a significant impact on Indigenous detainees. 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 74 deaths in custody in Australia in 2007, 9 (12%) were Indigenous people. Indigenous Australians are imprisoned at much higher rates than non-Indigenous Australians. In 2009, the age standardised imprisonment rate for Indigenous people aged 18 years and over was 1,891 per 100,000 compared with 136 per 100,000 for non-Indigenous people (see Indicator 2.14 Contact with criminal justice system for more details).

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 2006 to June 2008, there were 608,690 hospitalisations from mental health related conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 22,594 (3.7%) of which were hospitalisations of Aboriginal and Torres Strait Islander peoples (Table 1.16.10).
- Mental health related conditions were responsible for around 4% of all hospitalisations of Aboriginal and Torres Strait Islander Australians.
- 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; complications of pregnancy and childbirth; diseases of the respiratory system; diseases of the digestive system; symptoms, signs and abnormal clinical and laboratory findings.

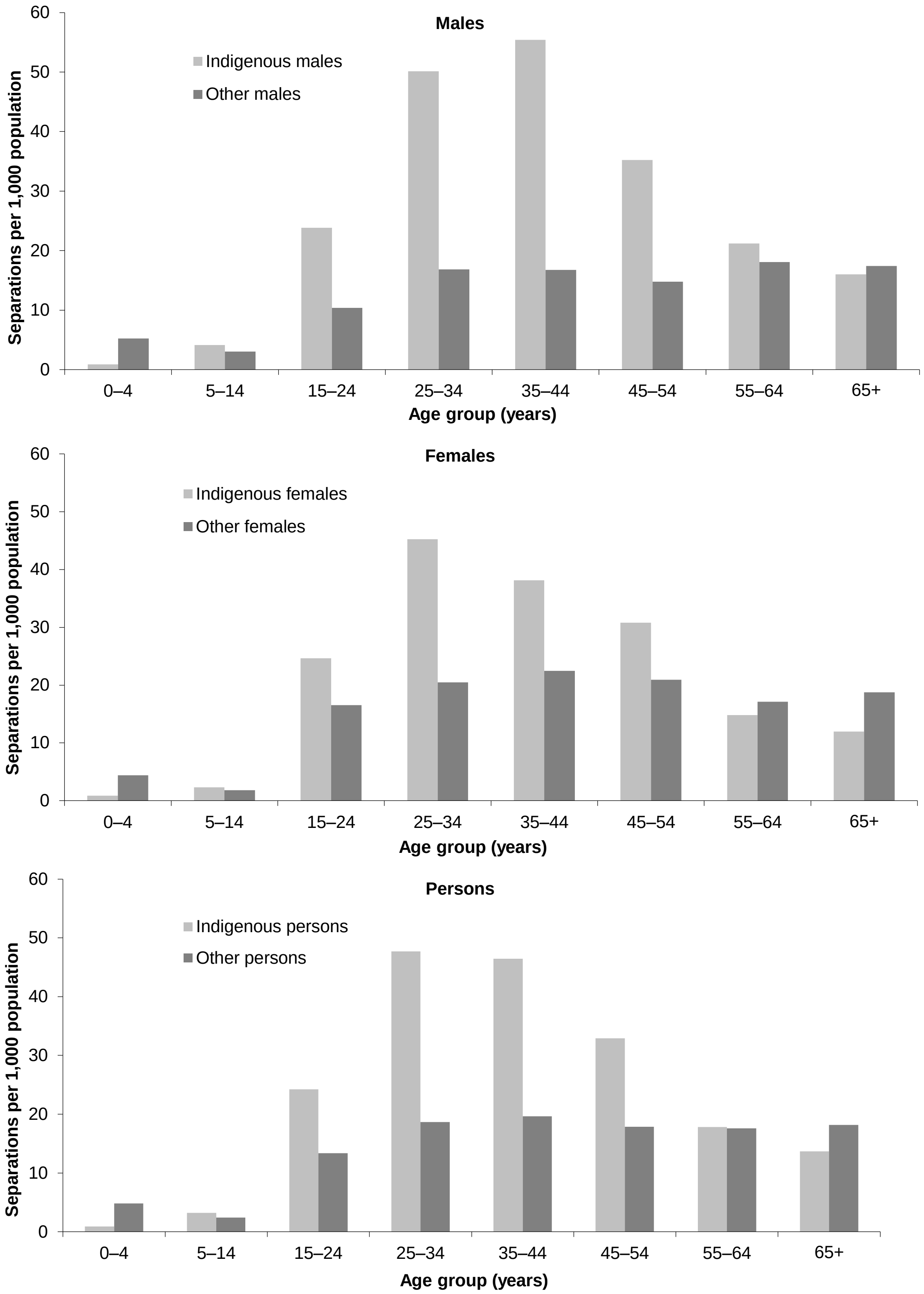
Hospitalisations by age and sex

- For the 2-year period July 2006 to June 2008, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males had higher hospitalisation rates for mental health related conditions than other males across all age groups from 5–14 years to 55-64 years. Indigenous females had higher hospitalisation rates for mental health related conditions than other females across all age groups from 5–14 years to 45–54 years (Table 1.16.9; Figure 1.16.3).
- The greatest difference in rates occurred in the 35–44 year age group for males, where Indigenous males were hospitalised for mental health related conditions at around three times the rate of other males. For females, the greatest difference in rates occurred in the 25–34 year age group, where Indigenous females were hospitalised at over twice the rate of other females.
- 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 other males, hospitalisation rates were highest for those aged 55–64 years, and 35–44 years for other females.
- Approximately 54% of Indigenous Australians hospitalised for mental health related conditions were males (12,090) and 46% were females (10,504) (Table 1.16.10).

Table 1.16.9: 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 2006 to June 2008

	0-4	5-14	15-24	25-34	35-44	45-54	55-64	65+
Males								
Indigenous	0.9	4.1	23.8	50.1	55.4	35.2	21.2	16.0
Other	5.2	3.0	10.4	16.8	16.8	14.8	18.1	17.4
Females								
Indigenous	0.9	2.3	24.7	45.3	38.2	30.8	14.8	11.9
Other	4.4	1.8	16.5	20.5	22.5	20.9	17.1	18.8
Persons								
Indigenous	0.9	3.2	24.2	47.7	46.4	32.9	17.8	13.7
Other	4.8	2.4	13.4	18.7	19.6	17.9	17.6	18.2

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 1.16.3: Age-specific hospitalisation rates for a principal diagnosis of mental health related conditions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Hospitalisations by state/territory

Table 1.16.10 presents hospitalisations for a principal diagnosis of mental health related conditions for the 2-year period July 2006 to June 2008 by state/territory.

- Over the period July 2006 to June 2008, 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 other males and Indigenous females were hospitalised for mental health related conditions at 1.5 times the rate of other females.
- South Australia had the greatest difference in hospitalisation rates for mental health related conditions between Indigenous and other Australians, where Indigenous males and females were hospitalised at almost four times the rate of other Australians.

Table 1.16.10: 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 2006 to June 2008[a][b][c][d][e]

	Indigenous				Other[f]				
	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]
NSW									
Males	4,925	38.8	37.6	40.0	98,861	14.7	14.6	14.8	2.6*
Females	3,771	27.4	26.5	28.3	99,591	14.4	14.3	14.4	1.9*
Persons	8,696	32.8	32.0	33.5	198,458	14.5	14.4	14.6	2.3*
Vic									
Males	645	21.6	19.8	23.4	65,903	12.8	12.7	12.9	1.7*
Females	947	33.4	31.2	35.7	115,079	21.4	21.2	21.5	1.6*
Persons	1,592	27.7	26.3	29.1	180,982	17.1	17.0	17.2	1.6*
Qld									
Males	2,561	21.3	20.4	22.3	53,276	12.8	12.7	13.0	1.7*
Females	2,072	16.3	15.5	17.1	59,061	14.4	14.2	14.5	1.1*
Persons	4,633	18.7	18.1	19.4	112,337	13.6	13.5	13.7	1.4*
WA									
Males	2,002	31.7	30.1	33.3	23,947	11.6	11.5	11.8	2.7*
Females	1,907	29.3	27.9	30.7	32,028	15.7	15.5	15.8	1.9*
Persons	3,909	30.4	29.3	31.5	55,975	13.6	13.5	13.7	2.2*
SA									
Males	1,069	44.1	41.3	47.0	17,299	11.2	11.0	11.3	3.9*
Females	1,126	43.0	40.4	45.6	19,430	11.7	11.5	11.9	3.7*
Persons	2,195	43.6	41.7	45.5	36,729	11.5	11.4	11.6	3.8*
NT									
Males	888	15.8	14.6	17.1	1,001	6.4	6.0	6.9	2.5*
Females	681	10.7	9.8	11.6	614	4.5	4.1	4.9	2.4*
Persons	1,569	13.1	12.4	13.9	1,615	5.5	5.2	5.8	2.4*
NSW, Vic, Qld, WA, SA & NT[k]									
Males	**12,090**	**28.7**	**28.1**	**29.3**	**260,287**	**13.2**	**13.1**	**13.2**	**2.2***
Females	**10,504**	**23.5**	**23.0**	**23.9**	**325,803**	**16.1**	**16.0**	**16.1**	**1.5***
Persons	**22,594**	**26.0**	**25.6**	**26.3**	**586,096**	**14.6**	**14.6**	**14.6**	**1.8***

(continued)

Table 1.16.10(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 2006 to June 2008[(a)(b)(c)]

	Indigenous				Other[(f)]				
	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)]
Tas									
Males	108	6.8	5.5	8.2	4,395	9.8	9.5	10.1	0.7*
Females	146	8.6	7.1	10.1	4,871	10.0	9.7	10.3	0.9
Persons	254	7.7	6.7	8.7	9,266	9.9	9.7	10.1	0.8*
ACT									
Males	42	12.3	7.1	17.6	1,744	5.2	4.9	5.4	2.4*
Females	53	13.3	8.7	17.9	1,891	5.5	5.3	5.8	2.4*
Persons	95	12.6	9.2	16.0	3,635	5.4	5.2	5.5	2.4*

* 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 exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006); 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.

(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 group 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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 primary diagnosis of mental and behavioural disorders 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 1.16.11, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were 2 to 3 times more likely to be hospitalised for mental and behavioural disorders conditions than other Australians.
- Rates of hospitalisations were highest for Indigenous people living in *Remote* areas (33 per 1,000) and lowest in *Very remote* areas (17 per 1,000). The rate was highest for other Australians in *Major cities* (17 per 1,000) and lowest in *Very remote* areas (9 per 1,000).

Table 1.16.11: Hospitalisations with a principal diagnosis of mental health related conditions, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[a][b][c][d][e][f]

	Indigenous				Other[g]				
	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Ratio[k]
Major cities	8,315	29.5	28.8	30.2	470,971	16.9	16.9	17.0	1.7*
Inner regional	4,571	28.0	27.1	28.9	87,370	12.1	12.0	12.2	2.3*
Outer regional[l]	5,032	28.9	28.0	29.7	37,338	11.1	11.0	11.2	2.6*
Remote	2,735	33.4	32.1	34.8	5,059	10.1	9.9	10.4	3.3*
Very remote	2,445	16.8	15.6	18.0	1,541	9.4	9.3	9.6	1.8*
Missing	354	. .	. .	. .	4,155	. .	. .	. .	. .
Total[m]	**23,452**	**27.7**	**27.3**	**28.1**	**606,434**	**15.4**	**15.4**	**15.5**	**1.8***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

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.

Hospitalisations of Indigenous people with principal diagnosis of injury and poisoning and other consequences of external causes and a first reported external cause of assault or self-harm 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 1.16.12, for the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for these conditions than other Australians.
- Rates of hospitalisations were highest for Indigenous people living in *Remote* areas (32 per 1,000). The rate was highest for other Australians who lived in *Very remote* areas (3.1 per 1,000). The lowest rates were observed in *Major cities* for both Indigenous people (7.1 per 1,000) and other Australians (2.1 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 10 times that of other Australians in *Remote* areas of Australia. In *Inner regional* areas and *Major cities*, where the

lowest ratios were observed, Indigenous Australians were hospitalised at a rate of 3.4 times that of other Australians. Nationally, the rate was 6.4 times.

Table: 1.16.12 Hospitalisations of Indigenous people with principal diagnosis of injury and poisoning and other consequences of external causes and a first reported external cause of assault and self-harm by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[a][b][c][d][e][f]

	Indigenous				Other[g]				
	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Ratio[k]
Major cities	2,185	7.1	6.8	7.4	57,628	2.1	2.0	2.1	3.4*
Inner regional	1,523	8.3	7.9	8.7	16,190	2.4	2.4	2.5	3.4*
Outer regional [l]	2,540	13.1	12.5	13.6	7,804	2.5	2.4	2.5	5.3*
Remote	2,743	30.5	29.3	31.7	1,483	3.0	2.8	3.2	10.2*
Very remote	3,958	25.4	23.9	26.8	523	3.1	3.0	3.2	8.2*
Missing	47	. .	. .	. .	499	. .	. .	. .	. .
Total[m]	**12,996**	**14.1**	**13.8**	**14.3**	**84,127**	**2.2**	**2.2**	**2.2**	**6.4***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

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.

Hospitalisations by principal diagnosis

Mental health related conditions

Table 1.16.13 presents hospitalisations for a principal diagnosis of mental health related conditions for the 2-year period July 2006 to June 2008 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 (37%), followed by schizophrenia, schizotypal and delusional disorders (26%).

- Based on the hospitalisation rates of other males and females, in the six jurisdictions there were three to four times as many hospitalisations for mental and behavioural disorders due to psychoactive substance use among Indigenous males and females as would be expected.
- Indigenous males and females were hospitalised for schizophrenia, schizotypal and delusional disorders at around three times the rate of other males and females.

Self-harm and assault

- Although self-harm and assault are not included among the mental health related conditions presented in this indicator, hospitalisations for these conditions may be mental health related. In 2006–07 to 2007–08 in the six jurisdictions, Indigenous males and females were hospitalised for injuries related to assault at 7 and 36 times the rate, and for injuries related to self-harm at 2.7 and 2.0 times the rate of other males and females respectively (Table 1.16.14).

For more information on assault and self-harm see Indicators *1.03 Hospitalisation for injury and poisoning* and *2.13 Community safety*.

Table 1.16.13: 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 2006 to June 2008[a][b][c][d]

	Males						Females						Persons[e]					
Principal diagnosis	**No.**	**Per cent**[f]	**No. per 1,000**[g]	**LCL 95%**[h]	**UCL 95%**[i]	**Ratio**[j]	**No.**	**Per cent**[f]	**No. per 1,000**[g]	**LCL 95%**[h]	**UCL 95%**[i]	**Ratio**[j]	**No.**	**Per cent**[f]	**No. per 1,000**[g]	**LCL 95%**[h]	**UCL 95%**[i]	**Ratio**[j]
Mental & behavioural disorders due to psychoactive substance use (F10–F19)	5,195	43.0	13.1	12.7	13.5	4.4*	3,041	29.0	6.7	6.5	7.0	3.4*	8,236	36.5	9.8	9.5	10.0	3.9*
Schizophrenia, schizotypal and delusional disorders (F20–F29)	3,507	29.0	7.5	7.2	7.7	3.0*	2,279	21.7	4.9	4.7	5.1	2.5*	5,786	25.6	6.2	6.0	6.3	2.8*
Mood disorders (F30–F39)	1,156	9.6	3.0	2.8	3.2	0.9*	2,049	19.5	4.9	4.6	5.1	0.7*	3,205	14.2	3.9	3.8	4.1	0.8*
Neurotic, stress-related disorders (F40–F49)	1,202	9.9	2.8	2.7	3.0	1.2*	1,842	17.5	4.1	3.9	4.3	1.5*	3,044	13.5	3.5	3.3	3.6	1.4*
Disorders of adult personality and behaviour (F60–F69)	206	1.7	0.4	0.4	0.5	1.9*	307	2.9	0.6	0.6	0.7	0.9	513	2.3	0.5	0.5	0.6	1.2*
Behavioural and emotional disorders (F90–F98)	385	3.2	0.4	0.4	0.5	1.4*	84	0.8	0.1	0.1	0.1	1.3*	469	2.1	0.3	0.3	0.3	1.4*
Organic, including symptomatic, mental disorders (F00–F09)	154	1.3	0.8	0.7	1.0	1.4*	116	1.1	0.6	0.5	0.8	1.3*	270	1.2	0.7	0.6	0.8	1.4*

(continued)

Table 1.16.13 (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 2006 to June 2008[(a)(b)(c)(d)]

	Males						Females						Persons[(e)]					
Principal diagnosis	**No.**	**%[(f)]**	**No. per 1,000[(g)]**	**LCL 95%[(h)]**	**UCL 95%[(i)]**	**Ratio[(j)]**	**No.**	**%[(f)]**	**No. per 1,000[(g)]**	**LCL 95%[(h)]**	**UCL 95%[(i)]**	**Ratio[(j)]**	**No.**	**%[(f)]**	**No. per 1,000[(g)]**	**LCL 95%[(h)]**	**UCL 95%[(i)]**	**Ratio[(j)]**
Behavioural syndromes assoc. with physiological disturbances (F50–F59)	15	0.1	0.0	0.0	0.0	0.5*	84	0.8	0.1	0.1	0.2	0.2*	99	0.4	0.1	0.1	0.1	0.2*
Unspecified mental disorder (F99)	38	0.3	0.1	0.1	0.1	3.6*	30	0.3	0.1	0.0	0.1	3.0*	68	0.3	0.1	0.1	0.1	3.3*
Mental retardation (F70–F79)	33	0.3	0.1	0.0	0.1	3.4*	18	0.2	0.0	0.0	0.0	1.6	51	0.2	0.0	0.0	0.1	2.5*
Disorders of psych. Development (F80–F89)	21	0.2	0.0	0.0	0.0	0.3*	16	0.2	0.0	0.0	0.0	0.6*	37	0.2	0.0	0.0	0.0	0.4*
Other[(k)]	178	1.5	0.4	0.3	0.5	0.7*	638	6.1	1.2	1.1	1.4	1.6*	816	3.6	0.8	0.8	0.9	1.2*
Total	**12,090**	**100.0**	**28.7**	**28.1**	**29.3**	**2.2***	**10,504**	**100.0**	**23.5**	**23.0**	**23.9**	**1.5***	**22,594**	**100.0**	**26.0**	**25.6**	**26.3**	**1.8***

(continued)

Table 1.16.13 (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 2006 to June 2008[(a)(b)(c)(d)]

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) Includes hospitalisations for which sex was indeterminate or not stated.

(f) Proportion of male, female and total hospitalisations of Indigenous people in the period 2006–07 to 2007–08.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(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. Population estimates are 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.

Table 1.16.14: Hospitalisations of Indigenous persons with a principle diagnosis of injury and poisoning and a first reported external cause of assault and self-harm, and sex, NSW, Vic, Qld, WA, SA and NT, July 2006-June2008[a][b][c][d]

	Males						Females						Persons[e]					
External cause	**No.**	**%[f]**	**No. per 1,000[g]**	**LCL 95%[h]**	**UCL 95%[i]**	**Ratio[j]**	**No.**	**%[f]**	**No. per 1,000[g]**	**LCL 95%[h]**	**UCL 95%[i]**	**Ratio[j]**	**No.**	**%[f]**	**No. per 1,000[g]**	**LCL 95%[h]**	**UCL 95%[i]**	**Ratio[j]**
Assault (X85–Y09)	5,003	22.5	10.8	10.5	11.2	7.0*	5,309	30.7	10.9	10.6	11.2	35.5*	10,312	26.1	10.9	10.6	11.1	11.6*
Intentional self-harm (X60–X84)	1,077	4.8	2.4	2.2	2.5	2.7*	1,408	8.1	2.8	2.7	3.0	2.0*	2,485	6.3	2.6	2.5	2.7	2.3*

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006). Cause of injury is based on the first reported external causes where the principle diagnosis was 'injury, poisoning and certain other consequences of external causes'.

(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 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 hospitalisations for which sex was indeterminate or not stated.

(f) Proportion of male, female and total hospitalisations of Indigenous people in the period 2006–07 to 2007–08.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

Notes:

1. Population estimates are 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 2006 to June 2008, the average length of stay in hospital due to mental health related conditions was 10 days for Indigenous patients and 9 days for other patients (Table 1.16.15).
- On average, Indigenous males stayed in hospital for longer than Indigenous 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 (76 days for Indigenous patients and 48 days for other patients). Organic mental disorders (which include dementia, delirium and other mental disorders due to brain damage and dysfunction) and schizophrenia, schizotypal and delusional disorders 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 4.5 bed-days for Indigenous patients and an average of 7.6 bed-days for other patients.

Table 1.16.15: Average length of stay in hospital (days), mental health related conditions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008(a)(b)(c)(d)

	Indigenous			Other(e)		
Mental health related condition	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Mental retardation (F70-F79)	113.4	6.0	75.5	39.2	58.7	47.9
Organic mental disorders (F00-F09)	67.4	13.0	44.0	17.0	17.4	17.2
Schizophrenia (F20-F29)	25.3	16.6	21.9	22.8	16.5	19.9
Disorders of psychological development (F80-F89)	13.5	2.8	8.9	6.6	11.2	7.9
Mood disorders (F30-F39)	9.1	7.6	8.2	8.0	7.2	7.5
Behavioural syndromes (F50-F59)	7.3	7.6	7.5	7.1	9.4	9.3
Unspecified mental disorder (F99)	7.4	4.6	6.2	19.5	18.5	19.1
Disorders of adult personality (F60-F69)	4.4	6.1	5.4	5.3	5.2	5.2
Mental disorders due to psychoactive substance use (F10-F19)	4.1	3.3	3.8	4.7	4.2	4.5
Neurotic, stress-related (F40-F49)	3.9	3.7	3.8	3.9	4.6	4.3
Behavioural & emotional disorders (F90-F98)	2.6	5.0	3.1	2.7	4.3	3.1
Total mental & behavioural disorders (F00-F99)	*11.9*	*7.6*	*10.0*	*9.5*	*8.0*	*8.7*
Other mental health conditions	7.4	3.7	4.5	8.3	7.0	7.6
Total	**11.9**	**7.4**	**9.8**	**9.5**	**8.0**	**8.6**

(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 fifth edition (National Centre in Health Classification 2006); 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.

(e) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

Source: AIHW analysis of National Hospital Morbidity Database.

Time series analysis

Time series data from 2001–02 to 2007–08 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 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.

Mental health related conditions —2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for mental health related conditions over the 7-year period 2001–02 to 2007–08 are presented in Table 1.16.16 and Figure 1.16.4.

- In Queensland, Western Australia, South Australia and the Northern Territory, there were no significant increases in hospitalisation rates for mental health related conditions among Indigenous persons during the period 2001–02 to 2007–08.
- There were significant declines in hospitalisation rates for mental health related conditions among other Australians over the same period with an average yearly decline in the rate of around 0.2 per 1,000 (equivalent to a 7% reduction in the rate over the period). The declines in annual change in hospitalisation rates were significant for both males and females.
- There was a significant increase in the hospitalisation rate ratios between Indigenous and other Australians during the period 2001–02 to 2007–08 (equivalent to a 7% increase). There were no significant changes in the rate differences over the period.

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.

Table 1.16.16: Age-standardised hospitalisation rates, rate ratios and rate differences from mental health related conditions, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006-07	2007-08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	2,876	2,888	2,864	2,864	2,983	3,186	3,334	75*	15.6*
Females	2,564	2,729	2,765	2,855	2,805	2,822	2,964	51*	11.9*
Persons	5,440	5,620	5,644	5,719	5,788	6,008	6,298	125*	13.8*
Other Australian separations									
Males	45,616	44,070	44,660	43,892	43,631	47,835	47,688	454	6.0
Females	52,151	54,612	55,812	56,818	55,524	55,461	55,672	428	4.9
Persons	97,767	98,684	100,472	100,710	99,155	103,296	103,360	882*	5.4*
Indigenous rate (no. per 1,000)									
Males	24.8	24.3	20.1	23.2	24.0	24.4	25.0	0.2	4.1
Females	20.7	21.5	21.4	21.4	20.7	20.0	21.0	-0.1	-2.9
Persons	22.7	22.8	22.4	22.2	22.2	22.1	22.9	0.0	-0.9
Other Australian[(d)] rate (no. per 1,000)									
Males	13.1	12.4	12.3	11.8	11.5	12.2	11.9	-0.2*	-7.7*
Females	14.6	15.1	15.1	15.2	14.5	14.1	13.9	-0.2*	-6.9*
Persons	13.9	13.7	13.7	13.5	13.0	13.2	12.9	-0.2*	-7.4*
Rate ratio[(e)]									
Males	1.9	2.0	1.6	2.0	2.1	2.0	2.1	0.0	12.9
Females	1.4	1.4	1.4	1.4	1.4	1.4	1.5	0.0	4.2
Persons	1.6	1.7	1.6	1.6	1.7	1.7	1.8	0.02*	7.0*
Rate difference[(f)]									
Males	11.7	11.9	7.8	11.3	12.5	12.2	13.1	0.3	17.2
Females	6.1	6.5	6.2	6.2	6.2	5.9	7.1	0.1	6.6
Persons	8.8	9.1	8.7	8.7	9.3	8.9	10.0	0.1	9.3

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

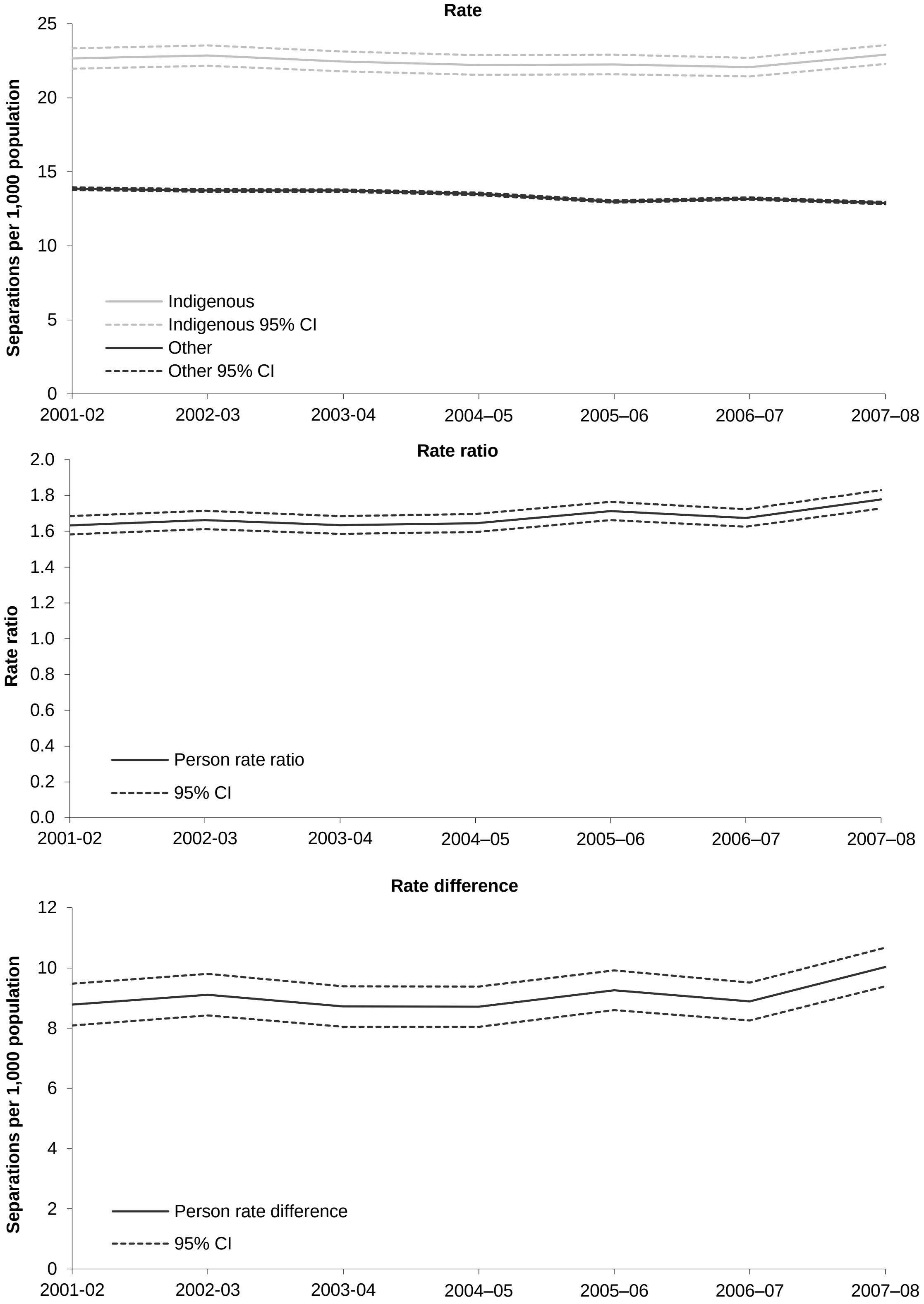
(d) Includes hospitalisations of non-Indigenous Australians and those for whom Indigenous status was not stated.

(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other 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 1.16.4: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for mental health related conditions, Qld, WA, SA and NT, 2001–02 to 2007–08

Mental health related conditions — 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for mental health related conditions over the three year period 2004–05 to 2007–08 are presented in Table 1.16.17 and Figure 1.16.5.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, there were significant increases in hospitalisation rates for mental health related conditions among Indigenous males during the period 2004–05 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 0.8 per 1,000, which is equivalent to a 9.4% increase in the rate over the period.
- There were no significant changes in hospitalisation rates for mental health related conditions among other Australians over the same period.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians for males and persons, but not for females, during the period 2004–05 to 2007–08. There was a 7% increase in the rate ratio and a 17% 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 other Australians for mental health related conditions over the period 2004–05 to 2007–08.

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.

Table 1.16.17: Age-standardised hospitalisation rates, rate ratios and rate differences from mental health related conditions, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)]

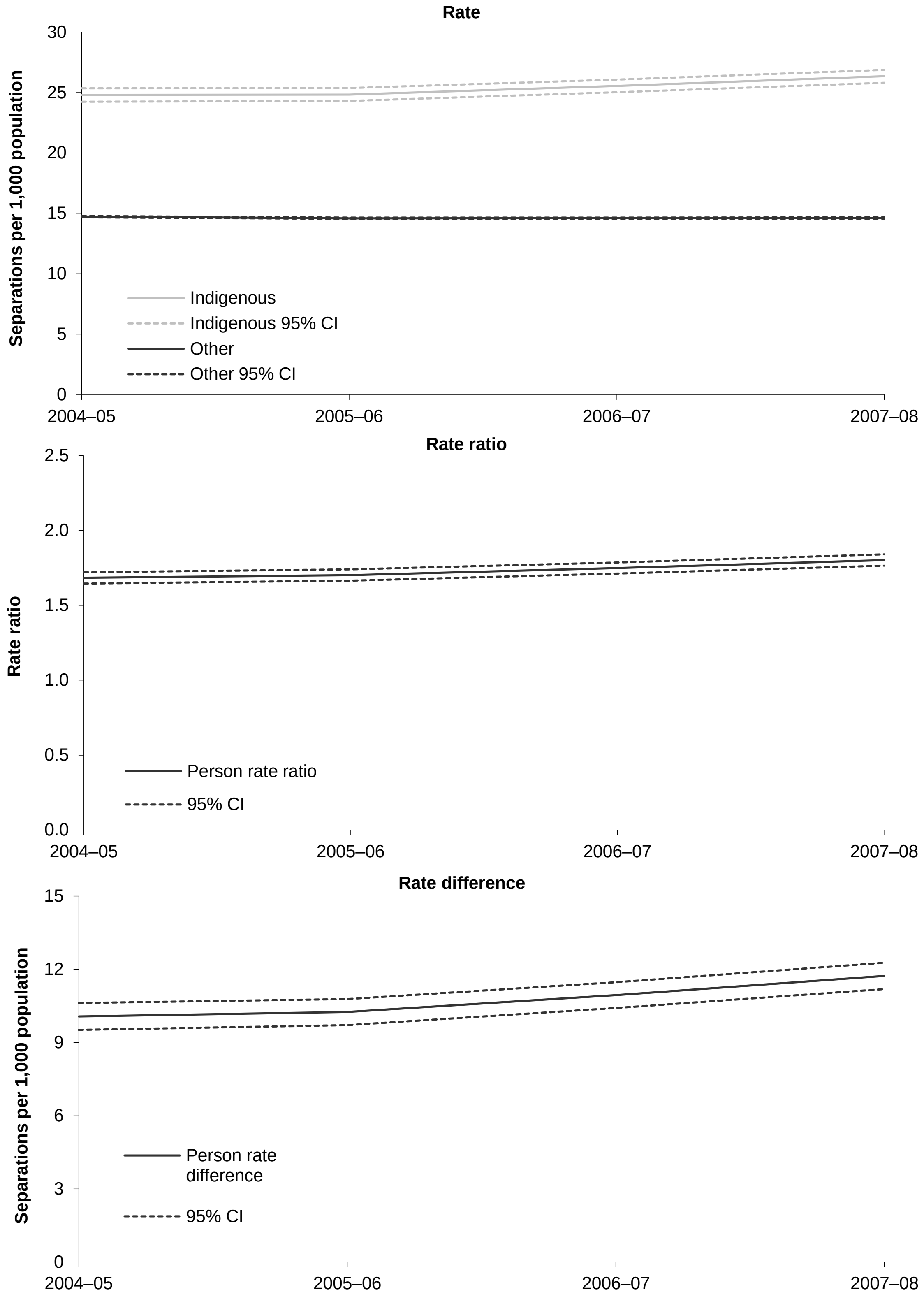
	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	5,160	5,600	5,922	6,168	335*	19.5*
Females	4,850	4,853	5,119	5,385	187*	11.6*
Persons	10,010	10,453	11,041	11,553	522*	15.6*
Other Australian separations						
Males	124,830	124,230	129,242	131,045	2,366*	5.7*
Females	157,506	160,149	161,003	164,800	2,274*	4.3*
Persons	282,337	284,380	290,245	295,850	4,641*	4.9*
Indigenous rate per 1,000						
Males	26.4	27.8	28.5	28.9	0.8*	9.4*
Females	23.3	22.2	22.9	24.0	0.3	3.4
Persons	24.8	24.8	25.5	26.4	0.5*	6.5*
Other Australian rate (no. per 1,000)[(d)]						
Males	13.2	13.0	13.2	13.1	0.0	-0.1
Females	16.2	16.2	16.0	16.1	-0.1	-1.0
Persons	14.7	14.6	14.6	14.6	0.0	-0.6
Rate ratio[(e)]						
Males	2.0	2.1	2.2	2.2	0.1*	9.5*
Females	1.4	1.4	1.4	1.5	0.0	4.5
Persons	1.7	1.7	1.7	1.8	0.04*	7.2*
Rate difference[(f)]						
Males	13.2	14.9	15.3	15.8	0.8*	18.9*
Females	7.1	6.0	6.9	7.9	0.3	13.6
Persons	10.1	10.2	10.9	11.7	0.6*	16.9*

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.
(d) Includes hospitalisations of non-Indigenous Australians and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other 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 1.16.5: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for mental health related conditions, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

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 peoples 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 peoples or for the total population, or different patterns of service use by Indigenous and non-Indigenous persons.

- In 2007–08, the proportion of service contacts for clients of community mental health services who identified themselves as being of Aboriginal and/or Torres Strait Islander origin ranged from 1.7% for Victoria to 30.9% for the Northern Territory.
- There were more community mental health service contacts per 1,000 population for Aboriginal and Torres Strait Islander peoples than for other Australians (737 per 1,000 and 294 per 1,000, respectively). This was true in all jurisdictions except Tasmania. 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 2007–08, Indigenous people had higher proportions of mental health service contacts for the younger age groups than did other Australians, but lower proportions in the older age groups, reflecting 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). For example, 22% and 24% of service contacts for Indigenous Australian males and females were for clients aged between 15 and 24 years compared with 17% of service contacts for other Australian of both sexes of the same age.
- In the older age groups, there were lower proportions of service contacts for Indigenous Australian males and females aged 65 years or more (both 1%) than for other Australian males (7%) and females (14%).
- In 2007–08, Indigenous males and females had higher rates of community mental-health-care service contacts across the majority of age groups, with the exception of females aged 65 years and over. Differences were most marked in the 25–34 and 35–44 year age groups where Indigenous males and females were between 2.7 and 3.8 times as likely to be clients of community mental-health-care services as other Australians in these age groups.

For more information on community mental health services see Indicator *3.09: 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 2007–08, there were 3,222 clients of residential mental-health-care services, of which 87 service contacts (2.7%) were for Indigenous people.

For more information on residential mental health services see Measure 3.09 (Access to mental health services).

Mortality

- Between 2004-2008 mental health related conditions (such as mental and behavioural disorders due to psychoactive substance use and organic mental disorders) were responsible for 273 deaths which was approximately 2.5% of all deaths of Aboriginal and Torres Strait Islander peoples.

Mortality by age and sex

Table 1.16.18 presents age-specific mortality rates for mental health related conditions for the period 2004–2008 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Between 2004 and 2008, Indigenous males had twice the mortality rate as non-Indigenous males for mental health related conditions. Indigenous females had 1.3 times the mortality rate as non-Indigenous females.
- Mortality rates were higher for males than for females across most age groups in both the Indigenous and non-Indigenous population.
- Differences were most marked in the 15–24, and 45–54 year age groups where Indigenous males died at 7 times the rates of non-Indigenous males. For females, the most marked differences were observed in the 25–34 and 35–44 year age groups where Indigenous females died at between 10 and 11 times the rates of non-Indigenous females, 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.

Table 1.16.18: Mental health related mortality rates per 100,000, by Indigenous status, age group and sex, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)(i)

	Males			Females		
Age group (years)	Indigenous rate(j)	Non-Indigenous rate(j)	Rate ratio(k)	Indigenous rate(j)	Non-Indigenous rate(j)	Rate ratio(k)
Less than 1	0.0	0.0	0.0	0.0	0.0	0.0
1–4	0.0	0.2	0.0	0.0	0.1	0.0
5–14	0.0	0.0	0.0	0.0	0.0	0.0
15–24	1.8	0.2	7.4	1.4	0.3	5.1
25–34	5.0	1.1	4.5	4.2	0.4	9.9
35–44	13.0	2.3	5.7	8.6	0.8	11.4
45–54	21.9	3.4	6.5	11.6	1.4	8.3
55–64	29.9	7.4	4.0	14.2	4.2	3.4
65–74	109.7	32.7	3.4	93.4	24.5	3.8
75 and over	490.9	363.1	1.4	573.9	536.3	1.1
Total(i)	**44.3**	**24.9**	**1.8**	**45.0**	**33.3**	**1.3**

(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 considered to have adequate levels of Indigenous identification in mortality data. 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.

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

(d) These data exclude registered deaths where the Indigenous status is not stated.

(e) 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.

(f) 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.

(g) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(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 2008 are preliminary and subject to a revisions process. See *Causes of death, Australia, 2008* (ABS 2010) Technical Note 2: Revisions Process for further information.

(j) Age-specific death rates per 100,000 using the midpoint populations for the relevant years.

(k) Rate ratio Indigenous:other.

(l) Total includes age not stated. Total rates have been directly age-standardised using the Australian 2001 standard population.

Note: The completeness of identification of Indigenous deaths can vary by age..

Source: ABS and AIHW analysis of ABS Mortality Database.

Mortality by cause of death

Mental health related conditions

Deaths for the period 2004–2008 among Aboriginal and Torres Strait Islander peoples in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 1.16.19 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 (73 deaths or 57%). For Indigenous females it was organic mental disorders, which include dementia, delirium and other mental disorders due to brain damage and dysfunction (75 deaths or 52%).
- In the five jurisdictions combined, Indigenous males died from mental health related conditions at around twice the rate of other males.
- Indigenous males and females died from mental and behavioural disorders due to psychoactive substance use at 5 and 8 times the rate of other males and females respectively.

Assault and self-harm

- In addition to the mental health related conditions presented here, there were 439 deaths due to self-harm (suicide) (4.0% of total deaths) and 139 deaths due to assault (1.3%) of Indigenous people in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined between 2004 and 2008.
- Indigenous Australians died from self-harm and assault at 2.1 and 8.6 times the rate of non-Indigenous Australians for these causes of death respectively.
- Mental health related conditions, assault and self-harm together were responsible for about 8% of all deaths of Indigenous Australians.

For more information on causes of mortality see Indicator *1.23 Leading causes of mortality*.

Table 1.16.19: Deaths from mental health related conditions for Indigenous Australians, by sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Males			Females			Persons		
Cause of death	**Number**	**Number per 100,000[(i)]**	**Ratio[(j)]**	**Number**	**Number per 100,000[(i)]**	**Ratio[(j)]**	**Number**	**Number per 100,000[(i)]**	**Ratio[(j)]**
Mental and behavioural disorders due to psychoactive substances use (F10–F19)	73	14.4	5.4	43	6.4	7.7	116	9.9	5.8
Organic, including symptomatic mental disorders (F00–F09)	42	23.6	1.6	75	28.1	1.3	117	26.3	1.4
Other[(k)]	13	6.4	0.9	27	10.4	0.9	40	8.9	0.9
Total	**128**	**44.3**	**1.8**	**145**	**45**	**1.3**	**273**	**45.1**	**1.5**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five states and territories are 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) These data exclude 207 registered deaths where the Indigenous status is not stated.

(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 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.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

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

(j) Rate ratio Indigenous:non-Indigenous.

(k) 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.

Note: 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: ABS and AIHW analysis of ABS Mortality 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 2004–March 2005 to April 2008–March 2009 are presented below. Mental health related problems (psychological problems) were the sixth most common type of problems managed at GP encounters with Aboriginal and Torres Strait Islander patients during this period. The other five most common types of problems were respiratory conditions, circulatory conditions, endocrine and metabolic problems, musculoskeletal conditions and skin problems.

During the BEACH reporting period April 2008–March 2009 of GP encounters reported in the BEACH survey, 12% were mental health-related encounters (AIHW 2010b).

- In the period reporting period April 2004–March 2005 to April 2008–March 2009 there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,305 problems were managed. Of these, 9.7% (901) were mental health related problems (Table 1.16.20).
- 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.
- Mental health related problems were managed at a rate of 14.7 per 100 GP encounters with Indigenous patients compared to a rate of 12.1 per 100 GP encounters with other patients.
- After adjusting for differences in age distribution, mental health related problems were managed at GP encounters with Indigenous patients at a similar rate to encounters with other patients.
- Alcohol and drug abuse were managed at GP encounters with Indigenous patients at around three times the rate of encounters with other patients.
- Tobacco abuse, schizophrenia and dementia were also more commonly managed at GP encounters with Indigenous patients than with other patients (at around twice the rate).

Table 1.16.20: Most frequently reported mental health related problems[(a)] managed by general practitioners, by Indigenous status of patient, BEACH years April 2004–March 2005 to April 2008–March 2009[(b)(c)]

	Number		Per cent of total problems		Crude rate (number per 100 encounters)						Age-standardised rate (number per 100 encounters)[(d)]		
Problem managed	Indigenous	Other[(e)]	Indigenous	Other[(e)]	Indigenous	95% LCL[(f)]	95% UCL[(g)]	Other[(e)]	95% LCL[(f)]	95% UCL[(g)]	Indigenous	Other[(e)]	Ratio[(h)]
Depression (P03, P76)	221	20,031	2.4	2.7	3.6	3.0	4.2	4.2	4.1	4.3	3.3	4.1	0.8
Drug abuse (P19)	120	2,137	1.3	0.3	2.0	1.0	2.9	0.4	0.4	0.5	1.4	0.4	3.2
Anxiety (P01, P74)	87	8,953	0.9	1.2	1.4	1.0	1.8	1.9	1.8	1.9	1.5	1.8	0.8
Sleep disturbance (P06)	67	7,800	0.7	1.1	1.1	0.8	1.4	1.6	1.6	1.7	1.3	1.6	0.8
Alcohol abuse (P15, P16)	74	1,697	0.8	0.2	1.2	0.8	1.6	0.4	0.3	0.4	1.0	0.4	2.9
Schizophrenia (P72)	58	2,288	0.6	0.3	0.9	0.5	1.3	0.5	0.4	0.5	0.8	0.5	1.7
Tobacco abuse (P17)	69	2,142	0.7	0.3	1.1	0.7	1.5	0.4	0.4	0.5	1.1	0.4	2.4
Acute stress reaction (P02)	54	3,064	0.6	0.4	0.9	0.6	1.2	0.6	0.6	0.7	0.9	0.6	1.5
Affective psychosis (P73)	20	1,017	0.2	0.1	0.3	0.2	0.5	0.2	0.2	0.2	0.3	0.2	1.4
Dementia (P70)	12	2,588	0.1	0.4	0.2	0.1	0.3	0.5	0.5	0.6	0.9	0.5	1.7
Other[(i)]	119	6,574	1.3	0.9	1.9	1.5	2.4	1.4	1.3	1.4	1.7	1.4	1.2
Total mental health	**901**	**58,291**	**9.7**	**8.0**	**14.7**	**12.8**	**16.6**	**12.1**	**11.9**	**12.4**	**14.1**	**12**	**1.2**

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

(b) Data from five combined BEACH years April 2004–March 2005 to April 2008–March 2009 inclusive.

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

(d) Directly age-standardised rate (no. per 100 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 Indigenous:other.

(i) ICPC–2 codes: P04–P05, P07–P13, P18, P20, P22–P25, P27–P29, P71, P75,P77–P82, P85–P86, P98–P99.

Source: AIHW analysis of BEACH survey of general practice, AGPSCC.

Additional information

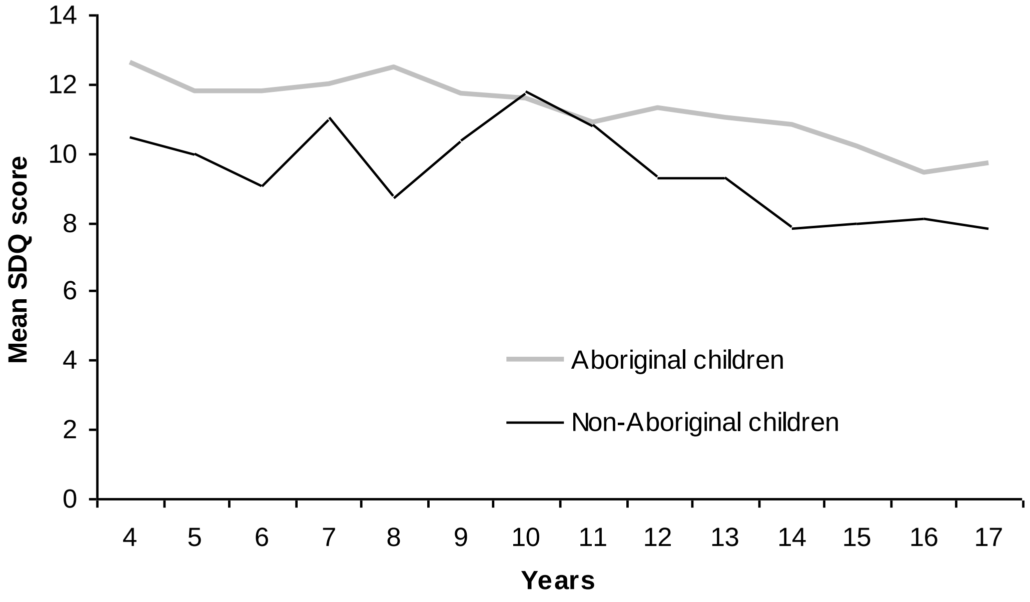
Social and emotional wellbeing of Aboriginal children

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 1.16.21; Figure 1.16.6).
- 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.



Sources: Zubrick et al. 2005; Computer-assisted telephone interview survey conducted for the WAACHS by the Survey Research Centre at the University of Western Australia.

Figure 1.16.6: Mean Strengths and Difficulties Questionnaire (SDQ) total score, by age, Aboriginal and non-Aboriginal children aged 4–17 years, WA, 2001, 2002

Table 1.16.21: Mean Strengths and Difficulties Questionnaire (SDQ) total score, by age, Aboriginal and non-Aboriginal children aged 4–17 years, WA, 2001, 2002

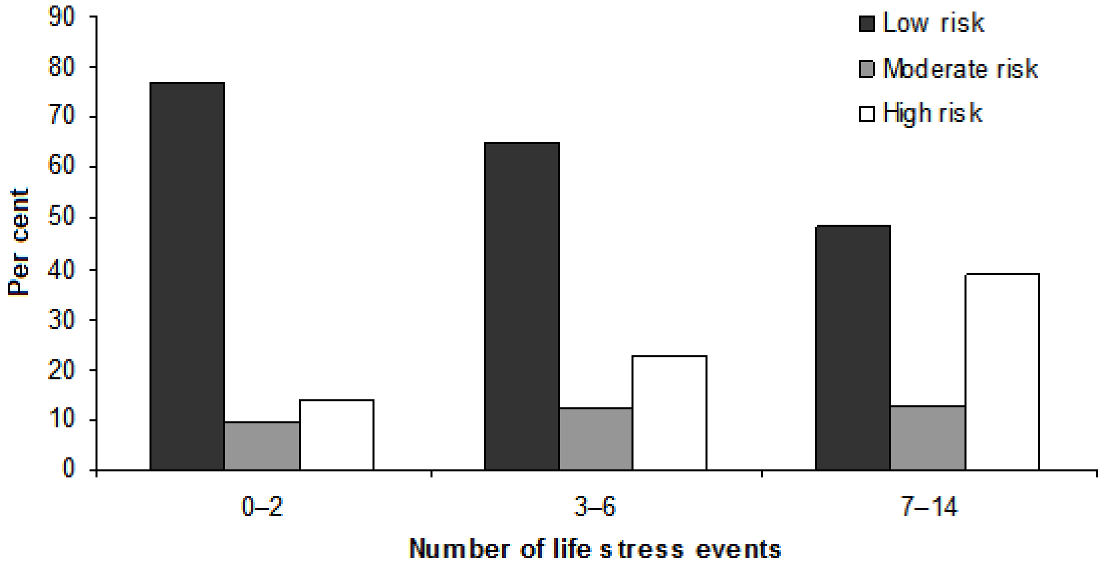
	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Aboriginal children	12.6	11.8	11.8	12.0	12.5	11.7	11.6	10.9	11.3	11.0	10.8	10.2	9.4	9.7
Non-Aboriginal children	10.5	10.0	9.1	11.0	8.7	10.4	11.8	10.8	9.3	9.3	7.8	8.0	8.1	7.8

Sources: 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 1.16.22; Figure 1.16.7).



Source: Zubrick et al. 2005.

Figure 1.16.7: 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

Table 1.16.22: 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

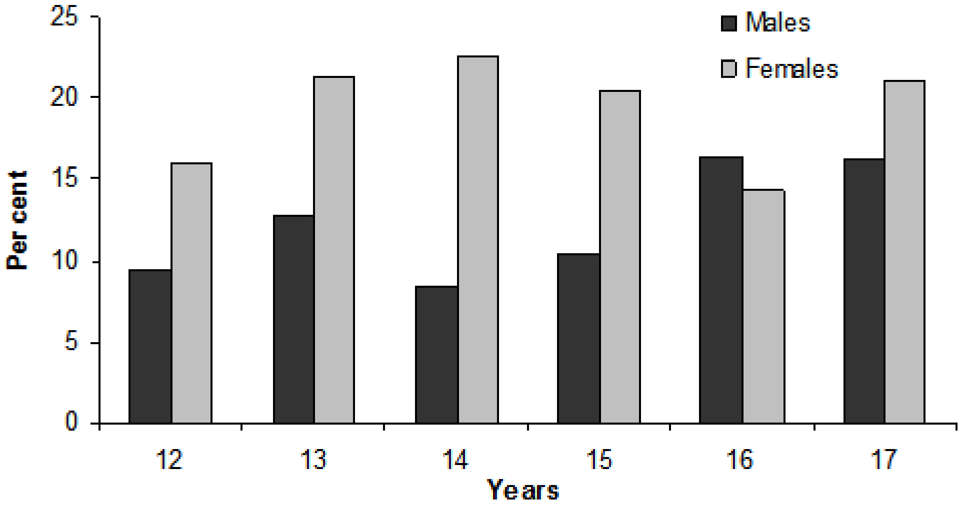
Zubrick et al. 2005 found that a number of health risk factors were also found to be associated with a high risk of clinically significant emotional and behavioural difficulties.

- 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 than 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 1.16.23; Figure 1.16.8).
- 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.



Source*:* Zubrick et al. 2005.

Figure 1.16.8: Proportion of Aboriginal young people who had seriously thought about ending own life, by sex and age, WA, 2001, 2002

Table 1.16.23: 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).

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 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 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.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in undercoverage compared to previous ABS Indigenous surveys. For example, the estimated undercoverage in the 2004-05 National Aboriginal and Torres Strait Islander Health Survey was 42%. The overall undercoverage 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 2010b).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: Users' guide*, 2008 (ABS 2010b).

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 (GP) 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. 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 GPs, but the extent of this under-count is not measurable.

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. Based on an analysis of a sample of data conducted in 2010, an estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08 (AIHW 2010c). In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007a). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data in all states and territories. Results from this assessment indicate that all hospitals in New South Wales, Victoria, Queensland, Western Australia and South Australia and public hospitals in the Northern Territory have adequate Indigenous identification (80% or higher overall levels of Indigenous identification in public hospitals only) in their separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population that these six jurisdictions cover is 96%. The following caveats have also been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010c):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included.
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.
- Bias may have been introduced due to the sampling method of hospitals used in the study. Hospitals with high proportions of Indigenous separations were used in the study to ensure sufficient numbers of Indigenous people were included in the study. Proportions of Indigenous separations should therefore not be taken to represent the NHMD overall.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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, while data is 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 only provided for 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. 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 1997). As a result, the observed differences between Indigenous and non-Indigenous mortality are under-estimates 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 & 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 2009).

National Community Mental Health Care Database (NCMHCD)

The quality of the Indigenous identification in this database varies by jurisdiction and should be interpreted with caution.

The number and rate of service contacts per 1,000 population for Aboriginal and Torres Strait Islander peoples varies among the states and territories.

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. For a number of jurisdictions, the NCMHCD data reported for the 'both Aboriginal and Torres Strait Islander' category are suspected to be affected by misinterpretation of the category to include non-Aboriginal and Torres Strait Islander peoples (for example, Maori and South Sea Islanders) and use of the category as an 'Indigenous, not further specified'.

However, they believe that there are quality issues regarding the coding of more specific details (that is, 'Aboriginal', 'Torres Strait Islander', 'both Aboriginal and Torres Strait Islander'). Queensland, Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory reported that the quality of their data was suitable for analysis. South Australia indicated that there has been limited analysis of the quality of Indigenous status data. Therefore, the quality of the data is uncertain at this stage.

All state and territory health authorities provided information on the quality of the data for the NCMHCD 2006–2007. 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.

National Residential Mental Health Care Database (NRMHCD)

The quality of the Indigenous identification in this database varies by jurisdiction.

The number and rate of service contacts per 1,000 population for Aboriginal and Torres

Strait Islander peoples varies among the states and territories. This may reflect variations in completeness of Indigenous identification among patients or different patterns of service use by Indigenous and non-Indigenous persons.

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. Only Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory considered their Indigenous status data of acceptable quality.

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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1.17 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 peoples, 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 2009b).

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 2009b).

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.

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 AIHW maintains this database. The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and the ABS codes this nationally. The medical practitioner certifying the death, or a coroner, supplies the required information on the cause of death. 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 is provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The funeral director does not always directly ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

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

Additional revised 2007 and preliminary 2008 mortality data for this indicator was supplied by the Australian Bureau of Statistics (ABS) from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010).

Data have been combined for the 5-year period 2003–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

Census of Population and Housing

The ABS conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, and it is designed to include all Australian households. The Census uses the ABS standard Indigenous status question and it is asked 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but this was replaced by the Australian and New Zealand Standard Classification of Occupations for the 2006 Census.

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 1.17.1 and Figure 1.17.1).
- 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).

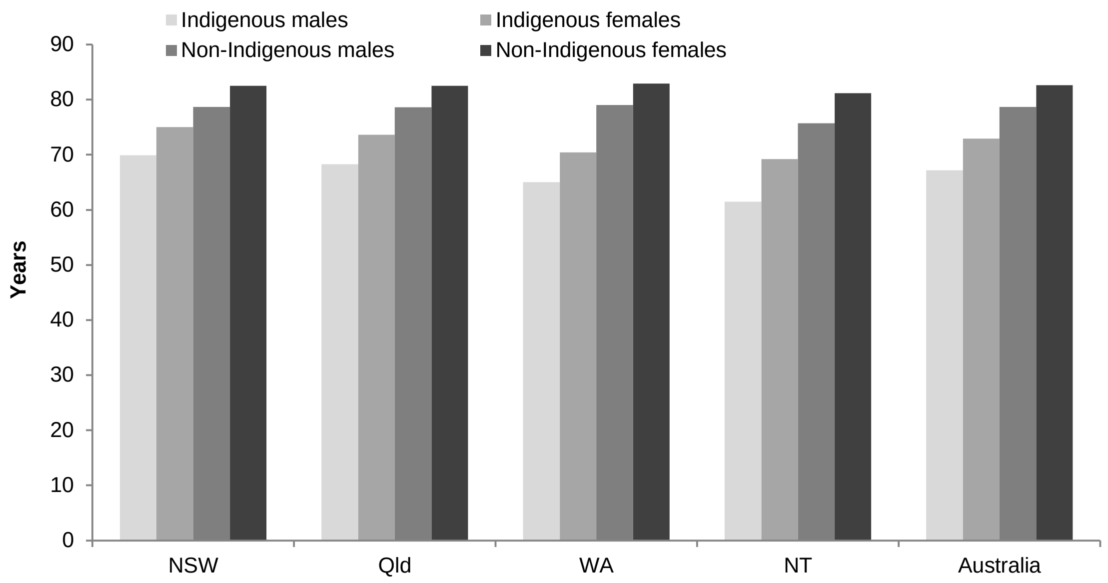
Table 1.17.1: Life expectancy at birth, by Indigenous status, sex and state/territory, 2005–2007[(a)].

	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 2009b.



Source: ABS 2009b.

Figure 1.17.1: Life expectancy at birth, Indigenous and total population 2005–2007, by sex and state/territory

International comparisons

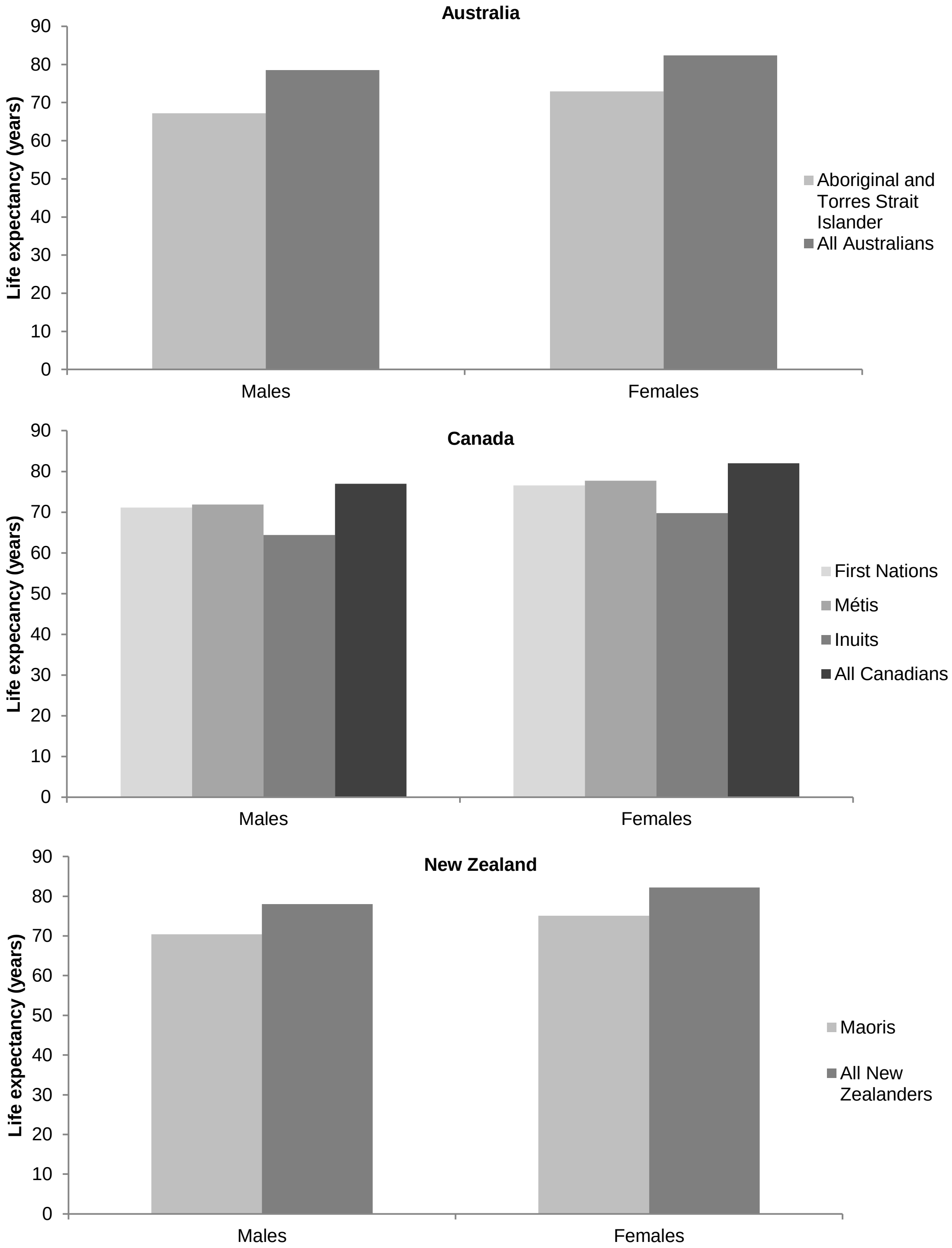
International indigenous data are available for New Zealand, the United States and Canada.

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 1.17.2 and Figure 1.17.2).
- 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).



Notes

1. Life expectancy estimates for Aboriginal and Torres Strait Islander peoples 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 2009b; INAC 2007; Wilkens et al. 2008; Statistics New Zealand 2008.

Figure 1.17.2: Life expectancy at birth for males and females in Australia, Canada and New Zealand, by Indigenous status, various years

Table 1.17.2: Life expectancy at birth (years of age) for males and females in Australia, Canada and New Zealand, by Indigenous status, various years

	Australia(a)		Canada(b)				New Zealand(c)	
	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

(a) Life expectancy estimates for Aboriginal and Torres Strait Islander peoples and all Australians are for 2005–2007.

(b) 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.

(c) Life expectancy estimates for Maoris and the total New Zealand population are for 2005–2007.

Sources: ABS 2009b; INAC 2007; Wilkens et al. 2008; Statistics New Zealand 2008.

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 1.17.3 presents the number and rate of potential years of life lost for Indigenous and non-Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory over the period 2004–2008.

Table 1.17.3: Potential years of life lost before age 65 years (PYLL), Qld, WA, SA & NT, 2004–2008[(a)(b)(c)(d)]

	Deaths aged under 65 years		PYLL (65)		
	Number	Per cent of deaths	Number	Deaths per 1,000[(e)]	Number years per death
Indigenous					
Males	4,327	71.5	122,565	109.7	28.3
Females	2,852	59.6	73,020	65.4	25.6
Non-Indigenous					
Males	58,650	24.3	973,672	31.1	16.6
Females	33,114	14.7	539,134	17.5	16.3

(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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Data exclude registered deaths where the Indigenous status is not stated.

(e) Deaths per 1,000 population.

Source: AIHW analysis of National 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 peoples, 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).

Births and deaths

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their birth and death registration forms. However, New South Wales, Victoria, South Australia, the Northern Territory and the Australian Capital Territory all have slightly different wording to the national standard for the instruction on those with both Aboriginal and Torres Strait Islander origin (ABS & AIHW 2005). Although the wording is only slightly different, it would be ideal to have all jurisdictions asking the question in exactly the same way.

Under-identification

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 and deaths registered as Indigenous is an underestimate of births and deaths occurring in the Aboriginal and Torres Strait Islander population. As a result, the observed differences between Indigenous and non-Indigenous rates are underestimates of the true differences.

Although the identification of Indigenous deaths is incomplete in all state and territory registration systems, the ABS and the AIHW have assessed four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) as having adequate identification. 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. 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 as the data quality improves, the states and territories to be included here should be reviewed.

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).

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 2009b). 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 peoples.

The varying degrees of completeness and accuracy of the Indigenous mortality databases that exist within the four countries are likely to affect the comparisons.

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, while data is 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 only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

Indigenous status information from the two sources are kept in the database, although these 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 2008b). 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 datasets.

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 & 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 2009c).

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).

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 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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1.18 Median age at death

The age at which exactly half the deaths registered (or occurring) in a given time period were deaths of people above that age and half were deaths below that age.

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 AIHW maintains this database. The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and the ABS codes this nationally. The medical practitioner certifying the death, or a coroner, supplies the required information on the cause of death. 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 is provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The funeral director does not always directly ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory. (AIHW 2010)

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 2003–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

Analyses

Care should also be exercised when analysing Indigenous median age at death, as differences in identification by age may lead to biased summary indicators, such as median age at death. Better identification of Indigenous infant deaths compared with older age groups will result in observed median age at death being underestimated. Median age at death values are influenced to some extent by the age structure of a population. The Indigenous population has a younger age structure than the non-Indigenous population and this is reflected in the median age at death of the two populations.

Median age at death by state/territory

- Over the period 2004–2008, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the median age at death was 52 years for Indigenous males and 59 years for Indigenous females, compared with 77 years for non-Indigenous males and 83 years for non-Indigenous females in these jurisdictions.
- Over the period 2004–2008, in the five jurisdictions, the median age at death for Indigenous males ranged from 46 years in the Northern Territory to 57 years in New South Wales. For Indigenous females, the median age at death ranged from 54 years in the Northern Territory to 63 years in New South Wales (Table 1.18.1).

Table 1.18.1: Median age at death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)]

	NSW	Qld	WA	SA	NT	NSW, Qld, WA, SA & NT
			Indigenous males			
2004	55	53	50	49	43	51
2005	54	51	52	42	45	50
2006	59	55	47	50	45	52
2007	58	54	53	50	45	53
2008	59	53	51	48	52	53
2004–2008	**57**	**53**	**51**	**48**	**46**	**52**
			Non-Indigenous males			
2004	77	76	76	77	62	76
2005	77	76	76	77	63	76
2006	77	76	76	78	64	77
2007	78	77	76	78	64	77
2008	78	77	77	79	66	78
2004–2008	**77**	**76**	**76**	**78**	**64**	**77**
			Indigenous females			
2004	62	57	63	53	53	60
2005	65	59	57	47	50	57
2006	64	56	56	59	55	58
2007	62	59	59	58	55	59
2008	63	62	63	53	55	60
2004–2008	**63**	**59**	**60**	**55**	**54**	**59**
			Non-Indigenous females			
2004	82	82	82	83	71	82
2005	83	82	83	83	70	83
2006	83	83	83	84	74	83
2007	83	83	83	84	69	83
2008	84	83	84	84	75	84
2004–2008	**83**	**83**	**83**	**84**	**71**	**83**

(a) The incompleteness of Indigenous identification means that the number of deaths registered as Indigenous is an underestimate of the actual number of deaths which occur in the Aboriginal and Torres Strait Islander population.

(b) Variations in median age at death by Indigenous status, sex and jurisdiction should be interpreted with care as they are sensitive to differential data quality.

(c) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(d) Data are by year of reference and state/territory of usual residence.

(e) Data exclude registered deaths where Indigenous status was not stated.

Source: AIHW analysis of National Mortality Database.

Time series analysis

Total deaths can be partitioned into quartiles by age at death (the first quartile is the age below which 25% of all deaths occur, the median is the age below which 50% of all deaths occur, and the third quartile is the age below which 75% of all deaths occur). An analysis of this kind can reveal changes in patterns of mortality over time, such as an increase in the proportion of deaths occurring at older ages and a corresponding decrease in the proportion occurring at younger ages.

But any such changes must be interpreted with care before any inferences can be drawn regarding an improvement or deterioration in the mortality of Indigenous Australians. Fluctuations in the level of Indigenous mortality over time partly reflect changing levels of identification of Indigenous deaths and population estimates. Quartiles of age at death are also affected by changes in age distribution of the population resulting, for example, from changes in fertility, and therefore they support comparisons only if fertility rates remain consistent over the period being analysed.

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 1991–2008 have been used for the analysis of Indigenous mortality trends.

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), quartiles of death and median age of death for Indigenous Australians have been compared with those of 'other' Australians (which include deaths of both non-Indigenous people and people for whom Indigenous status was not stated).

Table 1.18.2 and Figure 1.18.1 present trends in the median age at death for Indigenous and other Australians in Western Australia, South Australia and the Northern Territory combined over the period 1991–2008.

Table 1.18.3 and Figure 1.18.2 present quartiles of age at death for Indigenous Australians in Western Australia, South Australia and the Northern Territory by jurisdiction over the period 1991–2008.

- Over the period 1991–2008, there was no significant change in the median age at death for Indigenous males and females in Western Australia, South Australia and the Northern Territory combined (Table 1.18.2).
- When analysing age at death by quartiles over the period 1991–2008, there has been a significant increase in the age at death in the first quartile among Indigenous males in two jurisdictions—Western Australia and the Northern Territory, and a significant increase the first quartile age at death for Indigenous females in South Australia.

Table 1.18.2: Median age (years) at death, by Indigenous status and sex, WA, SA and NT, 1991–2008

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(a)]	Per cent change over period[(b)]
Indigenous																				
Males	46	49	46	49	48	47	48	45	48	46	48	48	48	47	47	46	50	51	0.1	3.2
Females	55	56	57	60	56	56	53	52	54.5	55	53	52	51	59	52	56	57	58	–0.05*	–1.4
Other																				
Males	73	72	73	73	73	74	74	74	75	75	75	76	76	76	76	77	77	77	0.3*	6.8
Females	79	79	79	80	80	81	81	81	81	81	82	82	82	82	83	83	83	84	0.3*	5.8

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991–2008.

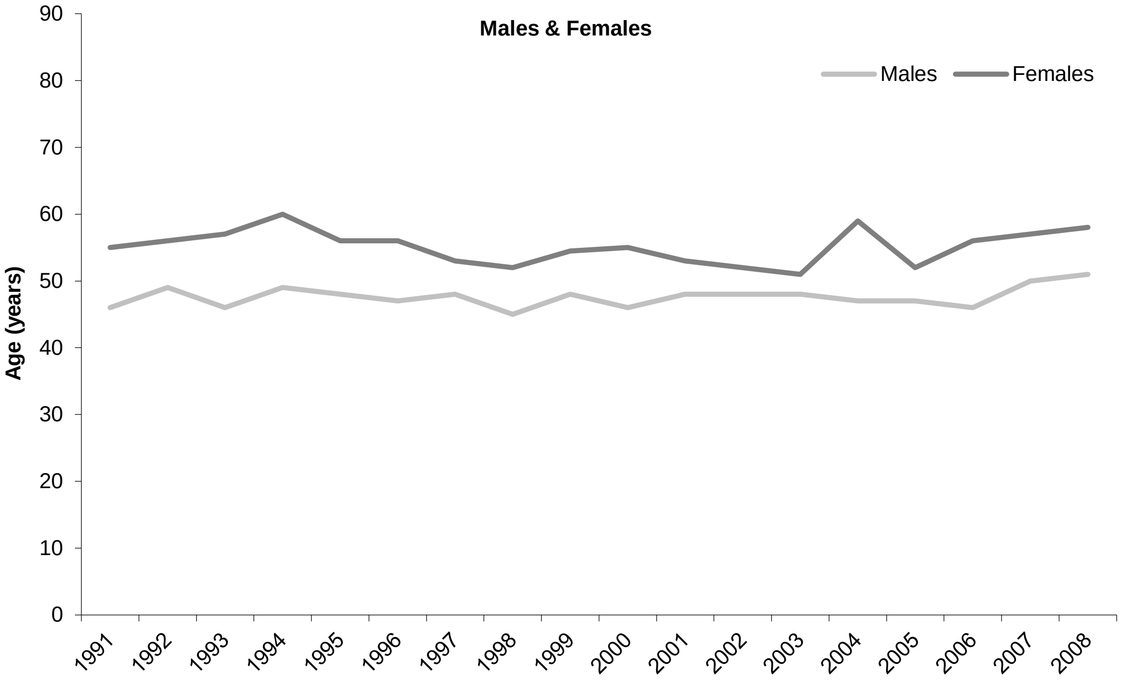
(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(b) Per cent change between 1991 and 2008 based on the average annual change over the period.

Notes

1. Data based on year of registration of death and state/territory of usual residence.
2. Data presented in this table may differ from data presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.18.1: Median age at death, by Indigenous status, WA, SA and NT combined, 1991–2008

Table 1.18.3: Quartiles of age at death, Indigenous Australians in WA, SA and NT, 1991–2008

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change(a)	Per cent change over period(b)
First quartile of age at death																				
Males																				
WA	26	31	29	31	32	32	33	29	31.5	31	34	33.5	36	36.5	37	35	39	36	0.5*	35.1*
SA	23	22	27	38	28	26.5	32	32	37	31	34	35	37	35	31	36	34	40	0.7	50.4
NT	26	29.5	26	28	29	32	33	31	30	29	32	33	33	31	32	33	33	36	0.4*	25.9*
WA, SA & NT	*25*	*28*	*27*	*30*	*30*	*32*	*33*	*30*	*32*	*31*	*33*	*33*	*34*	*33*	*33*	*34*	*36*	*36*	*0.5*	*32.4*
Females																				
WA	31	34	43	42.5	39	39	40	35	35	35	36	35	32	46	39	41	46	44	0.3	18.6
SA	27.5	33	34	32	41	36	35	39	36	39	45	38.5	40	39	35	44	36	44	0.6*	34.3*
NT	33	37	31.5	37.5	39	36	36	35	36	37	38	33	39	36.5	37	39	40	39	0.2	12.4
WA, SA & NT	*31*	*34*	*36*	*38*	*40*	*37*	*37*	*36*	*35*	*37*	*38*	*34*	*38*	*40*	*37*	*40*	*42*	*42*	*0.4**	*18.5**
Median age of death																				
Males																				
WA	49	51	48	51	49	48	48	44.5	49	46	51.5	51	50	49.5	52	47	53	51	0.1	4.1
SA	41	37	40	51	45	47	50	43.5	46	49	49.5	48	48	49	42	50	50	48	0.4*	17.1*
NT	46	49	46.5	46	50	46.5	48	45	47	46	45	47	46	43	45	45	45	52	–0.1	–2.3
WA, SA & NT	*46*	*49*	*46*	*49*	*48*	*47*	*48*	*45*	*48*	*46*	*48*	*48*	*48*	*47*	*47*	*46*	*50*	*51*	*0.1*	*3.2*
Females																				
WA	59	58	61	62	59	57.5	57	56.5	55	55.5	53.5	52.5	54	63	57	56.5	59	63	–0.1	–1.5
SA	47.5	55	55.5	49	51	54	52	50	50	56	55	54.5	49.5	53	47	59	58	53	0.2	6.7
NT	52	55	51.5	60	56	53.5	52	49	56	53.5	52	49.5	52	53.5	50	55	55	56	0.0	–1.2
WA, SA & NT	*55*	*56*	*57*	*60*	*56*	*56*	*53*	*52*	*54.5*	*55*	*53*	*52*	*51*	*59*	*52*	*56*	*57*	*58*	*0.0*	*–1.5*

(continued)

Table 1.18.3 (continued): Quartiles of age at death, Indigenous Australians in WA, SA and NT, 1991–2008

	1991	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**Annual change[(a)]**	**Per cent change over period[(b)]**
Third quartile of age at death																				
Males																				
WA	66	64	65	64	68	66	63	65	62.5	66	66	66.5	65	66	64	67	67	67	0.1	2.3
SA	57	59	56	63	62	62.5	67	67	58	62	63	65	57	66	55	60	64	65	0.2*	4.8*
NT	61	65	61	63	62	60	64	61	63	61	62	62	63	58	59	61	60	64	–0.1*	–2.6*
WA, SA & NT	*64*	*63*	*62*	*63*	*64*	*64*	*64*	*63*	*62*	*62*	*64*	*63.5*	*63*	*62*	*62*	*64*	*64*	*65*	*0.0*	*0.6*
Females																				
WA	71	70	74	76	72	69.5	68	69	71	69	69	69	70	77	72	73	74	78	0.2	4.3
SA	62	64	69	67	64	72	68	69	72	70	72	68	65.5	71	70	72	72	67	0.3*	8.5*
NT	66	67	65	72	68	68	67.5	67	71	68	69	66.5	67	69	64	72	70	69	0.1	2.6
WA, SA & NT	*67*	*67*	*69*	*73*	*70*	*69*	*68*	*68*	*71*	*68*	*69*	*68*	*68*	*72*	*69*	*73*	*72*	*73*	*0.2**	*5.2**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991–2008.

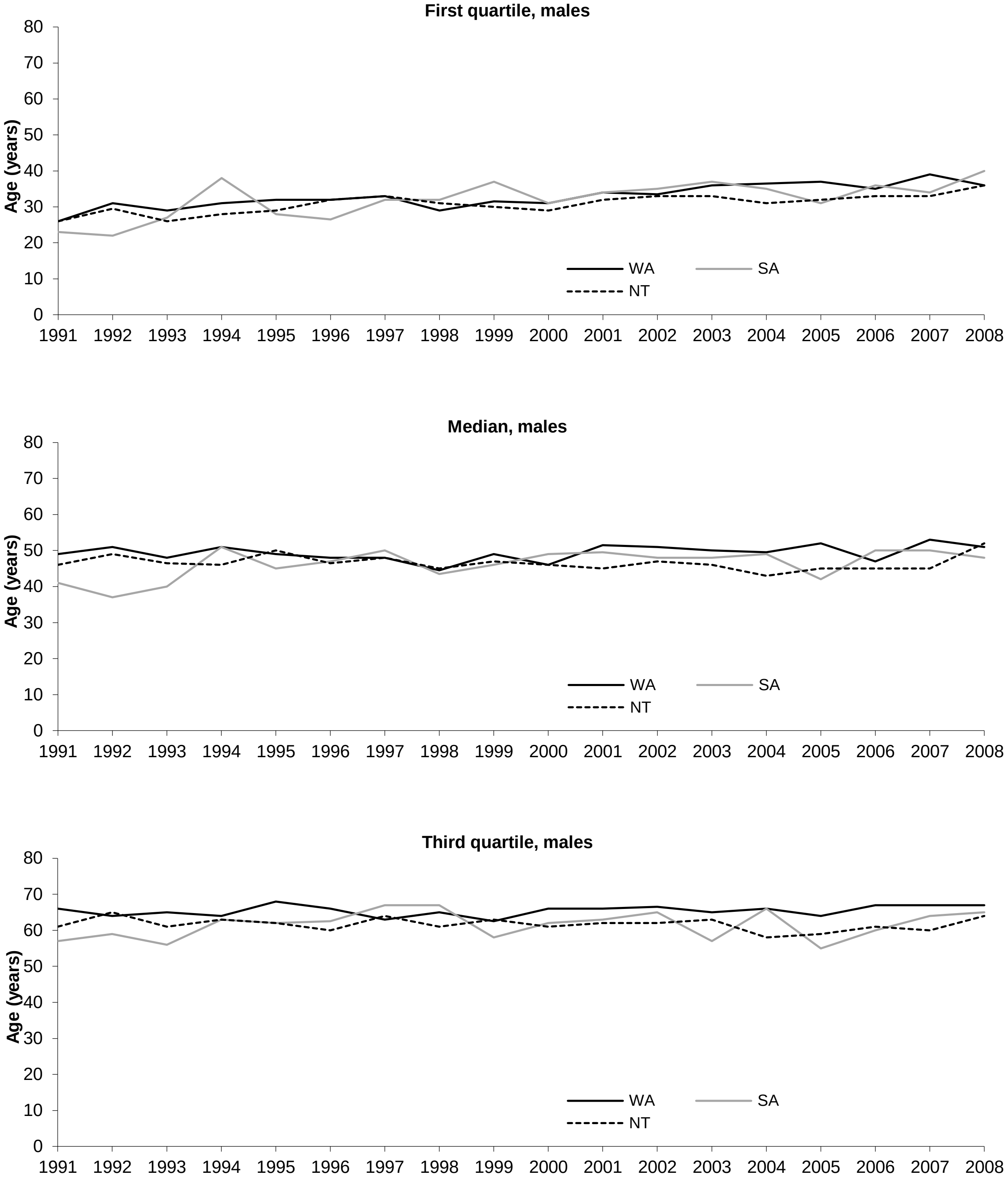
(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(b) Per cent change between 1991 and 2008 based on the average annual change over the period.

Notes

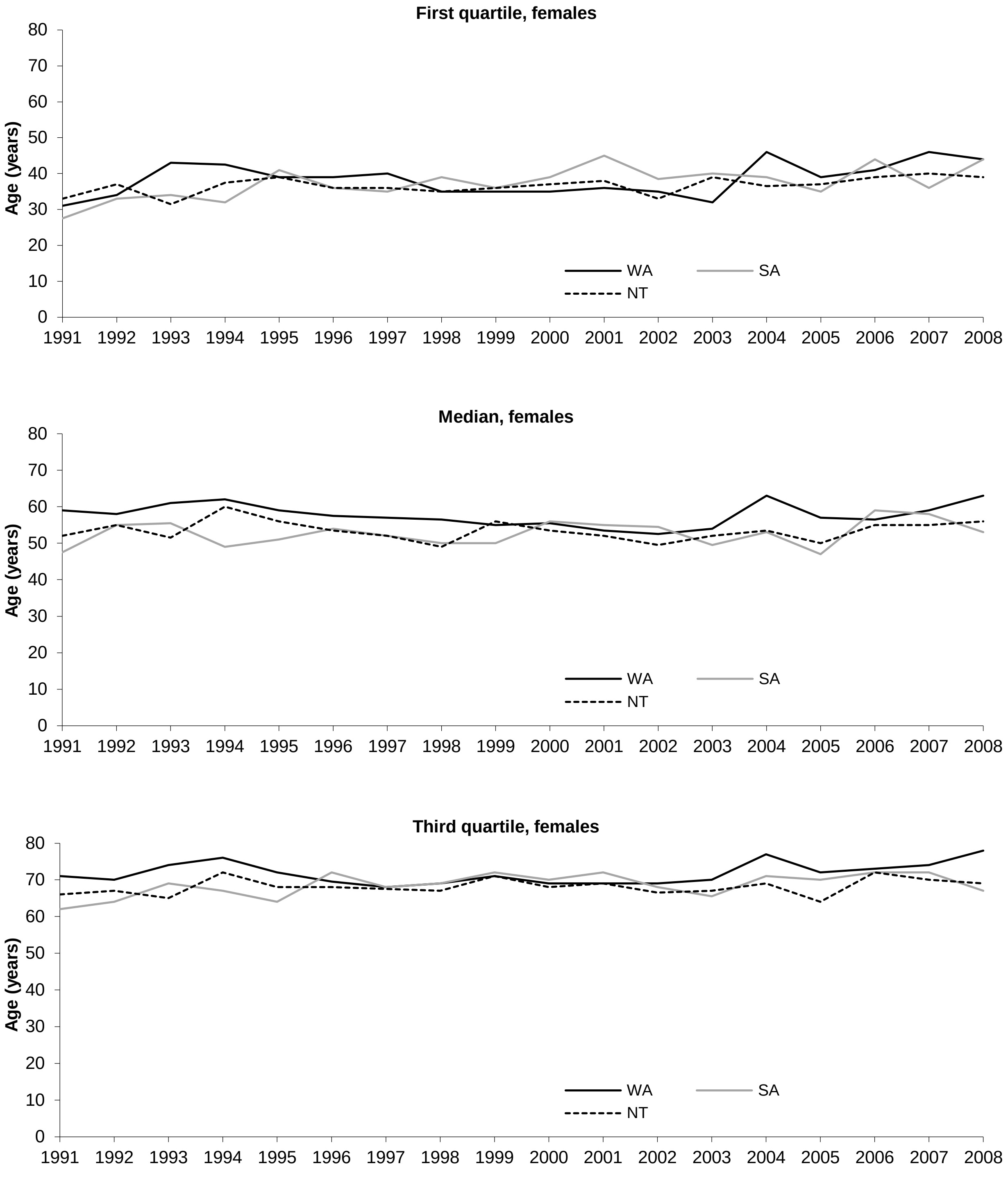
1. Data based on year of registration of death and state/territory of usual residence.
2 Data presented in this table may differ from data presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.18.2: Quartiles of age at death for Indigenous males in WA, SA and NT, 1991–2008



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.18.3: Quartiles of age at death for Indigenous females in WA, SA and NT, 1991–2008

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2008 for Indigenous and non-Indigenous Australians in Table 1.18.4 and Figure 1.18.4. Queensland has had adequate identification of Indigenous deaths in its recording systems since 1998, and

NSW has adequate identification in Indigenous deaths in its recording system since 2001. These deaths have been compared with those of non-Indigenous Australians (excluding deaths for which Indigenous status was not stated).

- Over the period 2001–2008, there was a significant change in the median age at death for Indigenous males (3%) but not females in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined. Over the same period, there were significant increases in the median age at death for non-Indigenous males and other females of around 3% for males and 2% for females (Table 1.18.4).

Table 1.18.4: Median age at death, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2001–2008

	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(a)]	Per cent change over period[(b)]
Indigenous										
Males	55	54.5	54	55	53	55	53	53	–0.2*	–3.1*
Females	60	61	61	62	61	62	59	60	–0.1	–1.1

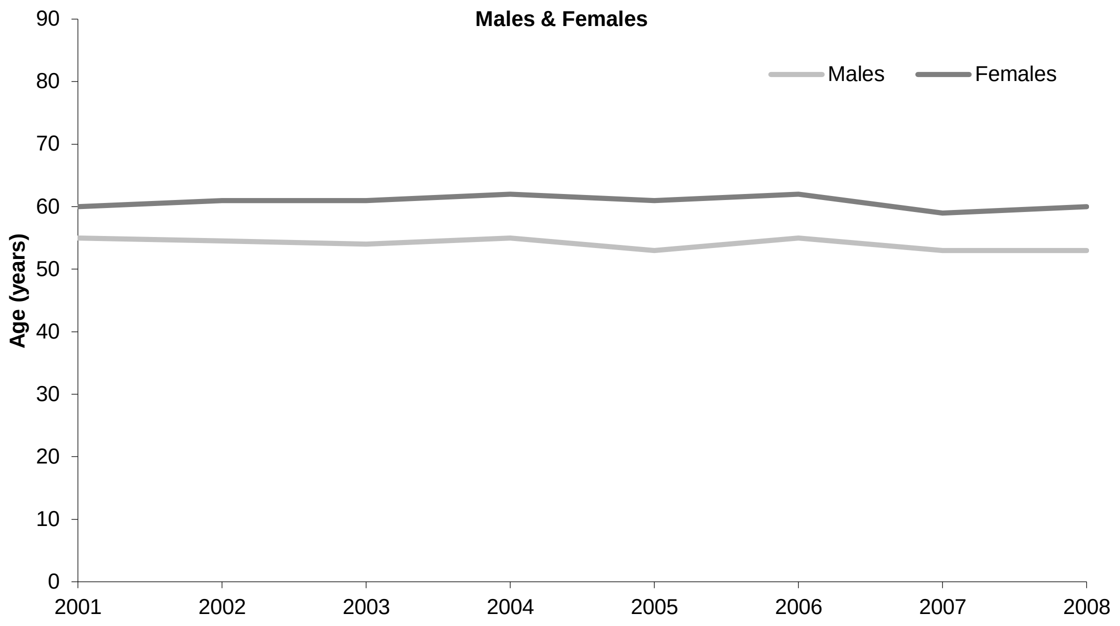
* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–08.

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

(b) Per cent change between 2001 and 2008 based on the average annual change over the period.

Note: Data based on year of registration of death and state/territory of usual residence.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.18.4: Median age at death, by Indigenous status, NSW, Qld, WA, SA and NT combined, 2001–2008

International comparisons

International indigenous data are available for New Zealand and the United States.

There are several common issues that adversely affect the quality of Indigenous mortality data in these two 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 population denominator counts between censuses.

The most important issue in regard to the quality of Indigenous mortality data is the under-counting of deaths (the numerator for mortality data). In each of the three 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.

The median age at death is available for American Indians and Alaskan Natives and is presented below. Because of differences in coverage of Indigenous deaths in the three countries, the median age at death between countries should be compared with care and the data presented below should be interpreted with caution.

- In the United States, for the period 2004–2006 the median age at death for American Indians and Alaskan Natives was 58 years for males and 67 years for females, compared with 73 years for non-Indigenous males and 80 years for non-Indigenous females (United States Department of Health and Human Services unpublished data).
- In New Zealand, for the period 2004–2008, the median age at death for Maoris was 60 years for males and 64 years for females, compared with 77 years for non-Indigenous males and 82 years for non-Indigenous females (Statistics New Zealand, unpublished data).

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, while data is 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 only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

Indigenous status information from the two sources are kept in the database, although these 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. 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 1997). As a result, the observed differences between Indigenous and non-Indigenous mortality are under-estimates 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 & 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 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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Bramley D, Hebert P, Jackson R & Chassin M 2004. Indigenous disparities in disease-specific mortality, a cross-country comparison: New Zealand, Australia, Canada, and the United States. New Zealand Medical Journal 117(1207) <www.nzma.org.nz/journal/117–1207/1215>.

List of tables

List of figures

1.19 Infant mortality

The number of Aboriginal and Torres Strait Islander people who die in the first year of life, expressed as a rate (per 1,000 live births) for that period.

Data sources

Data for this measure come from the National Mortality Database and the ABS 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 Australian Institute of Health and Welfare (AIHW) maintains the database. The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death and the Australian Bureau of Statistics (ABS) codes this nationally. The medical practitioner certifying the death, or a coroner, supplies information on the cause of death. 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. Indigenous status is provided to the ABS for 99% of deaths, however, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander, as the funeral director or health worker does not always directly ask the Indigenous status question of relatives and friends of the deceased during the registration process. Because of concerns with data quality, detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided only for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

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

Additional revised 2007 and preliminary 2008 mortality data for this indicator was supplied by the ABS from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010).

Data have been combined for the 5-year period 2003–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data, for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

Analyses

Mortality

- Over the period 2004–2008 there were 4,412 deaths of infants in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, 566 (13%) of which were deaths of Aboriginal and Torres Strait Islander infants.
- The mortality rate for Indigenous infants was 9.6 per 1,000 live births compared with 4.3 per 1,000 live births for non-Indigenous infants in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined. Indigenous infants died at around twice the rate of non-Indigenous infants in these jurisdictions (Table 1.19.1).

Mortality by sex

- Over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the mortality rate for Indigenous male infants was 11 per 1,000 live births compared with 8 per 1,000 live births for Indigenous female infants (Table 1.19.1).
- Over the same period, Indigenous male and female infants died at around two times the rate of non-Indigenous infants.

Table 1.19.1: Infant mortality rates per 1,000 live births, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)]

	Indigenous				Non-Indigenous				
	Deaths	**No. per 1,000[(g)]**	**LCL 95%[(h)]**	**UCL 95%[(i)]**	**Deaths**	**No. per 1,000[(g)]**	**LCL 95%[(h)]**	**UCL 95%[(i)]**	**Rate ratio[(j)]**
Males	334	11.0	9.8	12.2	2,166	4.7	4.5	4.9	2.3*
Females	232	8.1	7.1	9.1	1,680	3.8	3.6	4.0	2.1*
Total Infants	566	9.6	8.8	10.4	3,846	4.3	4.2	4.4	2.2*

* 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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data for these periods.

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

(c) Data exclude 104 registered infant deaths where Indigenous status was not stated over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

(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 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.

(e) 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.

(f) Deaths are by year of reference and state/territory of usual residence.

(g) No. per 1,000 live births.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: non-Indigenous.

Source: ABS and AIHW analysis of ABS Mortality Database.

Mortality by state/territory

Tables 1.19.2a and 1.19.2b presents infant deaths, mortality rates and rate ratios for Queensland, Western Australia, South Australia and the Northern Territory for the years 1996–1998, 1999–2001, 2002–2004, 2005–2006, 2007–2008 and the five year period 2004–2008.

- For the period 1996–1998, there were 189 deaths of Aboriginal and Torres Strait Islander infants in Western Australia, South Australia and the Northern Territory combined. Indigenous infant mortality rates were 8.3 per 1,000 live births in South Australia, 18.3 per 1,000 in Western Australia and 23.7 per 1,000 in the Northern Territory. In South Australia, Indigenous infants died at twice the rate of non-Indigenous infants and in Western Australia and the Northern Territory, Indigenous infants died at around four times the rate of non-Indigenous infants.
- For the period 1999–2001, there were 296 deaths of Indigenous infants in Queensland, Western Australia, South Australia and the Northern Territory combined. Infant mortality rates ranged from 8.0 per 1,000 live births in South Australia to 19.2 per 1,000 live births in the Northern Territory. In Western Australia and the Northern Territory, Indigenous infants died at three to five times the rate of non-Indigenous infants. In Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous infants died at three times the rate of non-Indigenous infants.
- For the period 2002–2004, there were 270 deaths of Aboriginal and Torres Strait Islander infants in the four jurisdictions. Infant mortality rates ranged from 9.4 per 1,000 live births in South Australia to 15.4 per 1,000 live births in the Northern Territory. In Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous infants died at three times the rate of non-Indigenous infants.
- For the period 2005–2006, there were 185 deaths of Aboriginal and Torres Strait Islander infants in the four jurisdictions. Infant mortality rates ranged from 6.9 per 1,000 live births in South Australia to 16.1 per 1,000 live births in the Northern Territory. In Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous infants died at three times the rate of non-Indigenous infants.
- For the period of 2007–2008, there were 219 deaths of Aboriginal and Torres Strait Islander infants in the five jurisdictions: New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. Infant mortality rates ranged from 7.3 per 1,000 live births in South Australia to 12.4 per 1,000 live births in the Northern Territory. In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous infants died at twice the rate of non-Indigenous infants.
- For the period 2004–2008, infant mortality rates varied between jurisdictions. Indigenous rates were lowest in New South Wales, at 7.8 per 1,000 live births, and highest in the Northern Territory at 15 per 1,000. For non-Indigenous people, the rate was lowest in Western Australia, at 3.3 per 1,000, and highest in Queensland, at 4.7 per 1,000. When all five jurisdictions were considered, the rate difference was 5.3 deaths per 1,000 live births. The rate difference was highest in the Northern Territory, at 11 per 1,000, and lowest in New South Wales, at 3.4 per 1,000.

Table 1.19.2a: Infant mortality rates per 1,000 live births, by Indigenous status, Qld, WA, SA and NT, 1996–1998, 1999–2001, 2002–2004, and 2005–2006, NSW, Qld, WA, SA and NT, 2007–2008[(a)(b)(c)(d)(e)(f)(g)]

	Indigenous				Non-Indigenous				
	Deaths	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Deaths	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Rate ratio[(k)]
				1996–98[(b)]					
WA	82	18.3	14.3	22.3	332	4.8	4.2	5.3	3.8*
SA	15	8.3	4.1	12.5	239	4.4	3.9	5.0	1.9*
NT	92	23.7	18.8	28.5	39.0	5.6	3.9	7.4	4.2*
				1999–2001					
Qld	111	11.7	9.5	13.9	721	5.5	5.1	5.9	2.1*
WA	81	16.6	13.0	20.2	251	3.6	3.2	4.1	4.6*
SA	15	8.0	3.9	12.0	219	4.3	3.7	4.8	1.9*
NT	89	19.2	15.2	23.2	37	5.7	3.9	7.6	3.3*
Qld, WA, SA & NT[(a)]	**296**	**14.2**	**12.6**	**15.8**	**1,228**	**4.7**	**4.5**	**5.0**	**3.0***
				2002–04					
Qld	111	10.9	8.9	12.9	643	4.7	4.4	5.1	2.3*
WA	69	14.1	10.8	17.5	222	3.3	2.8	3.7	4.3*
SA	18	9.4	5.1	13.8	184	3.7	3.1	4.2	2.6*
NT	72	15.4	11.8	18.9	39	6.1	4.2	8.0	2.5*
Qld, WA, SA & NT[(a)]	**270**	**12.5**	**11.0**	**14.0**	**1,088**	**4.2**	**3.9**	**4.4**	**3.0***
				2005–06					
Qld	81	11.4	8.9	13.9	452	4.6	4.2	5.1	2.4*
WA	45	12.3	8.7	15.8	199	4.0	3.4	4.5	3.1*
SA	10	6.9	2.6	11.2	133	3.8	3.2	4.5	1.8
NT	49	16.1	11.6	20.6	19	4.4	2.4	6.4	3.6*
Qld, WA, SA & NT[(a)]	**185**	**12.1**	**10.4**	**13.8**	**803**	**4.3**	**4.0**	**4.6**	**2.8***
				2007–2008[(l)]					
NSW	64	8.3	6.3	10.3	729	4.1	3.8	4.4	2.0*
Qld	61	6.9	5.2	8.6	533	4.7	4.3	5.1	1.5*
WA	42	9.1	6.3	11.9	135	2.5	2.1	2.9	3.6*
SA	13	7.3	3.3	11.3	130	3.5	2.9	4.1	2.1*
NT	39	12.4	8.5	16.3	18	3.9	2.1	5.7	3.2*
NSW, Qld, WA, SA & NT	**219**	**8.4**	**7.3**	**9.5**	**1,545**	**4.0**	**3.8**	**4.2**	**2.1***

(continued)

Table 1.19.2a (continued): Infant mortality rates per 1,000 live births, by Indigenous status, Qld, WA, SA and NT, 1996–1998, 1999–2001, 2002–2004, 2005–2006, 2007–2008(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 Queensland, Western Australia, South Australia and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data for these periods. They do not represent a quasi-Australian figure.

(b) A subtotal for Queensland, Western Australia, South Australia and the Northern Territory has not been provided for the period 1996–1998, as Indigenous mortality data for Queensland are reliable only from 1998 onwards.

(c) Data are presented in 3- and 2-year groupings because of small numbers each year.

(d) Data exclude 90 registered infant deaths where Indigenous status was not stated over the period 1996–2006 in Queensland, Western Australia, South Australia and the Northern Territory combined.

(e) 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 infant deaths and, depending on the under-identification in births, may either underestimate or overestimate the rates. The ABS calculated the completeness of identification of Indigenous deaths for the period 2002–2006 using population estimates as 51% for Queensland, 72% for Western Australia, 62% for South Australia and 90% for the Northern Territory. The completeness of Indigenous identification for infant mortality may differ from the estimates for 'all causes'.

(f) 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.

(g) Deaths are by year of registration and state/territory of usual residence.

(h) No. per 1,000 live births.

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: non-Indigenous.

(l) Preliminary data from ABS.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.19.2b: Infant mortality rates per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and NT, 2004-2008[a][b][c][d][e][f][g][h]

	Indigenous		Non-Indigenous			
	Deaths	No. per 1,000[i]	Deaths	No. per 1,000[i]	Rate ratio[j]	Rate difference
			2004–2008			
Qld	178	9.2	1,201	4.7	2.0	4.5
WA	106	10.6	410	3.3	3.2	7.3
SA	27	8.0	311	3.6	2.2	4.4
NT	115	14.9	48	4.4	3.4	10.5
Qld, WA, SA & NT[a]	**426**	**10.5**	**1,970**	**4.1**	**2.6**	**6.4**
			2004–2008			
NSW	140	7.8	1,876	4.4	1.8	3.4
Qld	178	9.2	1,201	4.7	2.0	4.5
WA	106	10.6	410	3.3	3.2	7.3
SA	27	8.0	311	3.6	2.2	4.4
NT	115	14.9	48	4.4	3.4	10.5
NSW, Qld, WA, SA & NT[b]	**566**	**9.6**	**3,846**	**4.3**	**2.3**	**5.3**

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

(a) Data are reported for Queensland, Western Australia, South Australia and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data for these periods. They do not represent a quasi-Australian figure.

(b) Data are reported for NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data for these periods. They do not represent a quasi-Australian figure

(c) A subtotal for Queensland, Western Australia, South Australia and the Northern Territory has not been provided for the period 1996–1998, as Indigenous mortality data for Queensland are reliable only from 1998 onwards.

(d) Data are presented in 3- and 2-year groupings because of small numbers each year.

(e) Data exclude 104 registered infant deaths where Indigenous status was not stated over the period 2004-2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

(f) 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 infant deaths and, depending on the under-identification in births, may either underestimate or overestimate the rates. The ABS calculated the completeness of identification of Indigenous deaths for the period 2002–2006 using population estimates as 51% for Queensland, 72% for Western Australia, 62% for South Australia and 90% for the Northern Territory. The completeness of Indigenous identification for infant mortality may differ from the estimates for ‘all causes’.

(g) 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.

(h) Deaths are by year of registration and state/territory of usual residence.

(i) No. per 1,000 live births.

(j) Rate ratio Indigenous: non-Indigenous.

Mortality by cause of death

- In the period 2004–2008, the most common group of diseases causing mortality among 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. Indigenous infants died at twice the rate of non-Indigenous infants for these conditions (Table 1.19.3).
- Indigenous infants also died at much higher rates for respiratory diseases, injury and poisoning and infectious and parasitic diseases than non-Indigenous infants (approximately five, four and three times the rates respectively).
- Sudden infant death syndrome (SIDS) and congenital malformations, deformations and chromosomal abnormalities were also leading causes of death among Indigenous infants who died at 1.2 and 2.9 times the rates of non-Indigenous infants respectively for these conditions.

Table 1.19.3: Causes of infant death[(a)] by Indigenous status, NSW, Qld, WA, SA and NT[(b)], 2004–2008[(c)(d)(e)(f)(g)(h)(i)]

	Number of deaths		Per cent of deaths		Number per 1,000[(j)]		
Cause of death	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate ratio[(k)]**
Certain conditions originating in the perinatal period (P00–P96)	262	1,884	46.3	48.9	4.4	2.1	2.1*
Signs, symptoms & ill-defined conditions (R00–R99)	109	407	19.3	10.6	1.8	0.4	4.1*
SIDS (R95)[(l)]	39	206	6.9	5.4	0.7	0.2	2.9*
Congenital malformations (Q00–Q99)	75	965	13.3	25.1	1.3	1.1	1.2
Diseases of the respiratory system (J00–J99)	33	98	5.8	2.5	0.6	0.1	5.2*
Injury & poisoning (V01–Y99)	29	103	5.1	2.7	0.5	0.1	4.3*
Infectious and parasitic diseases (A00–B99)	8	44	1.4	1.1	0.1	0.0	2.8*
Diseases of the circulatory system (I00–I99)	16	68	2.8	1.8	0.3	0.1	3.6*
Other conditions[(m)]	34	277	6.0	7.2	0.6	0.3	1.9*
All causes	**566**	**3,846**	**100.0**	**100.0**	**9.6**	**4.3**	**2.3***

(continued)

Table 1.19.3 (continued): Causes of infant death[(a)] by Indigenous status, NSW, Qld, WA, SA and NT[(b)], 2004–2008[(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) 'Infant' includes persons with an age at death of under 1 year.

(b) 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. They do not represent a quasi-Australian figure.

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

(d) These data exclude 104 infant deaths where the Indigenous status is not stated.

(e) 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.

(f) 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.

(g) Causes of death data for 2007 have been revised and are subject to further revisions. See *Causes of death, Australia, 2008* (Cat. no. 3303.0) Technical Note 2: Revisions Process for further information.

(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 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(j) No. per 1,000 live births.

(k) Rate ratio Indigenous death rate divided by non-Indigenous death rate.

(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: 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: ABS and AIHW analysis of ABS Mortality Database.

Mortality by associated causes of death

Table 1.19.4 presents underlying causes of deaths for Indigenous infants by associated causes of death for the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- In the period 2004–2008, half (50%) 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 (33%) followed by congenital malformations (13%), diseases of the respiratory system (7%) and injury and poisoning (7%) as associated causes of death.
- Indigenous infants who died from infectious and parasitic diseases, respiratory diseases or congenital malformations as an underlying cause of death were commonly reported with conditions originating in the perinatal period as an associated cause of death (38%, 18% and 48% respectively).

Table 1.19.4: Underlying and associated causes of death for Indigenous infants, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

	Underlying cause of death									
Associated cause of death	**Conditions originating in perinatal period**	**Signs, symptoms & ill-defined conditions (excluding SIDS)**	**Congenital malformations**	**SIDS**	**Disease of respiratory system**	**Injury & poisoning**	**Infectious & parasitic diseases**	**Disease of circulatory system**	**Other conditions[(j)]**	**Total**
	Per cent of underlying cause of death listed with an associated cause of death									
Reported alone (no associated causes)	46.9	98.6	21.3	97.4	54.5	0.0	62.5	37.5	17.6	49.6
Conditions originating in perinatal period (P00–P96)	53.1	1.4	48.0	0.0	18.2	0.0	37.5	0.0	17.6	33.4
Congenital malformations (Q00–Q99)	3.4	0.0	78.7	0.0	9.1	0.0	0.0	12.5	2.9	13.1
Diseases of the respiratory system (J00–J99)	0.8	0.0	8.0	0.0	45.5	10.3	12.5	25.0	26.5	6.7
Injury & poisoning (V01–Y98)	0.4	0.0	1.3	7.7	9.1	100.0	0.0	12.5	2.9	6.7
Infectious & parasitic diseases (A00–B99)	0.8	0.0	1.3	0.0	15.2	0.0	12.5	18.8	11.8	3.4
Signs, symptoms & ill-defined conditions (R00–R99)	3.4	2.9	4.0	2.6	0.0	17.2	0.0	6.3	17.6	4.6
Circulatory diseases (I00–I99)	0.4	0.0	8.0	0.0	0.0	6.9	0.0	62.5	8.8	4.2
Other conditions[(j)]	2.7	0.0	13.3	5.1	9.1	96.6	50.0	6.3	82.4	14.7
Total deaths	**262**	**70**	**75**	**39**	**33**	**29**	**8**	**16**	**34**	**566**

(continued)

Table 1.19.4 (continued): Underlying and associated causes of death for Indigenous infants, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)(i)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data for these periods. They do not represent a quasi-Australian figure.

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

(c) These data exclude 161 infant deaths where the Indigenous status is not stated.

(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 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.

(e) Infant deaths are those under 1 year of age.

(f) 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

(g) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(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 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(j) 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: Sum of components may exceed 100% as more than one associated cause of death can be reported for each death.

Source: ABS and 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 1991–2008 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 1991–2008 in Western Australia, South Australia and the Northern Territory are presented in Table 1.19.5 and Figure 1.19.1.

- Over the period 1991–2008, there were significant declines in recorded 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 55% 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 1.19.5).
- Over the same period, there were significant declines in the mortality rate ratios and rate differences between Indigenous and other Australian infants of around 59% and 22% respectively (Table 1.19.5).

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 1.19.5: Infant mortality rates, rate ratios and rate differences, WA, SA and NT, 1991–2008

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change(a)	Per cent change over period(b)
Indigenous rate (no. per 1,000 live births)																				
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	9.2	–0.8*	–55.0*
Other(c) rate (no. per 1,000 live births)																				
Persons	5.7	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	2.8	–0.1*	–43.3*
Rate ratio(d)																				
Persons	4.3	4.3	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	3.2	–0.6*	–58.7*
Rate difference(e)																				
Persons	18.8	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	6.3	–0.1*	–21.5*

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 1991–2008.

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

(b) Per cent change between 1991 and 2008 based on the average annual change over the period.

(c) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

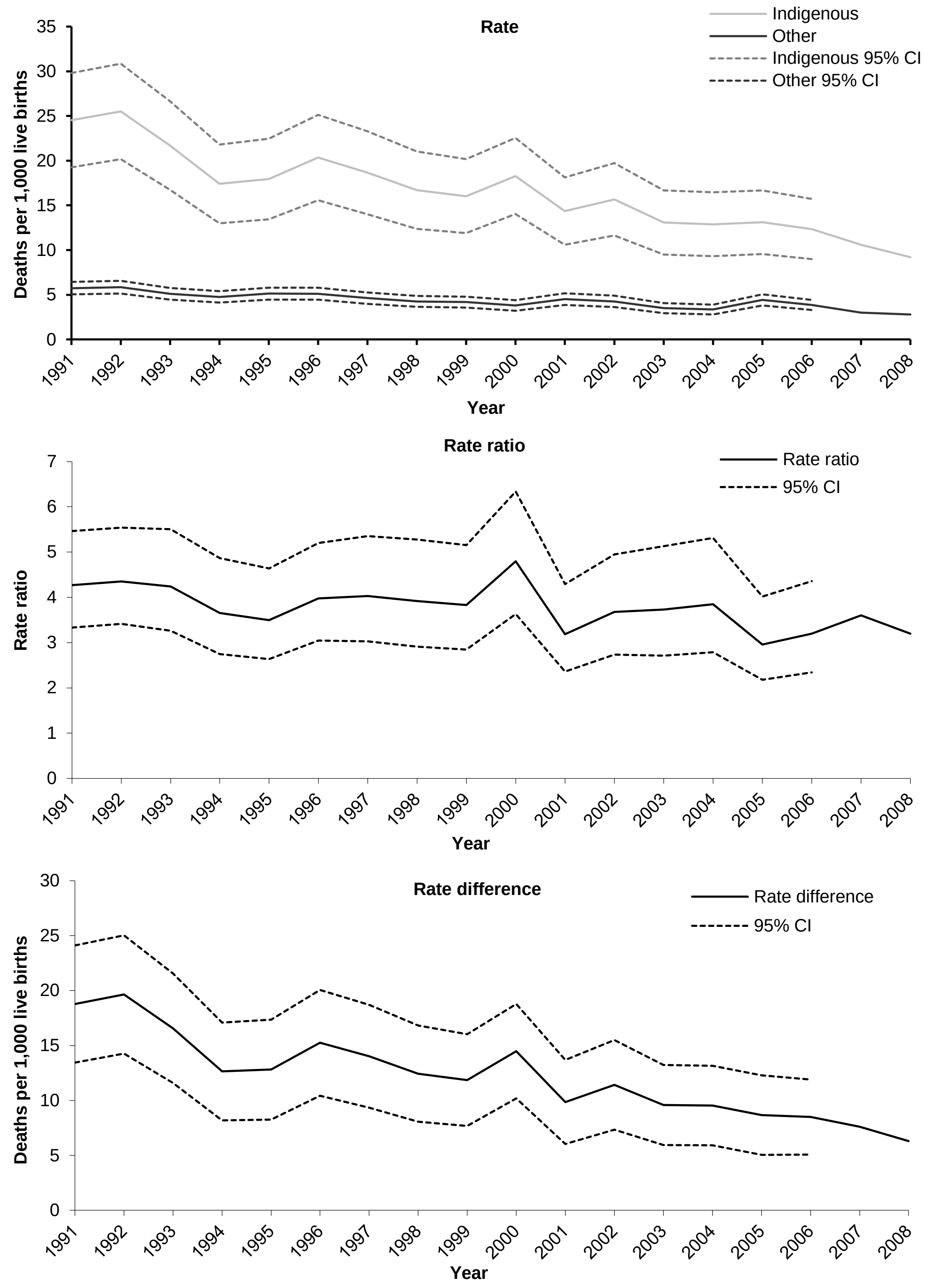
(d) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(e) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

Notes

1. Rates presented in this table may differ from those presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.
2. The average of births over the period 1993–1995 in Western Australia was used for births in that state in 1991 and 1992, as there were errors in the number of births recorded in these years.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Note: Confidence intervals for 2006 to 2008 could not be calculated due to data availability limitations.

Figure 1.19.1: Infant mortality rates, rate ratios and rate differences between Indigenous and other Australians, WA, SA and NT, 1991–2008

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2008 for Indigenous and non-Indigenous infants in Table 1.19.6 and Figure 1.19.2. 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 2001–2008, there were significant declines in recorded mortality rates for Indigenous and non-Indigenous infants in Queensland, Western Australia, South Australia and the Northern Territory combined. The fitted trend implies an average yearly decline in the rate of around 0.5 per 1,000 births for Indigenous infants (equivalent to a 32% reduction in the rate over the period) and 0.1 per 1,000 births for other infants (equivalent to an 11% reduction in the rate over the period) (Table 1.19.6).
- Over the same period, there were significant declines in the mortality rate ratios (135%), and in the mortality rate differences between Indigenous and other Australian infants (49%).

Table 1.19.6: Infant mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2008[(a)]

	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(b)]	Per cent change over period[(c)]
Indigenous rate (no. per 1,000 live births)										
Persons	11.2	12.5	10.9	10.2	11.5	10.0	9.0	7.8	–0.5*	–32*
Non–Indigenous rate (no. per 1,000 live births)										
Persons	4.9	4.3	3.9	4.2	4.5	4.4	4.0	4.0	–0.1	–11.1
Rate ratio[(d)]										
Persons	2.3	2.9	2.8	2.4	2.5	2.3	2.2	2.0	–0.08*	–134.7*
Rate difference[(e)]										
Persons	6.3	8.2	6.9	6.1	7.0	5.6	4.9	3.8	–0.4*	–48.9*

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2001–08.

(a) Data exclude registered infant deaths where Indigenous status was not stated over the period 2001–08.

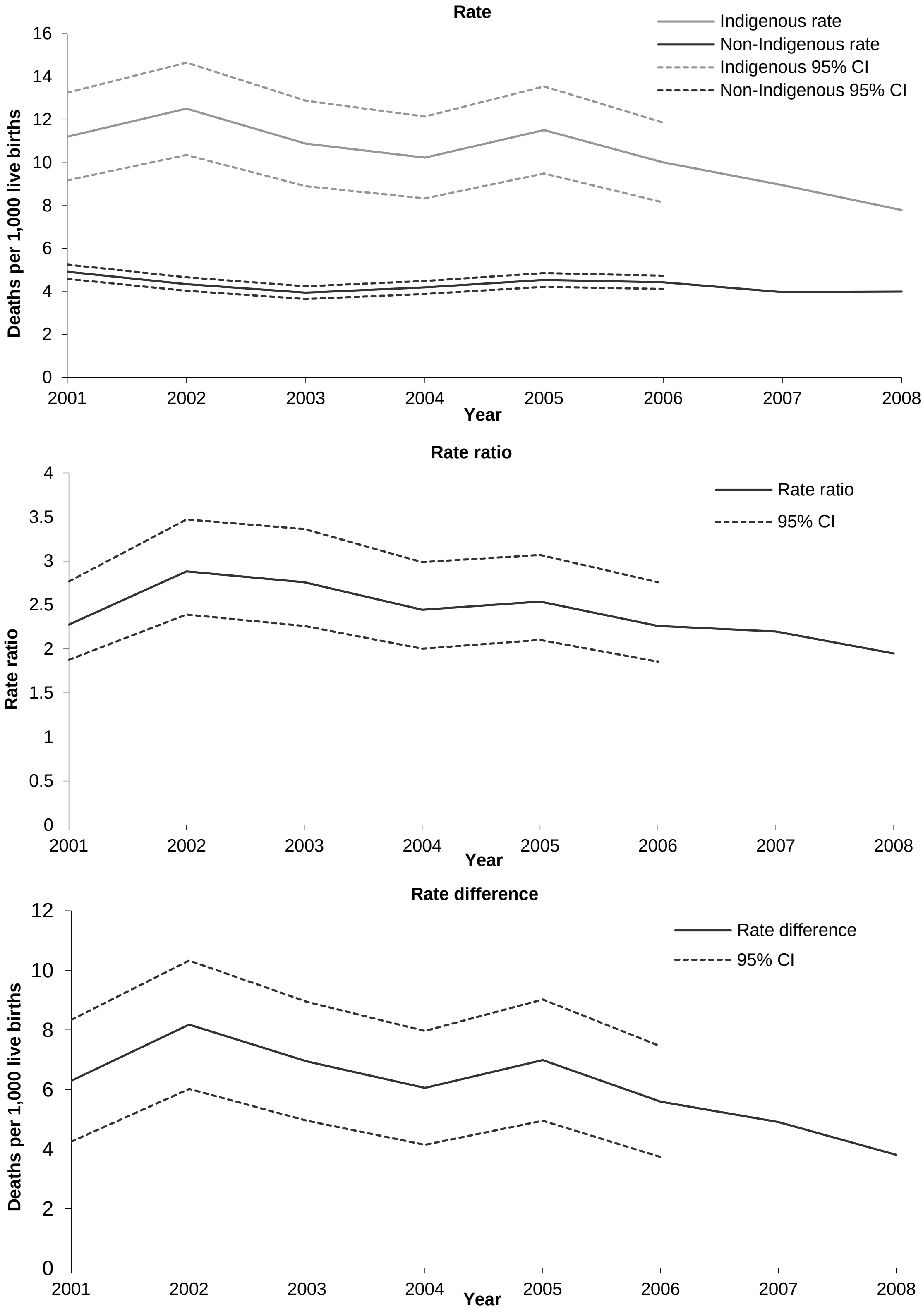
(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Per cent change between 2001 and 2008 based on the average annual change over the period.

(d) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(e) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: ABS and AIHW analysis of ABS Mortality Database.


Rate

Rate ratio

Rate difference

Source: ABS and AIHW analysis of ABS Mortality Database.

Note: Confidence intervals for 2006 to 2008 could not be calculated due to data availability limitations.

Figure 1.19.2: Infant mortality rates, rate ratios and rate differences between Indigenous and non-Indigenous Australians, NSW, Qld, WA, SA and NT, 2001–2008

Time series analysis by cause of death

Table 1.19.7 presents infant mortality rates by cause of death for the periods 1997–2002 and 2003–2008.

- Over the periods 1997–2002 and 2003–2008, for Western Australia, South Australia and Northern Territory combined, the most common causes of death among Indigenous infants were certain conditions originating in the perinatal period (7.0 deaths per 1,000 live births) followed by signs, symptoms & ill-defined conditions (3.6 per 1,000).
- Between 1997–2002 and 2003–2008, 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 1.19.7: Causes of infant death, by Indigenous status, WA, SA and NT, 1997–2002 and 2003–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Number of deaths		No. per 1,000[(i)]			Number of deaths		No. per 1,000[(i)]		
	Indigenous	Other[(j)]	Indigenous	Other[(j)]	Rate ratio[(k)]	Indigenous	Other[(j)]	Indigenous	Other[(j)]	Rate ratio[(k)]
			1997–2002					2003–2008		
Certain conditions originating in the perinatal period (P00–P96)	153	489	7.0	1.9	3.6*	129	415	5.1	1.5	3.3*
Signs, symptoms & ill-defined conditions (R00–R99)	78	141	3.6	0.6	6.5*	62	129	2.4	0.5	5.1*
SIDS (R95)[(l)]	*61*	*105*	*2.8*	*0.4*	*6.8**	*9*	*25*	*0.4*	*0.1*	*3.8**
Congenital malformations (Q00–Q99)	58	304	2.7	1.2	2.2*	37	218	1.5	0.8	1.8*
Diseases of the respiratory system (J00–J99)	25	18	1.1	0.1	16.2*	25	26	1.0	0.1	10.3*
Other conditions[(m)]	17	74	0.8	0.3	2.7*	13	75	0.5	0.3	1.9*
Injury & poisoning (V01–Y99)	15	40	0.7	0.2	4.4*	14	51	0.5	0.2	2.9*
Infectious and parasitic diseases (A00–B99)	n.p.	n.p.	n.p.	n.p.	n.p.	6	14	0.2	0.1	4.6*
Diseases of the circulatory system (I00–I99)	n.p.	n.p.	n.p.	n.p.	n.p.	13	18	0.5	0.1	7.7*
Total	**362**	**1,089**	**16.6**	**4.3**	**3.9***	**299**	**946**	**11.7**	**3.5**	**3.4***

(continued)

Table 1.19.7 (continued): Causes of infant death, by Indigenous status, WA, SA and NT, 1997–2002 and 2003–2008(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 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. They do not represent a quasi-Australian figure.

(b) Data are presented in multi-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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(i) No. per 1,000 live births.

(j) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(k) Rate ratio Indigenous: non-Indigenous.

(l) Data presented for SIDS are a subset of data presented for signs, symptoms and ill-defined conditions 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: Rates presented in this table may differ from those presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.

Source: ABS and 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.

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. The infant mortality rate for Aboriginal and Torres Strait Islander infants is around three times that for non-Indigenous infants (9 per 1,000 live births compared with 3 per 1,000 live births). The latest available data from the United States, Canada and New Zealand are outlined below.

- For the period 2001–2005, the infant mortality rate of babies born to American Indian or Alaskan Native mothers was 8.7 per 1,000 live births, compared with 6.9 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 2003–2007 in New Zealand, the mortality rate of Maori infants was 7.1 per 1,000 live births, compared with 4.5 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 2007 for the Maori population in New Zealand, and from 1995 to 2006 for the American Indian and Alaskan Native populations in the United States. These data are presented in Table 1.19.8 and Figure 1.19.3 along with data for Australia for the period 1996–2008. Reliable time series of infant mortality data for Canadian First Nations is not available at present.

- In New Zealand between 1996 and 2007 there was a significant decline in mortality for Maori infants. The fitted trend implies an average yearly decline in the rate of around 0.4 per 1,000 live births, which is equivalent to a 35% reduction in the rate over this period. There were also significant declines in non-Indigenous infant mortality rates between 1996 and 2007 (a reduction of 18%) (Statistics New Zealand unpublished data).
- In the United States between 1995 and 2005 there was a significant decline in infant mortality for American Indians and Alaskan Natives. The fitted trend implies an average yearly decline in the rate of around 0.1 per 1,000 live births, which is equivalent to a 12% reduction in the rate over this period. Over the same period there were also significant declines in other infant mortality (a reduction of 9%) (United States Department of Health and Human Services, unpublished data).

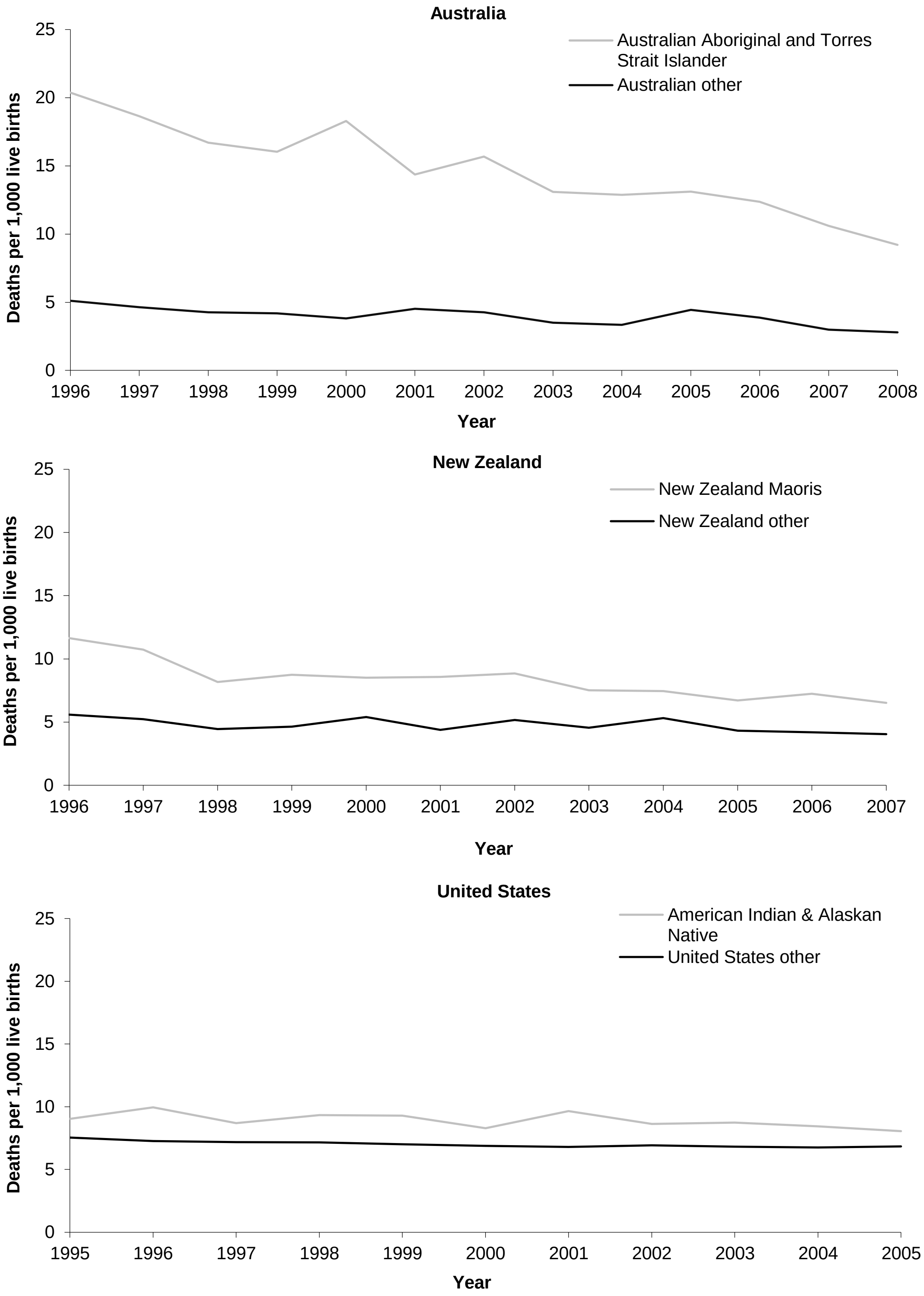
Table 1.19.8: Infant mortality rates per 1,000 live births, by Indigenous status, Australia (1996–2008), New Zealand (1996–2007) and the United States (1995–2005)[(a)]

	Australia		New Zealand		United States	
Year	Indigenous	Other	New Zealand Maoris	New Zealand Other	American Indian & Alaskan Native	United States Other
1995	n.a.	n.a.	n.a.	n.a.	9.0	7.6
1996	20.4	5.1	11.6	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	4.4	9.3	7.2
1999	16.0	4.2	8.7	4.6	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	6.8
2006	12.4	3.9	7.2	4.2	n.a.	n.a.
2007	10.6	3.0	6.5	4.0	n.a.	n.a.
2008	9.2	2.8	n.a.	n.a.	n.a.	n.a.

(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: ABS and 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: ABS and AIHW analysis of ABS Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.

Figure 1.19.3: Infant mortality rates per 1,000 live births, by Indigenous status, Australia (1996–2008), New Zealand (1996–2007) and the United States (1995–2005)

Additional information

Children aged under 5 years mortality

Tables 1.19.9 and 1.19.10 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 2004–2008.

- Over the period 2004–2008, there were 688 deaths of Indigenous children aged 0–4 years in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, which represented 13% of total deaths of children aged 0–4 years in these jurisdictions.
- Indigenous children aged 0–4 and aged 1–4 years in these jurisdictions died at over twice the rate of non-Indigenous children (Table 1.19.9; Table 1.19.10).
- The most common causes of death among Indigenous children aged 0–4 were conditions originating in the perinatal period (38%), symptoms, signs & ill-defined conditions (17%), injury and poisoning (13%) and congenital malformations (12%).
- Indigenous children died at around twice the rate of non-Indigenous children for conditions originating in the perinatal period; at almost four times the rate of non-Indigenous children for symptoms, signs and ill-defined conditions, and at over three times the rate of non-Indigenous children for injury and poisoning.
- The most common cause of death among Indigenous and non-Indigenous children aged 1–4 was injury and poisoning (48% and 39%, respectively) (Table 1.19.10).

Table 1.19.9: Causes of death among children aged 0–4 years by Indigenous status, NSW, Qld, WA, SA and NT[(a)], 2004–2008[(b)(c)(d)(e)(f)(g)(h)]

	Number of deaths		No. per 100,000[(i)]		
Cause of death	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate ratio[(j)]**
Certain conditions originating in the perinatal period (P00–P96)	264	1,900	91.6	42.9	2.1*
Signs, symptoms & ill-defined conditions (R00-R99)	120	468	41.6	10.6	3.9*
Injury & poisoning (V01–Y99)	87	404	30.2	9.1	3.3*
Congenital malformations (Q00–Q99)	83	1,029	28.8	23.3	1.2
Diseases of the respiratory system (J00–J99)	38	146	13.2	3.3	4.0*
Diseases of the nervous system (G00–G99)	19	179	6.6	4.0	1.6
Infectious and parasitic diseases (A00–B99)	11	77	3.8	1.7	2.2*
Diseases of the circulatory system (I00–I99)	24	95	8.3	2.1	3.9*
Other conditions[(k)]	42	325	14.6	7.3	2.0*
All causes	**688**	**4,623**	**238.7**	**104.5**	**2.3***

* 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. They do not represent a quasi-Australian figure.

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

(c) These data exclude 127 deaths of children aged 0–4 years where the Indigenous status is not stated.

(d) 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 rates.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(i) No. per 100,000 population.

(j) Rate ratio = Indigenous death rate divided by non-Indigenous death rate.

(k) 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: 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: ABS and AIHW analysis of ABS Mortality Database.

Table 1.19.10: Causes of death among children aged 1–4 years by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008[a][b][c][d][e][f][g]

	Number of deaths		No. per 100,000[h]		
Cause of death	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate ratio[i]**
Injury & poisoning (V01–Y99)	58	301	25.3	8.6	3.0*
Other conditions[j]	15	161	6.5	4.6	1.4
Diseases of the nervous system (G00–G99)	12	66	5.2	1.9	2.8*
Signs, symptoms & ill-defined conditions (R00–R99)	11	61	4.8	1.7	2.8*
Congenital malformations (Q00–Q99)	8	64	3.5	1.8	1.9
Diseases of the circulatory system (I00–I99)	8	27	3.5	0.8	4.5*
Diseases of the respiratory system (J00–J99)	5	48	2.2	1.4	1.6
Infectious and parasitic diseases (A00–B99)	n.p.	33	n.p.	0.9	n.p.
Certain conditions originating in the perinatal period (P00–P96)	n.p.	16	n.p.	0.5	n.p.
Total	**122**	**777**	**53.2**	**22.1**	**2.4***

* 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 considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(b) These data exclude deaths of children aged 1–4 years where the Indigenous status is not stated.

(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 rates.

(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 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(h) No. per 100,000 population.

(i) Rate ratio Indigenous death rate divided by non-Indigenous death rate.

(j) 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: 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: ABS and AIHW analysis of ABS Mortality Database.

Time series analyses

Infant mortality rates, rate ratios and rate differences between Indigenous and other Australian children aged 0–4 years over the period 1991–2008 in Western Australia, South Australia and the Northern Territory are presented in Table 1.19.11.

- Over the period 1991–2008, 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 16 deaths per 100,000 for Indigenous children (equivalent to a 43% reduction in the rate over the period) and 3 deaths per 100,000 for other infants (equivalent to a 42% reduction in the rate over the period).
- Over the same period, there were no significant changes in the mortality rate ratios but significant declines in the mortality rate differences between Indigenous and other Australian children (43%).

Table 1.19.11: Mortality rates, rate ratios and rate differences for children aged 0–4 years, WA, SA and NT, 1991–2008[(a)]

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(b)]	Per cent change over period[(c)]
Indigenous rate (no. per 100,000)																				
Persons	619.0	549.6	510.8	423.0	399.2	459.2	418.3	317.3	355.5	436.2	344.2	353.0	288.4	287.7	373.2	301.6	277.7	303.0	–15.6*	–42.7*
Other rate (no. per 100,000)																				
Persons	133.9	148.2	129.6	117.5	128.0	124.7	116.6	106.9	104.7	92.6	109.2	103.1	91.4	82.7	109.7	96.2	78.5	78.3	–3.3*	–42.3*
Rate ratio[(d)]																				
Persons	4.6	3.7	3.9	3.6	3.1	3.7	3.6	3.0	3.4	4.7	3.2	3.4	3.2	3.5	3.4	3.1	3.5	3.9	—	–13.8
Rate difference[(e)]																				
Persons	485.1	401.4	381.2	305.5	271.1	334.5	301.7	210.4	250.7	343.6	235.0	249.9	197.0	205.0	263.5	205.4	199.2	224.7	–12.2*	–42.9*

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 1991–2008.

(a) Deaths where Indigenous status was not stated are included in other.

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

(c) Per cent change between 1991 and 2007 based on the average annual change over the period.

(d) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(e) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: ABS and 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 2008 for Indigenous and non-Indigenous children aged 0–4 years in Table 1.19.12. Queensland has had adequate identification of Indigenous deaths in its recording systems since 1998, and these deaths have been compared with those of non-Indigenous Australians (excluding deaths for which Indigenous status was not stated).

- Over the period 2001–2008, there were non-significant declines in recorded mortality rates for Indigenous children and for non-Indigenous children in Queensland, Western Australia, South Australia and the Northern Territory combined (9.3% and 6.5%, respectively).
- Over the same period, there was no significant change in the mortality rate ratios or rate differences between Indigenous and non-Indigenous children. (non-significant decline of 12%)

Table 1.19.12: Mortality rates, rate ratios and rate differences for children aged 0–4 years, NSW, Qld, WA, SA and NT, 2001–2008[(a)]

	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(b)]	Per cent change over period[(c)]
Indigenous rate (no. per 100,000)										
Persons	245.5	258.3	229.9	234.5	269.9	227.2	232.6	220.7	–3.3	–9.3
Non-Indigenous rate (no. per 100,000)										
Persons	114.8	103.7	98.2	104.8	108.6	106.9	100.4	100.0	–1.1	–6.5
Rate ratio[(d)]										
Persons	2.1	2.5	2.3	2.2	2.5	2.1	2.3	2.2	0.0	–3.1
Rate difference[(e)]										
Persons	130.7	154.6	131.7	129.6	161.3	120.3	130.2	120.7	–2.2	–11.8

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2001–2008.

(a) Deaths where Indigenous status was not stated are excluded from analysis.

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

(c) Per cent change between 2001 and 2008 based on the average annual change over the period.

(d) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(e) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: ABS and 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 & 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% and 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

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1.20 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 and the National Perinatal Data Collection.

ABS 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).

The National Perinatal Data Collection also contains data on foetal and neonatal deaths, by sex, state/territory of birth and the Indigenous status of the mother. However, it does not collect information on cause of death for all jurisdictions. Work is underway for this collection to include data on obstetric antecedent factors that initiated the sequence of events leading to death. This is based on the Perinatal Society of Australia and New Zealand Perinatal Death Classification for all jurisdictions.

Data from the ABS Deaths Registration Database have been used in this measure, as cause of death can be ascertained and neonatal deaths are more comprehensively captured in this database.

Data are presented by state/territory of usual residence rather than state/territory of death. Although identification of Indigenous deaths is incomplete in all state and territory registration systems, the ABS and the Australian Institute of Health and Welfare (AIHW) have assessed four jurisdictions (Queensland since 1998, Western Australia, South Australia and the Northern Territory) as having adequate identification. These four jurisdictions represent approximately 60% of the Indigenous population of Australia.

Several years of data have been combined because of the small number of deaths from some conditions each year. The latest year for which mortality data are currently available is 2008.

The ABS defines perinatal mortality rate as the number of foetal deaths (babies of at least 400 grams birthweight or a gestational age of at least 20 weeks) and neonatal deaths (death of a live birth which occurs during the first 28 days of life), and is expressed as number of deaths per 1,000 live births during a given period. This definition of perinatal mortality is used in this report.

National Perinatal Data Collection

Data for this measure come from the AIHW National Perinatal Epidemiology and Statistics Unit National Perinatal Data Collection (NPDC).

Data on birthweight is collected as part of the Perinatal National Minimum Data Set. 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. Some of these data are provided in electronic format annually to the AIHW National Perinatal Epidemiology and Statistics Unit. Perinatal notification forms are completed in Australia for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more.

All jurisdictions collect the Indigenous status of the mother of the baby. However, this data element does not provide the Indigenous status of the baby. Therefore, Indigenous births will be underestimated as babies born to Indigenous fathers and non-Indigenous mothers are not included in the data collection. Over the period 2005–2007 there were approximately 11,100 ABS registered births to Indigenous fathers only, which represented 31% of registered Indigenous births (ABS 2008, 2007a, 2006a).

Earlier years data are not available for Tasmania, as the 'not stated' category for Indigenous status was unable to be distinguished from the 'non-Indigenous' until 2005.

Data on mothers for whom Indigenous status was 'not stated' have been excluded from analysis. In 2007, there were 282 births with a 'not stated' Indigenous status (0.1%) in the NPDC.

The World Health Organization (WHO) defines low birthweight as less than 2,500 grams.

Analyses

Mortality

Mortality by sex

- Over the period 2004–2008, there were 777 deaths (447 male, 330 female) of Indigenous perinatal infants and 8,282 deaths (4,472 male, 3,810 female) of other perinatal infants in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.
- The perinatal mortality rate for Indigenous infants was around 13 per 1,000 births compared with 9 per 1,000 births for Other infants.
- Perinatal mortality rates were higher for males than females for both Indigenous and Other infants. The perinatal mortality rate for Indigenous males was 15 per 1,000 births compared with 11 per 1,000 births for Indigenous females. The perinatal mortality rate for Other males was 9.4 per 1,000 births compared with 8.5 per 1,000 births for Other females (Table 1.20.1)

Table 1.20.1: Perinatal[a] mortality rates per 1,000 births[b], by Indigenous status and sex[c], NSW, Qld, WA, SA & NT combined, 2004–2008[d][e][f][g][h]

	Indigenous		Other[i]	
	Deaths	Number per 1,000 births[b]	Deaths	Number per 1,000 births[b]
Males[c]	447	14.7	4,472	9.4
Females	330	11.4	3,810	8.5
Persons	777	13.1	8,282	9.0

(a) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birthweight) plus all neonatal deaths.

(b) 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.

(c) Males deaths include those perinatal deaths of sex indeterminate.

(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 2008 are preliminary and subject to a revisions process.

(f) 2008 data have been subject to process improvements which have increased the quality of these data.

(g) Causes of death data for 2007 have been revised and are subject to further revisions.

(h) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(i) Includes Indigenous status not stated.

Source: 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 1.20.2 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory for the period 2004–2008.

- Over the period 2004–2008, the perinatal mortality rate for Indigenous babies in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined was 13 per 1,000 live births compared with 9 for non-Indigenous babies.
- In 2004–08 Indigenous babies in the Northern Territory died in the perinatal period at nearly three times the rate of non-Indigenous babies. In Western Australia and Queensland, Indigenous babies died in the perinatal period at 1.6 and 1.4 times respectively the rate of non-Indigenous babies. In South Australia and New South Wales there was no statistically significant difference between Indigenous and non-Indigenous perinatal death rates.
- The majority of perinatal deaths were foetal deaths. In 2004–2008, the foetal death rate was 8 per 1,000 births among Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined compared to 6 among non-Indigenous Australians. The neonatal death rate among Indigenous babies for the same period was 6 per 1,000 live births compared with 3 among non-Indigenous babies.

Table 1.20.2: Foetal, neonatal and perinatal mortality[(a)(b)(c)(d)] rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008[(e)(f)(g)(h)(i)]

	Number	Number per 1,000[(d)]	LCL 95%[(j)]	UCL 95%[(k)]	Rate ratio[(l)]
			Foetal deaths[(a)]		
NSW					
Indigenous	89	4.9	3.9	7.3	0.9
Non-Indigenous	2,315	5.4	5.2	9.5	. .
Qld					
Indigenous	160	8.2	6.9	11.7	1.2*
Non-Indigenous	1,768	6.8	6.5	11.4	. .
WA					
Indigenous	79	7.8	6.1	10.3	1.4*
Non-Indigenous	700	5.6	5.2	9.5	. .
SA					
Indigenous	23	5.9	3.5	6.3	1.1
Non-Indigenous	459	5.6	5.1	9.3	. .
NT					
Indigenous	97	12.4	9.9	15.5	2.3*
Non-Indigenous	60	5.4	4.0	7.4	. .
NSW, Qld, WA, SA & NT[(m)]					
Indigenous	448	7.5	6.8	11.7	1.3*
Non-Indigenous	5,302	5.8	5.6	10.2	. .
			Neonatal deaths[(b)]		
NSW					
Indigenous	84	4.7	3.7	7.0	1.4*
Non-Indigenous	1,386	3.3	3.1	6.5	. .
Qld					
Indigenous	116	6.0	4.9	8.8	1.8*
Non-Indigenous	857	3.3	3.1	6.4	. .
WA					
Indigenous	49	4.9	3.5	6.7	2.2*
Non-Indigenous	267	2.2	1.9	4.5	. .
SA					
Indigenous	15	3.9	1.9	3.8	1.7*
Non-Indigenous	202	2.3	2.0	4.5	. .
NT					
Indigenous	65	8.4	6.4	10.7	3.4*
Non-Indigenous	28	2.5	1.6	3.5	. .

(continued)

Table 1.20.2 (continued): Foetal, neonatal and perinatal mortality[(a)(b)(c)(d)] rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008[(e)(f)(g)(h)(i)]

	Number	Number per 1,000[(d)]	LCL 95%[(j)]	UCL 95%[(k)]	Rate ratio[(l)]
NSW, Qld, WA, SA & NT[(m)]					
Indigenous	329	6.0	5.6	10.1	2.1*
Non-Indigenous	2,738	2.8	3.0	6.5	. .
			Perinatal deaths[(c)]		
NSW					
Indigenous	173	9.6	8.2	13.3	1.1
Non-Indigenous	3,701	8.7	8.4	14.0	. .
Qld					
Indigenous	276	14.1	12.4	18.9	1.4*
Non-Indigenous	2,625	10.2	9.8	15.8	. .
WA					
Indigenous	128	12.7	10.5	16.3	1.6*
Non-Indigenous	967	7.8	7.3	12.4	. .
SA					
Indigenous	38	9.7	6.6	10.8	1.3
Non-Indigenous	661	7.5	6.9	11.9	. .
NT					
Indigenous	162	20.7	17.5	25.1	2.6*
Non-Indigenous	88	7.9	6.2	10.6	. .
NSW, Qld, WA, SA & NT[(m)]					
Indigenous	777	13.1	12.2	18.8	1.5*
Non-Indigenous	8,042	8.8	8.6	14.3	. .

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

(a) Foetal deaths of at least 20 weeks gestation or with a birth weight of at least 400 grams.

(b) Neonatal death is death of a live-born baby within 28 days of birth.

(c) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) plus all neonatal deaths.

(d) 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.

(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) 2008 data have been subject to process improvements which have increased the quality of these data.

(g) Causes of death data for 2007 have been revised and are subject to further revisions.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process.

(i) Data are presented in 5-year groupings due to variability of the small numbers involved.

(j) LCL = lower confidence limit.

(k) UCL = upper confidence limit.

(l) Rate ratio Indigenous: Non-Indigenous.

(m) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

Source: ABS Deaths Registration Database.

Mortality by state/territory time series

Perinatal mortality rates per 1,000 births among Indigenous and other babies are presented in Table 1.20.3 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory for the years 1999–2003 and 2004–2008.

- In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 832 perinatal deaths of Indigenous babies in 1999–2003 and 777 perinatal deaths of Indigenous babies in 2004–2008.
- Between 1999–2003 and 2004–2008 there was a drop in the Indigenous to other Australian rate ratio of perinatal deaths in New South Wales and South Australia.

Table 1.20.3: Foetal, neonatal and perinatal mortality rates[(a)(b)(c)(d)] per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 1999–2003 to 2004–2008[(e)(f)(g)(h)(i)]

	1999–2003(e)(i)					2004–2008(e)(f)(g)(h)(i)				
	Number	Number per 1,000(d)	LCL 95%(j)	UCL 95%(k)	Rate ratio(l)	Number	Number per 1,000(d)	LCL 95%(j)	UCL 95%(k)	Rate ratio(l)
					Foetal deaths(a)					
NSW										
Indigenous	111	7.0	5.7	8.3	1.3*	89	4.9	3.9	5.9	0.9
Other(m)	2,241	5.4	5.2	5.6	. .	2,362	5.5	5.3	5.7	. .
Qld										
Indigenous	151	9.2	7.7	10.7	1.4*	160	8.2	6.9	9.5	1.2*
Other(m)	1,479	6.6	6.3	6.9	. .	1,777	6.8	6.5	7.1	. .
WA										
Indigenous	84	10.3	8.1	12.5	1.4*	79	7.8	6.1	9.5	1.2
Other(m)	827	7.2	6.7	7.7	. .	835	6.4	6.0	6.8	. .
SA										
Indigenous	36	11.3	7.6	15.0	1.6*	23	5.9	3.5	8.3	1.1
Other(m)	596	7.0	6.4	7.6	. .	465	5.2	4.7	5.7	. .
NT										
Indigenous	95	12.0	9.6	14.4	1.6*	97	12.4	9.9	14.9	2.3*
Other(m)	80	7.4	5.8	9.0	. .	60	5.4	4.0	6.8	. .
Qld, WA, SA & NT(n)										
Indigenous	366	10.3	9.2	11.4	1.5*	359	8.7	7.8	9.6	1.4*
Other(m)	2,982	6.9	6.7	7.1	. .	3,137	6.4	6.2	6.6	. .

(continued)

Table 1.20.3 (continued): Foetal, neonatal and perinatal mortality rates[a][b][c][d] per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 1999–2003 to 2004–2008[e][f][g][h][i]

	1999–2003[e][i]					2004–2008[e][f][g][h][i]				
	Number	Number per 1,000[d]	LCL 95%[j]	UCL 95%[k]	Rate ratio[l]	Number	Number per 1,000[d]	LCL 95%[j]	UCL 95%[k]	Rate ratio[l]
Foetal deaths[a] (continued)										
NSW, Qld, WA, SA & NT[o]										
Indigenous	477	9.3	8.5	10.1	1.5*	448	7.5	6.8	8.2	1.3*
Other[m]	5,223	6.1	5.9	6.3	. .	5,499	6.0	5.8	6.2	. .
Neonatal deaths[b]										
NSW										
Indigenous	88	5.6	4.4	6.8	1.6*	84	4.7	3.7	5.7	1.4*
Other[m]	1,441	3.5	3.3	3.7	. .	1,401	3.3	3.1	3.5	. .
Qld										
Indigenous	106	6.5	5.3	7.7	1.9*	116	6.0	4.9	7.1	1.8*
Other[m]	775	3.5	3.3	3.7	. .	874	3.4	3.2	3.6	. .
WA										
Indigenous	59	7.3	5.4	9.2	3.0*	49	4.9	3.5	6.3	2.3*
Other[m]	272	2.4	2.1	2.7	. .	275	2.1	1.9	2.3	. .
SA										
Indigenous	17	5.4	2.8	8.0	1.9*	15	3.9	1.9	5.9	1.7*
Other[m]	241	2.8	2.4	3.2	. .	205	2.3	2.0	2.6	. .
NT										
Indigenous	85	10.9	8.6	13.2	2.6*	65	8.4	6.4	10.4	3.4*
Other[m]	45	4.2	3.0	5.4	. .	28	2.5	1.6	3.4	. .

(continued)

Table 1.20.3 (continued): Foetal, neonatal and perinatal mortality[(a)(b)(c)(d)] rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 1999–2003 to 2004–2008[(e)(f)(g)(h)(i)]

	1999–2003[(e)(i)]					2004–2008[(e)(f)(g)(h)(i)]				
	Number	Number per 1,000	LCL 95%[(j)]	UCL 95%[(k)]	Rate ratio[(l)]	Number	Number per 1,000[(d)]	LCL 95%[(j)]	UCL 95%[(k)]	Rate ratio[(l)]
Neonatal deaths[(b)] (continued)										
Qld, WA, SA & NT[(n)]										
Indigenous	267	7.6	6.7	8.5	2.5*	245	6.0	5.2	6.8	2.1*
Other[(m)]	1,333	3.1	2.9	3.3	. .	1,382	2.8	2.7	2.9	. .
NSW, Qld, WA, SA & NT[(o)]										
Indigenous	355	7.0	6.3	7.7	2.1*	329	5.6	5.0	6.2	1.9*
Other[(m)]	2,774	3.3	3.2	3.4	. .	2,783	3.0	2.9	3.1	. .
Perinatal deaths[(c)]										
NSW										
Indigenous	199	12.5	10.8	14.2	1.4*	173	9.6	8.2	11.0	1.1
Other[(m)]	3,682	8.8	8.5	9.1	. .	3,763	8.8	8.5	9.1	. .
Qld										
Indigenous	257	15.7	13.8	17.6	1.6*	276	14.1	12.4	15.8	1.4*
Other[(m)]	2,254	10.1	9.7	10.5	. .	2,651	10.2	9.8	10.6	. .
WA										
Indigenous	143	17.6	14.7	20.5	1.8*	128	12.7	10.5	14.9	1.5*
Other[(m)]	1,099	9.6	9.0	10.2	. .	1,110	8.5	8.0	9.0	. .

(continued)

Table 1.20.3 (continued): Foetal, neonatal and perinatal mortality[(a)(b)(c)(d)] rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 1999–2003 to 2004–2008[(e)(f)(g)(h)(i)]

	1999–2003[(e)(i)]					2004–2008[(e)(f)(g)(h)(i)]				
	Number	Number per 1,000[(d)]	LCL 95%[(j)]	UCL 95%[(k)]	Rate ratio[(l)]	Number	Number per 1,000[(d)]	LCL 95%[(j)]	UCL 95%[(k)]	Rate ratio[(l)]
					Perinatal deaths[(c)] (continued)					
SA										
Indigenous	53	16.7	12.2	21.2	1.7*	38	9.7	6.6	12.8	1.3
Other[(m)]	837	9.8	9.1	10.5	. .	670	7.5	6.9	8.1	. .
NT										
Indigenous	180	22.8	19.5	26.1	2.0*	162	20.7	17.5	23.9	2.6*
Other[(m)]	125	11.5	9.5	13.5	. .	88	7.9	6.2	9.6	. .
Qld, WA, SA & NT[(n)]										
Indigenous	633	17.8	16.4	19.2	1.8*	604	14.6	13.4	15.8	1.6*
Other[(m)]	4,315	9.9	9.6	10.2	. .	4,519	9.2	8.9	9.5	. .
NSW, Qld, WA, SA & NT[(o)]										
Indigenous	832	16.2	15.1	17.3	1.7*	777	13.1	12.2	14.0	1.5*
Other[(m)]	7,997	9.4	9.2	9.6	. .	8,282	9.0	8.8	9.2	. .

(continued)

Table 1.20.3 (continued): Foetal, neonatal and perinatal mortality(a)(b)(c)(d) rates per 1,000 births, by Indigenous status, NSW, Qld, WA, SA and NT, 1999–2003 to 2004–2008(e)(f)(g)(h)(i)

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

(a) Foetal deaths of at least 20 weeks gestation or with a birth weight of at least 400 grams

(b) Neonatal death is death of a live-born baby within 28 days of birth.

(c) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) plus all neonatal deaths.

(d) 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.

(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) 2008 data have been subject to process improvements which have increased the quality of these data.

(g) Causes of death data for 2007 have been revised and are subject to further revisions.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process.

(i) Data are presented in 5-year groupings due to variability of the small numbers involved.

(j) LCL = lower confidence limit.

(k) UCL = upper confidence limit.

(l) Rate ratio Indigenous: Other.

(m) Other includes non-Indigenous and Indigenous status not stated.

(n) Data are reported for Queensland, Western Australia, South Australia and the Northern Territory. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(o) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

Source: ABS Deaths Registration Database.

Mortality by cause of death

Table 1.20.4 presents foetal, neonatal and total perinatal deaths of Indigenous and Other 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 2004–2008, 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 ‘other conditions originating in the perinatal period’ (such as birth trauma) which were reported as an underlying or associated cause of death in 37% of deaths of Indigenous babies. For 33% of Indigenous babies, ‘disorders relating to length of gestation and foetal growth’ were reported as the main underlying cause of death.
- Of conditions which originate in the mother, the most common cause of perinatal death among Indigenous babies was the ‘foetus or newborn affected by complications of the placenta, cord and membranes’ (18%). For approximately 13% of Indigenous babies, the ‘foetus and newborn affected by maternal complications of pregnancy’ was reported as the main underlying cause of death.
- For foetal deaths, the most common causes of death among Indigenous babies were ‘other conditions originating in the perinatal period’ (53%) and ‘disorders related to length of gestation and foetal growth’ (30%). For neonatal deaths, the most common cause of death among Indigenous babies were ‘disorders related to length of gestation and foetal growth’ (37%). This was followed by ‘congenital malformations, deformations and chromosomal abnormalities’ (18%) and, for conditions which originate in the mother, ‘foetus and newborn affected by maternal complications of pregnancy’ (18%).

Table 1.20.4: Main underlying cause of death for perinatal babies, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Foetal deaths(i)				Neonatal deaths(j)				Perinatal deaths(k)			
	Total number		Per cent		Total number		Per cent		Total number		Per cent	
Cause of death	**Indig.**	**Other(l)**	**Indig.**	**Other(l)**	**Indig.**	**Other(l)**	**Indig.**	**Other(l)**	**Indig.**	**Other(l)**	**Indig.**	**Other(l)**
Main condition in the foetus/infant												
Disorders related to length of gestation and foetal growth (P05–P08)	135	1,548	30.1	28.2	123	875	37.4	31.4	258	2,423	33.2	29.3
Respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)	29	336	6.5	6.1	45	396	13.7	14.2	74	732	9.5	8.8
Infections specific to the perinatal period (P35–P39)	n.p.	52	n.p.	0.9	19	105	5.8	3.8	n.p.	157	n.p.	1.9
Other conditions originating in the perinatal period (P10–P15 and P50–P96)	235	2,721	52.5	49.5	54	490	16.4	17.6	289	3,211	37.2	38.8
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	42	817	9.4	14.9	58	723	17.6	26.0	100	1,540	12.9	18.6
Other conditions (m)	n.p.	25	n.p.	0.5	30	194	9.1	7.0	n.p.	219	n.p.	2.6
Total deaths	**448**	**5,499**	**100.0**	**100.0**	**329**	**2,783**	**100.0**	**100.0**	**777**	**8,282**	**100.0**	**100.0**
Main condition in the mother												
Foetus and newborn affected by complications of placenta, cord and membranes (P02)	93	1,038	20.8	18.9	48	366	14.6	13.2	141	1,404	18.1	17.0
Foetus and newborn affected by maternal complications of pregnancy (P01)	38	565	8.5	10.3	59	523	17.9	18.8	97	1,088	12.5	13.1
Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy (P00)	52	474	11.6	8.6	19	123	5.8	4.4	71	597	9.1	7.2
Foetus and newborn affected by other complications of labour and delivery and noxious influences transmitted via placenta or breast milk (P03–P04)	14	224	3.1	4.1	11	114	3.3	4.1	25	338	3.2	4.1
Total deaths	**448**	**5,499**	**100.0**	**100.0**	**329**	**2,783**	**100.0**	**100.0**	**777**	**8,282**	**100.0**	**100.0**

(continued)

Table 1.20.4 (continued): Main underlying cause of death for perinatal babies, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

(a) Data based on state of usual residence of mother.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) 2008 data have been subject to process improvements which have increased the quality of these data.

(e) Causes of death data for 2008 are preliminary and subject to a revisions process.

(f) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(g) Causes of death data for 2007 have been revised and are subject to further revisions.

(h) Data are presented in 5-year groupings due to variability of the small numbers involved.

(i) Foetal deaths of at least 20 weeks gestation or with a birth weight of at least 400 grams.

(j) Neonatal death is death of a live-born baby within 28 days of birth.

(k) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) plus all neonatal deaths.

(l) Other includes non-Indigenous and Indigenous status not stated.

(m) Includes all other causes of death not already included in the table.

Source: ABS Deaths Registration Database.

Time series analysis

Perinatal mortality rates

As there is a consistent time series of population estimates from 1999, data for the period 1999–2008 have been used for the analysis of Indigenous mortality in this indicator.

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 Other population.

Perinatal mortality rates, rate ratios and rate differences between Indigenous and other babies over the period 1999–2008 are presented in Table 1.20.5 and Figure 1.20.1.

- Over the period 1999–2008, there were significant declines in perinatal mortality rates of Indigenous babies 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 deaths per 1,000 births, which is equivalent to a 34% 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 0.1 deaths per 1,000 births, which is equivalent to an 11% 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 between 1999 and 2008 (25% decline in the rate ratio and 63% 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 five jurisdictions combined for that year (Figure 1.20.1). It is not known why there were so few Indigenous perinatal deaths in Western Australia in these years.

Table 1.20.5: Perinatal mortality rates[(a)(b)], rate ratios and rate differences, NSW, Qld, WA, SA and NT, 1999–2008[(c)(d)(e)(f)]

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(g)]	Per cent change over period[(h)]
Indigenous rate (number per 1,000 births)												
Number	164	196	179	139	154	125	160	172	175	145	–1.93	–10.6
Rate	16.9	19.3	17.1	13.3	14.5	11.5	14.7	15.2	13.6	10.7	–0.63*	–33.6*
Other[(i)] rate (number per 1,000 births)												
Number	1,621	1,627	1,676	1,568	1,505	1,599	1,721	1,624	1,643	1,695	6.49	3.6
Rate	9.5	9.5	10.0	9.2	8.8	9.3	9.8	9.0	8.6	8.4	–0.11*	–10.9*
Rate ratio[(j)]	1.8	2.0	1.7	1.4	1.6	1.2	1.5	1.7	1.6	1.3	–0.05*	–24.7*
Rate difference[(k)]	7.4	9.8	7.1	4.1	5.7	2.2	4.9	6.2	5.0	2.3	–0.52*	–62.7*

* Represents statistically significant increases or decrease over the period 1999–2008 at the $p < 0.05$ level.

(a) Perinatal deaths are all foetal deaths (at least 20 weeks gestation or at least 400 grams birth weight) plus all neonatal deaths.

(b) Perinatal death rates are calculated per 1,000 all births for the calendar year.

(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 2007 have been revised and are subject to further revisions.

(e) 2008 data have been subject to process improvements which have increased the quality of these data.

(f) Causes of death data for 2008 are preliminary and subject to a revisions process.

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

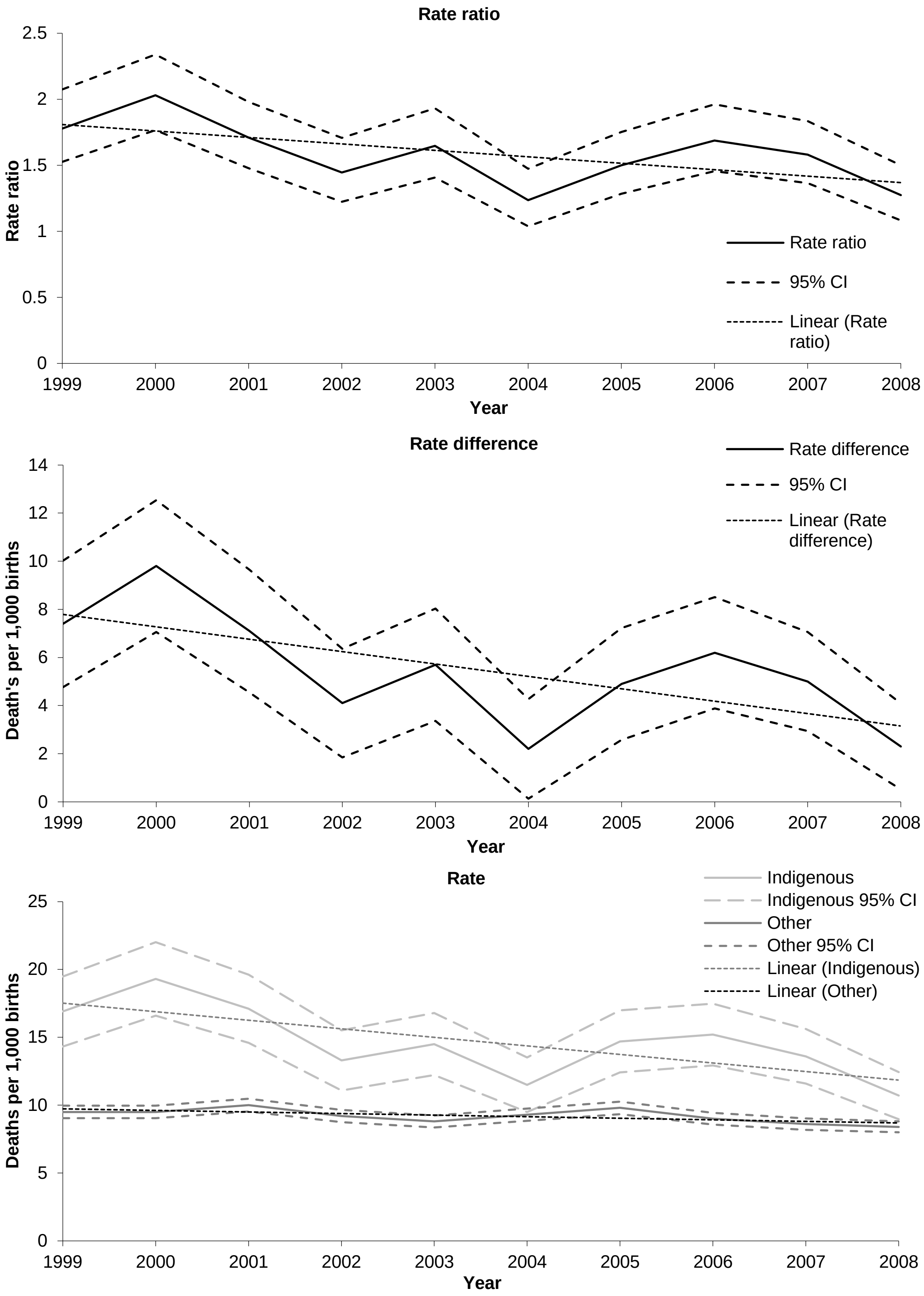
(h) Per cent change between 1999 and 2008 based on the average annual change over the period.

(i) Includes Indigenous status not stated.

(j) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(k) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

Source: ABS Deaths Registration Database.



Source: ABS Deaths Registration Database.

Figure 1.20.1: Perinatal mortality rates, rate ratios and rate differences between Indigenous and Other Australians, NSW, Qld, WA, SA and NT, 1999–2008

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 2001–2008.

- Over this period there was no significant change in the foetal mortality rate for Indigenous babies. Over the same period there was a significant decline in the foetal mortality rate for other babies (10%). There were no significant changes in the mortality rate ratio and mortality rate difference between Indigenous and other foetuses between 2001 and 2008 (Table 1.20.6; Figure 1.20.2a; 1.20.2b).
- Over the period 2001 to 2008 there was a significant decline in the neonatal mortality rate for other babies (14%). There were no significant changes in the foetal mortality rate for Indigenous babies, the mortality rate ratio or mortality rate difference between Indigenous and other foetuses between 2001 and 2008.

Table 1.20.6: Foetal and neonatal deaths[a][b] by Indigenous Status[c], NSW, Qld, WA, SA and NT combined, 2001–2008[d][e][f][g]

	2001	2002	2003	2004	2005	2006	2007[e]	2008[f]	Annual change	Per cent change over period
Foetal deaths[a]										
Indigenous	113	80	91	69	89	103	104	83	–0.4	–2.5
Other[c]	1,070	1,029	1,020	1,085	1,135	1,061	1,094	1,124	10.4	6.8
Neonatal deaths[b]										
Indigenous	66	59	63	56	71	69	71	62	0.8	8.2
Other[c]	606	539	485	514	586	563	549	571	1.3	1.5
Foetal mortality number per 1,000 births (live & stillborn)[a][h]										
Indigenous	10.8	7.6	8.5	6.3	8.2	9.1	8.1	6.1	–0.3	–20.6
Other[c]	6.4	6.1	6.0	6.3	6.4	5.9	5.7	5.6	–0.1*	–10.2*
Rate ratio	1.7	1.2	1.4	1.0	1.3	1.5	1.4	1.1	0.0	–13.1
Rate difference	4.4	1.5	2.5	0.0	1.8	3.2	2.4	0.5	–0.2	–35.8
Neonatal mortality number per 1,000 live births[b][h]										
Indigenous	6.4	5.7	6.0	5.2	6.6	6.2	5.6	4.6	–0.1	–14.5
Other[c]	3.6	3.2	2.9	3.0	3.3	3.2	2.9	2.8	–0.1*	–13.7*
Rate ratio	1.8	1.8	2.1	1.7	2.0	1.9	1.9	1.6	0.0	–1.5
Rate difference	2.8	2.5	3.1	2.2	3.3	3.0	2.7	1.8	–0.1	–15.5

* Indicates statistically significant changes at the $p < 0.05$ level.

(a) Foetal deaths of at least 20 weeks gestation or with a birth weight of at least 400 grams.

(b) Neonatal death is death of a live-born baby within 28 days of birth.

(c) Includes Indigenous status not stated.

(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 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to process improvements which have increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process.

(h) 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.

Source: ABS Deaths Registration Database.

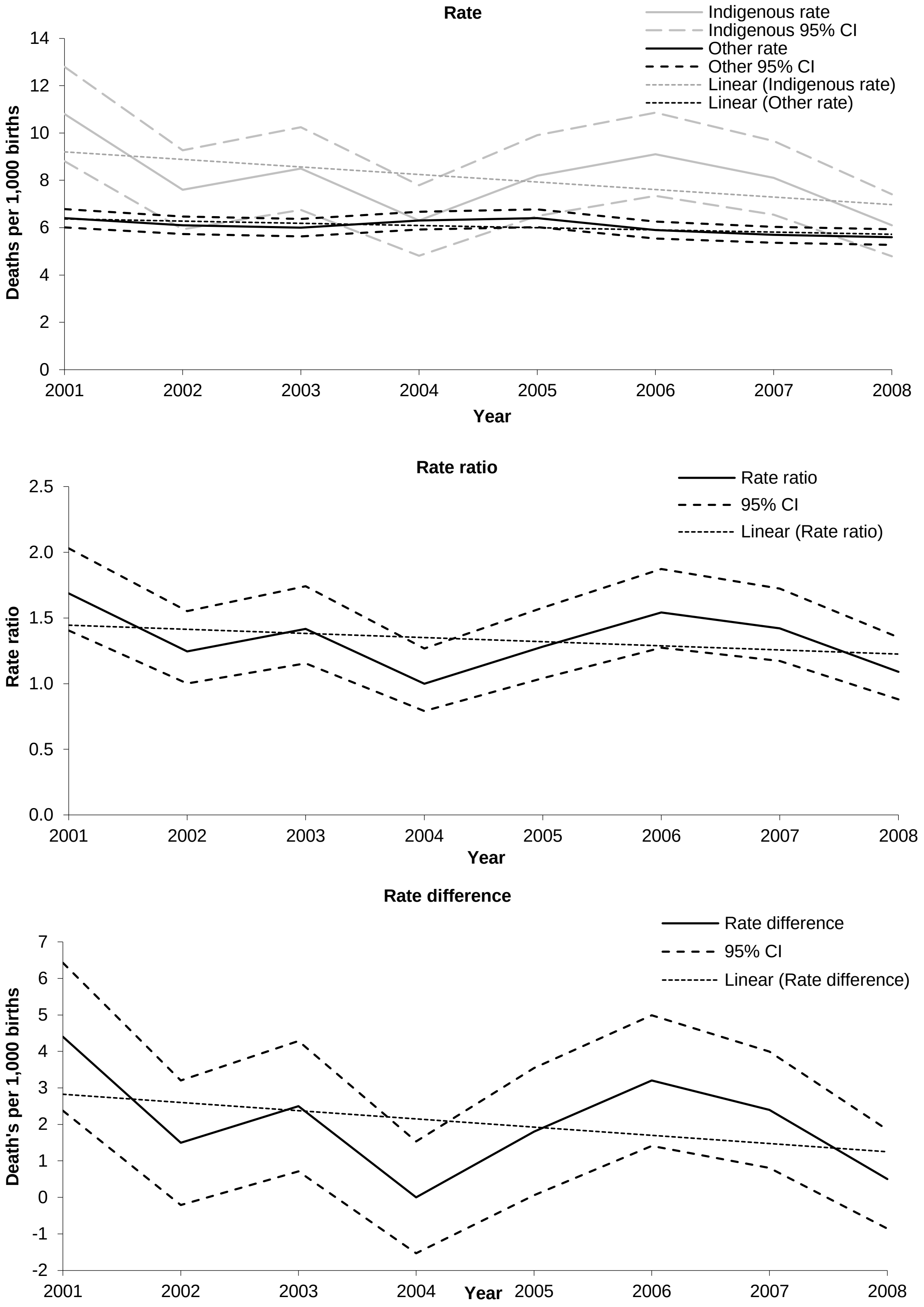


Figure 1.20.2a: Foetal death rates, rate ratios and rate differences, by Indigenous Status, NSW, Qld, WA, SA and NT combined, 2001–2008

Source: ABS Deaths Registration Database.

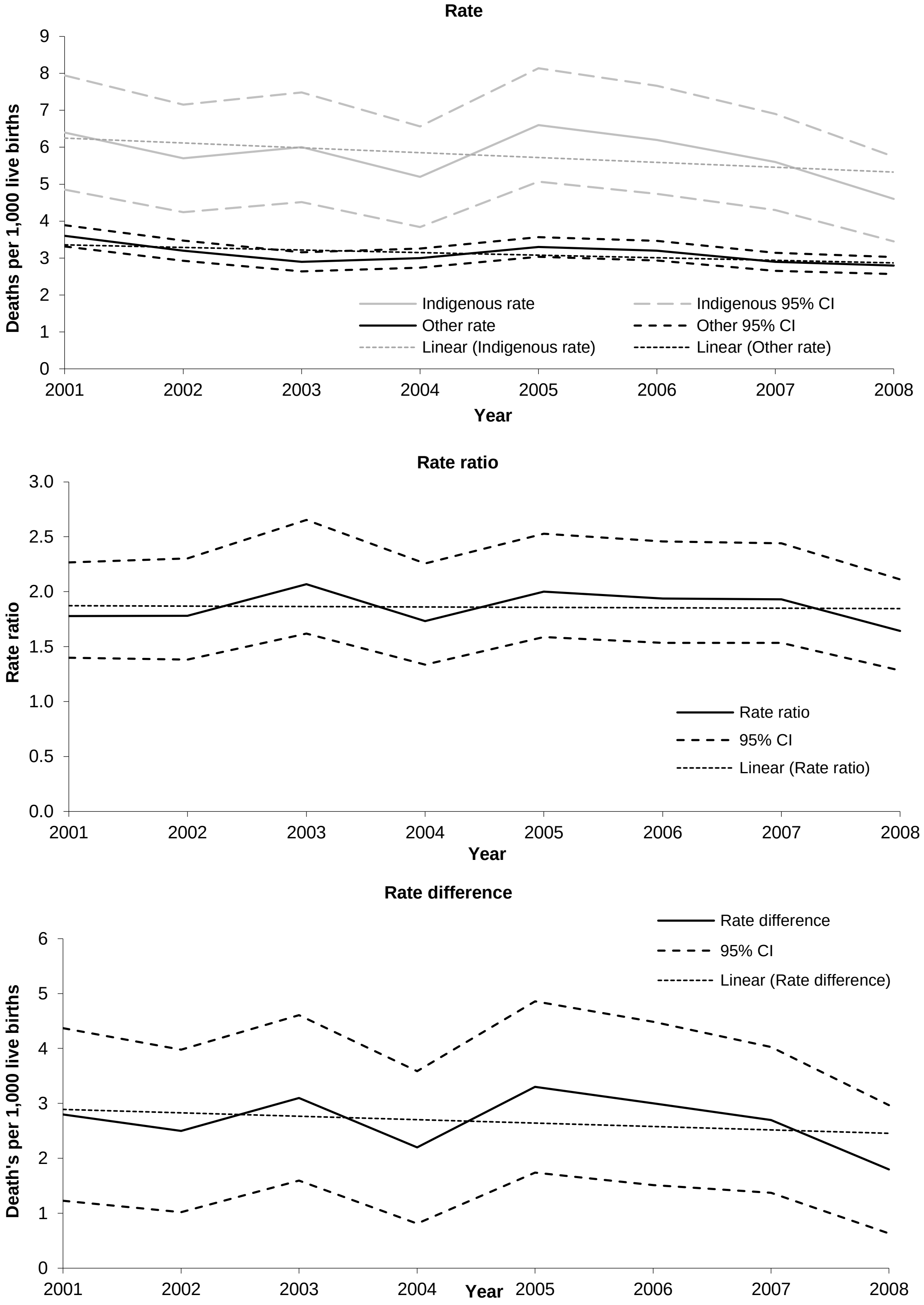


Figure 1.20.2b: Neonatal death rates, rate ratios and rate differences, by Indigenous Status, NSW, Qld, WA, SA and NT combined, 2001–2008

Source: ABS Deaths Registration Database.

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 and the state and territory perinatal data collections.

Low birthweight

- Over the period 2005–2007, babies born to Indigenous mothers were around twice as likely to have low birthweight as babies born to non-Indigenous mothers (13% compared with 6%) (see Measure 1.01 for more information on low birthweight infants).

Smoking during pregnancy

- Data on smoking during pregnancy show that in 2007 Indigenous mothers were three times more likely to smoke during pregnancy than non-Indigenous mothers (51% compared with 15%). Smoking during pregnancy rates in Indigenous mothers were highest in South Australia (62%), followed by Western Australia (54%) (see indicator 2.19 for more information on smoking during pregnancy).

Underutilisation of antenatal care services

- In 2007, in the two jurisdictions where data are collected on the duration of pregnancy at first antenatal visit (New South Wales and the Northern Territory), Indigenous mothers were two to five times as likely as non-Indigenous mothers to be in their third trimester of pregnancy at their first antenatal session and less likely to be in their first trimester.
- In the three jurisdictions where data were collected in 2007 on the number of antenatal sessions attended during pregnancy (Queensland, South Australia and the Northern Territory), Indigenous mothers were less likely to have attended five or more antenatal sessions during pregnancy than non-Indigenous mothers (see Measure 3.01 for more information on antenatal care).

Data quality issues

ABS Deaths Registration Database

Deaths

The mortality rate for Indigenous Australians can be influenced by late registration of deaths, identification of Indigenous 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.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms. However, New South Wales, Victoria, South Australia, the Northern Territory and the Australian Capital Territory all have slightly different wording from the national standard for the instruction on those with both Aboriginal and Torres Strait Islander origin (ABS & AIHW 2005). Although the wording is only slightly different, it would be ideal to have all jurisdictions asking the question in exactly the same way. The National Perinatal Data Collection has more significant problems with compliance with the standard wording.

Under-identification

Almost all deaths in Australia are registered. However, the Indigenous status of the deceased is not always recorded or 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 1997). As a result, the observed differences between Indigenous and non-Indigenous mortality are underestimates of the true differences.

Although the identification of Indigenous deaths is incomplete in all state and territory registration systems, four jurisdictions (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 three jurisdictions (Western Australia, South Australia and the Northern Territory) with over 10 years of adequate identification of Indigenous deaths in their recording systems. 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%, the Northern Territory 90%, Australia 55% (Tasmania and the Australian Capital Territory were not calculated because of small numbers) (ABS 2007b).

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 2006b).

Indigenous mortality rate for NSW is lower than the non-Indigenous mortality rate due to quality issue with Indigenous data for this state (ABS 2010).

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. The estimated identification of births as Indigenous in 2002–06 was 95%. Identification for the states and territories ranged from 83% for the Australian Capital Territory to 107% for the Northern Territory (ABS 2007a). Given that the identification is higher in births than deaths, it is likely that Indigenous perinatal mortality rates are underestimated.

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.

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.

The state/territory of birth is provided for all births. Tabulated data in this report are based on births in each state and territory in 2007 meeting the criteria for inclusion in the NPDC. Each state and territory has its own form and/or electronic system for collecting perinatal data. Unless otherwise stated, the data in this report relate to the state or territory of occurrence of births in 2007 rather than to the state or territory of usual residence of the mother. The Australian Capital Territory data contain a relatively high proportion of New South Wales residents who gave birth in the Australian Capital Territory. There are a small number of Aboriginal and Torres Strait Islander mothers who give birth in the Australian Capital Territory, and the proportion fluctuates from year to year, making this jurisdiction less comparable to other jurisdictions. In 2007, 24.1% of Aboriginal or Torres Strait Islander women who gave birth in the Australian Capital Territory were not Australian Capital Territory residents. When interpreting the data it is important to note that these births to non-residents may include a disproportionate number of high risk and multi-foetal pregnancies associated with poorer perinatal outcomes. Therefore, percentages or rates such as those for pre-term birth and perinatal deaths may be inflated for births that occur in the Australian Capital Territory. Because of this and the small numbers involved, care should be taken in interpreting data from the Australian Capital Territory (Laws et al. 2007).

The Perinatal NMDS does not include neonatal or perinatal death data items of information on cause of death. However, this information is collected as part of the NPDC. The data are incomplete. In some jurisdictions, neonatal deaths for babies transferred to another hospital or re-admitted to hospital and those dying at home may not be included. Neonatal deaths for the Northern Territory are considered to be incomplete for 2007 as data do not include deaths occurring outside of the Northern Territory. Due to small number of deaths, interpretation can be limited as to whether differences in mortality rates are due to statistical fluctuations or differential ascertainment.

Indigenous status question

A standard data item for Indigenous status is specified in the Perinatal National Minimum Data Set. However, not all states and territories use this standard wording for the Indigenous status question on their forms. This affects the quality and comparability of the data collected (ABS & AIHW 2005).

Under-identification

All states and territories have a data item to record Indigenous status on their perinatal form, although there are some differences among the jurisdictions. This separately identifies mothers as those of Aboriginal and Torres Strait Islander origin, and non-Indigenous mothers. No information is collected about the father's or baby's Indigenous status.

Since 2005, all jurisdictions collect information on Indigenous status of the mothers in accordance with the NMDS. All jurisdictions are working towards improving the ascertainment of Indigenous status in their perinatal collection. In 2007, the National Perinatal and Epidemiology Statistics Unit, 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 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 the Indigenous status data. 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. The 'not stated' category for birthweight was found to be small nationally in the evaluation of the Perinatal National Minimum Data Set (Laws & Sullivan 2009). Therefore, the exclusion of 'not stated' for birthweight will not have a significant impact on these data.

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.

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 Sudden infant death syndrome

The number of Aboriginal and Torres Strait Islander infants aged less than 12 months who die from sudden infant death syndrome (SIDS), expressed as a rate (per 1,000 live births) for that period.

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 AIHW maintains the database. The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and the Australian Bureau of Statistics (ABS) codes this nationally. The medical practitioner certifying the death, or a coroner, supplies the required information on the cause of death. 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 funeral director does not always directly ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

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

Additional revised 2007 and preliminary 2008 mortality data for this indicator was supplied by the ABS from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010).

Data have been combined for the 5-year period 2003–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

National Aboriginal and Torres Strait Islander Social Survey

The 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 2013.

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

Mortality

- Sudden infant death syndrome (SIDS) represented approximately 7% of all deaths of Aboriginal and Torres Strait Islander infants across New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.
- For the period 2004–2008, there were 245 deaths from SIDS in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, 39 (16%) of which were deaths of Aboriginal and Torres Strait Islander infants (Table 1.21.1).
- In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous infants died from SIDS at almost three times the rate of non-Indigenous infants.

Table 1.21.1: SIDS mortality rates per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)(i)(j)

	Indigenous				Non-Indigenous				
	Deaths	**Rate**(k)(l)	**LCL 95%**(m)	**UCL 95%**(n)	**Deaths**	**Rate**(k)(l)	**LCL 95%**(m)	**UCL 95%**(n)	**Rate ratio**(o)
NSW	22	1.2	0.7	1.7	130	0.3	0.2	0.4	4.0*
Qld	10	0.5	0.2	0.8	61	0.2	0.1	0.3	2.2*
WA	n.p.	n.p.	n.p.	n.p.	9	0.1	0.0	0.2	5.5*
SA	0	0.0	. .	. .	n.p.	n.p.	n.p.	n.p.	. .
NT	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	1.4
NSW, Qld, WA, SA & NT	**39**	**0.7**	**0.5**	**0.9**	**206**	**0.2**	**0.2**	**0.2**	**2.9***

* 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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(c) Data exclude 10 registered infant deaths where Indigenous status was not stated over the period 2004–2008 in NSW, Queensland, Western Australia, South Australia and the Northern Territory combined.

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

(e) 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.

(f) 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.

(g) Causes of death data for 2007 have been revised and are subject to further revisions. See *Causes of death, Australia, 2008* (ABS 2010, cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(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 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(j) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(k) Rates have been directly age-standardised using the 2001 Australian standard population.

(l) No. per 1,000 live births.

(m) LCL = lower confidence limit.

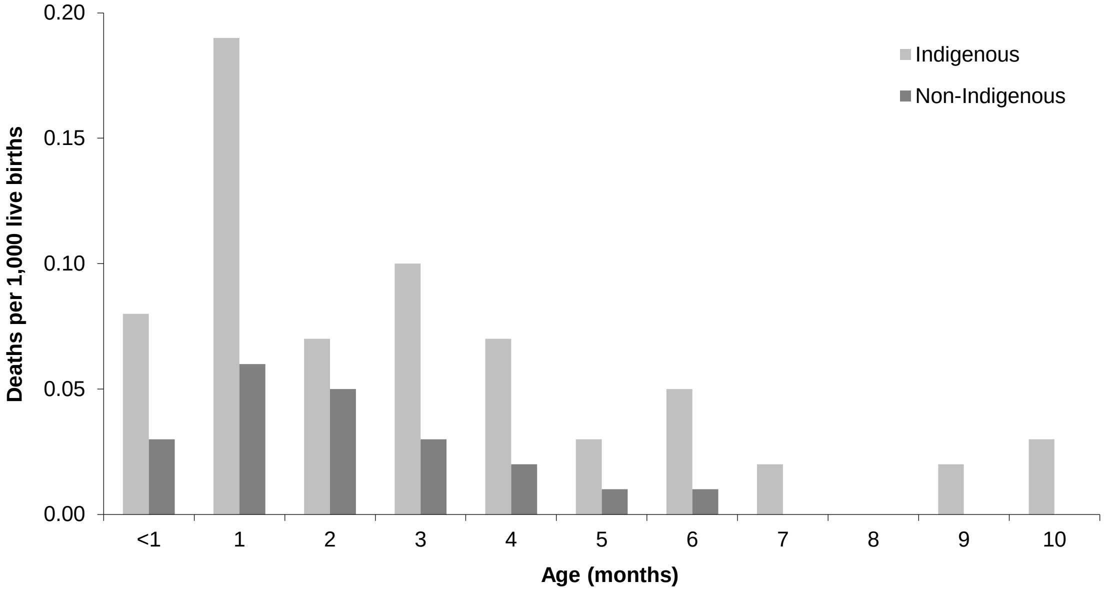
(n) UCL = upper confidence limit.

(o) Rate ratio Indigenous: non-Indigenous.

Source: AIHW and ABS analysis of ABS Mortality Database.

Mortality by age (months)

- For the period 2004–2008, the majority (51.5%) of all deaths from SIDS among Aboriginal and Torres Strait Islander infants in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined occurred in the first 2 months of life.
- The highest mortality rates for SIDS occurred at around the age of 1 month for Indigenous and non-Indigenous infants (0.19 and 0.06 per 1,000 live births respectively) (Figure 1.21.1; Table 1.21.2).
- Mortality rate ratios between Indigenous and non-Indigenous infants were highest among those aged 3 months, where Indigenous infants died from SIDS at over three times the rate of non-Indigenous infants.



Source: AIHW and ABS analysis of ABS Mortality Database.

Figure 1.21.1: SIDS mortality rates per 1,000 live births, by age in months and Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008

Table 1.21.2: SIDS mortality rates per 1,000 live births, by age in months and Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)(i)(j)(k)

Age in months	Indigenous	Non-Indigenous	Total
<1	0.08	0.03	0.03
1	0.19	0.06	0.07
2	0.07	0.05	0.05
3	0.10	0.03	0.04
4	0.07	0.02	0.02
5	0.03	0.01	0.01
6	0.05	0.01	0.01
7	0.02	0.00	0.01
8	0.00	0.00	0.00
9	0.02	0.00	0.00
10	0.03	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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(c) Data exclude 10 registered infant deaths where Indigenous status was not stated over the period 2004–2008 in NSW, Queensland, Western Australia, South Australia and the Northern Territory combined.

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

(e) 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.

(f) 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.

(g) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(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 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(j) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(k) Rates are crude rates per 1,000 live births

Source: AIHW and ABS 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 17 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 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 1997–2008. Data are presented in 3- to 4-year groupings because of low numbers of deaths from SIDS 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 people for whom Indigenous status was not stated).

SIDS mortality rates, rate ratios and rate differences between Indigenous and other Australian mortality from SIDS over the period 1991–1993 to 1994–1996 and 1997–1999, 2000–2002, 2003–2005 to 2006–2008 are presented in Table 1.21.3 and Figure 1.21.2.

- 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. 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 1.21.3).
- Over the period 1997–1999 to 2006–2008, 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 0.4 per 1,000 births for Indigenous infants (equivalent to a 111% decline over the period) and 0.01 per 1,000 births for other infants (equivalent to a 102% decline) (Table 1.21.3).
- Over the same period, there was a significant decline in the mortality rate ratio between Indigenous and other infants of around 0.3 per 1,000 live births. There was also a significant decline in the mortality rate difference of around 0.4 per 1,000 live births.

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.

In addition, 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 1.21.3: SIDS mortality rates, rate ratios and rate differences per 1,000 live births, by Indigenous status, WA, SA and NT, 1991–1993 to 1994–1996 and 1997–1999 to 2006–2008[(a)(b)(c)(d)(e)(f)]

	Deaths		No. per 1,000[(g)]			
	Indigenous	**Other[(h)]**	**Indigenous**	**Other[(h)]**	**Rate ratio[(i)]**	**Rate difference[(j)]**
1991–1996						
1991–1993	62	149	6.0	1.1	5.5	4.9
1994–1996	44	92	4.3	0.7	6.2	3.6
Difference in rates[(k)]	. .	. .	–1.8	–0.4*		
1997–2008						
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	3	10	0.2	0.1	3.2	0.1
Annual change[(l)]	. .	. .	–0.4*	–0.01*	–0.3*	–0.4*
Per cent change over period[(m)]	. .	. .	–111.3*	–101.6*	–71.4*	–112.9*

* Represents statistically significant differences at the $p < 0.05$ level over the period 1991–1993 to 1994–1996 and 1997–1999 to 2006–2008.

(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 Western Australia, South Australia and the Northern Territory only. These three jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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.

(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 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Rates are per 1,000 live births.

(h) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(i) Mortality rate for Indigenous Australians divided by mortality rate for other Australians.

(j) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(k) Mortality rate for 1994–1996 minus mortality rate for 1991–1993.

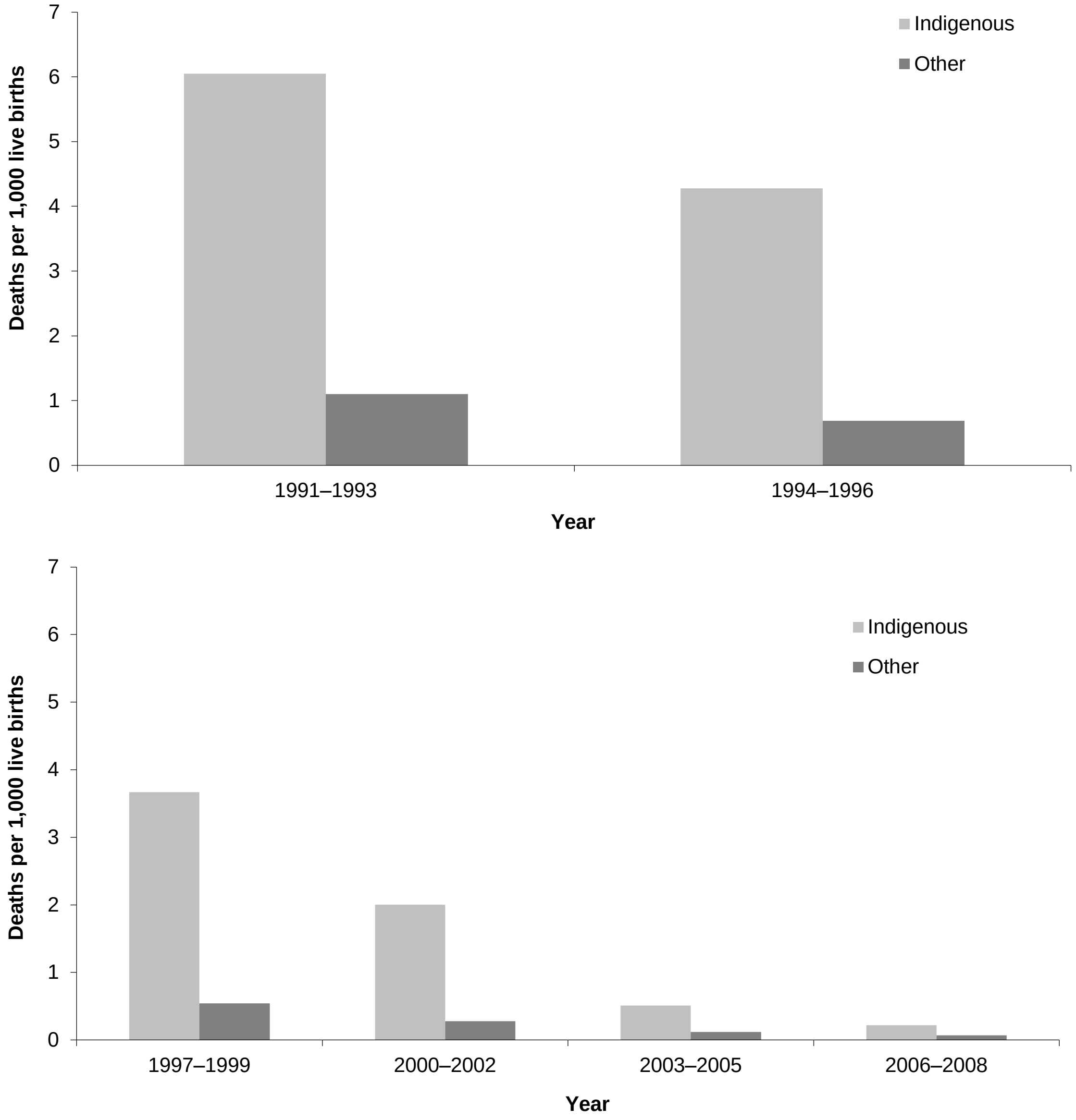
(l) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(m) Per cent change between 1997 and 2008 based on the average annual change over the period.

Notes

1. Data are presented in 3-year and 4-year groupings because of the small number of Indigenous deaths from SIDS each year.
2. The completeness of identification of Indigenous deaths can vary by age.
3. Deaths and rates presented in this table may differ from those presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.

Source: AIHW and ABS analysis of ABS Mortality Database.



Source: AIHW and ABS analysis of ABS Mortality Database.

Figure 1.21.2: SIDS mortality rates, per 1,000 live births, by Indigenous status, WA, SA and NT, 1991–1993 to 1994–1996 and 1997–1999 to 2006–2008

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2008 for Indigenous and non-Indigenous Australians in Table 1.21.4 and Figure 1.21.3.

- Over the period 2001–2002 to 2007–2008, 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 (an 81% decline). Over the same period there were no significant changes in mortality rates for SIDS for other infants (Table 1.21.4).
- Over the same period, there was a significant decline in the mortality rate ratio between Indigenous and non-Indigenous infants of around 0.6 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 1.21.4: SIDS mortality rates, rate ratios and rate differences per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA and NT, 2001–2008(a)(b)(c)(d)(e)(f)(g)

	2001–2002	2003–2004	2005–2006	2007–2008(h)	Annual change(i)	Per cent change over period(j)
Indigenous deaths from SIDS	40	22	19	18	–3.5*	–60.4*
Non-Indigenous deaths from SIDS	121	70	91	129	2.3	13.0
Indigenous rate per 1,000(k)	1.9	1.0	0.9	0.5	–0.2*	–80.7*
Non-Indigenous rate per 1,000(k)	0.4	0.2	0.3	0.2	0.0	–41.7
Rate ratio(l)	5.4	5.0	3.4	2.1	–0.6*	–74.5*
Rate difference(m)	1.6	0.8	0.6	0.3	–0.2*	–89.7*

* Represents statistically significant differences at the p<.05 level over the period 2001–2008.

(a) SIDS – Sudden Infant Death Syndrome, ICD-10 code: R95. SIDS data in this table are 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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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.

(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 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Data exclude infant deaths for which Indigenous status was not stated.

(h) Preliminary 2007 and 2008 ABS mortality data.

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

(j) Per cent change between 2001 and 2008 based on the average annual change over the period.

(k) Rates are per 1,000 live births.

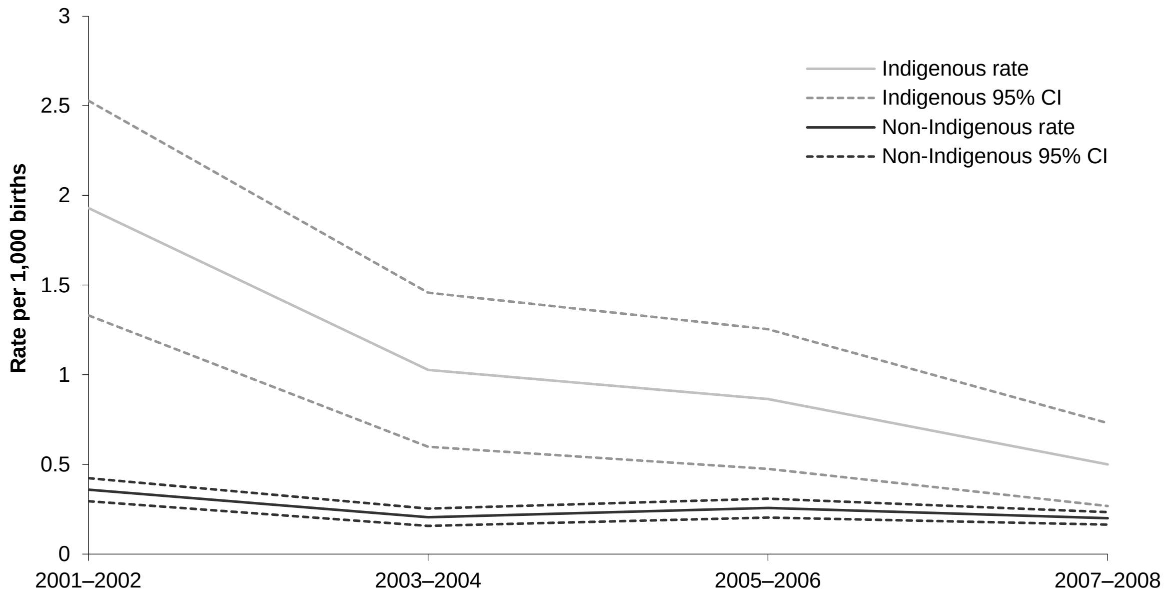
(l) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(m) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Notes

1. Data are presented in 2-year groupings because of the small number of Indigenous deaths from SIDS each year.
2. The completeness of identification of Indigenous deaths can vary by age.

Source: AIHW and ABS analysis of ABS Mortality Database.



Source: AIHW and ABS analysis of ABS Mortality Database.

Figure 1.21.3: SIDS mortality rates per 1,000 live births, by Indigenous status, NSW, Qld, WA, SA, NT, 2001–2002 to 2007–2008

International comparisons

International indigenous mortality 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 (mainly because of under-counting) and the lack of agreement over which population denominator values to use if they do exist (for example, whether to use single ethnic response groups or the 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 frequent changes in the census ethnicity question have led to difficulties in comparing mortality trends over time and have also produced difficulties in estimating population denominator counts between censuses.

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 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.

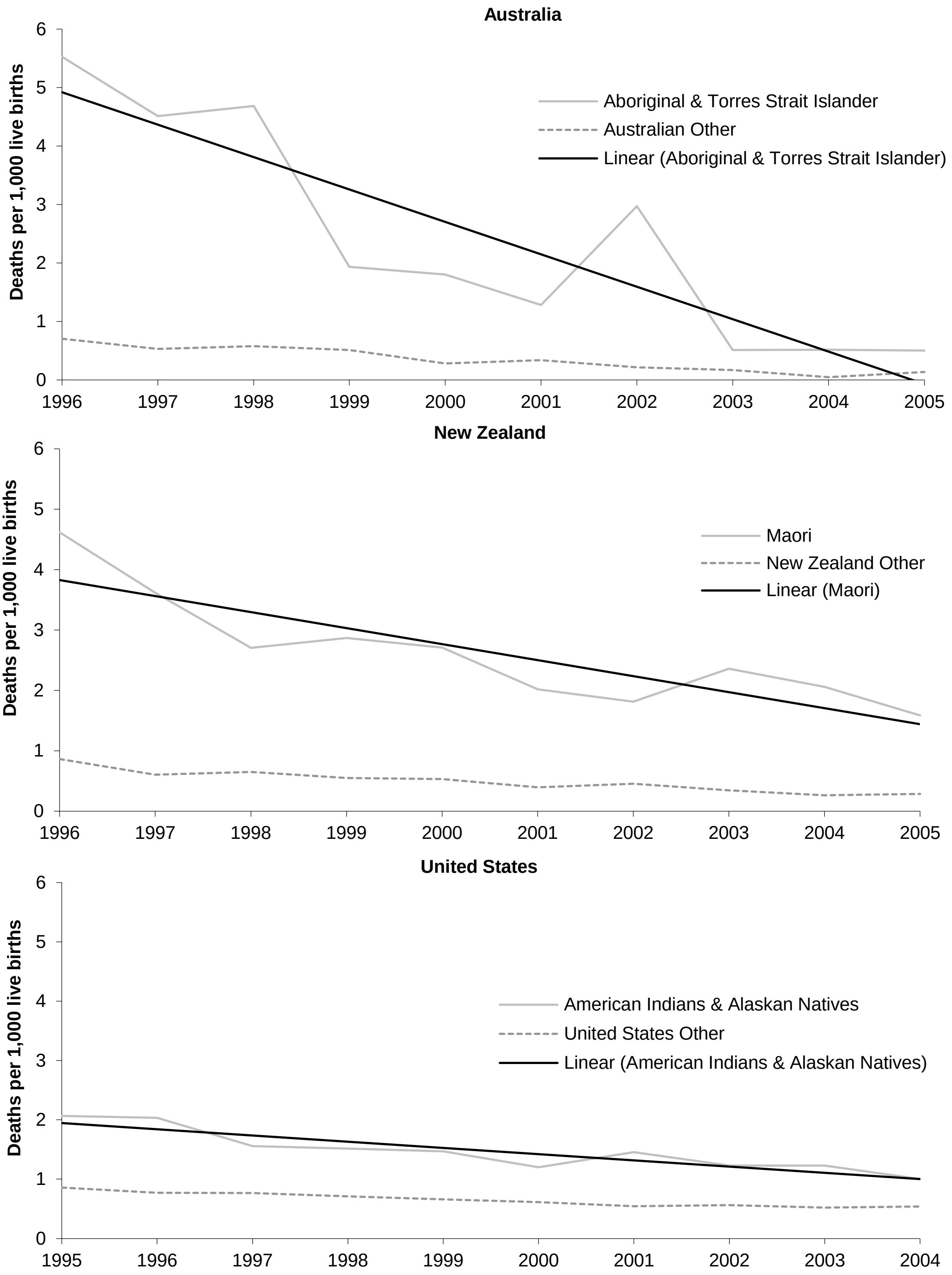
International statistics on infant mortality show that Indigenous infants in the United States and New Zealand have higher mortality rates for SIDS than other infants, but the gap is not as great as for Aboriginal and Torres Strait Islander infants. In 2004–2008, the infant mortality rate for SIDS for Aboriginal and Torres Strait Islander infants was around three times that for non-Indigenous infants (0.7 per 1,000 live births compared with 0.2 per 1,000 live births). 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. 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.

- During the period 2001–2005, 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 2003–2007, the mortality rate for SIDS was 1.8 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 2007 for the Maori population in New Zealand, and from 1996 to 2005 for the American Indian and Alaskan Native population in the United States. These data are presented in Figure 1.21.4 and Table 1.21.5 along with data for Australia for the period 1996–2007.

- In New Zealand between 1996 and 2007 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 55% reduction in the rate over this period. There were also significant declines in non-Indigenous SIDS mortality rates between 1996 and 2007 (a reduction of 37%) (Statistics New Zealand unpublished data).
- In the United States between 1996 and 2005 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 0.1 per 1,000 live births which is equivalent to a 38% 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 2005 (a reduction of 35%) (United States Department of Health and Human Services unpublished data).



Notes

1. Australia data are for Western Australia, South Australia and the Northern Territory combined.
2. New Zealand 2007 SIDS data are provisional.

Source: AIHW and ABS analysis of ABS Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.

Figure 1.21.4: SIDS mortality rates per 1,000 live births, by Indigenous status, Australia (1996–2007), New Zealand (1996–2007) and the United States (1996–2005)

Table 1.21.5: SIDS mortality rates per 1,000 live births, by Indigenous status, Australia (1996–2007), New Zealand (1996–2007), United States (1996–2005)

	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	n.a.	n.a.
2007	0.0	0.0	1.4	0.6	n.a.	n.a.
Annual change(a)	–0.5*	–0.1*	–0.2*	–0.03*	–0.1**	–0.03**
Total % change(b)	–94.4*	–92.6*	–54.6*	–36.7*	–37.6**	–35.3**

* Represents statistically significant differences at the p<.05 level over the period 1996–2007.

** Represents statistically significant differences at the p<.05 level over the period 1996–2005.

(a) Average annual change in rates determined using linear regression analysis.

(b) Per cent change between 1996 and 2007 based on the average annual change over the period for New Zealand and Australia, Per cent change between 1996 and 2005 based on the average annual change over the period for the United States.

Notes:

1. Australia data are for Western Australia, South Australia and the Northern Territory combined.
2. New Zealand 2007 SIDS data are provisional.

Source: AIHW and ABS analysis of ABS Mortality Database; Statistics New Zealand; United States Department of Health and Human Services.

Sleeping position

Infants sleeping in the prone (front down) or semi-foetal positions have been associated with an increased risk of SIDS (Dwyer 1991).

Presented in Table 1.21.6 is the proportion of Indigenous infants that usually slept in various positions in 2008.

- The most common sleeping position among Indigenous infants in 2008 was the child sleeping on their back (45.9%), while the least common sleeping position was sleeping on their tummy.

Table 1.21.6: 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

National Mortality Database

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, 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. Detailed breakdowns of Indigenous deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

Indigenous status information from the two sources are kept in the database, although these 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 datasets.

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 1997). 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 & 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 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.

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).

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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1.22 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 Australian Institute of Health and Welfare (AIHW) maintains the database. is provided by The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and the Australian Bureau of Statistics (ABS) codes this nationally. The medical practitioner certifying the death, or a coroner, supplies information on the cause of death. 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 funeral director does not always directly ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

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

The ABS supplied additional revised 2007 and preliminary 2008 mortality data for this indicator from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010).

Data have been combined for the 5-year period 2004–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

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.

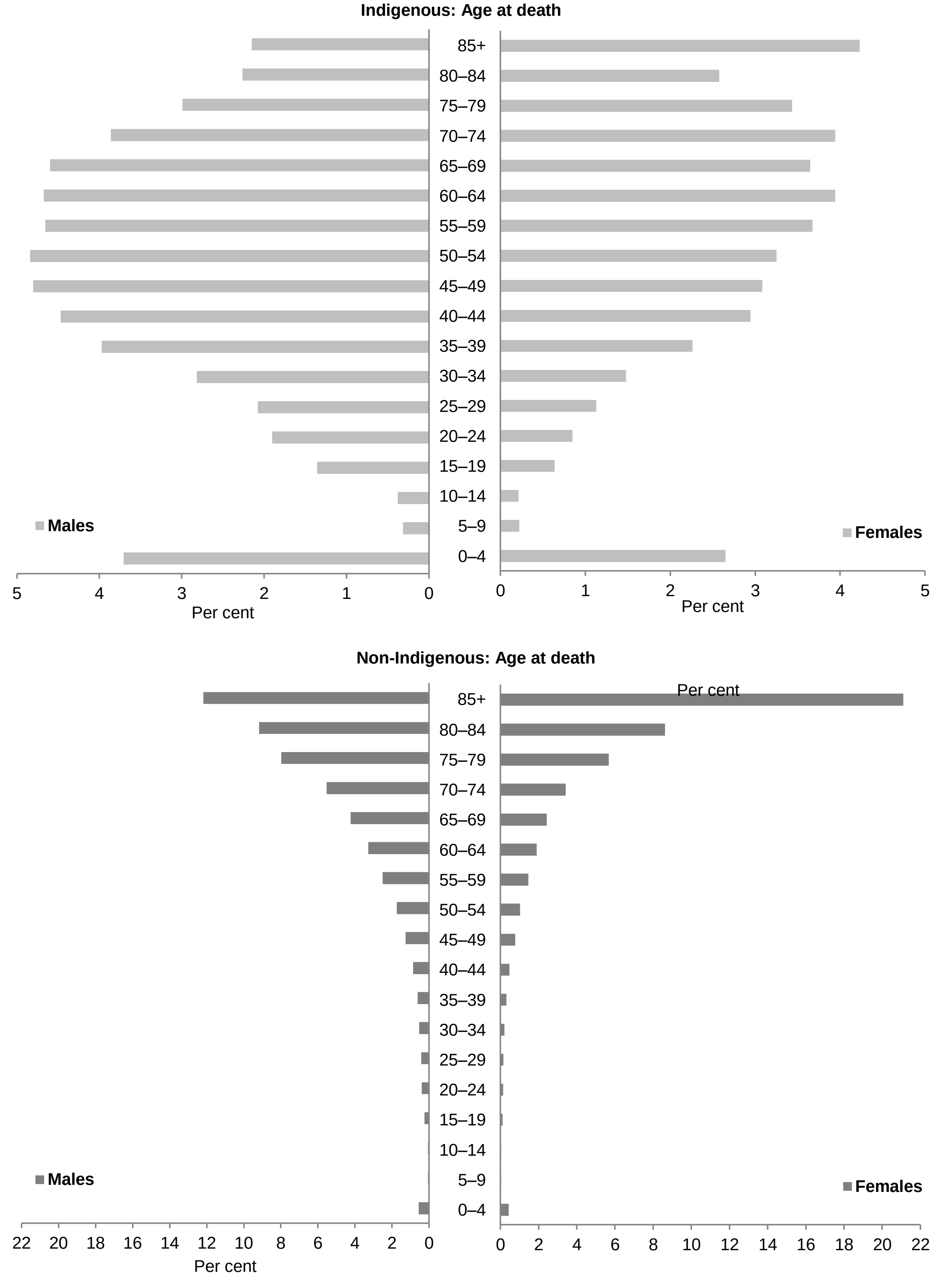
Mortality

- For the period 2004–2008, there were 478,092 deaths in Queensland, Western Australia, South Australia and the Northern Territory, 10,840 (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 2004–2008 for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- 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). Approximately 66% of deaths among Indigenous Australians occur before the age of 65 years compared with 20% of deaths among non-Indigenous Australians.
- For the period 2004–2008, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males and females had higher mortality rates than non-Indigenous males and females across all age groups (Table 1.22.2).
- The greatest difference in rates occurred in the 45–54, 35–44 and 25–34 year age groups where Indigenous people died at five, four and four times the rate respectively of non-Indigenous males and females in these age groups (Table 1.22.2).



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, 2004–2008

Table 1.22.1: Number and percentage of deaths by age group, by Indigenous status and sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)]

	Number of deaths				Percentage of deaths			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
Age group	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
<1	334	232	2,166	1,680	5.5	4.8	0.9	0.7
1-4	67	55	455	322	1.1	1.1	0.2	0.1
0-4	*401*	*287*	*2,621*	*2,002*	*6.6*	*6.0*	*1.1*	*0.9*
5-9	*34*	24	255	188	0.6	0.5	0.1	0.1
10-14	41	23	275	177	0.7	0.5	0.1	0.1
1-14	*142*	*102*	*985*	*687*	*2.3*	*2.1*	*0.4*	*0.3*
15-19	*147*	69	1,151	534	2.4	1.4	0.5	0.2
20-24	206	92	1,855	641	3.4	1.9	0.8	0.3
25-29	225	122	1,994	717	3.7	2.5	0.8	0.3
30-34	305	160	2,496	981	5.0	3.3	1.0	0.4
35-39	430	245	2,888	1,440	7.1	5.1	1.2	0.6
40-44	484	319	4,045	2,234	8.0	6.7	1.7	1.0
45-49	520	334	5,901	3,643	8.6	7.0	2.4	1.6
50-54	524	352	8,139	4,805	8.7	7.4	3.4	2.1
55-59	504	398	11,696	6,854	8.3	8.3	4.8	3.0
60-64	506	427	15,334	8,898	8.4	8.9	6.4	3.9
65-69	498	395	19,766	11,367	8.2	8.3	8.2	5.0
70-74	418	427	25,836	15,998	6.9	8.9	10.7	7.1
75-79	324	372	37,263	26,518	5.4	7.8	15.4	11.7
80-85	245	279	42,882	40,291	4.0	5.8	17.8	17.8
85+	233	458	56,910	98,633	3.8	9.6	23.6	43.7
Not stated	10	2	19	5	0.2	0.0	0.0	0.0
Total	**6,055**	**4,785**	**241,326**	**225,926**	**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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) These data exclude 5,756 registered deaths where the Indigenous status is not stated.

(e) 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.

(f) Deaths are by year of registration.

Source: ABS and 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, 2004–2008[(a)(b)(c)(d)(e)]

	Males			Females			Persons		
Age group	Indig. rate[(f)]	Non-Indig. rate[(f)]	Rate ratio[(g)]	Indig. rate[(f)]	Non-Indig. rate[(f)]	Rate ratio[(g)]	Indig. rate[(f)]	Non-Indig. rate[(f)]	Rate ratio[(g)]
Less than 1	1,115.6	463.2	2.4	796.2	378.1	2.1	958.0	421.7	2.3
1–4	57.3	25.2	2.3	49.0	18.9	2.6	53.2	22.1	2.4
0–4 years	273.0	115.3	2.4	203.0	93.1	2.2	238.7	104.5	2.3
5–14	25.2	11.1	2.3	16.7	8.1	2.1	21.1	9.6	2.2
1-14 years	34.3	15.0	2.3	25.9	11.0	2.3	30.2	13.1	2.3
15–24	156.0	60.0	2.6	74.5	24.5	3.0	116.2	42.6	2.7
25–34	328.3	90.2	3.6	169.4	34.3	4.9	247.6	62.4	4.0
35–44	658.2	131.7	5.0	373.6	69.4	5.4	510.0	100.5	5.1
45–54	1,089.2	282.6	3.9	663.8	168.2	3.9	868.5	225.1	3.9
55–64	2,011.6	673.3	3.0	1,466.3	397.7	3.7	1,723.4	536.4	3.2
65–74	4,368.1	1,872.8	2.3	3,070.0	1,083.3	2.8	3,640.2	1,470.8	2.5
75 and over	9,374.6	7,452.3	1.3	8,056.7	6,247.1	1.3	8,561.8	6,741.0	1.3
Total (crude)	**528.2**	**678.8**	**0.8**	**413.7**	**629.8**	**0.7**	**470.7**	**654.2**	**0.7**
Total (age-standardised)[(h)]	**1,381.1**	**711.7**	**1.9**	**1,021.2**	**520.8**	**2.0**	**1,183.3**	**609.5**	**1.9**
Total (age-standardised) Australia[(h)]	**1,278.4**	**705.9**	**1.8**	**954.6**	**521.9**	**1.8**	**1,101.6**	**607.2**	**1.8**

* 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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

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

(c) These data exclude 7,665 registered deaths where the Indigenous status is not stated.

(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 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..

(e) Deaths are by year of reference.

(f) Age-specific rate per 100,000 population.

(g) Rate ratio Indigenous:non-Indigenous.

(h) Total rates have been directly age-standardised using the 2001 Australian standard population. Age-standardised death rates enable the comparison of death rates between populations with different age structures by relating them to a standard population. The current ABS standard population is all persons in the Australian population at 30 June 2001. SDRs are expressed per 100,000 persons. Age-standardised rates in this table have been calculated using the direct method, age-standardised by 5 year age group to 75+.

Source: ABS and 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 2004–2008 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 twice the rate of non-Indigenous Australians.
- In Queensland, South Australia and the Northern Territory Indigenous Australians died at around twice the rate of non-Indigenous Australians. In Western Australia, Indigenous Australians died at three times the rate of non-Indigenous Australians.

Table 1.22.3: All-causes mortality, by Indigenous status, NSW, Qld, WA, SA, NT and Australia, 2004–2008(a)(b)(c)(d)(e)

	Number of deaths			Number per 100,000(f)		
State/territory	Indigenous	Non-Indigenous	Not stated	Indigenous	Non-Indigenous	Ratio(g)
NSW	2,687	228,242	1,980	946.6	614.6	1.5
Qld	2,838	120,913	1,956	1,062.9	609.3	1.7
WA	2,356	56,394	409	1,673.0	580.0	2.9
SA	676	59,166	653	1,022.5	615.2	1.7
NT	2,283	2,537	32	1,582.3	679.2	2.3
NSW, Qld, WA, SA & NT(a)	10,840	467,252	5,030	1,184.2	609.3	1.9
Australia	11,449	659,647	7,665	1,102.3	607.0	1.8

* 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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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.

(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) Rates exclude 7,665 registered deaths where the Indigenous status is not stated.

(f) Age-standardised death rates enable the comparison of death rates between populations with different age structures by relating them to a standard population. The current ABS standard population is all persons in the Australian population at 30 June 2001. SDRs are expressed per 100,000 persons. Age-standardised rates in this table have been calculated using the direct method, age-standardised by 5-year age group to 75+. These rates exclude 7,665 registered deaths where the Indigenous status is not stated.

(g) Rate ratio Indigenous: non-Indigenous.

Note: 2008 mortality data preliminary.

Source: ABS and 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 1991–2008 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 1991–2008 are presented in Table 1.22.4 and Figure 1.22.2.

- In the period 1991–2008, there were significant declines in recorded mortality rates in Western Australia, South Australia and the Northern Territory combined for Indigenous Australians. The fitted trend implies an average yearly decline in the rate of around 32 per 100,000 (equivalent to a 25% reduction in the rate over this period). The fitted trend showed significant declines in recorded deaths for Indigenous males and females of 31 per 100,000 (equivalent to a 23% and 27% reduction in the rate over this period) (Table 1.22.4). Most of the observed declines are attributable to significant declines in Indigenous mortality in Western Australia and the Northern Territory.
- There were also significant declines in recorded mortality rates for other males and females between 1991 and 2008. The fitted trend implies an average yearly decline in the rate of around 13 per 100,000 for other Australians (equivalent to a 28% reduction in the rate over this period).
- There were significant increases in the mortality rate ratios between Indigenous and other Australians males over the period 1991–2008. There were no significant changes in the rate ratios between Indigenous and other Australian females and persons 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(a), rate ratios and rate differences, WA, SA and NT, 1991–2008

	Indigenous number per 100,000			Other Australian(b) number per 100,000			Rate ratio(c)			Rate difference(d)		
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
1991	2,299.1	1,947.6	2,114.9	974.4	626.6	779.5	2.4	3.1	2.7	1,324.6	1,321.0	1,335.4
1992	2,206.6	1,668.9	1,915.3	950.5	621.3	766.5	2.3	2.7	2.5	1,256.1	1,047.5	1,148.9
1993	2,104.1	1,710.8	1,888.6	971.8	639.6	786.6	2.2	2.7	2.4	1,132.4	1,071.2	1,102.0
1994	2,145.0	1,802.4	1,967.1	971.5	623.5	776.5	2.2	2.9	2.5	1,173.4	1,179.0	1,190.6
1995	2,181.6	1,581.4	1,857.0	913.7	602.9	741.2	2.4	2.6	2.5	1,267.9	978.6	1,115.8
1996	1,984.9	1,277.2	1,603.9	930.3	615.0	755.6	2.1	2.1	2.1	1,054.5	662.2	848.3
1997	2,147.1	1,471.8	1,774.0	885.3	599.3	727.3	2.4	2.5	2.4	1,261.7	872.5	1,046.7
1998	2,019.0	1,351.0	1,656.5	858.3	575.5	703.2	2.4	2.3	2.4	1,160.7	775.5	953.3
1999	1,777.3	1,370.2	1,560.9	824.8	555.6	676.9	2.2	2.5	2.3	952.5	814.5	884.0
2000	1,939.2	1,453.7	1,673.4	810.2	547.6	666.1	2.4	2.7	2.5	1,129.1	906.1	1,007.3
2001	1,900.8	1,105.8	1,456.2	777.5	548.0	652.5	2.4	2.0	2.2	1,123.3	557.8	803.7
2002	1,623.0	1,235.3	1,405.5	771.2	552.7	652.3	2.1	2.2	2.2	851.8	682.6	753.2
2003	1,756.0	1,021.7	1,347.0	760.6	541.9	641.8	2.3	1.9	2.1	995.4	479.8	705.1
2004	1,703.5	1,348.4	1,514.6	716.8	512.4	606.9	2.4	2.6	2.5	986.6	836.0	907.8
2005	1,632.6	1,156.2	1,372.9	717.6	507.1	605.0	2.3	2.3	2.3	915.1	649.1	767.9
2006	1,694.7	1,243.6	1,450.1	692.6	510.8	595.6	2.4	2.4	2.4	1,002.1	732.8	854.4
2007	1,843.5	1,364.6	1,577.9	712.3	514.3	606.6	2.6	2.7	2.6	1,131.2	850.3	971.3
2008	1,998.2	1,554.8	1,753.7	699.9	526.7	608.6	2.9	3.0	2.9	1,298.3	1,028.1	1,145.1
Annual change(e)	**–31.2***	**–31.1***	**–31.6***	**–19.0***	**–8.2***	**–12.6***	**0.02***	**–0.02**	**0.00**	**–12.2***	**–22.9***	**–19.0***
Per cent change(f)	**–23.1***	**–27.2***	**–25.4***	**–33.2***	**–22.1***	**–27.5***	**12.5***	**–9.1**	**0.1**	**–15.6***	**–29.5***	**–24.2***

(continued)

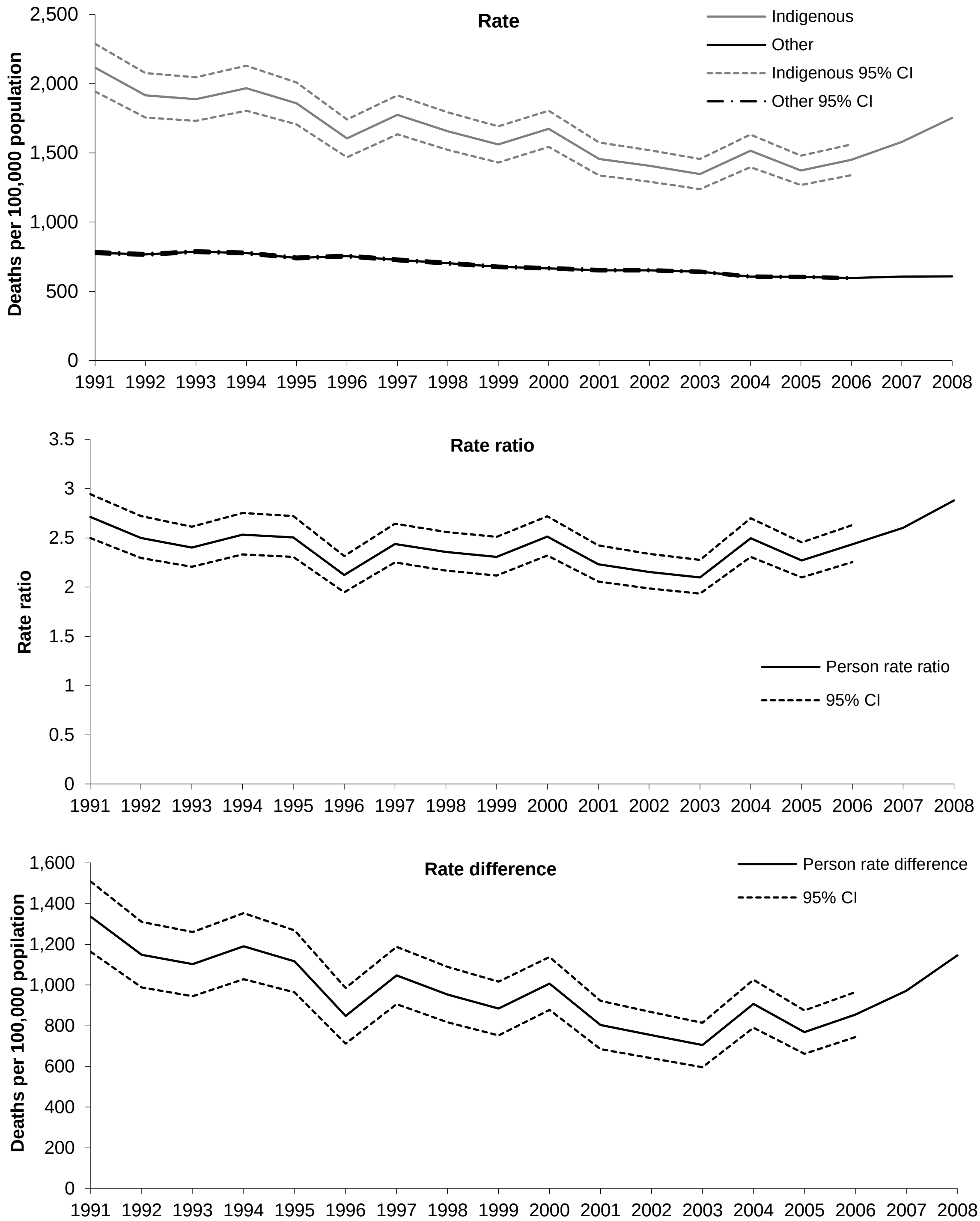
Table 1.22.4 (continued): Age-standardised mortality rates[(a)], rate ratios and rate differences, WA, SA and NT, 1991–2008

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1991–2008.

(a) Rates have been directly age-standardised using the 2001 Australian standard population.
(b) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.
(c) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.
(d) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.
(e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
(f) Per cent change between 1991 and 2008 based on the average annual change over the period.

Note: Rates presented in this table may differ from those presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Note: Confidence intervals for 2007 and 2008 data have not been presented due to data limitations.

Figure 1.22.2: Age-standardised mortality rates, rate ratios and rate differences between Indigenous and other Australians, WA, SA and NT, 1991–2008

Additional trends analysis is presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2008 for Indigenous and non-Indigenous Australians in Table 1.22.5 and Figure 1.22.3.

- Over the period 2001–2008, there were no significant increases in recorded mortality rates in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined for Indigenous Australians.
- Over the same period, there were significant declines in recorded mortality rates for non-Indigenous males and persons in the five jurisdictions. The fitted trend implies an average yearly decline in the rate of around 6 per 100,000 for non-Indigenous persons (equivalent to a 6% reduction in the rate over this period).
- There were significant increases in the mortality rate ratios between Indigenous and non-Indigenous Australians over the period 2001–2008 (9% increase), and no significant changes in the mortality rate differences over the same period.

•

Table 1.22.5: Age-standardised mortality rates(a), rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2008

	Indigenous rate per 100,000			Non-Indigenous Australian(b) rate per 100,000			Rate ratio(c)			Rate difference(d)		
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
2001	1,523.7	963.1	1,213.3	765.3	531.4	638.1	2.0	1.8	1.9	758.4	431.7	575.2
2002	1,415.7	1,042.3	1,209.4	766.7	545.8	646.8	1.8	1.9	1.9	649.0	496.5	562.7
2003	1,432.2	907.3	1,143.5	743.8	533.2	630.1	1.9	1.7	1.8	688.4	374.0	513.4
2004	1,407.1	1,022.2	1,194.1	738.1	530.5	626.3	1.9	1.9	1.9	669.0	491.7	567.8
2005	1,266.2	952.5	1,099.2	702.7	508.5	598.6	1.8	1.9	1.8	563.5	443.9	500.6
2006	1,391.0	976.1	1,160.9	699.1	512.6	599.2	2.0	1.9	1.9	691.9	463.5	561.8
2007	1,409.3	1,084.4	1,231.4	702.7	518.4	604.1	2.0	2.1	2.0	706.6	566.0	627.3
2008	1,431.0	1,112.0	1,256.6	711.1	531.8	615.7	2.0	2.1	2.0	719.9	580.2	640.9
Annual change(e)	**–11.3**	**16.5**	**4.4**	**–10.3***	**–2.6**	**–5.8***	**0.01**	**0.04***	**0.03***	**–0.9**	**19.1***	**10.3**
Per cent change(f)	**–5.2**	**12.0**	**2.5**	**–9.5***	**–3.4**	**–6.4***	**4.3**	**15.7***	**9.3***	**–0.8**	**31.0***	**12.5**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–2008.

(a) Rates have been directly age-standardised using the 2001 Australian standard population.

(b) Excludes deaths of those for whom Indigenous status was not stated.

(c) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

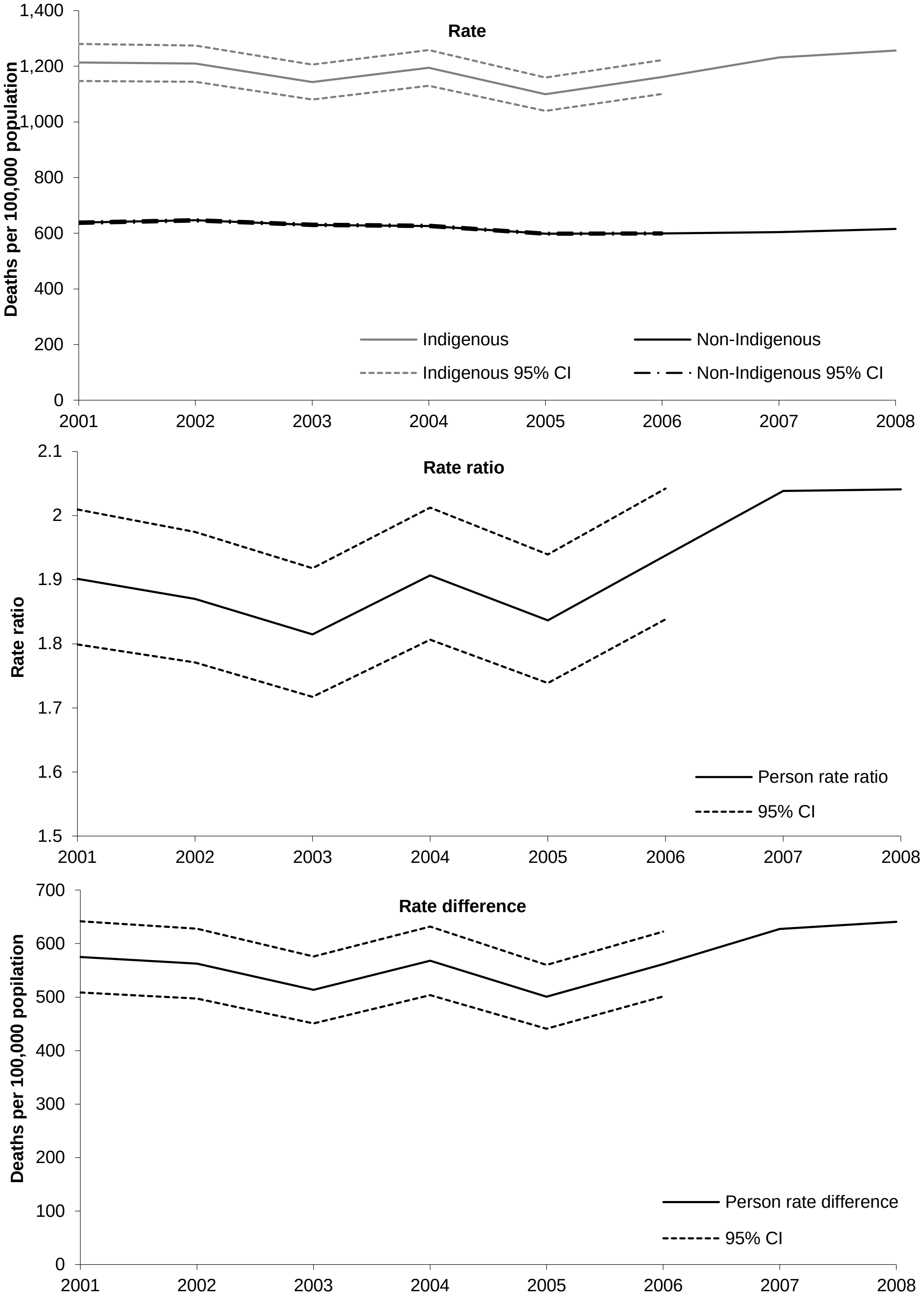
(d) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

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

(f) Per cent change between 1991 and 2008 based on the average annual change over the period.

Note: Rates presented in this table may differ from those presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Note: Confidence intervals for 2007 and 2008 data have not been presented due to data limitations.

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, 2001–2008

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 (AI/ANs) who live ‘on or near reservations’. Based on 2002 Census data, this was around 57% of the estimated AI/AN population. AI/AN 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 2003–2007 is around twice that for non-Indigenous Australians (845 per 100,000 compared with 391 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 2004–2008 in New Zealand, the age-standardised all-cause mortality rate for the Maori population was 714 per 100,000, compared with 427 per 100,000 for the non-Indigenous population (Statistics New Zealand unpublished data).
- For the period 2002–2006 in the United States, the age-standardised all-cause mortality rate for American Indians/Alaskan Natives was 480 per 100,000, which was lower than the age-standardised all-cause mortality rate for non-Indigenous persons over this period (548 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).

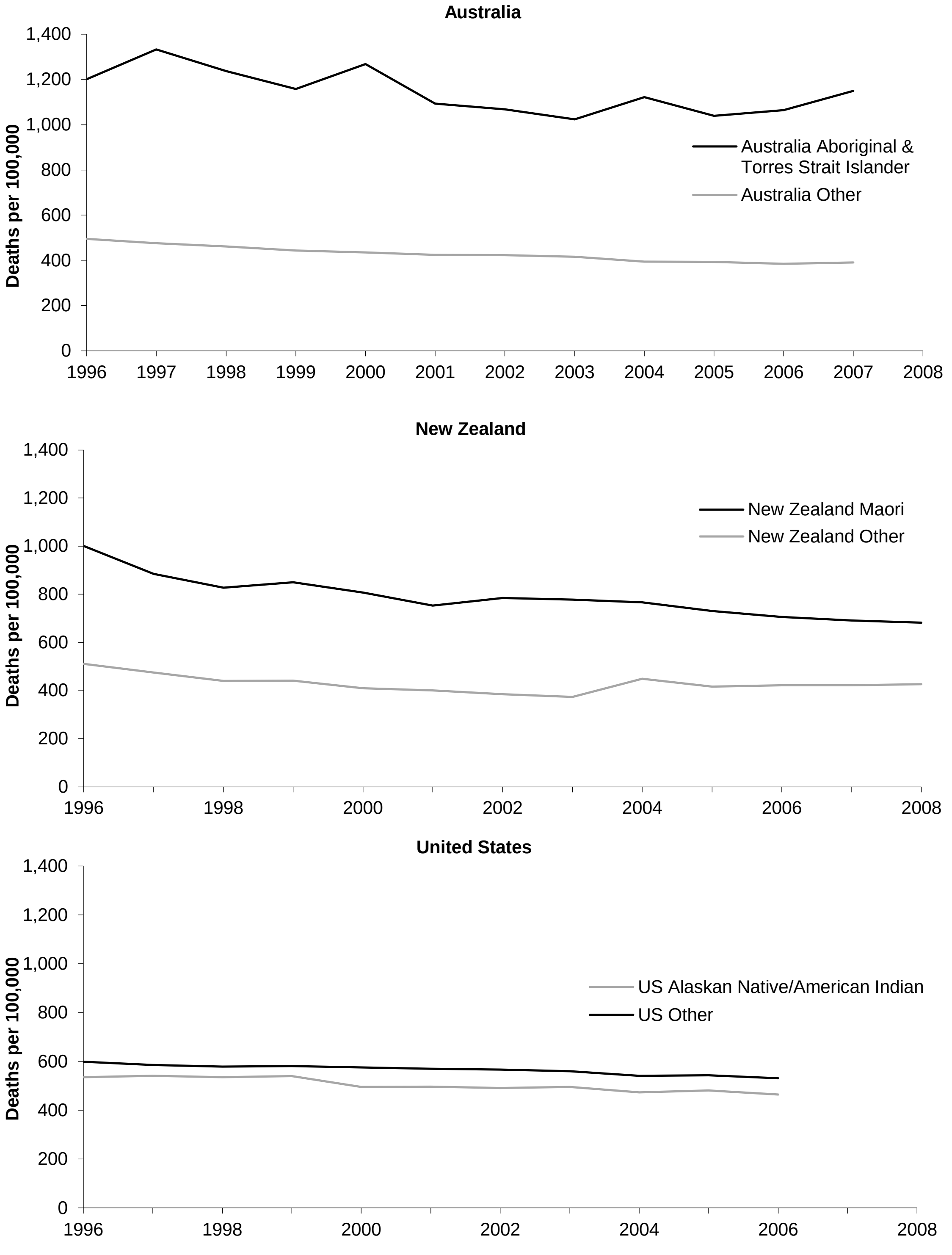
Time series

Mortality data are available from 1996 to 2008 for the Maori population in New Zealand and from 1991 to 2006 for the Alaskan Native/American Indian population in the United States. Reliable time series of mortality data for the First Nations population in Canada is not currently available.

- In New Zealand between 1996 and 2008 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 21 per 100,000 which is equivalent to a 25% 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 2008 (a reduction of 11%).
- In the United States between 1991 and 2006 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 6 per 100,000 which is equivalent to a 16% 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 1991 and 2006 (a reduction of 15%).

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 and the United States over the period 1996–2008.

- 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 2007.



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, New Zealand and the United States, 1996–2008

Table 1.22.6: Age-standardised mortality rates, by Indigenous status, Australia[(a)(b)], New Zealand and the United States, 1996–2008[(c)]

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
	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	464.3	n.a.	n.a.
US other	598.7	585.3	579.2	581.3	575.0	570.1	566.9	559.3	540.8	542.7	530.9	n.a.	n.a.
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
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
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	1,148.8	n.a.
Australia other	495.4	475.9	461.9	443.0	435.7	424.8	423.1	416.4	394.2	393.4	384.7	391.4	n.a.

(a) Australia data is for WA, SA & NT combined.

(b) 2008 data for Australia is preliminary.

(c) 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

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 & 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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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

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 Australian Institute of Health and Welfare (AIHW) maintains the database. The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and the Australian Bureau of Statistics (ABS) codes this nationally. The medical practitioner certifying the death, or a coroner, supplies information on the cause of death. 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 funeral director does not always ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

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

The ABS supplied additional revised 2007 and preliminary 2008 mortality data for this indicator from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010).

Data have been combined for the 5-year period 2004–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

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 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, the most common cause of death among Indigenous Australians was circulatory diseases (27%), followed by cancer (18%). Indigenous Australians died from these causes of death at 1.8 and 1.3 times the rate of non-Indigenous Australians respectively (Table 1.23.1).
- External causes (injury and poisoning) were responsible for 15% of Indigenous and 6% of non-Indigenous deaths. Digestive organ cancers are the most common types of cancer from which Indigenous Australians died (5%), at almost one and a half times the rate of non-Indigenous Australians.
- Over the period 2004–2008, Indigenous Australians died from diabetes at seven times the rate of non-Indigenous Australians and from kidney diseases at three and a half times the rate of non-Indigenous Australians.
- Deaths higher than the expected number are referred to as 'excess deaths'. Excess deaths are calculated by subtracting the number of expected Indigenous deaths (based on the age, sex and cause-specific rates of non-Indigenous Australians) from the number of actual cause-specific deaths in the Indigenous population. This is usually expressed as a proportion of excess death from all causes. Diseases of the circulatory system accounted for the highest proportion of excess deaths among Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined over the period 2004–2008 (26% of deaths). Deaths due to external causes (injury and poisoning), endocrine, nutritional and metabolic diseases, cancer and diseases of the respiratory system. Deaths due to these causes were responsible for almost half (46%) of excess deaths among Indigenous persons (Table 1.23.2).

Mortality by cause of death and age

Table 1.23.3 presents data on the major causes of death of Indigenous Australians by age over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Indigenous Australians aged 75 years and over had the highest rates of mortality across all major causes of death except for cervical cancer and conditions originating in the perinatal period. The highest mortality rate for cervical cancer was in the 65–74 year age group.
- After the 75 years and over age group, the highest rates of mortality due to external causes for Indigenous Australians were in the 25–34 and 35–44 year age groups, at 129 and 122 per 100,000 population respectively.

Table 1.23.1: Causes of mortality, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)(i)

	Number			**Per cent**			**Number per 100,000(j)**		
Underlying cause of death	**Indigenous**	**Non-Indigenous**	**Not stated**	**Indigenous**	**Non-Indigenous**	**Not stated**	**Indigenous**	**Non-Indigenous**	**Ratio(k)**
Circulatory diseases (I00–I99)	2,908	164,525	1,784	26.8	35.2	35.5	376.6	213.0	1.8
External causes (V01–Y98)	1,615	26,808	642	14.9	5.7	12.8	88.3	36.5	2.4
Cancer (C00–D48)	1,955	138,666	973	18.0	29.7	19.3	241.2	181.0	1.3
Lung cancer (C34)(l)	*478*	*26,049*	*176*	*4.4*	*5.6*	*3.5*	*59.1*	*34.0*	*1.7*
Cervical cancer (C53)(l)(m)	*51*	*779*	*n.p.*	*0.5*	*0.2*	*n.p.*	*4.3*	*1.0*	*4.3*
Digestive organ cancers (C15–C26)(l)	*543*	*36,968*	*263*	*5.0*	*7.9*	*5.2*	*68.1*	*48.2*	*1.4*
Endocrine, metabolic and nutritional disorders (E00–E89)	909	16,479	182	8.4	3.5	3.6	119.3	21.5	5.5
Diabetes (E10–E14)(l)	*777*	*11,523*	*122*	*7.2*	*2.5*	*2.4*	*103.4*	*15.0*	*6.9*
Respiratory diseases (J00–J99)	848	39,171	450	7.8	8.4	8.9	115.5	50.9	2.3
Digestive diseases (K00–K93)	648	15,733	168	6.0	3.4	3.3	59.8	20.5	2.9
Conditions originating in perinatal period (P00–P96)	265	1,908	n.p.	2.4	0.4	n.p	5.9	2.7	2.2
Nervous system diseases (G00–G99)	270	17,308	168	2.5	3.7	3.3	28.5	22.6	1.3
Kidney diseases (N00–N29)	272	8,419	65	2.5	1.8	1.3	36.6	10.9	3.4
Infectious and parasitic diseases (A00–B99)	242	6,736	56	2.2	1.4	1.1	25.1	8.8	2.9
Other causes(n)	908	31,499	498	8.4	6.7	9.9	87.3	41.1	2.1
All causes	**10,840**	**467,252**	**5,030**	**100.0**	**100.0**	**100.0**	**1,184.2**	**609.3**	**1.9**

(continued)

Table 1.23.1 (continued): Causes of mortality, by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)(i)

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Rates exclude 5,030 registered deaths where the Indigenous status is not stated.

(j) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(k) Rate ratio Indigenous: non-Indigenous.

(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 and behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth and the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: 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: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.2: Main causes of excess Indigenous deaths, by sex, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

	Males				Females				Persons			
	Observed(h)	**Expected(i)**	**Excess(j)**	**Per cent excess (k)**	**Observed(h)**	**Expected(i)**	**Excess(j)**	**Per cent excess (k)**	**Observed(h)**	**Expected(i)**	**Excess(j)**	**Per cent excess (k)**
Circulatory diseases (I00–I99)	1,606	462	1,144	27.3	1,302	647	655	27.0	2,908	1,109	1,799	27.2
External causes (V01–Y98)	1,127	270	857	20.5	488	288	200	8.2	1,615	558	1,057	16.0
Endocrine, metabolic & nutritional disorders (E00–E89)	429	57	372	8.9	480	74	406	16.7	909	131	778	11.8
Diabetes (E10–E14)(l)	*367*	*35*	*332*	*7.9*	*410*	*48*	*362*	*14.9*	*777*	*83*	*694*	*10.5*
Cancer (C00– D48)	1,002	569	433	10.3	953	716	237	9.8	1,955	1,285	670	10.1
Lung cancer (C34)(l)	*317*	*147*	*170*	*4.1*	*226*	*186*	*40*	*1.6*	*543*	*333*	*210*	*3.2*
Cervical cancer (C53)(l)(m)	*272*	*103*	*169*	*4.0*	*206*	*131*	*75*	*3.1*	*478*	*234*	*244*	*3.7*
Digestive Organ Cancer (C15–C26)(l)	–	–	–	–	*51*	*6*	*45*	*1.9*	*51*	*10*	*41*	*0.6*
Respiratory diseases (J00–J99)	468	114	354	8.4	380	158	222	9.1	848	273	575	8.7
Other causes(n)	489	153	336	8.0	419	184	235	9.7	908	337	571	8.6
Digestive diseases (K00–K93)	352	62	290	6.9	296	79	217	9.0	648	140	508	7.7
Kidney diseases (N00–N29)	129	21	108	2.6	143	31	112	4.6	272	52	220	3.3
Infectious & parasitic diseases (A00–B99)	134	29	105	2.5	108	36	72	3.0	242	65	177	2.7
Conditions originating in perinatal period (P00–P96)	154	63	91	2.2	111	61	50	2.1	265	124	141	2.1
Nervous system diseases (G00–G99)	165	67	98	2.3	105	85	20	0.8	270	152	118	1.8
All causes	6,055	1,868	4,187	100.0	4,785	2,358	2,427	100.0	10,840	4,226	6,614	100.0

(continued)

Table 1.23.2 (continued): Main causes of excess Indigenous deaths, by sex, NSW, Qld, WA, SA and NT, 2004–2008(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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Expected deaths are calculated by applying the cause specific mortality rate for the standard non-Indigenous population to the Indigenous population of the reference period. This calculation is undertaken utilising an indirect method of standardisation.

(j) Excess deaths are calculated by subtracting the expected deaths from the average of the observed deaths over the five-year period.

(k) Excess % = excess deaths for specific cause/excess deaths for all causes x 100.

(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 and behavioural disorders; diseases of the eye and adnexa; diseases of the ear and mastoid process; diseases of the skin and subcutaneous tissue; diseases of the musculoskeletal system and connective tissue; diseases of the genitourinary system (excluding kidney diseases); pregnancy, childbirth and the puerperium; congenital malformations, deformations and chromosomal abnormalities; symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: 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: NIRA 2010.

Table 1.23.3 : Causes of Indigenous mortality rates, by age group, NSW, Qld, WA, SA and NT, 2004– 2008[a][b][c][d][e][f][g][h][i]

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[j]
Circulatory diseases (I00–I99)	0.3	3.5	8.3	1.7	7.0	43.9	134.9	264.6	498.7	1,116.3	3,203.4	126.3
External causes (V01–Y98)	0.5	25.3	30.2	10.4	84.5	129.3	122.2	83.3	56.4	71.2	241.9	70.1
Cancer (C00– D48)	0.1	3.1	3.5	1.9	2.9	12.2	59.4	185.8	506.2	992.8	1,460.6	84.9
Lung cancer (C34)[k]	*0.0*	*0.0*	*0.3*	*0.0*	*0.0*	*0.6*	*6.2*	*51.7*	*152.1*	*268.1*	*291.2*	*20.8*
Cervical cancer (C53)[k][l]	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*3.0*	*5.2*	*4.0*	*7.5*	*14.7*	*4.5*	*2.2*
Digestive organ cancer (C15–C26)[k]	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*	*3.4*	*16.2*	*49.2*	*151.2*	*270.2*	*425.6*	*23.6*
Endocrine, metabolic and nutritional disorders (E00–E89)	0.1	0.4	3.1	0.3	1.1	3.0	26.9	81.3	219.8	458.7	855.7	39.5
Diabetes (E10–E14)[k]	*0.0*	*0.0*	*0.0*	*0.0*	*0.2*	*2.1*	*21.4*	*66.3*	*203.8*	*406.3*	*730.3*	*33.7*
Respiratory diseases (J00–J99)	0.6	2.2	13.2	1.2	2.0	9.1	31.4	47.7	140.9	416.8	1,026.0	36.8
Digestive diseases (K00–K93)	0.2	1.3	4.5	0.0	1.4	15.6	54.5	89.4	96.7	148.7	300.2	28.1
Conditions originating in perinatal period (P00–P96)	4.4	1.7	91.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	11.5
Nervous system diseases (G00–G99)	0.1	5.2	6.6	1.7	5.0	7.0	13.5	18.1	28.2	83.8	228.5	11.7
Kidney diseases (N00–N29)	0.0	0.0	0.0	0.0	0.5	1.8	10.4	22.1	65.7	98.4	322.6	11.8
Infectious and parasitic diseases (A00–B99)	0.1	0.4	3.8	0.3	0.7	7.0	18.6	23.1	28.2	67.0	179.2	10.5
Other causes[m]	3.2	10.0	73.9	3.6	10.6	18.6	38.3	53.2	82.6	186.4	743.7	39.4
All causes	**9.6**	**53.2**	**238.7**	**21.1**	**116.2**	**247.6**	**510.0**	**868.5**	**1,723.4**	**3,640.2**	**8,561.8**	**470.7**

(continued)

Table 1.23.3 (continued): Causes of Indigenous mortality rates, by age group, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)(i)

(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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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 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.

(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) Causes of death data for 2007 have been revised and are subject to further revisions.

(g) 2008 data have been subject to a process improvement which has increased the quality of these data.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process.

(i) In calculating mortality rates, data cells with small values have been randomly assigned to protect the confidentiality of individuals.

(j) Includes age not stated.

(k) 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.

(l) Data for cervical cancer are for females only.

(m) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental and behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth and the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

Note: 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: ABS and AIHW analysis of ABS Mortality Database.

Endocrine, metabolic and nutritional disorders

Tables 1.23.4 and 1.23.5 present data on deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 909 observed deaths of Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from endocrine, metabolic and nutritional disorders.
- Among Indigenous Australians diabetes accounted for 85% of endocrine, metabolic and nutritional disorders deaths.
- 71% of Indigenous deaths due to endocrine, metabolic and nutritional disorders occurred in the age group 55 years and older (Table 1.23.5).

Table 1.23.4: Deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders, by sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Males				Females				Persons			
Underlying cause of death	**Observed**	**Expected**	**Excess**	**Per cent excess**	**Observed**	**Expected**	**Excess**	**Per cent excess**	**Observed**	**Expected**	**Excess**	**Per cent excess**
	Number			**Per cent**	**Number**			**Per cent**	**Number**			**Per cent**
Endocrine, metabolic and nutritional disorders (E00–E89)	429	58	371	9.1	480	75	405	17.6	909	133	776	12.2
Diabetes (E10–E14)[(i)]	*367*	*37*	*330*	*8.1*	*410*	*49*	*361*	*15.7*	*777*	*85*	*692*	*10.9*
All causes	**6,055**	**1,985**	**4,070**	**100.0**	**4,785**	**2,485**	**2,300**	**100.0**	**10,840**	**4,470**	**6,370**	**100.0**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

Note: 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: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.5: Deaths of Indigenous Australians from endocrine, metabolic and nutritional disorders, by age, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)

	Age group (years)																
	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(h)**
Endocrine, metabolic and nutritional disorders (E00–E89)	9	0	n.p.	n.p.	n.p.	n.p.	8	35	43	65	97	116	118	104	115	191	909
Diabetes (E10–E14)(i)	*0*	*0*	*n.p.*	*n.p.*	*n.p.*	*n.p.*	*7*	*26*	*36*	*54*	*78*	*107*	*110*	*92*	*102*	*163*	*777*
All causes	**688**	**58**	**64**	**216**	**298**	**347**	**465**	**675**	**803**	**854**	**876**	**902**	**933**	**893**	**845**	**1,911**	**10,840**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

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

(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 2007 have been revised and are subject to further revisions.

(e) 2008 data have been subject to a process improvement which has increased the quality of these data.

(f) Causes of death data for 2008 are preliminary and subject to a revisions process. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(g) Includes age not stated.

(h) Data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.

Source: ABS and AIHW analysis of ABS Mortality Database.

Circulatory diseases

Tables 1.23.6 and 1.23.7 present data on deaths of Indigenous Australians from circulatory diseases over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 2,908 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 around twice the rate of non-Indigenous Australians.
- The most common type of circulatory disease causing death among Indigenous Australians was ischaemic heart disease (including heart attack and angina) (54%), followed by cerebrovascular disease (including stroke) (19%). Indigenous Australians died from these diseases at around twice the rate of non-Indigenous Australians.
- Over the period 2004–2008, Indigenous Australians died from hypertensive disease at 2.5 times the rate of non-Indigenous Australians. Indigenous Australians died from rheumatic heart disease (which predominantly affects children) at 6 times the rate of non-Indigenous Australians.
- Excluding rheumatic heart disease, the majority (87%) of Indigenous deaths due to circulatory diseases occurred in the older age groups (40 years and over) (Table 1.23.7)

Table 1.23.6: Deaths of Indigenous Australians from circulatory diseases, by sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Males				**Females**				**Persons**			
	Number	**Per cent**	**No. per 100,000[(i)]**	**Rate ratio[(j)]**	**Number**	**Per cent**	**No. per 100,000[(i)]**	**Rate ratio[(j)]**	**Number**	**Per cent**	**No. per 100,000[(i)]**	**Rate ratio[(j)]**
Ischaemic heart disease (I20–I25)	961	59.8	239.9	1.8	598	45.9	151.8	1.8	1,559	53.6	192.2	1.8
Acute myocardial infarction (I21)[(k)]	*438*	*27.3*	*111.5*	*1.7*	*273*	*21.0*	*73.8*	*1.6*	*711*	*24.4*	*91.3*	*1.7*
Cerebrovascular disease (I60–I69)	260	16.2	92.5	1.8	277	21.3	79.1	1.4	537	18.5	84.9	1.6
Stroke (I60–I64)[(k)]	*206*	*12.8*	*68.2*	*1.8*	*222*	*17.1*	*60.4*	*1.5*	*428*	*14.7*	*63.8*	*1.6*
Other heart disease (I26–I52)	263	16.4	62.6	1.9	232	17.8	55.5	1.8	495	17.0	59.2	1.8
Rheumatic heart disease (I00–I09)	30	1.9	3.7	4.1	69	5.3	9.3	6.8	99	3.4	6.8	5.8
Hypertensive disease (I10–I15)	37	2.3	13.4	2.3	70	5.4	19.6	2.5	107	3.7	17.1	2.5
Other diseases of the circulatory system (I70–I99)	55	3.4	14.6	1.0	56	4.3	16.8	1.7	111	3.8	16.3	1.4
Total circulatory diseases	**1,606**	**100.0**	**426.7**	**1.8**	**1,302**	**100.0**	**332.1**	**1.7**	**2,908**	**100.0**	**376.4**	**1.8**

(continued)

Table 1.23.6 (continued): Deaths of Indigenous Australians from circulatory diseases, by sex, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

(a) Data are reported for NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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.

(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 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process.

(h) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(i) Rate ratio Indigenous: non-Indigenous.

(j) 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: 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: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.7: Deaths of Indigenous Australians from circulatory diseases, by age, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Age group (years)																
	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[(i)]**
Ischaemic heart disease (I20–I25)	0	0	0	n.p.	n.p.	20	47	90	139	162	157	148	170	158	140	319	1,559
Acute myocardial infarction (I21)[(j)]	*0*	*0*	*0*	*n.p.*	*n.p.*	*10*	*22*	*34*	*57*	*64*	*65*	*69*	*76*	*80*	*73*	*157*	*711*
Cerebrovascular disease (I60–I69)	n.p.	0	n.p.	n.p.	n.p.	7	11	19	21	32	47	35	43	49	58	206	537
Stroke (I60–I64)[(j)]	*n.p.*	*0*	*n.p.*	*n.p.*	*n.p.*	*7*	*9*	*17*	*20*	*31*	*42*	*32*	*36*	*37*	*42*	*147*	*428*
Other heart disease (I26–I52)	15	n.p.	n.p.	0	7	13	24	34	47	43	42	37	44	37	34	112	495
Rheumatic heart disease (I00–I09)	n.p.	n.p.	n.p.	n.p.	8	8	12	12	9	7	11	8	6	n.p.	5	n.p.	99
Hypertension disease (I10–I15)	0	0	0	0	0	0	n.p.	n.p.	n.p.	7	5	11	9	n.p.	15	40	107
Other diseases of the circulatory system (I70–I99)	n.p.	n.p.	0	0	n.p.	0	n.p.	n.p.	n.p.	7	7	9	11	18	8	36	111
Total circulatory diseases	**24**	**n.p.**	**6**	**7**	**24**	**48**	**96**	**165**	**226**	**258**	**269**	**248**	**283**	**273**	**260**	**715**	**2,908**

(continued)

Table 1.23.7 (continued): Deaths of Indigenous Australians from circulatory diseases, by age, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

(a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values are interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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.

(e) Causes of death data for 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process. See *Causes of death, Australia, 2008* (ABS 2010, cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Includes age not stated.

(j) 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: 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: ABS and AIHW analysis of ABS Mortality Database.

External causes (injury and poisoning)

Tables 1.23.8 and 1.23.9 present data on deaths of Indigenous Australians from external causes of injury and poisoning over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 1,615 deaths 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 twice the rate of non-Indigenous Australians.
- The most common types of external cause of death among Indigenous Australians were intentional self-harm (suicide) and transport accidents (both 27%), followed by accidental poisoning by and exposure to noxious substances, and assault (both 9%).
- Indigenous Australians died from intentional self-harm and transport accidents at two and three times the rate of non-Indigenous Australians respectively. Indigenous males and females died from assault at 8 and 10 times the rate of non-Indigenous males and females respectively.
- Over the period 2004–2008, the largest number of deaths of Indigenous Australians from external causes was in the 30–34 year age groups (226, 14%), followed by the 20–24 year age group (213, 13%) (Table 1.23.9).

Table 1.23.8: Deaths of Indigenous Australians from external causes (injury and poisoning), by sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

	Males				**Females**				**Persons**			
	Number	**Per cent**	**Number per 100,000[(j)]**	**Rate ratio[(k)]**	**Number**	**Per cent**	**Number per 100,000[(j)]**	**Rate ratio[(k)]**	**Number**	**Per cent**	**Number per 100,000[(j)]**	**Rate ratio[(k)]**
Intentional self-harm (X60–X84)	355	31.5	32.5	2.2	84	17.2	6.8	1.8	439	27.2	19.2	2.1
Accidents												
Transport accidents (V01–V99)	300	26.6	30.0	2.7	132	27.0	13.1	3.9	432	26.7	21.2	3.0
Accidental drowning or accidental threats to breathing (W65–W84)	74	6.6	7.5	2.2	34	7.0	2.8	2.2	108	6.7	5.0	2.2
Accidental poisoning by and exposure to noxious substances (X40–X49)	90	8.0	9.2	2.2	51	10.5	5.5	3.1	141	8.7	7.4	2.4
Exposure to electric current/smoke/fire/ animals/nature (W85–W99, X00–X39)	31	2.8	4.3	4.3	18	3.7	1.6	3.0	49	3.0	2.8	3.6
Accidental falls (W00–W19)	37	3.3	9.0	1.8	16	3.3	3.6	0.9	53	3.3	5.9	1.4
Exposure to inanimate mechanical forces (W20–W49)	18	1.6	1.6	1.5	7	1.4	0.7	4.7	25	1.5	1.1	1.9
Other external causes of accidental injury (W50–W64, X50–X59)	66	5.9	14.2	2.8	43	8.8	8.3	2.0	109	6.7	10.8	2.3
Assault (X85–Y09)	78	6.9	8.1	8.0	61	12.5	5.6	9.9	139	8.6	6.8	8.6
Complications of medical or surgical care (Y40–Y84)	9	0.8	2.1	1.7	14	2.9	2.6	2.4	23	1.4	2.3	2.0
Other external causes[(l)]	69	6.1	8.9	2.5	28	5.7	3.0	2.0	97	6.0	5.7	2.3
Total external causes	**1,127**	**100.0**	**127.5**	**2.5**	**488**	**100.0**	**53.6**	**2.4**	**1,615**	**100.0**	**88.2**	**2.4**

(continued)

Table 1.23.8 (continued): Deaths of Indigenous Australians from external causes of injury and poisoning, by sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) These data exclude 642 deaths where the Indigenous status was not stated.

(j) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(k) Rate ratio Indigenous: non-Indigenous.

(l) 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: 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: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.9: Deaths of Indigenous Australians from external causes of injury and poisoning, by age group, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

	Age group (years)																
	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(i)
	Number																
Intentional self-harm (X60–X84)	0	0	15	70	94	84	61	56	27	16	8	n.p.	n.p.	n.p.	0	n.p.	439
Accidents																	
Transport accidents (V01–V99)	29	14	10	57	54	38	61	50	38	37	10	12	10	n.p.	n.p.	5	432
Accidental drowning or accidental threats to breathing (W65–W84)	21	5	n.p.	5	13	10	20	12	9	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	108
Accidental poisoning by and exposure to noxious substances (X40–X49)	n.p.	0	n.p.	5	16	20	22	24	24	12	6	n.p.	n.p.	n.p.	0	n.p.	141
Exposure to electric current/smoke/fire/ animals/nature (W85–W99, X00–X39)	13	n.p.	n.p.	n.p.	n.p.	n.p.	6	n.p.	5	6	n.p.	0	n.p.	n.p.	n.p.	n.p.	49
Accidental falls (W00–W19)	n.p.	0	0	n.p.	0	n.p.	5	6	n.p.	6	5	n.p.	n.p.	n.p.	n.p.	13	53
Exposure to inanimate mechanical forces (W20–W49)	n.p.	0	0	n.p.	n.p.	n.p.	n.p.	n.p.	5	n.p.	n.p.	0	0	0	0	0	25
Other external causes of accidental injury (W50–W64, X50–X59)	6	n.p.	n.p.	8	8	n.p.	11	8	10	8	n.p.	5	n.p.	7	n.p.	22	109
Assault (X85–Y09)	6	n.p.	n.p.	5	16	20	26	21	20	9	7	n.p.	n.p.	n.p.	0	0	139
Complications of medical or surgical care (Y40–Y84)	n.p.	0	0	0	0	0	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	23
Other external causes(j)	n.p.	0	0	5	7	16	11	13	13	11	5	6	0	n.p.	n.p.	n.p.	97
Total external causes	**87**	**25**	**35**	**161**	**213**	**198**	**226**	**199**	**155**	**111**	**55**	**33**	**27**	**22**	**12**	**54**	**1,615**

(continued)

Table 1.23.9 (continued): Deaths of Indigenous Australians from external causes of injury and poisoning, by age, NSW, Qld, WA, SA and NT, 2004–2008[a][b][c][d][e][f][g][h]

(a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Includes age not stated.

(j) All other external Causes of death not presented elsewhere in this table.

Note: 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: ABS and AIHW analysis of ABS Mortality Database.

Neoplasms (cancer)

Tables 1.23.10 and 1.23.11 present data on deaths of Indigenous Australians from neoplasms (cancer) over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 1,955 deaths 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 around 1.3 times the rate of non-Indigenous Australians.
- The most common type of cancer causing mortality among Indigenous Australians was cancer of the digestive organs, from which they died at 1.4 times the rate of non-Indigenous Australians.
- The second most common type of cancer causing mortality among Indigenous Australians was cancer of the respiratory and intrathoracic organs, which comprises predominantly lung cancer. Indigenous Australians died from these cancers at almost twice the rate of non-Indigenous Australians.
- Over the period 2004–2008, there were 51 deaths of Indigenous females in the five jurisdictions from cervical cancer. Indigenous females died from cervical cancer at four times the rate of non-Indigenous Australians.
- Over the period 2004–2008, the largest number of deaths of Indigenous Australians from cancer was in the 75 years and over age group (326, 17%), followed by the 60–64 year age group (287, 15%) (Table 1.23.11).

Table 1.23.10: Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, **2004–2008**(a)(b)(c)(d)(e)(f)(g)(h)(i)

	Males				Females				Persons			
Site of neoplasm	**Number**	**Per cent**	**Number per 100,000**(j)	**Rate ratio**(k)	**Number**	**Per cent**	**Number per 100,000**(j)	**Rate ratio**(k)	**Number**	**Per cent**	**Number per 100,000**(j)	**Rate ratio**(k)
Digestive organs (C15–C26)	317	31.6	82.6	1.4	226	23.7	55.7	1.5	543	27.8	68.1	1.4
Respiratory and intrathoracic organs (C30–C39)	299	29.8	84.8	1.7	217	22.8	47.5	2.0	516	26.4	63.4	1.8
Bronchus and lung (C34)(j)	*272*	*27.1*	*78.1*	*1.6*	*206*	*21.6*	*45.0*	*2.0*	*478*	*24.5*	*59.1*	*1.7*
Ill-defined, secondary and unspecified site (C76–C80)	66	6.6	20.2	1.5	72	7.6	17.6	1.7	138	7.1	18.7	1.6
Lymphoid, haematopoietic and related tissue (C81–C96)	59	5.9	16.9	0.8	67	7.0	15.3	1.2	126	6.4	15.9	0.9
Female genital organs (C51–C58)	. .	. .	. .	. .	121	12.7	23.9	1.9	121	6.2	13.4	2.0
Cervix (C53)(j)	. .	. .	. .	. .	*51*	*5.4*	*7.8*	*4.0*	*51*	*2.6*	*4.3*	*4.1*
Lip, oral cavity and pharynx (C00–C14)	91	9.1	19.4	4.4	28	2.9	4.7	3.1	119	6.1	11.4	3.9
Breast (C50)	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	128	6.5	14.2	1.2
Malignant neoplasms of urinary tract (C64–C68)	30	3.0	10.5	0.9	16	1.7	3.9	0.7	46	2.4	6.7	0.8
Male genital organs (C60–C63)	52	5.2	22.6	0.7	. .	. .	. .	. .	52	2.7	9.2	0.7
Other malignant neoplasms(k)	63	6.3	20.1	0.7	49	5.1	11.5	0.8	112	5.7	15.2	0.7
Non-malignant neoplasms (D00–D48)	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	38	1.9	5.0	1.1
Total neoplasms	**1,002**	**100.0**	**281.8**	**1.2**	**953**	**100.0**	**211.0**	**1.5**	**1,955**	**100.0**	**241.2**	**1.3**

(continued)

Table 1.23.10 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by sex, NSW, Qld, WA, SA and NT, **2004–2008**[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) These data exclude 973 deaths where the Indigenous status was not stated.

(j) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(k) Rate ratio Indigenous: non-Indigenous.

(l) Data presented for bronchus and 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 and 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: 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: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.11: Deaths of Indigenous Australians from neoplasms (cancer), by age, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

	Age group (years)																
	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(i)
	Number																
Digestive organs (C15–C26)	0	0	0	n.p.	n.p.	5	6	17	30	39	59	75	86	64	65	95	543
Respiratory and intrathoracic organs (C30–C39)	n.p.	0	0	0	0	0	n.p.	5	14	39	78	76	96	64	72	70	516
Bronchus and lung (C34)(j)	*n.p.*	*0*	*0*	*0*	*0*	*0*	*n.p.*	*5*	*13*	*33*	*70*	*69*	*93*	*60*	*68*	*65*	*478*
Ill-defined, secondary and unspecified site (C76–C80)	0	0	0	0	n.p.	0	n.p.	7	9	5	6	17	21	23	12	33	138
Lymphoid, haematopoietic and related tissue (C81–C96)	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	n.p.	9	9	8	11	16	15	20	23	126
Female genital organs (C51–C58)	0	0	0	0	0	n.p.	9	n.p.	14	10	13	9	16	12	10	18	121
Cervix (C53)(j)	*0*	*0*	*0*	*0*	*0*	*n.p.*	*8*	*6*	*9*	*n.p.*	*6*	*n.p.*	*n.p.*	*6*	*n.p.*	*n.p.*	*51*
Lip, oral cavity and pharynx (C00–C14)	0	0	0	0	0	n.p.	n.p.	n.p.	10	15	28	17	13	14	10	n.p.	119
Breast (C50)	0	0	0	0	0	n.p.	0	n.p.	12	12	17	22	16	12	n.p.	18	128
Malignant neoplasms of urinary tract (C64–C68)	n.p.	n.p.	0	0	0	0	0	0	0	n.p.	n.p.	5	5	5	10	11	46

(continued)

Table 1.23.11 (continued): Deaths of Indigenous Australians from neoplasms (cancer), by age, NSW, Qld, WA, SA and NT, 2004–2008[a][b][c][d][e][f][g][h]

	Age group																
	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[i]**
	Number																
Male genital organs (C60–C63)	0	0	0	0	0	0	n.p.	n.p.	n.p.	0	n.p.	n.p.	n.p.	5	12	21	52
Other malignant neoplasms[k]	5	n.p.	6	n.p.	n.p.	n.p.	0	8	11	9	6	12	9	12	20	23	128
Non-malignant neoplasms (D00–D48)	n.p.	0	0	0	0	n.p.	n.p.	0	n.p.	n.p.	5	n.p.	5	5	n.p.	9	38
Total neoplasms	**10**	**5**	**6**	**6**	**7**	**15**	**25**	**60**	**112**	**144**	**226**	**252**	**287**	**231**	**243**	**326**	**1,955**

(a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Includes deaths where age was not stated.

(j) Data presented for bronchus and lung cancer are a subset of data presented for all respiratory and intrathoracic 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 and 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: 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: ABS and AIHW analysis of ABS Mortality Database.

Respiratory diseases

Tables 1.23.12 and 1.23.13 present data on deaths of Indigenous Australians from respiratory diseases over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 848 deaths 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 over twice the rate of non-Indigenous Australians.
- The most common type of respiratory disease causing death among Indigenous Australians was chronic lower respiratory diseases (including asthma, bronchitis and emphysema), followed by pneumonia and influenza. Indigenous Australians died at around three and two times the rate of non-Indigenous Australians for these diseases respectively.
- Over the period 2004–2008, the largest number of deaths of Indigenous Australians from respiratory diseases was in the 75 years and over age group (229), followed by the 65–69 year age group (111). The three age groups with the largest number of deaths of Indigenous Australians from pneumonia and influenza were 75 years and over (50), 40–44 years (28) and 0–4 years (20). For all respiratory diseases, 68% of observed deaths were for people aged 55 years and over (Table 1.23.13).

Table 1.23.12: Deaths of Indigenous Australians from respiratory diseases, by sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Males				Females				Persons			
	Number	Per cent	Number per 100,000[(i)]	Rate ratio[(j)]	Number	Per cent	Number per 100,000[(i)]	Rate ratio[(j)]	Number	Per cent	Number per 100,000[(i)]	Rate ratio[(j)]
Chronic lower respiratory diseases (J40–J47)	268	57.3	94.6	3.0	238	62.6	63.3	3.2	506	59.7	76.1	3.1
Pneumonia and influenza (J10–J18)	115	24.6	27.2	2.1	97	25.5	21.7	1.8	212	25.0	24.4	2.0
Other respiratory disease (J00–06, J20–39, J60–99)	85	18.2	22.0	1.2	45	11.8	9.8	0.9	130	15.3	15.0	1.1
Total respiratory diseases	**468**	**100.0**	**143.8**	**2.3**	**380**	**100.0**	**94.8**	**2.2**	**848**	**100.0**	**115.5**	**2.3**

(a) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(j) Rate ratio Indigenous: non-Indigenous.

Note: 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: ABS and AIHW analysis of ABS Mortality Database

Table 1.23.13: Deaths of Indigenous Australians from respiratory diseases, by age, NSW, Qld, WA, SA and NT, 2004–2008[a][b][c][d][e][f][g][h]

	Age group																
	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[i]
	Number																
Chronic lower respiratory diseases (J40–J47)	0	n.p.	n.p.	n.p.	n.p.	5	n.p.	23	18	16	31	45	60	78	70	151	506
Pneumonia and influenza (J10–J18)	20	n.p.	0	0	n.p.	n.p.	12	n.p.	28	17	12	14	11	15	11	50	212
Other respiratory disease (J00–06, J20–39, J60–99)	18	n.p.	0	n.p.	n.p.	5	n.p.	n.p.	6	11	8	11	9	18	7	28	130
Total respiratory diseases	**38**	**5**	**n.p.**	**n.p.**	**7**	**13**	**17**	**39**	**52**	**44**	**51**	**70**	**80**	**111**	**88**	**229**	**848**

(a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Includes age not stated.

Note: 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: ABS and AIHW analysis of ABS Mortality Database.

Diseases of the genitourinary system

Tables 1.23.14 and 1.23.15 present data on deaths of Indigenous Australians from diseases of the genitourinary system over the period 2004–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period 2004–2008, there were 316 deaths 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 around three times the rate of non-Indigenous Australians.
- The most common type of genitourinary disease causing mortality among Indigenous Australians was renal failure, from which they died at around three times the rate of non-Indigenous Australians.
- Over the period 2004–2008, Indigenous males and females died from renal tubulo-intestinal disorders at around nine and three times the rate of non-Indigenous males and females respectively. Over the same period, Indigenous males and females died from glomerular disease (a disease of the kidneys) at two and six times the rate of non-Indigenous males and females respectively.
- Over the period 2004–2008, the largest number of deaths of Indigenous Australians from diseases of the genitourinary system was in the 75 years and over age group (95), followed by the 55–59 year age group (40). 72% of deaths were observed in ages 55 and over (Table 1.23.15).

Table 1.23.14: Deaths of Indigenous Australians from diseases of the genitourinary system, by sex, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)]

	Males				Females				Persons			
	Number.	Per cent	Number per 100,000[(i)]	Rate ratio[(j)]	Number	Per cent	Number per 100,000[(i)]	Rate ratio[(j)]	Number	Per cent	Number per 100,000[(i)]	Rate ratio[(j)]
Renal failure (N17–N19)	107	72.3	34.7	3.1	118	70.2	29.2	3.4	225	71.2	31.4	3.3
Other diseases of the urinary system (N30–N39)	12	8.1	4.8	2.1	21	12.5	6.4	2.0	33	10.4	5.8	2.0
Renal tubulo-intestinal diseases (N10–N16)	11	7.4	4.3	9.3	12	7.1	2.3	3.4	23	7.3	3.0	5.2
Glomerular disease (N00–N08)	6	4.1	0.8	1.9	8	4.8	1.6	5.8	14	4.4	1.2	3.8
Other diseases of the genitourinary system[(k)]	12	8.1	5.1	4.8	9	5.4	1.8	3.8	21	6.6	3.0	4.2
Total genitourinary diseases	**148**	**100.0**	**49.7**	**3.3**	**168**	**100.0**	**41.2**	**3.1**	**316**	**100.0**	**44.5**	**3.1**

(a) Data are reported for NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

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

(c) These data exclude 95 deaths where the Indigenous status was not stated.

(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 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(h) 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.

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

(j) Rate ratio Indigenous: non-Indigenous

(k) Includes: urolithiasis; other disorders of the kidney and 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: 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: ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.15: Deaths of Indigenous Australians from diseases of the genitourinary system, by age, NSW, Qld, WA, SA and NT, 2004–2008[a][b][c][d][e][f][g][h]

	Age group																
	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[i]
	Number																
Renal failure (N17–N19)	0	0	0	n.p.	n.p.	n.p.	n.p.	13	7	16	22	30	25	26	14	66	225
Other diseases of the urinary system (N30–N39)	n.p.	0	0	n.p.	0	n.p.	n.p.	0	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	16	33
Renal tubulo-intestinal diseases (N10–N16)	0	0	0	0	0	0	n.p.	n.p.	n.p.	n.p.	0	n.p.	n.p.	n.p.	n.p.	n.p.	23
Glomerular disease (N00–N08)	0	0	0	0	0	n.p.	0	n.p.	n.p.	n.p.	0	n.p.	n.p.	n.p.	0	n.p.	14
Other diseases of the genitourinary system	0	0	0	0	0	0	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0	n.p.	7	21
Total genitourinary diseases	**n.p.**	**0**	**0**	**n.p.**	**n.p.**	**n.p.**	**n.p.**	**18**	**14**	**21**	**24**	**40**	**37**	**30**	**24**	**95**	**316**

(a) A high proportion of the cells within this table have been randomised to ensure confidentiality of data. ABS recommends cells with small values be interpreted with caution. Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(f) 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.

(g) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(h) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(i) Includes age not stated.

Note: 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: ABS and 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.

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 1997–2008.

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 1997–2008 are presented in tables 1.23.16, 1.23.18, 1.23.20, 1.23.22, 1.23.24, 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 2008 for Indigenous and non-Indigenous Australians (excluding deaths for which Indigenous status was not stated) in tables 1.23.17, 1.23.19, 1.23.21, 1.23.23, 1.23.25, 1.23.27 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 no significant declines in mortality rates for circulatory diseases among Indigenous Australians and significant declines in mortality rates for circulatory diseases among other Australians (Table 1.23.16).
- Over the period 1997–2008 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 around 18 deaths per 100,000 for Indigenous Australians (a 29% decline) and 9 deaths per 100,000 for other Australians (a 35% decline). Over the same period, there were no significant changes in mortality rate ratios or rate differences between Indigenous and other Australians from circulatory diseases (Table 1.23.16).
- Over the period 2001–2008 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 (13% decline) and non-Indigenous Australians (19% decline). There were no significant changes in the mortality rate ratios or rate differences between Indigenous and non-Indigenous Australians from circulatory diseases (Table 1.23.17).

Table 1.23.16: Age-standardised mortality rates, rate ratios and rate differences, circulatory diseases, WA, SA and NT, 1991–1996 and 1997–2008[(a)(b)(c)]

	Indigenous rate (deaths per 100,000)	Other[(d)] rate (deaths per 100,000)	Rate ratio[(e)]	Rate difference[(f)]
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	438.5
1995	632.5	323.2	2.0	309.3
1996	485.5	315.7	1.5	169.8
Annual change[(g)]	**–29.4**	**–9.1***	**0.0**	**–20.2**
Per cent change[(h)]	**–20.2**	**–12.7***	**–9.6**	**–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	409.2	236.3	1.7	172.8
2003	409.9	229.7	1.8	180.2
2004	476.8	210.1	2.3	266.7
2005	400.1	208.0	1.9	192.1
2006	360.0	198.1	1.8	161.9
2007	506.9	200.9	2.5	306.0
2008[(i)]	477.7	196.4	2.4	281.3
Annual change[(g)]	**–18.1***	**–9.3***	**0.0**	**–8.8**
Per cent change[(h)]	**–29.0***	**–34.6***	**5.4**	**–24.7**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

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

(h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.

(i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.17: Age-standardised mortality rates, rate ratios and rate differences, circulatory diseases, NSW, Qld, WA, SA and NT, 2001–2008[(a)(b)(c)]

	2001	2002	2003	2004	2005	2006	2007	2008(d)	Annual change(e)	Per cent change(f)
Indigenous rate (deaths per 100,000)	427.5	429.8	398.4	393.9	363.2	355.1	411.6	371.8	–7.6*	–12.5*
Non-Indigenous rate (deaths per 100,000)	248.8	245.9	235.7	228.5	213.2	207.8	206.4	209.4	–6.8*	–19.2*
Rate ratio(g)	1.7	1.7	1.7	1.7	1.7	1.7	2.0	1.8	0.0	8.1
Rate difference(h)	178.7	183.9	162.8	165.4	150.0	147.3	205.2	162.4	–0.8	–3.3

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

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

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and 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 injury and poisoning among Indigenous Australians, an annual change of seven 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 injury and poisoning over the period 1991–1996 (Table 1.23.18).
- Across the period 1997–2008 there was an apparent increase in the mortality rate from injury and poisoning 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 significant increases in the mortality rate ratio (29%) but no significant change in mortality rate difference between Indigenous and other Australians for injury and poisoning (Table 1.23.18).
- Throughout the period 2001–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant change 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 1.23.19).

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 (18%). During this period there was no significant change in the mortality rate for cancer for other Australians. There was also a significant decrease in both the rate ratio (19%) and rate difference (66%) between Indigenous and other Australians for cancer (Table 1.23.20).
- Over the period 1997–2008, there were non-significant increases in mortality rates for cancer among Indigenous Australians and significant declines in mortality rates for cancer among other Australians (10% 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 1997–2008 reflecting both a relative and an absolute increase in the gap between mortality rates for Indigenous and other Australians from cancer (Table 1.23.20).
- Throughout the period 2001–2008 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 (5% decline). There were significant increases in the mortality rate ratios and rate differences between Indigenous and non-Indigenous Australians for cancer (Table 1.23.21).

Table 1.23.18: Age-standardised mortality rates, rate ratios and rate differences, external causes (injury and poisoning), WA, SA and NT, 1991–1996 and 1997–2008[a][b][c]

	Indigenous rate (deaths per 100,000)	Other[d] rate (deaths per 100,000)	Rate ratio[e]	Rate difference[f]
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[g]	**–7.1***	**–0.1**	**–0.2***	**–7.0***
Per cent change[h]	**–19.2***	**–0.6**	**–18.9***	**–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	63.8
2000	135.2	43.8	3.1	91.4
2001	129.4	41.0	3.2	88.4
2002	126.4	38.8	3.3	87.6
2003	124.9	39.9	3.1	85.1
2004	114.4	37.9	3.0	76.5
2005	147.3	39.8	3.7	107.4
2006	130.9	37.7	3.5	93.2
2007	123.1	41.6	3.0	81.5
2008[i]	165.5	42.7	3.9	122.8
Annual change[g]	**1.9**	**–0.4**	**0.1***	**2.3**
Per cent change[h]	**18.0**	**–9.3**	**28.5***	**33.3**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

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

(h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.

(i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.19: Age-standardised mortality rates, rate ratios and rate differences, external causes (injury and poisoning), NSW, Qld, WA, SA and NT, 2001–2008[(a)(b)(c)]

	2001	2002	2003	2004	2005	2006	2007	2008[(d)]	Annual change[(e)]	Per cent change[(f)]
Indigenous rate (deaths per 100,000)	91.3	88.6	88.8	82.2	95.3	79.6	86.5	97.5	0.2	1.5
Non-Indigenous rate (deaths per 100,000)	39.3	38.1	37.4	36.8	36.1	34.7	36.6	37.6	–0.3	–5.2
Rate ratio[(g)]	2.3	2.3	2.4	2.2	2.6	2.3	2.4	2.6	0.0	7.0
Rate difference[(h)]	51.9	50.5	51.3	45.4	59.2	44.9	49.9	59.9	0.6	6.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

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

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.20: Age-standardised mortality rates, rate ratios and rate differences, cancer, WA, SA and NT, 1991–1996 and 1997–2008[(a)(b)(c)]

	Indigenous rate (deaths per 100,000)	Other[(d)] rate (deaths per 100,000)	Rate ratio[(e)]	Rate difference[(f)]
1991	284.2	205.7	1.4	78.6
1992	300.1	200.2	1.5	99.9
1993	272.2	210.6	1.3	61.6
1994	255.0	211.4	1.2	43.6
1995	278.0	202.7	1.4	75.2
1996	230.6	206.7	1.1	24.0
Annual change[(g)]	**–10.1***	**0.4**	**–0.1***	**–10.4***
Per cent change[(h)]	**–17.7***	**0.9**	**–18.6***	**–66.4***
1997	267.5	202.9	1.3	64.5
1998	252.2	194.2	1.3	58.0
1999	217.4	195.1	1.1	22.2
2000	284.0	192.3	1.5	91.7
2001	224.7	190.3	1.2	34.4
2002	240.9	191.3	1.3	49.7
2003	249.9	187.6	1.3	62.3
2004	243.2	181.6	1.3	61.6
2005	223.5	180.8	1.2	42.7
2006	268.3	182.4	1.5	85.8
2007	295.8	180.6	1.6	115.2
2008[(i)]	338.7	181.1	1.9	157.6
Annual change[(g)]	**4.5**	**–1.9***	**0.04***	**6.4***
Per cent change[(h)]	**18.6**	**–10.2***	**32.0***	**109.2***

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

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

(h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.

(i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.21: Age-standardised mortality rates, rate ratios and rate differences, cancer, NSW, Qld, WA, SA and NT, 2001–2008(a)(b)(c)

	2001	2002	2003	2004	2005	2006	2007	2008(d)	Annual change(e)	Per cent change(f)
Indigenous rate (deaths per 100,000)	239.7	211.0	230.3	229.3	212.2	235.5	248.5	281.6	5.7	16.7
Non-Indigenous rate (deaths per 100,000)	186.5	186.2	183.1	184.4	181.5	179.2	176.3	181.4	–1.2*	–4.5*
Rate ratio(g)	1.3	1.1	1.3	1.2	1.2	1.3	1.4	1.6	0.04*	21.7*
Rate difference(h)	53.2	24.8	47.3	44.9	30.7	56.3	72.2	100.2	6.9*	90.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

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

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Respiratory diseases

- Over the period 1991–1996 in Western Australia, South Australia and the Northern Territory combined, there was a significant decline in mortality rates for respiratory diseases among Indigenous Australians (decrease of 27%) and other Australians (decrease of 11%). There were significant decreases in the rate ratio (18%) and rate difference (30%) between Indigenous and other Australians for respiratory diseases over the period 1991–1996 (Table 1.23.22).
- During the period 1997–2008, there was a 23% decrease in the mortality rates for respiratory diseases for both Indigenous Australians and other Australians. There were no significant changes in either the mortality rate ratio or mortality rate difference between Indigenous and other Australians for respiratory diseases over this period (Table 1.23.22).
- Across the period 2001–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there was a significant decrease in the mortality rates for respiratory diseases for Indigenous (20%) and non-Indigenous Australians (14%). There were no significant changes in either the mortality rate ratio or mortality rate difference between Indigenous and non-Indigenous Australians for respiratory diseases over this period, although the rate difference declined by 23% (Table 1.23.23).

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 1.23.24).
- Over the period 1997–2008, there were no significant changes in the mortality rates for diabetes for Indigenous Australians and significant increases in mortality rates for diabetes among other Australians (13%). 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 1.23.24).
- Throughout the period 2001–2008 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there was no significant change in mortality rates for diabetes among Indigenous Australians; however there were significant increases in mortality rates for diabetes among non-Indigenous Australians (20% increase). There was no significant change in the mortality rate ratios or rate differences between Indigenous and non-Indigenous Australians over this period (Table 1.23.25).

Table 1.23.22: Age-standardised mortality rates, rate ratios and rate differences, respiratory diseases, WA, SA and NT, 1991–1996 and 1997–2008[(a)(b)(c)]

	Indigenous rate (deaths per 100,000)	Other[(d)] rate (deaths per 100,000)	Rate ratio[(e)]	Rate difference[(f)]
1991	346.2	60.3	5.7	285.9
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	251.5	53.7	4.7	197.9
1996	254.9	58.8	4.3	196.1
Annual change[(g)]	**–18.6***	**–1.3***	**–0.2***	**–17.3***
Per cent change[(h)]	**–26.8***	**–10.5***	**–18.4***	**–30.3***
1997	168.5	63.1	2.7	105.4
1998	215.6	57.5	3.8	158.2
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	168.4	63.0	2.7	105.4
2003	144.2	62.3	2.3	82.0
2004	191.9	55.0	3.5	136.9
2005	132.9	50.5	2.6	82.4
2006	168.0	48.3	3.5	119.7
2007	154.4	46.4	3.3	108.0
2008[(i)]	139.9	46.1	3.0	93.8
Annual change[(g)]	**–3.5***	**–1.3***	**0.0**	**–2.1**
Per cent change[(h)]	**–22.7***	**–23.4***	**4.8**	**–22.4**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
(b) 2006 Series B Indigenous experimental population estimates used as denominator.
(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.
(d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.
(e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.
(f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.
(g) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
(h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.
(i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.23: Age-standardised mortality rates, rate ratios and rate differences, respiratory diseases, NSW, Qld, WA, SA and NT, 2001–2008[(a)(b)(c)]

	2001	2002	2003	2004	2005	2006	2007	2008[(d)]	Annual change[(e)]	Per cent change[(f)]
Indigenous rate (deaths per 100,000)	145.6	131.0	116.2	133.6	102.8	117.4	128.3	101.5	–4.2*	–20.0*
Non-Indigenous rate (deaths per 100,000)	52.5	56.9	57.5	55.5	50.4	49.3	51.1	48.1	–1.1*	–14.2*
Rate ratio[(g)]	2.8	2.3	2.0	2.4	2.0	2.4	2.5	2.1	0.0	–8.7
Rate difference[(h)]	93.1	74.1	58.7	78.0	52.5	68.1	77.2	53.4	–3.1	–23.2

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.
(b) 2006 Series B Indigenous experimental population estimates used as denominator.
(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.
(d) Preliminary 2007 and 2008 cause of death data.
(e) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
(f) Per cent change between 2001 and 2008 based on the average annual change over the period.
(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.
(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.24: Age-standardised mortality rates, rate ratios and rate differences, diabetes, WA, SA and NT, 1991–1996 and 1997–2008[(a)(b)(c)]

	Indigenous rate (deaths per 100,000)	Other[(d)] rate (deaths per 100,000)	Rate ratio[(e)]	Rate difference[(f)]
1991	138.5	13.6	10.2	124.9
1992	147.7	13.9	10.6	133.8
1993	176.6	16.0	11.1	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[(g)]	**0.5**	**1.1***	**–0.68***	**–0.6**
Per cent change[(h)]	**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	143.2	15.8	9.1	127.5
2003	110.7	15.1	7.3	95.6
2004	140.1	16.3	8.6	123.7
2005	135.5	15.8	8.6	119.6
2006	134.8	17.0	7.9	117.8
2007	129.3	18.4	7.0	110.9
2008[(i)]	180.8	18.2	9.9	162.6
Annual change[(g)]	**1.3**	**0.2***	**0.0**	**1.1**
Per cent change[(h)]	**9.2**	**12.7***	**–3.7**	**8.8**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

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

(h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.

(i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.25: Age-standardised mortality rates, rate ratios and rate differences, diabetes, NSW, Qld, WA, SA and NT, 2001–2008[(a)(b)(c)]

	2001	2002	2003	2004	2005	2006	2007	2008[(d)]	Annual change[(e)]	Per cent change[(f)]
Indigenous rate (deaths per 100,000)	99.0	113.0	87.6	113.0	90.9	104.5	92.5	118.9	0.8	5.5
Non-Indigenous rate (deaths per 100,000)	13.1	14.0	13.8	14.7	14.0	14.2	15.2	16.6	0.4*	19.5*
Rate ratio[(g)]	7.5	8.1	6.3	7.7	6.5	7.3	6.1	7.2	–0.1	–11.8
Rate difference[(h)]	85.8	99.0	73.8	98.3	76.9	90.2	77.3	102.3	0.4	3.4

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

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

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and 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 no significant changes in mortality rates for kidney diseases among Indigenous Australians, but a significant increase (30%) in mortality rates for kidney diseases among other Australians. There were apparent declines in the mortality rate ratios and rate differences between Indigenous and other Australians from kidney diseases, but these were not statistically significant (Table 1.23.26).
- Over the period 1997–2008, there were no significant changes in mortality rates for kidney diseases for Indigenous or other Australians. There were apparent but not significant changes in the mortality rate ratios and rate differences between Indigenous and other Australians for kidney diseases (Table 1.23.26).
- Over the period 2001–2008, in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, the mortality rates for kidney diseases for Indigenous people more than doubled (102%), and the non-Indigenous rate increased by 23%. The rate differences between Indigenous and non-Indigenous Australians for kidney diseases increased more than two and a half times (168%) (Table 1.23.27).

Table 1.23.26: Age-standardised mortality rates, rate ratios and rate differences, kidney diseases WA,SA and NT, 1991–1996 and 1997–2008[a][b][c]

	Indigenous rate (deaths per 100,000)	Other[d] rate (deaths per 100,000)	Rate ratio[e]	Rate difference[f]
1991	74.7	7.2	10.3	67.5
1992	28.1	6.4	4.4	21.7
1993	63.1	8.4	7.5	54.7
1994	22.6	7.0	3.2	15.5
1995	60.3	8.0	7.5	52.3
1996	62.4	9.6	6.5	52.8
Annual change[g]	**–0.2**	**0.4***	**–0.4**	**–0.6**
Per cent change[h]	**–1.1**	**30.3***	**–19.5**	**–4.5**
1997	59.5	11.1	5.4	48.4
1998	78.6	10.5	7.5	68.1
1999	97.4	9.8	10.0	87.7
2000	90.0	10.2	8.8	79.8
2001	30.5	10.9	2.8	19.5
2002	47.2	10.7	4.4	36.5
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	7.1	65.3
2007	61.3	12.2	5.0	49.1
2008[i]	74.8	12.6	5.9	62.2
Annual change[g]	**–1.3**	**0.1**	**–0.2**	**–1.4**
Per cent change[h]	**–23.4**	**12.1**	**–40.6**	**–31.5**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) 'Other' includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(e) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(f) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

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

(h) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.

(i) Preliminary 2008 cause of death data.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

Table 1.23.27 Age-standardised mortality rates, rate ratios and rate differences, kidney diseases, NSW, Qld, WA, SA and NT, 2001–2008[(a)(b)(c)]

	2001	2002	2003	2004	2005	2006	2007	2008[(d)]	Annual change[(e)]	Per cent change[(f)]
Indigenous rate (deaths per 100,000)	21.1	26.3	28.3	28.2	25.7	49.8	35.5	42.6	3.1*	101.7*
Non-Indigenous rate (deaths per 100,000)	9.7	10.3	10.2	9.7	9.8	10.5	12.0	12.3	0.3*	23.4*
Rate ratio[(g)]	2.2	2.6	2.8	2.9	2.6	4.8	3.0	3.5	0.2	64.1
Rate difference[(h)]	11.4	16.0	18.1	18.6	15.9	39.3	23.5	30.3	2.7*	168.4*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 2001–2008.

(a) Rates have been directly age-standardised using the Australian 2001 standard population, by 5-year age group to 75+.

(b) 2006 Series B Indigenous experimental population estimates used as denominator.

(c) Other population for 2006 calculated by subtracting 2006 Indigenous population from 2006 Total population.

(d) Preliminary 2008 cause of death data.

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

(f) Per cent change between 2001 and 2008 based on the average annual change over the period.

(g) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(h) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Source: AIHW analysis of National Mortality database; ABS and AIHW analysis of ABS Mortality Database.

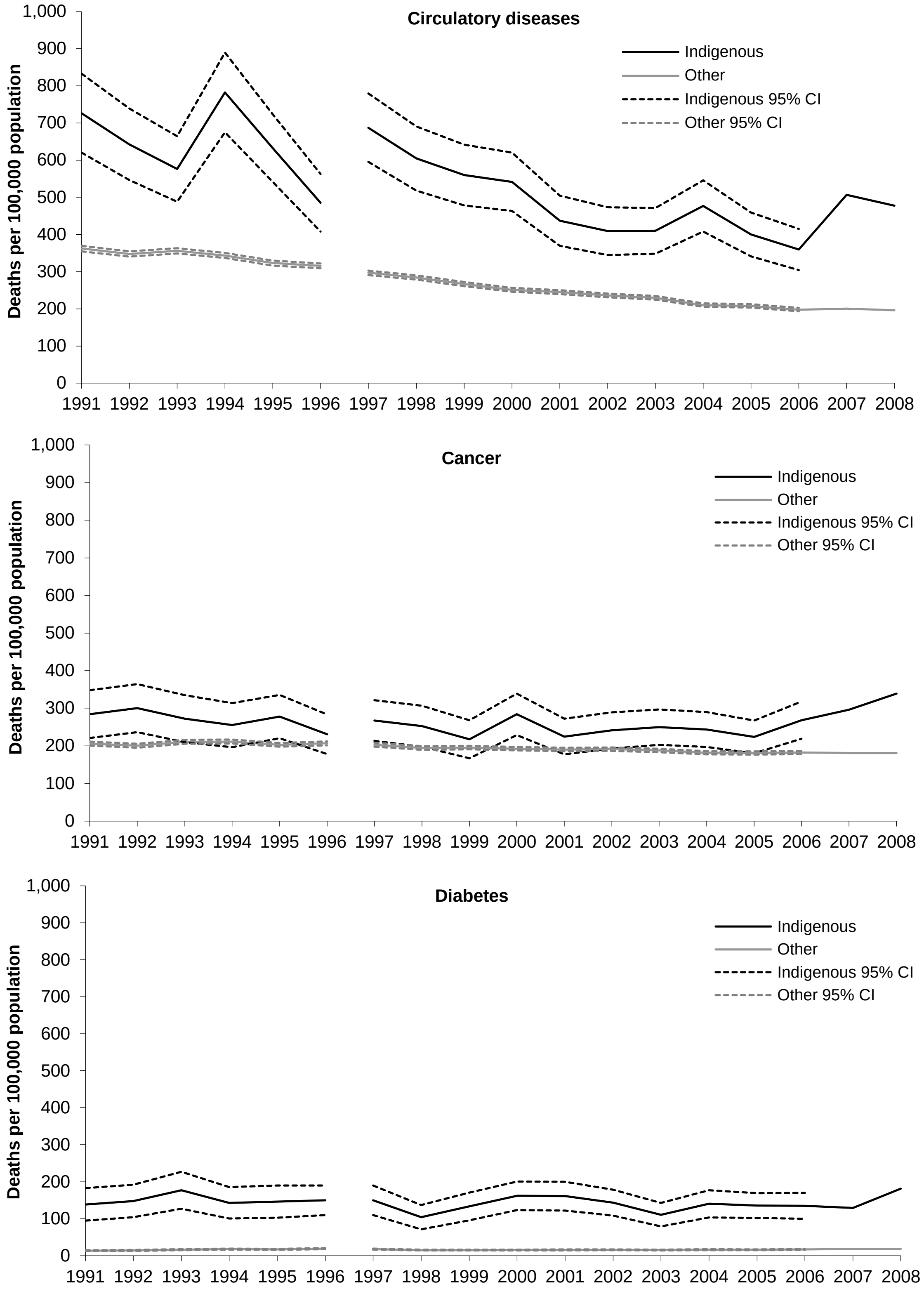

Figure 1.23.1: Mortality rates for Indigenous and other Australians, selected causes of death, WA, SA and NT, 1991–1996 and 1997–2008

Note . Confidence intervals for 2007 and 2008 have not been calculated due to data access limitations.

(continued)

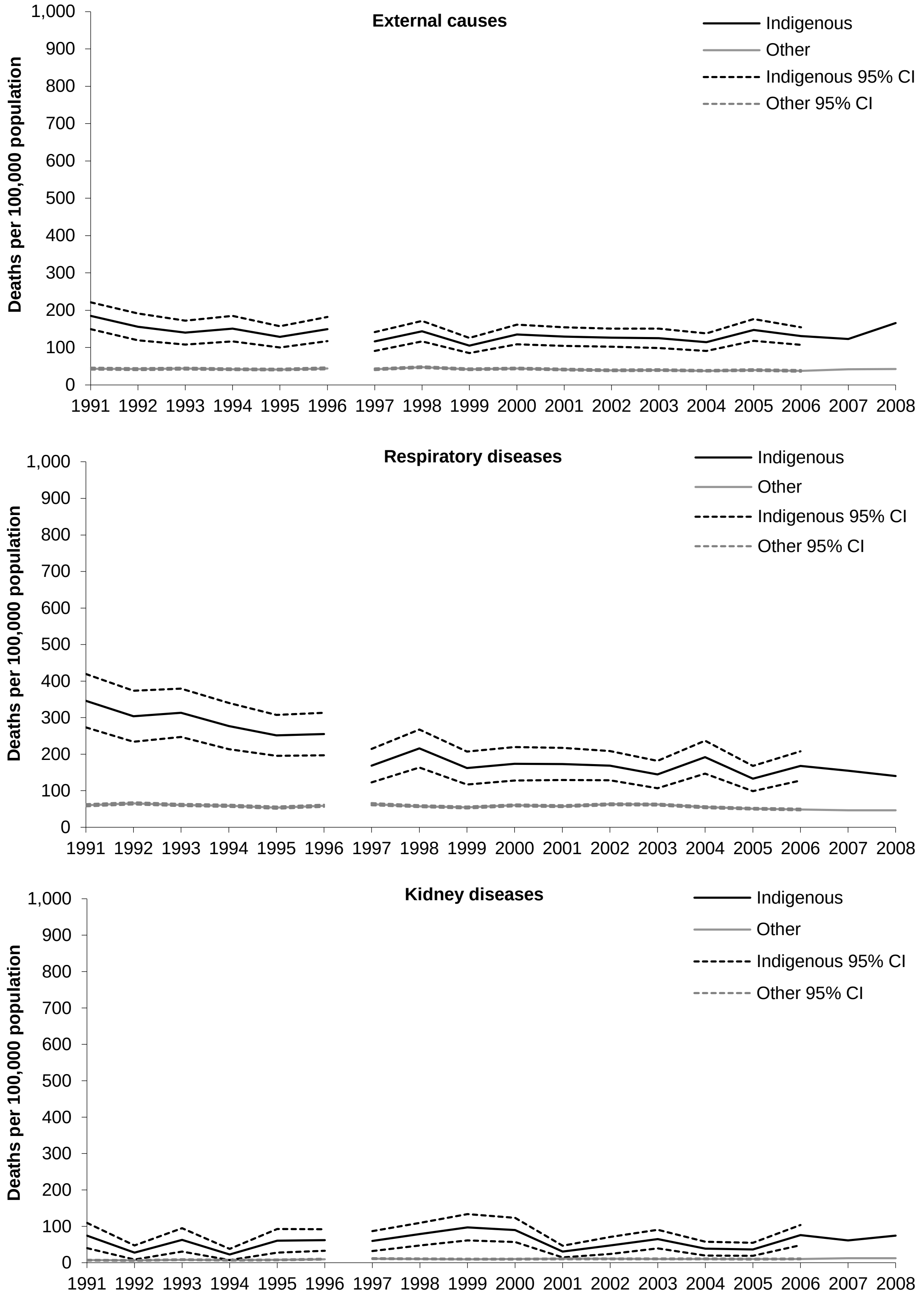

Figure 1.23.1 (continued): Mortality rates for Indigenous and other Australians, selected causes of death, WA, SA and NT, 1991–1996 and 1997–2008

Note: Confidence intervals for 2007 and 2008 have not been calculated due to data access limitations.

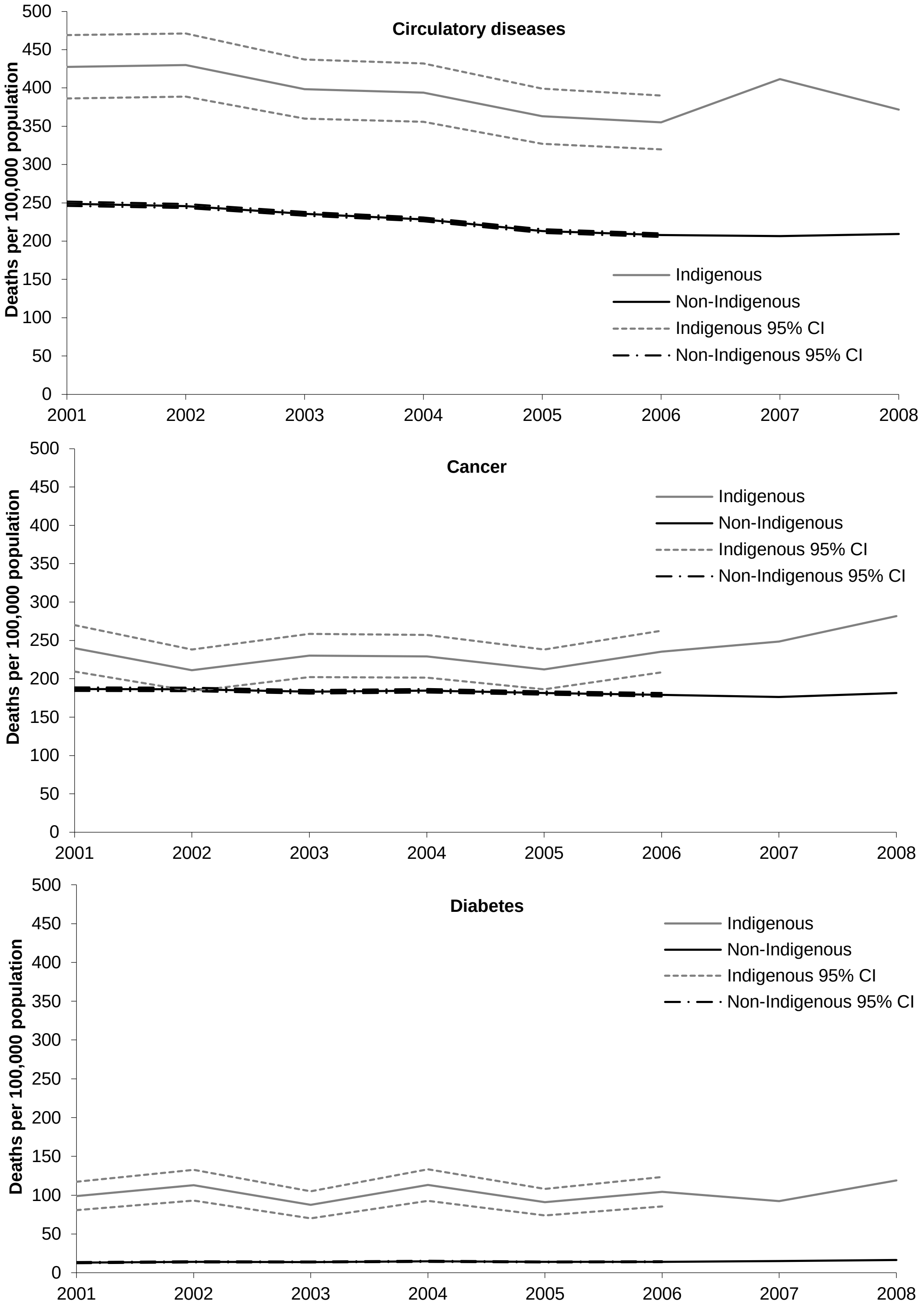

Figure 1.23.2: Mortality rates for Indigenous and non-Indigenous Australians, selected causes of death, NSW, Qld, WA, SA and NT, 2001–2008

Note: Confidence intervals for 2007 and 2008 have not been calculated due to data access limitations.

(continued)

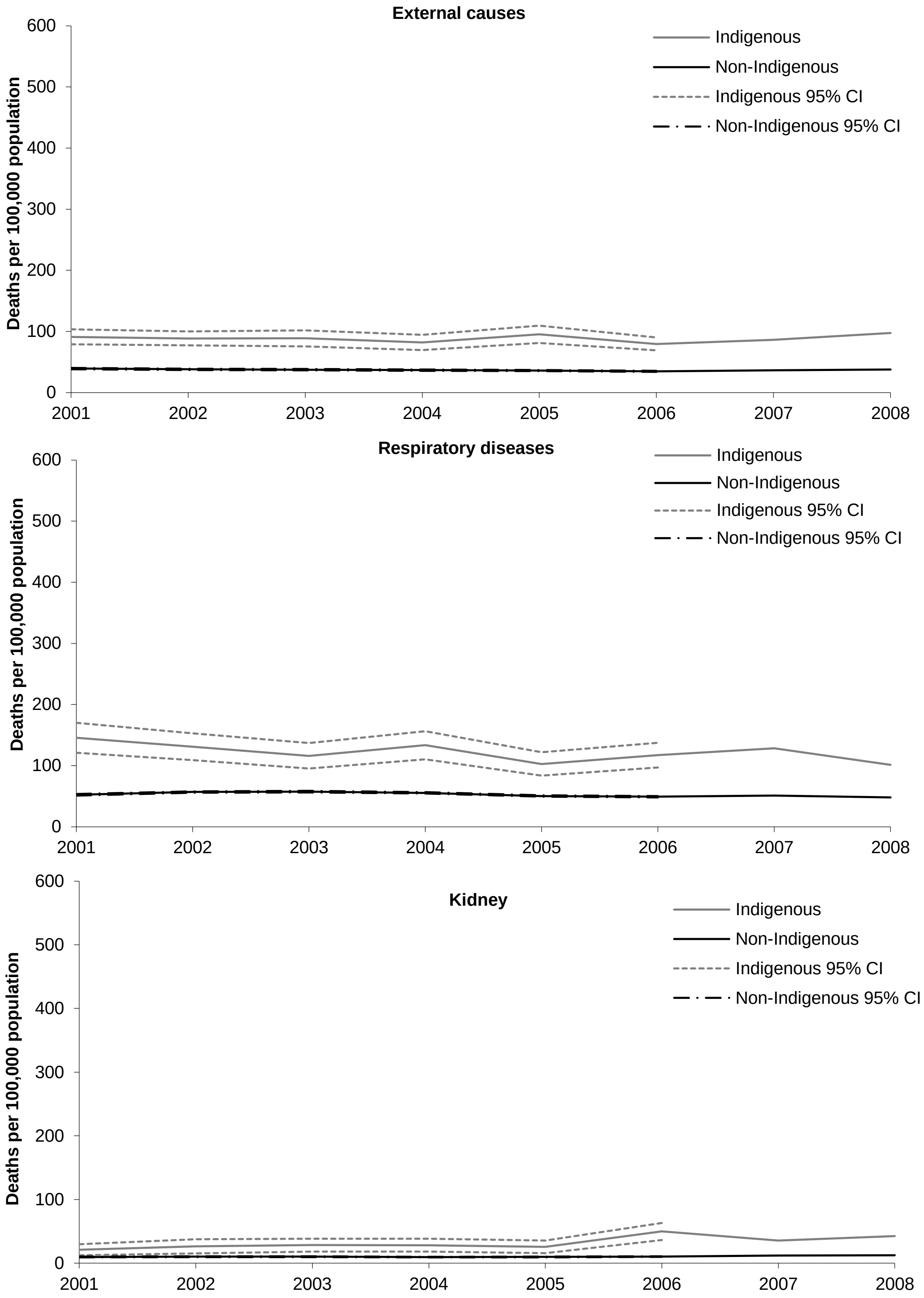

Figure 1.23.2 (continued): Mortality rates for Indigenous and non-Indigenous Australians, selected causes of death, NSW, Qld, WA, SA and NT, 2001–2008

Note: Confidence intervals for 2007 and 2008 have not been calculated due to data access restrictions.

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 2010. Causes of death, Australia, 2008 .Cat. no. 3303.0. Canberra: ABS.

ABS and AIHW 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.

AIHW 2010. Australia's health 2010. Australia's health series no. 12. Cat. no. AUS 122. Canberra: AIHW.

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1.24 Maternal mortality

Maternal deaths of Aboriginal and Torres Strait Islander women expressed as a rate per 100,000 Indigenous confinements and rate ratio

Data sources

Data for this measure come from the National Maternal Deaths Data collection and the publications *Maternal deaths in Australia 1997–1999* (AIHW: Slaytor et al. 2004), *Maternal deaths in Australia 2000–2002* (AIHW: Sullivan & King 2006) and *Maternal deaths in Australia 2003–2005* (AIHW: Sullivan et al. 2008) published by the Australian Institute of Health and Welfare (AIHW) National Perinatal Epidemiology and Statistics Unit.

Each state and territory has a review process for maternal deaths. Deaths data are supplied on a request basis to the AIHW National Perinatal Statistics Unit in paper-based and electronic format using the national maternal death data form.

Information identifying Indigenous status has been available since 1970 but only for cases classified as direct maternal deaths. Information identifying Indigenous status for indirect and incidental deaths has been collected only since 1991. It has therefore been possible to calculate the maternal mortality rate for Aboriginal and Torres Strait Islander women since 1991.

Maternal deaths where Indigenous status was unknown have been included in rates with non-Indigenous deaths before the 1997–1999 triennium. All calculations of maternal mortality by Indigenous status from 1997–1999 onwards exclude deaths where Indigenous status is unknown. In 1997–1999, Indigenous status was reported for 77 (89%) of the 87 maternal deaths.

In line with international conventions, the maternal mortality rate is calculated using direct and indirect deaths, excluding incidental deaths. The total number of confinements of at least 20 weeks gestation or 400 grams birthweight is used as the denominator.

Each state and territory has a perinatal collection based on birth notification forms completed by midwives and other staff, using information obtained from mothers and from hospital and other records. These data are provided in electronic format annually to the AIHW National Perinatal Statistics Unit, and are used to calculate the denominator for rates.

The World Health Organization defines a maternal death as 'the death of a woman while pregnant or within 42 days of the termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes' (WHO 1992). This definition includes deaths of women from pregnancy, terminations of pregnancy, spontaneous abortion, miscarriage and ectopic pregnancy. However it excludes deaths from assisted reproduction technologies where pregnancy has not occurred.

Direct deaths result from obstetric complications of the pregnant state (pregnancy, labour and puerperium), from interventions, omissions or incorrect treatment, or from a chain of events resulting from any of the above. They are complications of the pregnancy itself (for example, eclampsia, amniotic fluid embolism, rupture of the uterus, postpartum haemorrhage).

Indirect deaths result from pre-existing diseases or diseases developed during pregnancy which were not due to direct obstetric causes, but which may have been aggravated by the physiological effects of pregnancy (for example, heart disease, diabetes, renal disease).

Incidental deaths result from conditions occurring during pregnancy, where the pregnancy is unlikely to have contributed significantly to the death, although it is sometimes possible to postulate a distant association (for example, road accidents, malignancies).

Late maternal deaths (defined as the death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy) have not been included in the analysis as they have not been routinely collected in Australia until recently.

Analyses

Maternal mortality

- For the period 2003–2005, there were six maternal deaths of Aboriginal and Torres Strait Islander women, two direct maternal deaths and four indirect maternal deaths. These deaths accounted for 10% of the 60 maternal deaths where Indigenous status was known.
- The maternal mortality rates for Indigenous women were between two and five times the maternal mortality rates for non-Indigenous women over the past five three-year groupings 1991–1993, 1994–1996, 1997–1999, 2000–2002 and 2003–2005.
- The maternal mortality rate for Indigenous women was variable over the past five three-year groupings. Although rates were similar for 1991–1993, 1997–1999 and 2003–2005 (between 22 and 24 per 100,000), the rate in 1994–1996 was lower at around 17 per 100,000 confinements and the rate for 2000–2002 was much higher at around 46 per 100,000 confinements (Figure 1.24.1).

Table 1.24.1: Indigenous maternal mortality rates, 1991–1993 to 2003–2005

Years	Direct and indirect deaths	Total Indigenous confinements[(a)]	Indigenous maternal mortality rate[(a)]	Non-Indigenous maternal mortality rate[(a)(b)]	Rate ratio[(c)]
1991–1993	5	21,539	23.2	5.9	3.9
1994–1996	4	22,996	17.4	8.3	2.1
1997–1999	6	25,530	23.5	6.7	3.5
2000–2002	12	26,128	45.9	8.7	5.3*
2003–2005	6	27,901	21.5	7.4	2.9

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

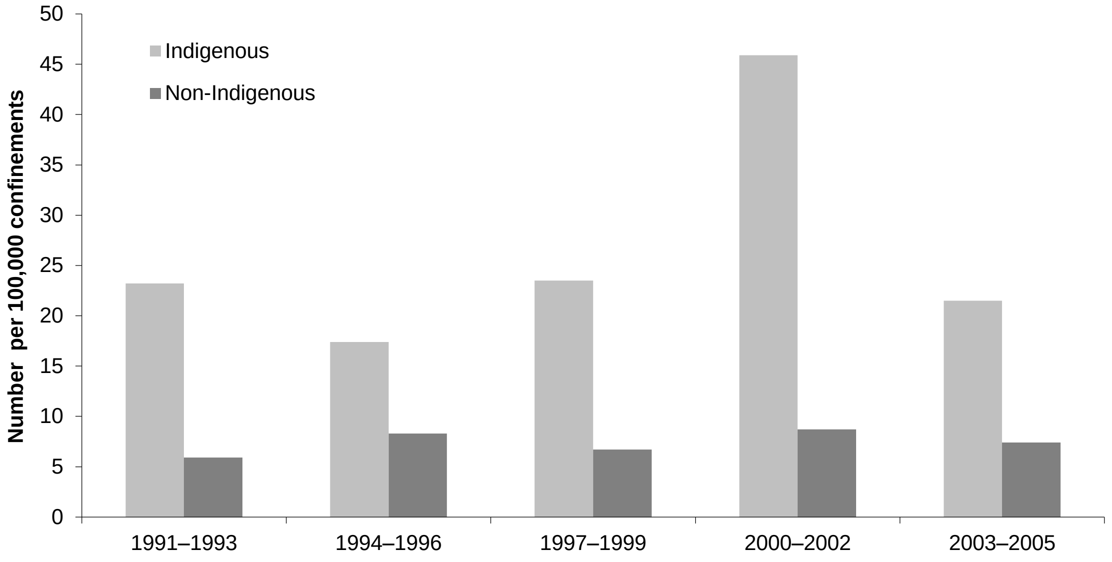
(a) Ratio per 100,000 confinements calculated using direct and indirect deaths only.

(b) For 1991–1993 and 1994–1996, the non-Indigenous maternal mortality rate includes non-Indigenous deaths and deaths where Indigenous status is unknown. For 1997–1999, 2000–2002 and 2003–2005, deaths where Indigenous status is unknown have been excluded.

(c) Maternal mortality rate for Indigenous mothers divided by maternal mortality rate for non-Indigenous mothers.

Note: Excludes incidental deaths.

Source: National Maternal Deaths Data Collection.



Notes

1. Ratio per 100,000 confinements calculated using direct and indirect deaths only.
2. For 1991–1993 and 1994–1996, the non-Indigenous maternal mortality rate includes non-Indigenous deaths and deaths where Indigenous status is unknown. For 1997–1999 and 2000–2002 and 2003–2005, deaths where Indigenous status is unknown have been excluded.

Source: National Maternal Deaths Data Collection.

Figure 1.24.1: Maternal mortality ratios, by Indigenous status, 1991–1993 to 2003–2005

Data quality issues

National Maternal Deaths Data Collection

Maternal deaths

Note that the small number of Indigenous maternal deaths may be statistically variable and caution must be used in the comparison and interpretation of these statistics.

Indigenous status question

All states and territories use a standard form for recording demographic details of maternal deaths. This form contains a data item for recording Indigenous status, however this question is not presented as prescribed by the National Health Data Dictionary.

Under-identification

Incomplete recording of Indigenous status leads to under-coverage of Indigenous mothers in this data collection. Between 1997 and 1999, Indigenous status was recorded for 75 (83%) of the 90 maternal deaths during childbirth. This represents a decline in recording of Indigenous status from 92% in 1991–1993 (AIHW: Slaytor et al. 2004). It is hoped that Indigenous identification will improve in the future, so that the proportion of maternal deaths where Indigenous status was not recorded will be reduced.

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

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: Slaytor EK, Sullivan EA & King JF 2004. Maternal deaths in Australia 1997–1999. Maternal deaths series no. 1. Cat. no. PER 24. Sydney: AIHW (Australian Institute of Health and Welfare) National Perinatal Statistics Unit.

AIHW: Sullivan EA & King JF 2006. Maternal deaths in Australia 2000–2002. Maternal deaths series no. 2. Cat. no. PER 32. Sydney: AIHW National Perinatal Statistics Unit.

AIHW: Sullivan EA, Hall B & King JF 2008. Maternal deaths in Australia 2003–2005. Maternal deaths series no. 3. Cat. no. PER 42. Sydney: AIHW National Perinatal Statistics Unit.

WHO (World Health Organization) 1992. International statistical classification of disease and related health problems. Tenth Revision. Volume II. Geneva: WHO.

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1.25 Avoidable and preventable deaths

The number of deaths of Aboriginal and Torres Strait Islander peoples 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. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

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

Additional revised 2007 and preliminary 2008 mortality data for this indicator was supplied by the ABS from the ABS Cause of Death database. For further information see *Causes of Death, Australia, 2008* (ABS 2010).

Data have been combined for the 5-year period 2004–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

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 2004–2008, there were 116,539 deaths of people aged 0–74 years from avoidable causes in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, 6,443 (5.5%) of which were deaths of Aboriginal and Torres Strait Islander peoples (Table 1.25.2).
- Avoidable causes represented almost three-quarters (72%) of all deaths of Indigenous Australians aged 0–74 years in these five jurisdictions. This was slightly higher than the proportion of deaths from avoidable causes in the non-Indigenous population (66%) (Table 1.25.3).

Avoidable mortality by age, sex and state/territory

Data presented below are for deaths from avoidable causes for persons aged 0–74 years in Queensland, Western Australia, South Australia and the Northern Territory in the period 2004–2008.

- Indigenous males and females had higher mortality rates for avoidable causes than non-Indigenous males and females across all age groups. Indigenous males and females aged 35–44 and 45–54 years died from avoidable causes at four to five and a half times the rate of non-Indigenous males and females respectively (Table 1.25.1).
- Indigenous males and females died from avoidable causes at around three to almost four times the rate of non-Indigenous males and females respectively.
- 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 three and a half times the rate of non-Indigenous Australians (Table 1.25.2).

- In Western Australia, Indigenous Australians aged 0–74 years died from avoidable causes at five times the rate of non-Indigenous Australians of the same age. In Queensland, South Australia and the Northern Territory, Indigenous Australians aged 0–74 years died from avoidable causes at three times to four times the rate of non-Indigenous Australians of the same age. In New South Wales, Indigenous Australians aged 0–74 years died from avoidable causes at almost two and a half times the rate of non-Indigenous Australians of the same age (Table 1.25.2).
- The proportion of deaths at ages 0–74 years from avoidable causes which are considered to be amenable to health care was approximately the same for Indigenous and non-Indigenous Australians (39% Indigenous, 40% non-Indigenous) (Table 1.25.3).
- Indigenous Australians aged 0–74 years died from primary, secondary and tertiary avoidable causes at three to four times the rate of non-Indigenous Australians of the same age (Table 1.25.4).

Table 1.25.1: Avoidable mortality, by Indigenous status, age group and sex, persons aged 0–74 years, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Males			Females		
	Deaths per 100,000[(i)]			Deaths per 100,000[(i)]		
Age group (years)	**Indigenous**	**Non-Indigenous[(j)]**	**Rate ratio[(k)]**	**Indigenous**	**Non-Indigenous[(j)]**	**Rate ratio[(k)]**
Less than 1	574.5	269.9	2.1	380.9	223.9	1.7
1–4	31.6	13.5	2.4	30.3	9.1	3.3
5–14	14.8	5.1	2.9	8.2	3.4	2.4
15–24	126.8	44.6	2.8	49.5	16.4	3.0
25–34	257.7	67.4	3.8	117.7	22.9	5.1
35–44	484.7	93.5	5.2	271.0	48.5	5.6
45–54	824.2	195.5	4.2	494.5	113.5	4.4
55–64	1,535.6	447.3	3.4	1,091.3	255.4	4.3
65–74	3,247.5	1,217.0	2.7	2,117.6	684.0	3.1
Total[(l)]	**631.3**	**189.3**	**3.3**	**397.1**	**104.2**	**3.8**

(continued)

Table 1.25.1(continued): Avoidable mortality, by Indigenous status, age group and sex, persons aged 0–74 years, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

(a) Data are reported for NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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 all causes mortality rate.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See *Causes of death, Australia, 2008* (ABS 2010, cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(i) Rates per 100,000 population. Total rates have been directly age-standardised using the 2001 Australian standard population.

(j) Rate ratio Indigenous: non-Indigenous.

(k) Totals exclude those aged 75 years and over and those for whom age was not stated.

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

Note: The completeness of identification of Indigenous deaths can vary by age.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.25.2: Avoidable mortality, by Indigenous status and state/territory, persons aged 0–74 years, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

State/territory	Number[(e)] Indigenous	Non-Indigenous	Not stated	Indigenous Number per 100,000[(i)]	Non-Indigenous Number per 100,000[(i)]	Ratio[(j)]
NSW	1,490	51,023	619	355.8	146.6	2.4
Qld	1,694	29,957	542	462.7	148.4	3.1
WA	1,353	13,736	232	688.1	136.3	5.1
SA	440	12,539	233	543	149.3	3.6
NT	1,466	1,200	15	772.1	200.9	3.8
NSW, Qld, WA, SA & NT[(k)]	**6,443**	**108,455**	**1,641**	**506.5**	**146.4**	**3.5**

(a) Data are reported for NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five states/territories are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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 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 all-causes mortality rate.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(i) Rates per 100,000 population. Total rates have been directly age-standardised using the 2001 Australian standard population.

(j) Rate ratio Indigenous: non-Indigenous.

(k) Totals exclude those aged 75 years and over and those for whom age was not stated.

Note: For ICD-10 codes used, see Page et al. (2006).

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.25.3: Avoidable mortality, by Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

	Number(i)			Per cent			Number per 100,000(j)		
Mortality category	**Indigenous**	**Non-Indigenous**	**Not stated**	**Indigenous**	**Non-Indigenous**	**Not stated**	**Indigenous**	**Non-Indigenous**	**Ratio(k)**
Avoidable mortality	6,443	108,455	1,641	72.3	65.8	68.2	506.5	146.4	3.5
Amenable mortality as a percentage of avoidable mortality(l)	*2,498*	*43,850*	*569*	*38.8*	*40.4*	*34.7*	*202.8*	*59.2*	*3.4*
Amenable mortality as a percentage of total mortality(m)	*2,498*	*43,850*	*569*	*28.0*	*26.6*	*23.7*	*202.8*	*59.2*	*3.4*
Unavoidable mortality(n)	2,474	56,276	764	27.7	34.2	31.8	185.2	76.1	2.4
Total mortality	**8,917**	**164,731**	**2,405**	**100.0**	**100.0**	**100.0**	**691.8**	**222.5**	**3.1**

(continued)

Table 1.25.3(continued): Avoidable mortality, by Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)(h)

(a) 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.

(b) Data are reported for NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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 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.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(i) Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

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

(k) Rate ratio Indigenous: non-Indigenous.

(l) Amenable Mortality/Avoidable Mortality × 100.

(m) Amenable Mortality/Total Mortality × 100.

(n) Unavoidable Mortality is all causes other than those specified as Avoidable Mortality.

Source: ABS and AIHW analysis of ABS Mortality Database.

Table 1.25.4: Avoidable mortality, by subcategory, by Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2004–2008[a][b][c][d][e][f][g][h][i]

	Number			**Per cent**			**Number per 100,000**[j]		
Mortality category	**Indigenous**	**Non-Indigenous**	**Not stated**	**Indigenous**	**Non-Indigenous**	**Not stated**	**Indigenous**	**Non-Indigenous**	**Ratio**[k]
Avoidable mortality	6,443	108,455	1,641	72.3	65.8	68.2	506.5	146.4	3.5
Primary[l][m]	*3,349*	*58,743*	*880*	*52.0*	*54.2*	*53.6*	*262.7*	*79.1*	*3.3*
Secondary[l][n]	*1,577*	*24,693*	*365*	*24.5*	*22.8*	*22.2*	*131.5*	*33.4*	*3.9*
Tertiary[l][o]	*1,510*	*24,795*	*392*	*23.4*	*22.9*	*23.9*	*111.6*	*33.7*	*3.3*
Unavoidable mortality[p]	2,474	56,276	764	27.7	34.2	31.8	185.2	76.1	2.4
Total mortality	**8,917**	**164,731**	**2,405**	**100.0**	**100.0**	**100.0**	**691.8**	**222.5**	**3.1**

(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 NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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 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.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(i) Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

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

(k) Rate ratio Indigenous: non-Indigenous.

(l) 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.

(m) Per cent = Primary Mortality/Avoidable Mortality × 100

(n) Per cent = Secondary Mortality/Aviodable Mortality × 100

(o) Per cent = Tertiary Mortality/Avoidable Mortality × 100

(p) Unavoidable Mortality is all causes other than those specified as Avoidable Mortality.

Source: ABS and AIHW analysis of ABS Mortality Database.

Avoidable mortality by cause of death

Table 1.25.5 presents avoidable mortality by 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 2004–2008.

- The most common types of avoidable conditions causing death among Aboriginal and Torres Strait Islander peoples were ischaemic heart disease (19%), followed by cancer (17%), in particular lung cancer, diabetes (9%) and suicide (8%). Indigenous Australians died from cancer and suicide at twice the rate of non-Indigenous Australians; and from Ischaemic heart disease and diabetes at 4 and 13 times the respective rates of non-Indigenous Australians (Table 1.25.5).
- Indigenous Australians died from selected invasive bacterial and protozoal infections at five and a half times the rate of non-Indigenous Australians; alcohol-related disease at almost seven times the rate; violence at almost nine times the rate; nephritis and nephrosis at more than ten times the rate; and rheumatic heart disease and other valvular heart disease at greater than 16 times the rate of non-Indigenous Australians.

Table 1.25.5: Avoidable mortality, by cause of death and Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Number[(i)]			Per cent			Indigenous			Non-Indigenous			
Cause of death	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**No. per 100,000[(j)]**	**LCL 95%[(k)]**	**UCL 95%[(l)]**	**No. per 100,000[(j)]**	**LCL 95%[(k)]**	**UCL 95%[(l)]**	**Ratio[(m)]**
Ischaemic heart disease	1,238	20,606	389	19.2	19.0	23.7	110.1	104.0	116.2	27.6	27.2	28.0	4.0
Cancer	1,084	41,226	327	16.8	38.0	19.9	104.8	98.6	111.0	54.7	54.2	55.2	1.9
Lung cancer[(n)]	414	14,491	119	6.4	13.4	7.3	42.4	38.3	46.5	19.2	18.9	19.5	2.2
Diabetes	614	3,491	59	9.5	3.2	3.6	61.5	56.6	66.4	4.7	4.5	4.9	13.1
Suicide	514	7,452	195	8.0	6.9	11.9	22.5	20.6	24.4	10.4	10.2	10.6	2.2
Road traffic injuries	406	4,176	109	6.3	3.9	6.6	18.9	17.1	20.7	5.9	5.7	6.1	3.2
Alcohol-related disease	388	2,905	49	6.0	2.7	3.0	26.5	23.9	29.1	3.8	3.7	3.9	6.9
Cerebrovascular disease	331	6,557	66	5.1	6.0	4.0	31.9	28.5	35.3	8.9	8.7	9.1	3.6
Selected invasive bacterial and protozoal infections	258	2,554	48	4.0	2.4	2.9	19.1	16.8	21.4	3.5	3.4	3.6	5.5
Chronic obstructive pulmonary disease	254	5,065	75	3.9	4.7	4.6	29.8	26.1	33.5	6.9	6.7	7.1	4.3
Nephritis and nephrosis	214	1,361	13	3.3	1.3	0.8	20.0	17.3	22.7	1.9	1.8	2.0	10.7
Complications of perinatal period	144	1,033	16	2.2	1.0	1.0	3.3	2.8	3.8	1.5	1.4	1.6	2.1

(continued)

Table 1.25.5 (continued): Avoidable mortality, by cause of death and Indigenous status, persons aged 0–74 years, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)]

	Number[(i)]			Per cent			Indigenous			Non-Indigenous			
Cause of death	**Indig.**	**Non-Indig.**	**Not stated**	**Indig.**	**Non-Indig.**	**Not stated**	**No. per 100,000[(j)]**	**LCL 95%[(k)]**	**UCL 95%[(l)]**	**No. per 100,000[(j)]**	**LCL 95%[(k)]**	**UCL 95%[(l)]**	**Ratio[(m)]**
Violence	140	545	22	2.2	0.5	1.3	6.8	5.7	7.9	0.8	0.7	0.9	8.9
Birth defects	138	1,767	32	2.1	1.6	2.0	4.3	3.6	5.0	2.6	2.5	2.7	1.7
Rheumatic and other valvular heart disease	96	273	4	1.5	0.3	0.2	6.2	5.0	7.4	0.4	0.4	0.4	16.7
Other[(o)]	624	9,444	237	9.7	8.7	14.4	40.8	37.6	44.0	12.9	12.6	13.2	3.2
Total	**6,443**	**108,455**	**1,641**	**100.0**	**100.0**	**100.0**	**506.5**	**494.1**	**518.9**	**146.4**	**145.5**	**147.3**	**3.5**

(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 NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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 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.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(i) Different causes of death may have levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

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

(k) LCL = lower confidence limit.

(l) UCL = upper confidence limit.

(m) Rate ratio Indigenous: non-Indigenous.

(n) Data for lung cancer are a subset of data for all cancers presented in this table.

(o) 'Other' includes all avoidable mortality not specifically detailed in the table.

Source: ABS and 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 17 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 1997–2008.

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 1997–2008 are presented in Table 1.25.6 and Figure 1.25.1.

- 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 around 33.4 per 100,000, which is equivalent to a 16% 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 females, but not for Indigenous males.
- Over the period 1997–2008, 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 20% 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 (32%).
- Over the period 1997–2008, there were significant increases in the mortality rate ratios between Indigenous and other males for avoidable mortality (24%). Even though the reduction in rates was significant for both males and females, the change in rate differences was significant for females but not males.

Table 1.25.6: Age-standardised mortality rates, rate ratios and rate differences, avoidable causes, persons aged 0–74 years, WA, SA and NT, 1991–1996 and 1997–2008[(a)]

	Indigenous number per 100,000[(e)]			Other Australian number per 100,000[(d)]			Rate ratio[(f)]			Rate difference[(g)]		
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
1991	1,206.1	935.6	1,066.7	346.1	176.8	259.2	3.5	5.3	4.1	859.9	758.8	807.4
1992	1,107.9	916.1	1,005.5	332.0	173.0	250.3	3.3	5.3	4.0	775.9	743.1	755.2
1993	1,174.4	874.8	1,012.7	333.9	168.0	248.8	3.5	5.2	4.1	840.5	706.8	763.9
1994	1,264.5	776.2	1,005.1	327.7	165.0	244.5	3.9	4.7	4.1	936.8	611.2	760.6
1995	1,195.8	708.2	934.1	311.6	159.3	234.0	3.8	4.4	4.0	884.1	548.9	700.2
1996	1,074.9	700.4	877.4	310.2	159.1	233.5	3.5	4.4	3.8	764.7	541.3	643.9
Annual change[(b)]	**–8.6**	**–54.2***	**–33.4***	**–7.1***	**–3.8***	**–3.8***	**0**	**–0.2***	**–0.1***	**–1.6**	**–50.5***	**–28.2***
Per cent change[(c)]	**–3.6**	**–29.0***	**–15.6***	**–10.2***	**–10.7***	**–10.0***	**7.2**	**–20.3***	**–6.3***	**–0.9**	**–33.2***	**–17.5***
1997	1,175.7	743.2	938.9	277.0	136.7	205.7	4.2	5.4	4.6	898.6	606.5	733.2
1998	1,005.8	698.3	842.8	270.5	127.1	197.9	3.7	5.5	4.3	735.3	571.2	644.9
1999	968.4	573.5	757.1	242.4	120.3	180.6	4.0	4.8	4.2	726.0	453.2	576.5
2000	1,022.0	721.9	859.9	241.3	118.7	179.3	4.2	6.1	4.8	780.7	603.2	680.6
2001	1,056.9	520.3	763.3	222.2	111.5	166.4	4.8	4.7	4.6	834.7	408.8	596.9
2002	864.4	652.1	753.2	214.2	111.6	162.4	4.0	5.8	4.6	650.2	540.6	590.8
2003	1,005.7	531.7	746.9	207.5	108.2	157.5	4.8	4.9	4.7	798.1	423.5	589.4
2004	902.9	605.3	743.6	193.1	96.6	144.5	4.7	6.3	5.1	709.8	508.8	599.0
2005	886.1	521.3	687.4	196.3	93.8	144.8	4.5	5.6	4.7	689.8	427.5	542.6
2006	812.2	517.5	655.6	181.7	95.2	138.2	4.5	5.4	4.7	630.6	422.2	517.4
2007	898.8	546.0	705.6	192.3	101.9	147.0	4.7	5.4	4.8	706.5	444.1	558.6
2008	979.4	562.1	750.6	181.4	97.3	139.3	5.4	5.8	5.4	798.0	464.8	611.3
Annual change[(b)]	**–18.2***	**–16.2***	**–17.3***	**–8.7***	**–3.5***	**–6.0***	**0.1***	**0.0**	**0.1***	**–9.5**	**–12.6***	**–11.2***
Per cent change[(c)]	**–17.1***	**–23.9***	**–20.3***	**–34.7***	**–28.4***	**–32.3***	**24.1***	**6.0**	**16.3***	**–11.6**	**–22.9***	**–16.9***

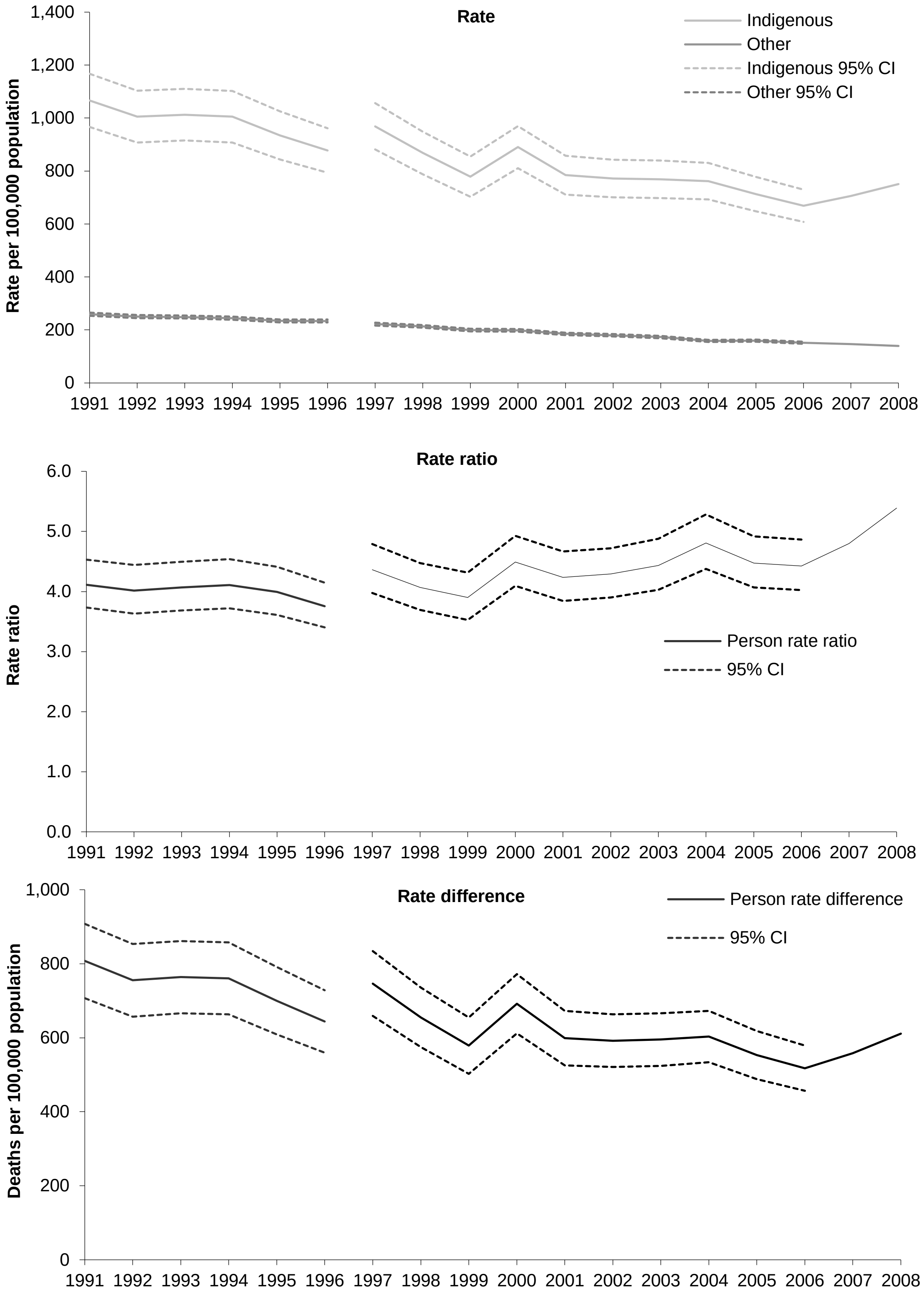
(continued)

Table 1.25.6 (continued): Age-standardised mortality rates, rate ratios and rate differences, avoidable causes, persons aged 0–74 years, WA, SA and NT, 1991–1996 and 1997–2008[(a)]

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods 1991–1996 and 1997–2008.

(a) 2006 Series B Indigenous experimental population estimates used as denominator.
(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
(c) Per cent change between 1991 and 1996 and between 1997 and 2008 based on the average annual change over the period.
(d) ‘Other’ includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.
(e) Rates have been directly age-standardised using the 2001 Australian standard population.
(f) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.
(g) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

Source: ABS and AIHW analysis of ABS Mortality Database



Source: ABS and AIHW analysis of ABS Mortality Database.

Note: Confidence intervals for 2007 and 2008 data could not be calculated due to data availability limitations

Figure 1.25.1: 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 1997–2008

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 2001 to 2008 for Indigenous and non-Indigenous Australians in Table 1.25.7 and Figure 1.25.2.

- Over the period 2001–2008, 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 16 per 100,000 which is equivalent to an 18% 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 (22%).
- Over the period 2001–2008, there was an increase in the mortality rate ratio between Indigenous and non-Indigenous Australians for avoidable mortality (5%) however there was a significant decline in the mortality rate differences (17%).

Table 1.25.7: Age-standardised mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2008[(a)(b)]

	2001	2002	2003	2004	2005	2006	2007	2008	Annual change[(c)]	Per cent change[(d)]
Indigenous rate (deaths per 100,000)[(e)]										
Males	793.8	719.8	727.3	662.9	622.5	612.6	634.7	626.7	–23.6*	–20.8*
Females	428.5	483.7	394.2	432.1	371.5	392.7	404.4	389.0	–8.8	–14.4
Persons	597.3	595.2	549.9	540.1	489.5	495.4	511.3	499.3	–15.7*	–18.4*
Non-Indigenous rate (deaths per 100,000)[(e)]										
Males	233.2	222.2	211.5	203.5	192.7	181.5	183.0	181.8	–7.8*	–23.5*
Females	122.5	120.9	113.2	111.0	103.6	100.2	102.8	100.7	–3.4*	–19.7*
Persons	177.3	171.1	161.9	156.8	147.8	140.5	142.6	141.0	–5.6*	–22.1*
Rate ratio[(f)]										
Males	3.4	3.2	3.4	3.3	3.2	3.4	3.5	3.4	0.0	3.0
Females	3.5	4.0	3.5	3.9	3.6	3.9	3.9	3.9	0.0	7.7
Persons	3.4	3.5	3.4	3.4	3.3	3.5	3.6	3.5	0.0	4.9
Rate difference[(g)]										
Males	560.6	497.6	515.8	459.4	429.8	431.1	451.7	444.9	–15.8*	–19.7*
Females	306.0	362.8	281.0	321.1	267.9	292.5	301.6	288.3	–5.3	–12.2
Persons	420.0	424.1	388.0	383.3	341.7	354.9	368.7	358.3	–10.1*	–16.9*

(continued)

Table 1.25.7 (continued): Age-standardised mortality rates, rate ratios and rate differences, NSW, Qld, WA, SA and NT, 2001–2008(a)(b)

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–2008.

(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 NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

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

(d) Per cent change between 2001 and 2008 based on the average annual change over the period.

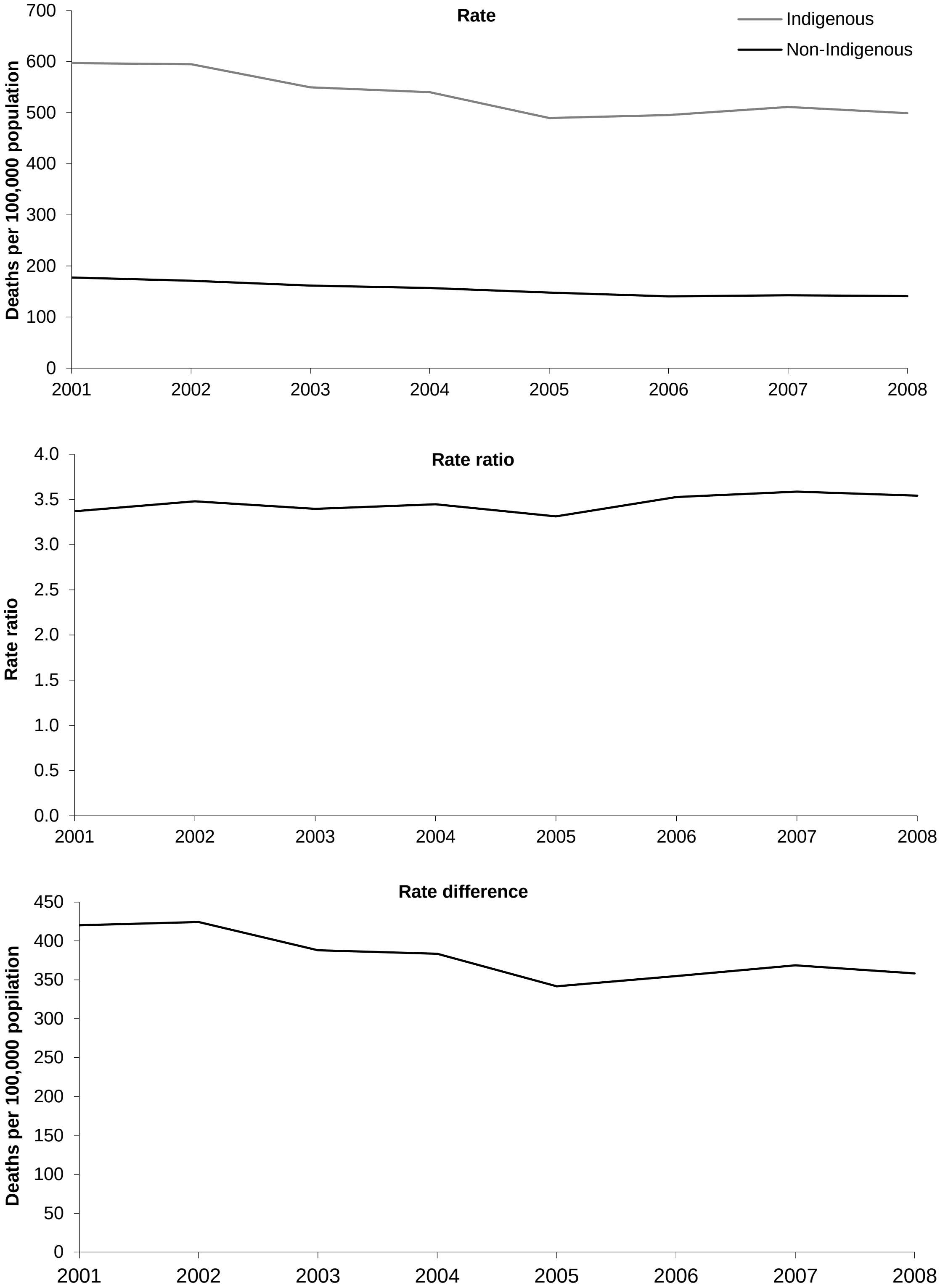
(e) Rates have been directly age-standardised using the 2001 Australian standard population.

(f) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(g) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Rates presented in this table may differ from those presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database.

Figure 1.25.2: 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, 2001–2008

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 proportion of PYLL from amenable causes for Indigenous infants under 1 year of age was 0.5 times that of the non-Indigenous population (Table 1.25.8).
- For the 25–44 year age group, the proportion of PYLL from amenable mortality in the Indigenous population was 27% in comparison to 18% in the non-Indigenous population.
- For the age groups 25–44 and 45–64 years, the proportions of PYLL in the Indigenous population were greater than those for the non-Indigenous population. For the age group 65–74 years, the proportion of PYLL in the Indigenous population was slightly lower than for the non-Indigenous population.

Table 1.25.8: Potential years of life lost to amenable mortality by Indigenous status and age group, persons aged 0–74 years, NSW, Qld, WA, SA & NT, 2004–2008[a][b][c][d][e][f][g][h]

Age group (years)	Number		Per cent		
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Ratio[i]
Less than 1	10,407	199,119	12.1	23.6	0.5
1–14	1,454	26,392	1.7	3.1	0.5
15–24	1,972	21,818	2.3	2.6	0.9
25–44	23,536	148,865	27.3	17.7	1.5
45–64	39,992	344,774	46.4	40.9	1.1
65–74	8,852	102,142	10.3	12.1	0.8
Total[j][k]	**86,213**	**843,110**	**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 NSW, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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 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.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(g) 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.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See Causes of Death, Australia, 2008 (cat. No. 3303.0) Technical Note 2: Revisions Process for further information.

(i) Rate ratio Indigenous per cent: non-Indigenous per cent.

(j) Excludes those aged 75 years and over and those for whom age was not stated.

(k) Due to the effects of rounding some components may not sum to total.

Source: ABS and 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 under-estimates 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 under-estimates 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 & 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%, Tasmania and the Australian Capital Territory were not calculated because of small numbers, Australia 55% (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).

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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Determinants of health (Tier 2)

2.01 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) and the 2006 Census of Population and Housing. 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). Data on homelessness come from 2006 Census of Population and Housing and the Supported Accommodation Assistance Program (SAAP) National Data Collection.

Census of Population and Housing

The Australian Bureau of Statistics (ABS) conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, and it 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 under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

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. In addition to the survey instrument and methodology testing conducted prior to the 2006 CHINS, aggregate data from the 2006 CHINS have been compared with that collected in 2001 CHINS. The survey collected information on all Aboriginal and Torres Strait Islander communities throughout Australia. The ABS conducted the 2006 CHINS on behalf of, and with full funding from, the Department of Families, Community Services and Indigenous Affairs (FaHCSIA). 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 IHOs 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.

In the 2006 CHINS, a community questionnaire collected detailed infrastructure information from all discrete Indigenous communities with a reported usual population of 50 persons or more, as well as for communities which had a reported usual population of less than 50 persons but which were not administered by a larger discrete Indigenous community or Resource Agency (375 communities). The 812 other communities had reported usual populations of less than 50 persons and were asked a subset of questions from the community questionnaire form: the short community questionnaire (ABS 2007a).

Results from this survey were published in August 2007. FaHCSIA and the ABS jointly hold the CHINS data.

National Aboriginal and Torres Strait Islander Social Survey

The 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 6 years with the next survey planned for 2013.

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 NATSISS asks respondents about the functionality of various household facilities. These include whether a household has working facilities for washing people, working facilities for washing clothes/bedding, working facilities for storing/preparing food, and working sewerage facilities. These four data items cover the first four Healthy Living Practices.

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.

Supported Accommodation Assistance Program National Data Collection

The Supported Accommodation Assistance Program (SAAP) is a national program that provides temporary accommodation and support services to assist people who are homeless or at risk of being homeless, including women and children escaping domestic violence. SAAP funds non-government, community or local government agencies ranging from small stand-alone agencies with single outlets to agencies with multiple outlets.

The SAAP National Data Collection is a nationally consistent information system combining information from SAAP agencies and state/territory and Commonwealth funding departments. The Australian Institute of Health and Welfare (AIHW) manages the SAAP National Data Collection. All non-government organisations funded under the program are required to participate in the SAAP National Data Collection.

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 2.01.1).
- 1.2% of discrete Indigenous communities in the Northern Territory were not connected to an organised water supply (Table 2.01.1).
- 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 2.01.3).
- 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 2.01.1).

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 2.01.4).
- 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 2.01.4).
- 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 2.01.2).
- 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%) (Figure 2.01.1; Table 2.01.5).
- 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 (Figure 2.01.1; Table 2.01.5).

Table 2.01.1: 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 2.01.1 (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 2007a; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.01.2: 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 2007a; FaHCSIA and ABS analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.01.3: 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 2007a.

Table 2.01.4: 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.

Source: ABS 2007a; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.01.5: Percentage of discrete Indigenous communities[(a)] where drinking water failed testing[(b)] in previous 12 months, by state/territory, 1999, 2001 and 2006

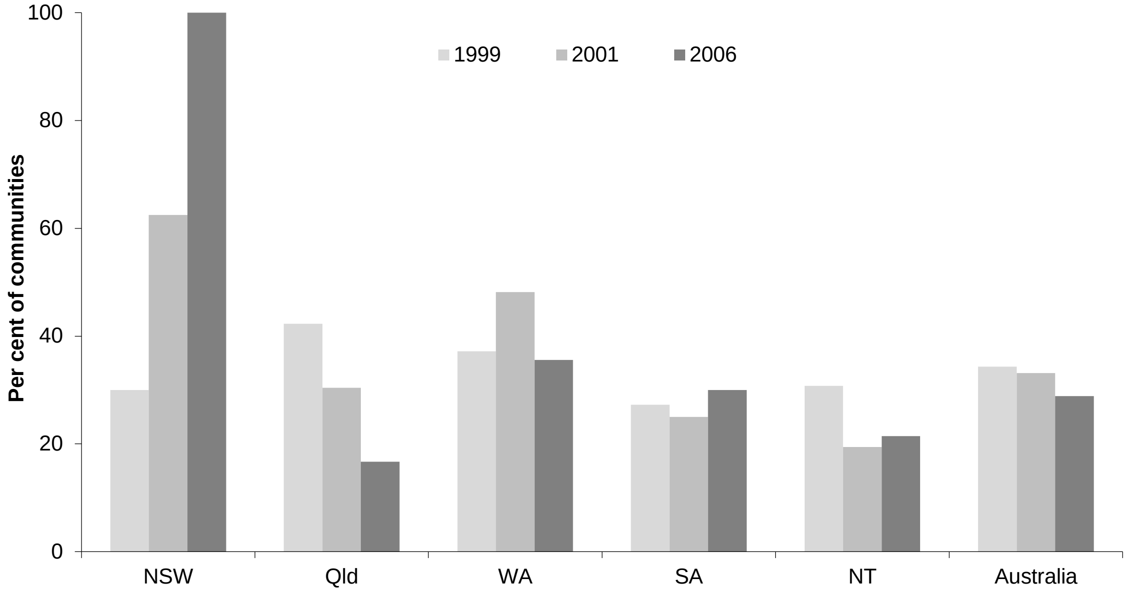
		NSW	Qld	WA	SA	NT	Australia[(c)]
1999	Number of communities	3	11	16	3	24	58
	Per cent	30.0	42.3	37.2	27.3	30.8	34.3
	Total number of communities[(a)]	**10**	**26**	**43**	**11**	**78**	**169**
2001	Number of communities	5	7	26	4	13	56
	Per cent	62.5	30.4	48.1	25.0	19.4	33.1
	Total number of communities[(a)]	**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.

Source: AIHW analysis of ABS 2002; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.



Notes

1. 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.
2. Victoria and Tasmania are only included in Australia for confidentiality reasons.

Source: AIHW analysis of ABS 2002; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Figure 2.01.1: Proportion of discrete Indigenous communities, with reported usual population 50 or more, where drinking water failed testing in the previous 12 months, by state/territory, 1999, 2001 and 2006

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 2.01.6).
- 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 2.01.6).
- 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 2.01.7).

Table 2.01.6: 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 2007a.

Table 2.01.7: 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 2007a; 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 2.01.8). 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 2.01.8).
- The proportion of communities with no organised electricity supply ranged from 0.0% in New South Wales to 4.0% in Queensland (Table 2.01.9).
- 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 2.01.10).

Table 2.01.8: 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 2007a.

Table 2.01.9: 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 2.01.9 (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 2007a; FaHCSIA and AIHW analysis of 2006 Community Housing and Infrastructure Needs Survey.

Table 2.01.10: 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 2.01.10 (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 2007a; 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 2.01.11). 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 2.01.11).
- 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%) (Figure 2.01.2; Table 2.01.12).
- In 2008, 4.8% of Indigenous households experienced major electrical problems. The proportion was higher in remote areas (7.1%) than non-remote areas (4.3%) (Table 2.01.13).

Table 2.01.11: 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**

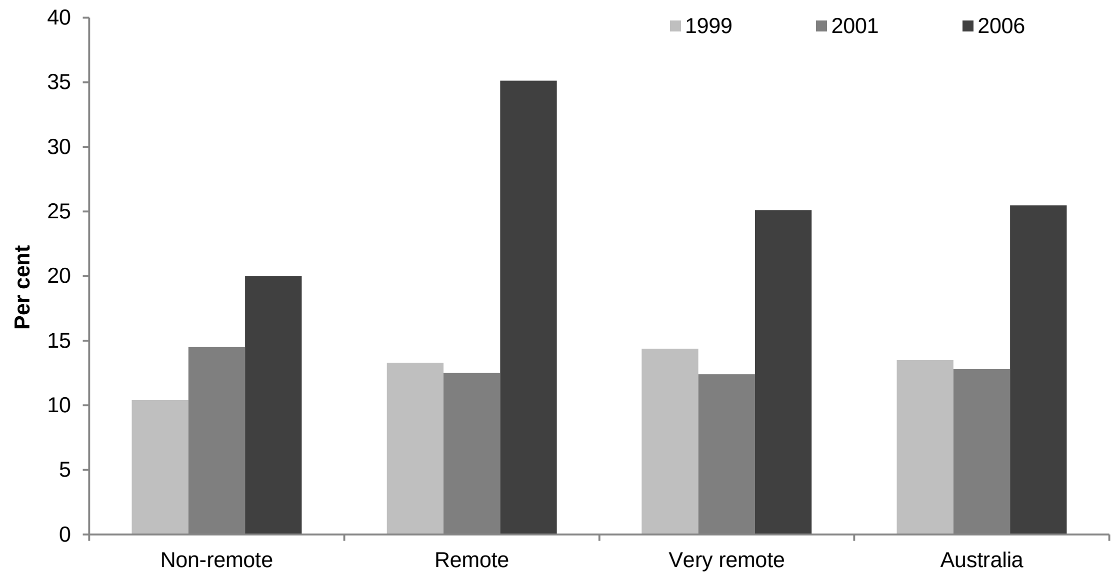
(a) In the 12 months before the survey.

(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



Source: 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.

Figure 2.01.2: Proportion of 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

Table 2.01.12: 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.

Source: 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 2.01.13: Number and proportion of Indigenous households with major electrical problems, by remoteness area, 2008

	Number	Proportion
Major cities	2,764	3.8
Inner regional	1,551	3.5
Outer regional	2,565	6.0
Total non-remote	*6,879*	*4.3*
Remote	855	5.5
Very remote	1,449	8.5
Total remote	*2,304*	*7.1*
Total	**9,183**	**4.8**

Note: Proportions exclude unknown/not stated responses

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 2.01.14).
- 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 2.01.18).
- 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 2.01.15).
- 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 2.01.15).
- 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 2.01.17).
- 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 2.01.18).

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 2.01.16).
- 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 (Figure 2.01.3; Table 2.01.19).

Table 2.01.14: 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

(continued)

Table 2.01.14 (continued): Number of discrete Indigenous communities with different types of sewerage systems, by state/territory, 2006

(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 2007a.

Table 2.01.15: 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 2007a.

Table 2.01.16: 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 2.01.16 (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 2.01.17: 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 2.01.18: 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.

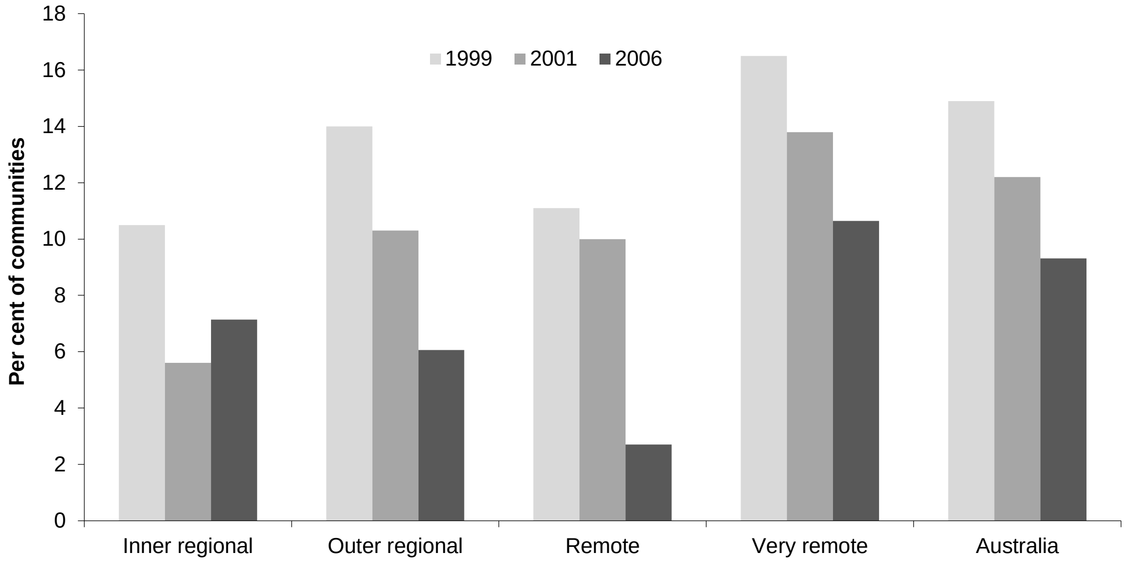
(d) Percentage calculated as a proportion of all permanent dwellings.

(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.



Source: 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.

Figure 2.01.3: Proportion of 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

Table 2.01.19: 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.

Source: 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 2.01.20).
- 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 2.01.20).
- 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 2.01.21; Figure 2.01.4).
- 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 2.01.22).
- 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 2.01.23).
- 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 to households that consumed at least one serve of fruit or vegetables each day (Table 2.01.24).
- 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 2.01.25)

Table 2.01.20: 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 2.01.21: 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.

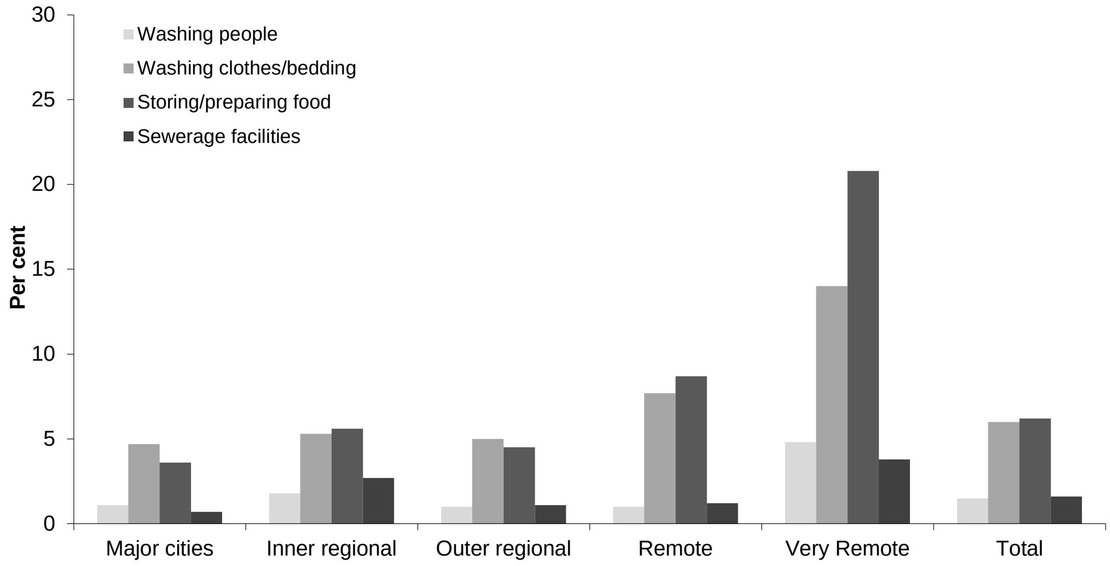
(b) Comprises households with working washing machine and/or laundry tub.

(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.



Source: ABS and AIHW analysis of 2008 NATSISS.

Figure 2.01.4: Proportion of Indigenous households reporting lack of working facilities for each of the first four Healthy Living Practices, by remoteness, 2008

Table 2.01.22: 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 2.01.23: 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 2.01.24: 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
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 2.01.25: Indigenous households: major structural problems, 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.

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 data indicate that there were 4,116 Indigenous people who were homeless on Census night (Table 2.01.26):
  - 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 Northern Territory (1,143) recorded the largest number of Indigenous homeless people followed by Queensland (1,019).
- The national rate of Indigenous homelessness was 90 per 10,000 (Table 2.01.26).
- 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 2.01.26).
- Across Australia, the rate of homelessness for Indigenous Australians was 3.8 times higher than the rate for non-Indigenous Australians (Table 2.01.26).

- 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 2.01.26).

Table 2.01.26: 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

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 2008–09 an estimated 122,100 people who were homeless or at risk of becoming homeless received some form of assistance from SAAP (Table 2.01.27).
- Of these, 21,900 (18%) were Aboriginal and Torres Strait Islanders clients (Table 2.01.27).
- Indigenous females are almost two and a half times as likely as Indigenous males to seek SAAP assistance (Table 2.01.27).
- Indigenous SAAP clients were younger than non-Indigenous clients(Table 2.01.27; Figure 2.01.5):
  - 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 to non-Indigenous males.
  - The mean age for Indigenous male (31 years) and female (29 years) SAAP clients was below the mean age for non-Indigenous male (34 years) and female (31 years) SAAP clients.

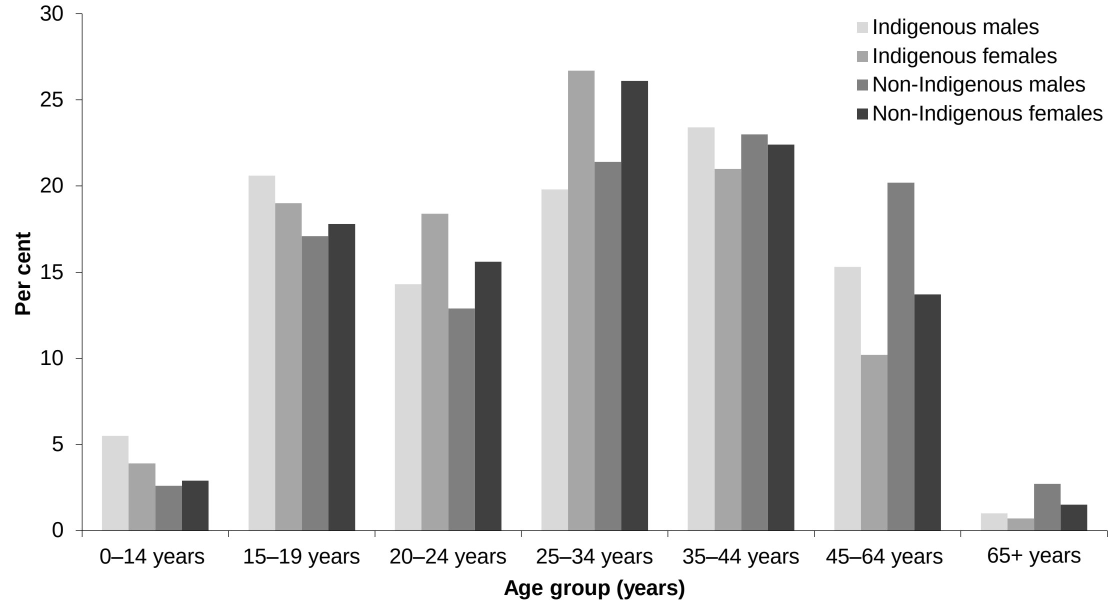
Table 2.01.27: SAAP clients: sex and age, by Indigenous status and age, 2008–09

	Indigenous		Non-Indigenous		Total	
	Per cent	**Number**	**Per cent**	**Number**	**Per cent**	**Number**
Total SAAP clients						
Sex and age						
Male						
0–14 years	5.5	300	2.6	1,100	3.0	1,400
15–19 years	20.6	1,300	17.1	6,900	17.6	8,200
20–24 years	14.3	900	12.9	5,200	13.1	6,100
25–34 years	19.8	1,300	21.4	8,600	21.2	9,900
35–44 years	23.4	1,500	23.0	9,300	23.1	10,700
45–64 years	15.3	1,000	20.2	8,100	19.5	9,100
65+ years	1.0	100	2.7	1,100	2.5	1,200
Total	**100.0**	**6,300**	**100.0**	**40,300**	**100.0**	**46,600**
Female						
0–14 years	3.9	600	2.9	1,700	3.1	2,400
15–19 years	19.0	3,000	17.8	10,700	18.1	13,600
20–24 years	18.4	2,900	15.6	9,300	16.2	12,200
25–34 years	26.7	4,200	26.1	15,600	26.2	19,800
35–44 years	21.0	3,300	22.4	13,400	22.1	16,700
45–64 years	10.2	1,600	13.7	8,200	13.0	9,800
65+ years	0.7	100	1.5	900	1.3	1,000
Total	**100.0**	**15,600**	**100.0**	**59,900**	**100.0**	**75,500**
Mean age						
Male	. .	30.8	. .	33.8	. .	33.4
Female	. .	29.4	. .	31.2	. .	31.8
Median age						
Male	. .	29	. .	33	. .	32
Female	. .	27	. .	30	. .	29

Notes:

1. Number excluded due to errors and omissions in ‘Indigenous status’ (weighted): 3,700 clients.
2. Figures have been weighted to adjust for agency non-participation and client non-consent.

Source: SAAP Client Collection.



Source: SAAP Client Collection.

Figure 2.01.5: SAAP clients: sex and age, by Indigenous status and age, 2008–09

State and region

- In 2008–09, most SAAP support periods for Indigenous clients were in New South Wales (27%) followed by Western Australia (17%). For the non- Indigenous clients, most support periods were in Victoria (36%) followed by New South Wales (28%) (Table 2.01.28).
- In 2008–09, 37% of Indigenous SAAP clients were living in a *Major city* compared with 71% of non-Indigenous SAAP clients (Table 2.01.28).
- There were correspondingly higher proportions of Indigenous SAAP clients living in *Outer regional*, *Remote* and *Very remote* locations (26%, 6.8% and 12%) compared with non-Indigenous clients (8.6%, 0.8% and 0.2% respectively) (Table 2.01.28).

Table 2.01.28: SAAP support periods: Indigenous status, by region and state/territory, Australia, 2008–09 (per cent)

									Total	
Region	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**[a]	**ACT**	**NT**[b]	**Per cent**	**Number**
Indigenous										
Major city	46.5	51.7	28.1	32.3	60.7	n.p.	100.0	n.p.	36.6	11,400
Inner regional	32.4	31.5	18.1	4.1	4.0	86.1	n.p.	n.p.	18.7	5,800
Outer regional	15.8	16.7	42.5	27.8	30.2	13.4	n.p.	27.1	25.7	8,000
Remote	4.1	0.0	9.4	11.3	2.9	0.5	n.p.	13.8	6.8	2,100
Very remote	1.2	n.p.	2.0	24.5	2.2	n.p.	n.p.	59.1	12.2	3,800
Total (row %)	**27.4**	**11.0**	**19.2**	**16.9**	**10.6**	**2.0**	**0.9**	**12.0**	**100.0**	**. .**
Total (number)	**8,500**	**3,400**	**5,950**	**5,250**	**3,300**	**650**	**300**	**3,750**	**. .**	**31,100**
Non-Indigenous										
Major city	74.5	80.0	52.0	77.2	78.9	n.p.	100.0	n.p.	70.9	97,950
Inner regional	19.9	15.9	25.1	13.4	7.2	89.6	n.p.	n.p.	19.5	26,950
Outer regional	5.3	4.0	21.2	6.9	11.5	9.7	n.p.	80.6	8.6	11,900
Remote	0.2	0.1	1.4	2.1	2.2	0.7	n.p.	9.6	0.8	1,050
Very remote	0.0	n.p.	0.3	0.4	0.3	n.p.	n.p.	9.8	0.2	300
Total (row %)	**28.4**	**35.5**	**14.3**	**6.6**	**9.5**	**3.4**	**1.3**	**1.0**	**100.0**	**. .**
Total (number)	**39,200**	**48,950**	**19,750**	**9,100**	**13,200**	**4,700**	**1,850**	**1,350**	**. .**	**138,100**

(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 2007b). 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.

Sources: SAAP Client Collection.

Main reason for seeking assistance

- In 2008–09, the most common main reason for seeking assistance among Indigenous and non-Indigenous clients was domestic/family violence (25% and 21% support periods respectively) (Table 2.01.29).
- The broad category 'Interpersonal relationships' was recorded as the main reason for seeking assistance for almost half (50%) of Indigenous SAAP clients and 43% of non-Indigenous SAAP clients (Table 2.01.29).
- Compared to 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' (11% of support periods compared with 6.5%) and overcrowding issues (6.4% compared with 2.7%) (Table 2.01.29).
- In 2008–09, Indigenous SAAP clients were less likely to report having financial problems than non-Indigenous SAAP clients (9.7% and 14% support periods respectively) (Table 2.01.29).

Table 2.01.29: SAAP support periods: Indigenous status, by main reason for seeking assistance, Australia, 2008–09 (per cent)

Main reason for seeking assistance	Indigenous	Non-Indigenous	Total	
			Per cent	Number
Interpersonal relationships				
Time out from family/other situation	10.6	6.5	7.2	14,150
Relationship/family breakdown	9.0	10.7	10.4	20,250
Interpersonal conflict	2.3	2.8	2.7	5,300
Sexual abuse	0.7	0.7	0.7	1,350
Domestic/family violence	25.4	21.3	22.1	43,050
Physical/emotional abuse	1.5	1.2	1.2	2,400
Financial				
Gambling	0.1	0.3	0.2	450
Budgeting problems	2.8	4.5	4.2	8,150
Rent too high	1.0	1.5	1.4	2,700
Other financial difficulty	5.8	8.1	7.7	14,950
Accommodation				
Overcrowding issues	6.4	2.7	3.3	6,500
Eviction/asked to leave	5.1	7.4	6.9	13,550
Emergency accommodation ended	1.4	2.3	2.1	4,150
Previous accommodation ended	5.7	7.7	7.3	14,300
Health				
Mental health issues	0.8	2.0	1.8	3,450
Problematic drug/alcohol/substance use	4.2	5.3	5.1	10,000
Psychiatric illness	0.3	0.9	0.8	1,550
Other health issues	1.3	1.1	1.1	2,200
Other reasons				
Gay/lesbian/transgender issues	0.1	0.3	0.3	550
Recently left institution	1.5	1.4	1.4	2,750
Recent arrival to area with no means of support	3.3	2.4	2.6	5,000
Itinerant	3.5	2.7	2.8	5,500
Other	7.2	6.5	6.6	12,900
Total	**100.0**	**100.0**	**100.0**	**. .**
Total (row per cent)	**17.7**	**82.3**	**100.0**	**. .**
Total (number)	**34,500**	**160,700**	**. .**	**195,200**

Notes

1. Number excluded due to errors and omissions (weighted): 17,187 support periods.
2. Figures have been weighted to adjust for agency non-participation and client non-consent.

Source: SAAP Client Collection.

Accompanying children

- Aboriginal and Torres Strait Islander children make up 24% of all children accompanying SAAP clients (Table 2.01.30).
- Close to half (47%) 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 2.01.30).

Table 2.01.30: Children accompanying SAAP clients, by Indigenous status and age, 2008–09

	Indigenous		Non-Indigenous		Total	
Age group	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
0–4	8,700	46.5	24,500	44.0	35,100	44.4
5–9	5,300	28.2	15,400	27.7	22,000	27.8
10–14	3,550	19.0	11,550	20.8	16,200	20.5
15–17	1,150	6.3	4,200	7.5	5,800	7.3
Total	**18,700**	**100.0**	**55,650**	**100.0**	**79,100**	**100.0**

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 2008 and May 2009.

- There was an average of 74 Indigenous people per day with valid unmet requests for assistance in December 2008 and May 2009 (Table 2.01.31).
- There were more Indigenous females (43) with unmet requests for SAAP accommodation than Indigenous males (31) (Table 2.01.31).
- Queensland (21) had the most valid unmet requests for SAAP accommodation per day followed by Western Australia (16.5) (Table 2.01.31).

Table 2.01.31: Valid unmet requests for SAAP accommodation[(a)], 3–9 December 2008 and 6–12 May 2009

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Males	6.1	3.0	9.1	7.9	1.9	0.3	0.1	2.3	30.8
Females	7.7	3.4	11.5	8.6	4.8	0.3	0.4	6.3	42.9
Persons	13.9	6.4	20.6	16.5	6.7	0.6	0.5	8.6	73.7

(a) Estimated average number per day of potential Indigenous clients with accompanying children.

Sources: SAAP Demand for Accommodation Collection.

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 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 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.

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 2007a).

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 2007a).

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).

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 worker's perception based on appearance or other factors. This may lead to an under-count 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.

Midway through the 2008-2009 reporting period, SAAP was discontinued and replaced by the National Affordable Housing Agreement (NAHA). This resulted in some changes in the way the jurisdictions administer the agencies. The number of funded agencies and the number of agencies that were required to participate in the collection decreased. This was a contributing factor in the decrease in the number of support periods in 2008-2009. As a result of these changes, the number of support periods and the estimated number of clients in 2008-2009 cannot be directly compared with the number of support periods and clients in 2007-2008.

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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2.02 Overcrowding in housing

The proportion of Aboriginal and Torres Strait Islander peoples living in overcrowded households

Data sources

Data for this measure come from the 2001 and 2006 Census of Population and Housing, the 2004–05 National Aboriginal and Torres Strait Islander Health Survey, and the 2002 and 2008 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 2013.

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 Australian Bureau of Statistics (ABS) conducts the Census of Population and at 5-yearly intervals, with 2006 being the most recent, and it is designed to include all Australian households. The Census uses the ABS standard Indigenous status question and it is asked for each household member.

Although the Census data are adjusted for under count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

Measures of overcrowding

There is no single standard measure of housing overcrowding in Australia. The Canadian National Occupancy Standard and the Proxy Occupancy Standard are commonly used to measure overcrowding and are 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).

Most of the data presented for this indicator are based on the Canadian National Occupancy Standard.

Proxy Occupancy Standard

The Proxy Occupancy Standard has been used recently to assess the extent of overcrowding in Commonwealth–State Housing Agreement data collections for State Owned and Managed Indigenous Housing, public housing and community housing. The Proxy Occupancy Standard has been endorsed by the Standing Committee on Indigenous Housing. Households that require two or more bedrooms to meet the Proxy Occupancy Standard are considered overcrowded.

The Proxy Occupancy Standard specifies that:

- a single adult or group of adults should have one bedroom per adult
- a couple with no children should have two bedrooms
- a sole parent or couple with one child should have two bedrooms

- a sole parent or couple with two or three children should have three bedrooms
- a sole parent or couple with four children should have four bedrooms (AIHW 2005).

The Proxy Occupancy Standard does not require information on the age and sex of children and it is therefore easier to collect the data required. However, it allows for children to share bedrooms only in some cases, which may lead to an overestimation of overcrowding. In the *National housing assistance data dictionary version 3* (AIHW 2006), the Proxy Occupancy Standard has been modified to adequately specify needs for large or multi-family households.

The revised criteria are that for sole-parent or couple households with more than four children, the dwelling size in terms of bedrooms should be the same value as the total number of children in the household. Where more than one of the groups specified in the occupancy standard is present, the needs of the two or more groups should be added together. For example, a sole parent with one child living with the sole parent's parents (three generations) would require four bedrooms, that is, two bedrooms for the sole parent and child and two bedrooms for the married couple (AIHW 2006).

Data analyses

Comparison of NATSIHS, NATSISS and Census data

Both the NATSIHS and the Census collected information on the number of additional bedrooms required, based on the Canadian National Occupancy Standard and the Proxy Occupancy Standard, as well as the number of usual residents per household for Indigenous and other Australians. The NATSISS collected information on the number of additional bedrooms required, based on the Canadian National Occupancy Standard for Indigenous households only, as well as the number of usual residents per household.

When comparing the overcrowding data for Indigenous persons aged 18 years and over recorded in the Census with the NATSIHS, the results are similar. Both the 2004–05 NATSIHS and 2006 Census estimated that 25% of Indigenous persons aged 18 years and over lived in households that required one or more additional bedrooms as classified by the Canadian National Occupancy Standard, and 13–14% lived in households that required two or more additional bedrooms. Data from the 2002 NATSISS also showed similar findings—26% of Indigenous persons aged 15 years and over were estimated to be living in overcrowded households based on the Canadian National Occupancy Standard.

This measure presents data included in the 2008 edition of this report for persons aged 18 years and over (2004–05 NATSIHS data) and for persons aged 15 years and over (2002 NATSISS data), and new data from the 2006 Census for persons aged 18 years and over. Data on overcrowding from the NATSIHS and NATSISS are presented first followed by data from the 2006 Census.

NATSIHS and NATSISS data

The 2004–05 NATSIHS and the 2002 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 most tables in this measure show *total* figures for all additional bedrooms required ('one or more additional bedrooms required'), as well as figures for the 'high degree of overcrowding' ('two or more additional bedrooms required').

- The 2004–05 NATSIHS estimated that there were 62,924 Indigenous Australians aged 18 years and over living in overcrowded households according to the Canadian National Occupancy Standard (one or more additional bedroom required). This represented 25% of all Indigenous people aged 18 years and over. There were around 650,000 other Australians living in overcrowded households in 2004–05, representing 4.4% of all other people aged 18 years and over (Table 2.02.1). Approximately 13% of Indigenous people were living in households that required two or more additional bedrooms compared with 0.8% of other people.
- The 2008 NATSISS estimated that there were 81,525 Indigenous Australians aged 15 years and over living in overcrowded households according to the Canadian National Occupancy Standard. This represented 25% of all Indigenous people aged 15 years and over (Table 2.02.2).

Overcrowding by state/territory

- In 2004–05, the Northern Territory had the highest proportion of Indigenous persons aged 18 years and over living in overcrowded households (64%) and Victoria had the lowest (8.6%) (Table 2.02.1).
- 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 (6.3%) (Table 2.02.2; Figure 2.02.1).

Table 2.02.1: Number and proportion of people aged 18 years and over living in overcrowded households[(a)], by Indigenous status and state/territory, 2004–05

	NSW	Vic	Qld	WA	SA	Tas and ACT	NT	Australia
				One or more additional bedrooms required				
Estimated number of Indigenous people living in overcrowded households	6,848	1,392	18,906	10,189	3,290	1,134	21,166	62,924
% of Indigenous people living in overcrowded households	9.3	8.6	26.9	27.5	22.7	9.7	63.8	24.5
Estimated number of other people living in overcrowded households	270,971	212,798	76,008	37,791	33,375	12,174	7,026	650,143
% of other people living in overcrowded households	5.5	5.7	2.7	2.7	2.9	2.1	7.8	4.4
Rate ratio	1.7	1.5	9.9	10.3	7.8	4.7	8.2	5.6
				Two or more additional bedrooms required				
Estimated number of Indigenous people living in overcrowded households	1,639	503	8,690	4,903	1,851	328	15,918	33,831
% of Indigenous people living in overcrowded households	2.2	3.1	12.4	13.2	12.8	2.8	48.0	13.2
Estimated number of other people living in overcrowded households	56,972	23,049	14,323	10,950	6,747	903	687	113,631
% of other people living in overcrowded households	1.1	0.6	0.5	0.8	0.6	0.2	0.8	0.8
Rate ratio	1.9	5.1	24.1	17.1	21.7	18.2	62.8	17.1

(a) Based on Canadian National Occupancy Standard.

Note: Proportions calculated from denominator excluding dwellings for which the number of bedrooms was not stated.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

Table 2.02.2: Number and proportion of people aged 15 years and over living in overcrowded households[(a)], by Indigenous status and state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT[(b)]	Australia
					Total requiring additional bedroom(s)				
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 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.

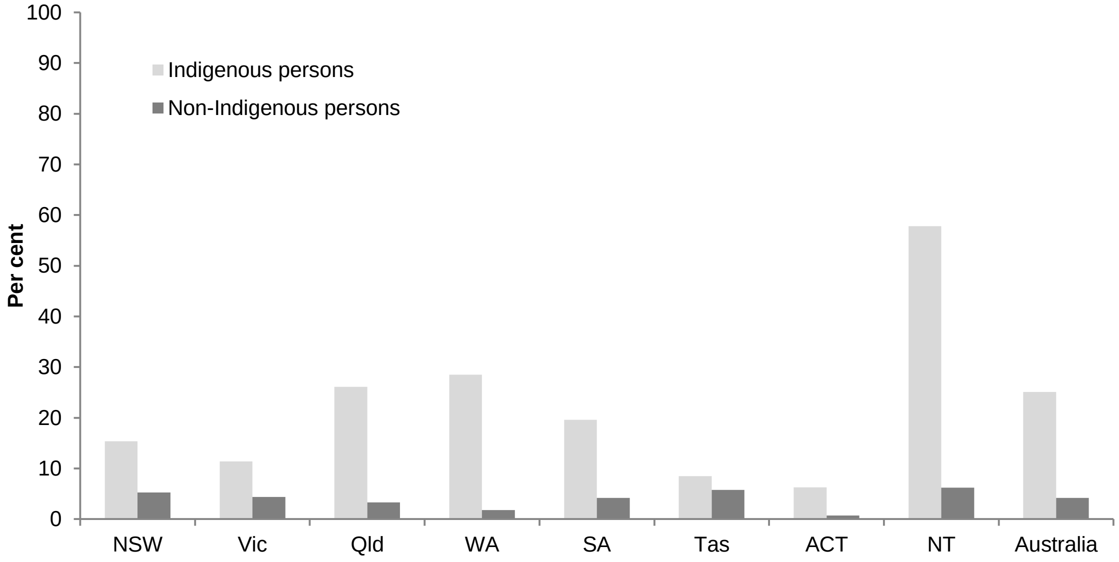
(c) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(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.

Note: Data could not be provided as requested for state/territories due to high RSEs.

Sources: ABS and AIHW analysis of 2008 NATSISS and Survey of Income and Housing 2007–08.



(a) Based on 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 in the NT excludes those in households in collection districts defined as *Very remote*, accounting for about 23% of the population in the NT.

Source: 2008 NATSISS. Non-Indigenous data are from the Survey of Income and Housing 2007-08.

Figure 2.02.1: Proportion of Indigenous Australians aged 15 years and over living in overcrowded housing(a)(b)(c) , by Indigenous status and state/territory, 2008

Overcrowding by remoteness

- In 2004–05, the proportion of Indigenous people aged 18 years and over living in overcrowded households was much higher in *Remote* and *Very remote* areas (50%) than in *Major cities* (12%) where one or more additional bedrooms were required. For Indigenous Australians living in *Remote* and *Very remote* areas, 33% required two or more additional bedrooms (Table 2.02.3).
- In 2008, overcrowding also 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 2.02.4; Figure 2.02.2).
- For Indigenous Australians aged 18 years and older in 2008, overcrowding increased with remoteness, with 61% of Indigenous people in *Very remote* areas living in overcrowded households compared to 16% of Indigenous Australians in *Major cities* (Table 2.02.5).

Table 2.02.3: Number and proportion of people aged 18 years and over living in overcrowded households[(a)], by Indigenous status and remoteness, 2004–05

	Major cities	Inner regional	Outer regional	Remote or Very remote[(b)]	Australia
			One or more additional bedrooms required		
Estimated number of Indigenous people living in overcrowded households	9,548	5,439	12,012	35,925	62,924
% of Indigenous people living in overcrowded households[(c)]	12.2	10.6	21.9	49.6	24.5
Estimated number of other people living in overcrowded households	507,443	86,640	48,320	7,740	650,143
% of other people living in overcrowded households[(c)]	5.0	3.0	3.1	4.3	4.4
Rate ratio	2.4	3.5	7.1	11.6	5.6
			Two or more additional bedrooms required		
Estimated number of Indigenous people living in overcrowded households	3,910	1,291	4,792	23,838	33,831
% of Indigenous people living in overcrowded households[(c)]	5.0	2.5	8.7	32.9	13.2
Estimated number of other people living in overcrowded households	97,301	9,951	5,591	788	113,631
% of other people living in overcrowded households[(c)]	1.0	0.3	0.4	0.4	0.8
Rate ratio	5.2	7.3	24.3	75.3	17.1

(a) Based on Canadian National Occupancy Standard.

(b) The non-Indigenous sample does not contain the *Very remote* classification.

(c) Proportions calculated from denominator excluding dwellings for which the number of bedrooms was not stated.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

Table 2.02.4: Number and proportion of people aged 15 years and over living in overcrowded households[(a)], by Indigenous status and remoteness, 2008

	Major Cities	Inner Regional	Outer Regional	Total non-remote	Remote	Very remote[(b)]	Total remote	Australia
				Total requiring additional bedrooms				
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**

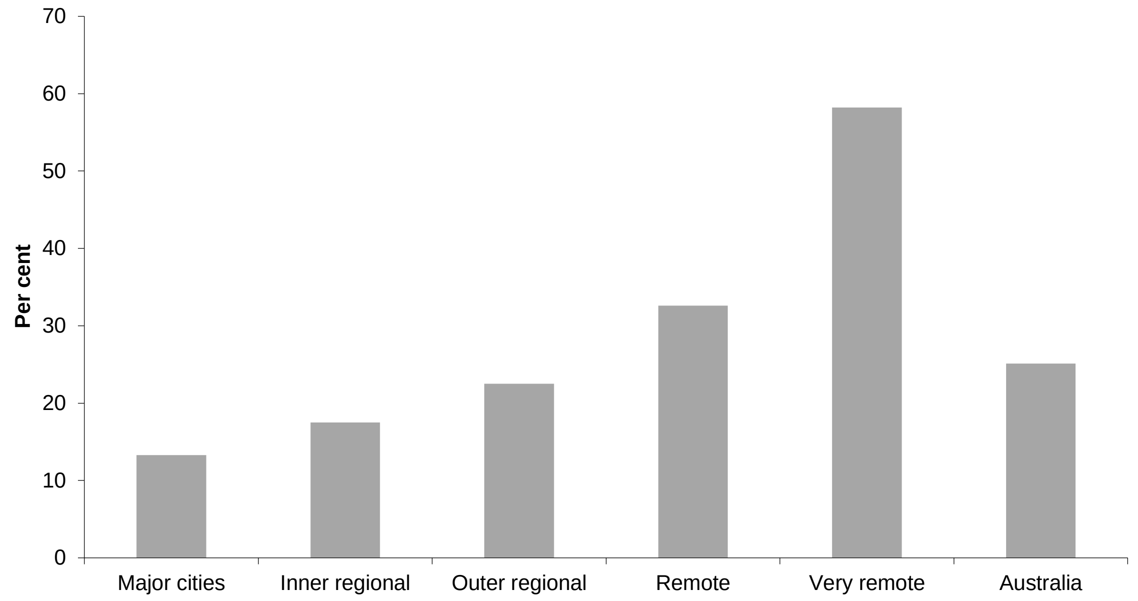
(a) Based on the Canadian National Occupancy Standard for Housing Appropriateness.

(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 Survey of Income and Housing 2007–08.



(a) Based on Canadian National Occupancy Standard for Housing Appropriateness.

(b) Denominator excludes persons in households for which housing utilisation could not be determined.

Source: ABS and AIHW analysis of 2008 NATSISS and Survey of Income and Housing 2007–08.

Figure 2.02.2: Proportion of Indigenous Australians aged 15 years and over living in overcrowded housing(a)(b), by Remoteness Area, 2008

Table 2.02.5: Number and proportion of people aged 18 years and over living in overcrowded households(a), by Indigenous status and remoteness area, 2008

	Major Cities	Inner Regional	Outer Regional	Total non-remote	Remote	Very remote(b)	Total remote	Australia
				Total requiring additional bedrooms				
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	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)	376e)	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*	. .	. .	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 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.

Sources: ABS and AIHW analysis of 2008 NATSISS and Survey of Income and Housing 2007–08.

Overcrowding by tenure type

- In 2004–05, of Indigenous households that were overcrowded, 83% were renters and 13% were home owners (Table 2.02.6).
- In 2008 there was a slight increase in Indigenous home owners living in overcrowded households (20%) while 79% of Indigenous overcrowded households were renters (Table 2.02.7).
- In 2008, 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 (Table 2.02.7).
- In 2008, Tasmania had the lowest percentage (54%) of Indigenous Australian renters and highest percentage of home owners (46%) living in overcrowded households (Table 2.02.7).

Table 2.02.6: Overcrowded Indigenous households using the Canadian National Occupancy Standard, by state/territory and tenure type, 2004–05

	NSW	Vic	Qld	WA	SA	Tas and ACT	NT	Australia
Owner without a mortgage	1.5	7.2	3.4	0.7	2.3	1.5	0.4	2.0
Owner with a mortgage	18.8	13.6	15.8	5.1	4.5	24.6	2.4	11.1
Renter (excludes boarders)	79.7	71.7	78.6	84.9	85.6	70.8	94.0	83.2
Other	—	7.5	2.2	6.6	3.1	2.2	2.0	2.8
Total(a)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes not stated.

Note: Non-Indigenous comparisons are not available as information on tenure type was not collected in 2004–05 NHS.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 2.02.7: Overcrowded Indigenous households using the Canadian National Occupancy Standard for Housing Appropriateness, by state/territory and tenure type, 2008

	NSW/ ACT(a)	Vic	Qld	WA	SA	Tas	NT	Australia
Owner/purchaser	31.3(b)	21.2(b)	15.7(b)	18.7(b)	29.0(b)	45.8(b)	5.6(b)	19.6
Renter (excludes boarders)	67.1	78.3	83.9	80.5	69.8	54.2	93.0	79.4
Total(c)(d)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) ACT has been combined with NSW but this has had little effect on the NSW rate.

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

(c) Total excludes not stated responses.

(d) Total includes other tenure types.

Source: ABS and AIHW analysis of 2008 NATSISS.

Overcrowding by selected health and socioeconomic characteristics

- 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 2.02.8).
- In 2008, of Indigenous Australians aged 15 years and over who reported their household income was in the lowest (1st) quintile, 30% lived in an overcrowded household and 70% did not. Where the highest year of school completed was Year 9 for Indigenous Australians 29% lived in an overcrowded household, compared to 19% of Indigenous Australians who had completed school to Year 12 (Table 2.02.9b). Of those Indigenous Australians living in an overcrowded household, 47% were not in the labour force and 11% were unemployed (Table 2.02.9a).

Table 2.02.8: 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.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

Table 2.02.9a: 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 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.

(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.

Note: Non-Indigenous data are not available.

Source: ABS and AIHW analysis of 2008 NATSISS.

Table 2.02.9b: 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 per cent	Total number
Self-assessed health status				
Excellent/very good	22.2*	77.8*	100.0	141,955
Good	23.6*	76.4*	100.0	110,913
Fair/poor	21.9*	78.1*	100.0	72,291
Household income[(c)(d)]				
1st quintile (lowest)	29.8*	70.2*	100.0	130,290
5th quintile (highest)	8.0[(e)*]	92.0*	100.0	11,579
Highest year of school completed				
Year 12	18.5*	81.5*	100.0	65,889
Year 9 or below	29.1*	70.9*	100.0	101,410
Whether has non-school qualification				
Has a non-school qualification	16.5*	83.5*	100.0	105,060
Does not have a non-school qualification	29.2*	70.8*	100.0	220,098
Employment				
Employed	20.4*	79.6*	100.0	168,109
Unemployed	27.2*	72.8*	100.0	33,104
Not in the labour force	30.8*	69.2*	100.0	123,945
Total	**25.1***	**74.9***	**100.0**	**325,158**

* Differences between rates for Indigenous persons in overcrowded households and households that were not overcrowded are statistically significant 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.

(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.

Note: Non-Indigenous data are not available.

Source: ABS and AIHW analysis of 2008 NATSISS.

All persons overcrowding

- The 2004–05 NATSIHS estimated that there were 127,546 Indigenous Australians living in overcrowded households according to the Canadian National Occupancy Standard (one or more additional bedrooms required). This represented 27% of all Indigenous persons. There were around 1 million other Australians living in overcrowded households in 2004–05, representing 5.2% of all other persons (Table 2.02.10). Approximately 14% of Indigenous people were living in households that required two or more additional bedrooms compared with 0.9% of other people.
- In 2008, there were 142,107 Indigenous Australians living in overcrowded households according to the Canadian National Occupancy Standard (one or more additional bedrooms required). This represented 28% of all Indigenous persons. There were around 1 million other Australians living in overcrowded households in 2008, representing 5.2% of all other persons (Table 2.02.11).
- In 2004–05, the Northern Territory had the highest proportion of Indigenous people living in overcrowded households (65%); and New South Wales, Victoria, Tasmania and the Australian Capital Territory had the lowest (between 10% and 12%) (Table 2.02.10).
- In 2008, the Northern Territory had the highest proportion of Indigenous people living in overcrowded households (62%); and The Australian Capital Territory had the lowest (6.7%) (Table 2.02.11).
- In 2004–05, the proportion of Indigenous people living in overcrowded households was much higher in *Remote* and *Very remote* areas (53%) than in *Major cities* (14%) (Table 2.02.12).
- The proportion of Indigenous Australians 15 years and over living in overcrowded households decreased slightly from 26% in 2002 to 25% in 2008 (Figure 2.02.3).

Table 2.02.10: Number and proportion of all persons living in overcrowded households[(a)], by Indigenous status and state/territory, 2004–05

	NSW	Vic	Qld	WA	SA	Tas and ACT	NT	Australia
				One or more additional bedrooms required				
Estimated number of Indigenous people living in overcrowded households	16,579	3,355	37,577	23,140	6,550	2,302	38,041	127,546
% of Indigenous people living in overcrowded households	11.9	11.4	28.9	33.6	24.6	10.4	65.3	26.9
Estimated number of other people living in overcrowded households	412,163	331,962	122,118	55,346	57,950	18,846	12,306	1,010,690
% of other people living in overcrowded households	6.4	6.8	3.3	3.0	3.9	2.4	9.8	5.2
Rate ratio	1.9	1.7	8.7	11.3	6.3	4.2	6.7	5.1
				Two or more additional bedrooms required				
Estimated number of Indigenous people living in overcrowded households	4,347	837	17,374	10,794	3,463	589	28,083	65,487
% of Indigenous people living in overcrowded households	3.1	2.8	13.4	15.7	13.0	2.7	48.2	13.8
Estimated number of other people living in overcrowded households	83,955	32,397	19,459	14,264	10,425	1,693	2,960	165,154
% of other people living in overcrowded households	1.3	0.7	0.5	0.8	0.7	0.2	2.4	0.9
Rate ratio	2.4	4.3	25.3	20.5	18.5	12.1	20.4	16.1

(a) Based on Canadian National Occupancy Standard.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

Table 2.02.11: Number and proportion of all persons living in overcrowded households(a), by Indigenous status and state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT(b)	Australia
				Total requiring additional bedrooms					
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 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.

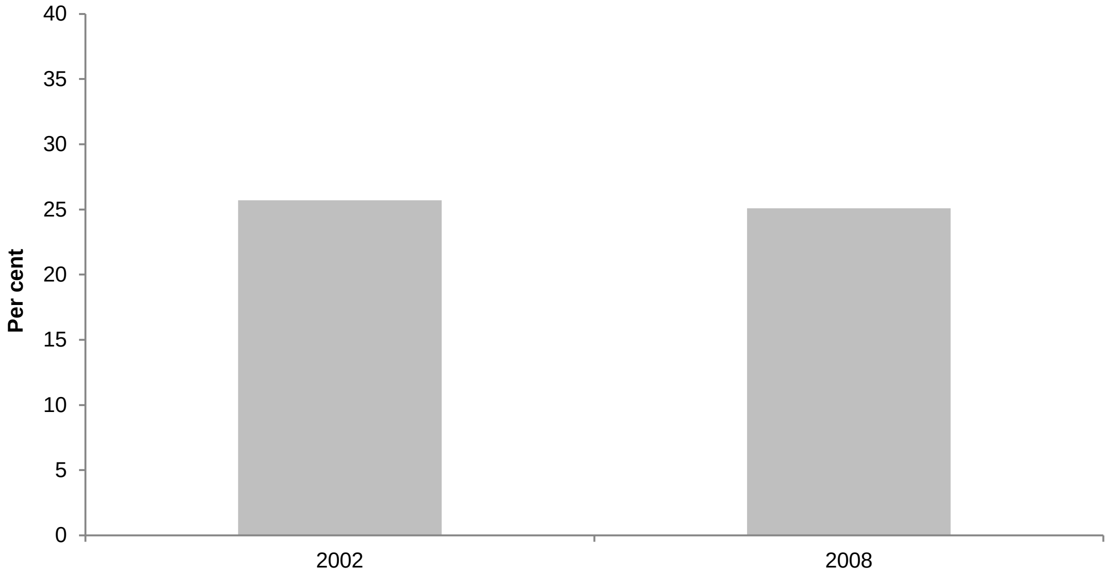
Sources: NATSISS 2008 and SIH 07–08.

Table 2.02.12: Number and proportion of all persons living in overcrowded households[(a)], by Indigenous status and remoteness, 2004–05

	Major cities	Inner regional	Outer regional	Remote or Very remote	Australia
			One or more additional bedrooms required		
Number of Indigenous persons	20,632	13,230	27,513	66,170	127,546
Proportion	14.3	13.8	25.3	52.5	26.9
Number of other persons	760,953	152,683	85,480	11,574	1,010,690
Proportion	5.8	3.9	4.1	5.0	5.2
Rate ratio	2.5	3.5	6.1	10.5	5.1
			Two or more additional bedrooms required		
Number of Indigenous persons	7,852	3,412	11,559	42,664	65,487
Proportion	5.4	3.6	10.6	33.9	13.8
Number of other persons	135,218	16,256	11,620	2,060	165,154
Proportion	1.0	0.4	0.6	0.9	0.9
Rate ratio	5.3	8.6	18.9	37.9	16.1

(a) Based on Canadian National Occupancy Standard.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.



(a) Denominator excludes persons in households for which housing utilisation could not be determined.

Note: Based on the Canadian National Occupancy Standard for housing appropriateness.

Source: ABS and AIHW analysis of 2002 and 2008 NATSISS.

Figure 2.02.3: Proportion of Indigenous people aged 15 years and over living in overcrowded households[(a)], by Indigenous status, 2002 and 2008

Census data

The majority of tables presented below are based on the Canadian National Occupancy Standard (one or more additional bedrooms required).

- The 2006 Census estimated that there were 50,515 Indigenous Australians aged 18 years and over living in overcrowded households. This represented 25% of all Indigenous people aged 18 years and over. There were 608,846 other Australians living in overcrowded households in 2006, representing 4.9% of all other people aged 18 years and over (Table 2.02.13). Approximately 14% of Indigenous people were living in households that required two or more additional bedrooms compared with 1.0% of other people.

Overcrowding by state/territory

- In 2006, the Northern Territory had the highest proportion of Indigenous persons aged 18 years and over living in overcrowded households (64%) and Tasmania had the lowest (9.0%) (Table 2.02.13; Figure 2.02.4).
- Indigenous Australians were more likely than other Australians to be living in overcrowded households in all states and territories. The largest disparities were in Western Australia (rate ratio of 12) and the Northern Territory (rate ratio of 9.6) (Table 2.02.13).
- In 2006, the Northern Territory also had the highest proportion of Indigenous households which were overcrowded (39%) and Tasmania had the lowest (7.2%) (Table 2.02.14).

Table 2.02.13: Number and proportion of persons[(a)] aged 18 years and over living in overcrowded households[(b)], by Indigenous status and state/territory, 2006

	NSW & ACT	Vic	Qld	WA	SA	Tas	NT	Australia[(c)]
				One or more additional bedrooms required				
Estimated number of Indigenous people living in overcrowded households	8,639	1,593	13,716	7,349	2,435	732	16,028	50,515
% of Indigenous people living in overcrowded households[(d)]	13.7	11.6	24.7	30.2	21.4	9.0	64.2	25.1
Estimated number of other people living in overcrowded households	263,463	165,692	97,645	31,220	34,975	10,477	5,231	608,846
% of other people living in overcrowded households[(d)]	6.1	5.2	4.1	2.6	3.5	3.5	6.7	4.9
Rate ratio	2.2	2.2	6.0	11.6	6.1	2.6	9.6	5.1
				Two or more additional bedrooms required				
Estimated number of Indigenous people living in overcrowded households	2,397	397	6,619	4,128	1,173	166	12,571	27,468
% of Indigenous people living in overcrowded households[(d)]	3.8	2.9	11.9	17.0	10.3	2.0	50.3	13.7
Estimated number of other people living in overcrowded households	56,893	34,691	18,923	5,781	6,369	1,768	1,234	125,686
% of other people living in overcrowded households[(d)]	1.3	1.1	0.8	0.5	0.6	0.6	1.6	1.0
Rate ratio	2.9	2.6	14.9	34.0	17.2	3.3	31.4	13.7

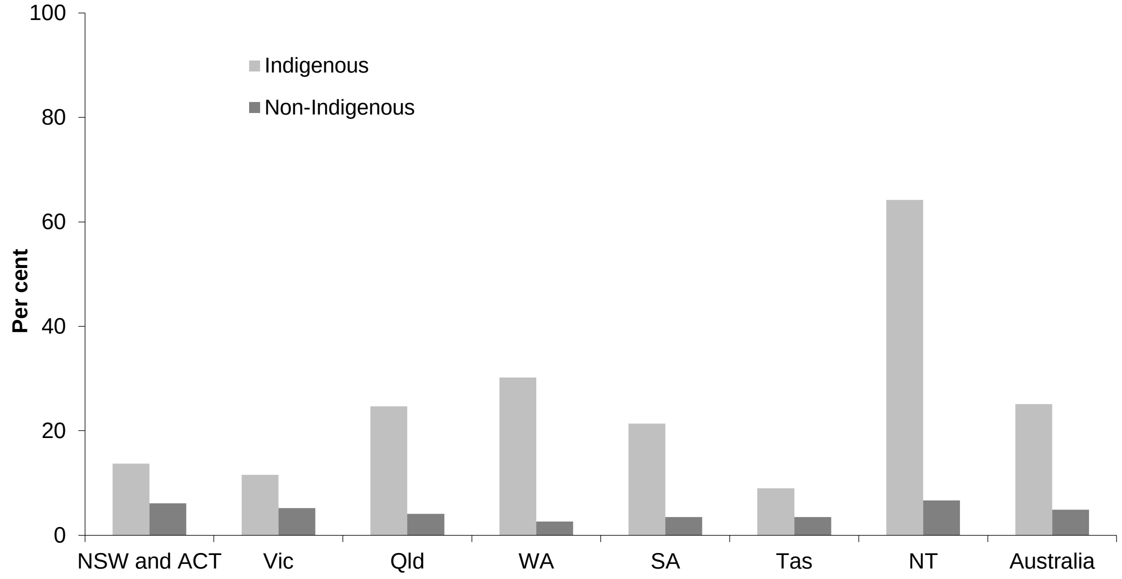
(a) Excludes visitors.

(b) Based on Canadian National Occupancy Standard.

(c) Includes other territories.

(d) Proportions calculated from denominator excluding dwellings for which the number of bedrooms was not stated.

Source: ABS and AIHW analysis of 2006 Census data.



Note: Overcrowding based on Canadian National Occupancy Standard.

Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.02.4: Proportion of persons aged 18 years and over living in overcrowded households, by Indigenous status and state/territory, 2006

Table 2.02.14: Number and proportion of overcrowded households[(a)], by Indigenous status and state/territory, 2006

	NSW &ACT	Vic	Qld	WA	SA	Tas	NT	Australia[(b)]
				One or more additional bedrooms required				
Number of overcrowded Indigenous households	5,336	1,170	6,227	2,615	1,061	532	3,777	20,725
% of Indigenous households overcrowded[(c)]	9.9	9.1	14.8	16.1	11.8	7.2	38.6	13.7
Number of overcrowded other households	86,046	52,321	32,414	10,309	11,516	3,722	1,754	198,117
% of other households overcrowded[(c)]	3.8	3.1	2.5	1.6	2.1	2.3	4.2	3.0
Rate ratio	2.6	2.9	5.9	10.1	5.6	3.1	9.2	4.6
				Two or more additional bedrooms required				
Number of overcrowded Indigenous households	1,097	240	2,094	1,062	331	95	2,398	7,319
% of Indigenous households overcrowded[(c)]	2.0	1.9	5.0	6.5	3.7	1.3	24.5	4.8
Number of overcrowded other households	14,532	8,685	5,100	1,565	1,698	515	331	32,428
% of other households overcrowded[(c)]	0.6	0.5	0.4	0.2	0.3	0.3	0.8	0.5
Rate ratio	3.3	3.8	12.5	32.5	12.3	4.3	30.6	9.6

(a) Based on Canadian National Occupancy Standard.

(b) Includes other territories.

(c) Proportions calculated from denominator excluding dwellings for which the number of bedrooms was not stated.

Source: ABS and AIHW analysis of 2006 Census data.

Overcrowding by remoteness

- In 2006, the proportion of Indigenous people aged 18 years and over living in overcrowded households (one or more additional bedrooms required) was much higher in *Remote* and *Very remote* areas (54%) than in *Major cities* (13%) (Table 2.02.15; Figure 2.02.5).
- Indigenous Australians were more likely to be living in overcrowded households than other Australians across all remoteness categories. Rate ratios ranged from 2.3 in *Major cities* to 12 in *Remote* and *Very remote* areas (Table 2.02.15). The proportion of Indigenous overcrowded households was also much higher in *Remote* and *Very remote* areas (32%) than in *Major cities* (9.4%) (Table 2.02.16).

Table 2.02.15: Number and proportion of persons(a) aged 18 years and over living in overcrowded households(b), by Indigenous status and remoteness, 2006

	Major Cities	Inner Regional	Outer Regional	Remote or Very Remote	Australia(c)
			One or more additional bedrooms required		
Estimated number of Indigenous people living in overcrowded households	8,480	5,884	8,776	27,374	50,514
% of Indigenous people living in overcrowded households(d)	12.6	13.9	21.2	54.2	25.1
Estimated number of other people living in overcrowded households	480,036	79,575	40,846	8,389	608,846
% of other people living in overcrowded households(d)	5.4	3.3	3.7	4.4	4.9
Rate ratio	2.3	4.2	5.7	12.3	5.1
			Two or more additional bedrooms required		
Estimated number of Indigenous people living in overcrowded households	2,252	1,760	3,502	19,954	27,468
% of Indigenous people living in overcrowded households(d)	3.4	4.2	8.5	39.5	13.7
Estimated number of other people living in overcrowded households	102,044	13,741	7,914	1,985	125,684
% of other people living in overcrowded households(d)	1.2	0.6	0.7	1.0	1.0
Rate ratio	2.8	7.0	12.1	39.5	13.7

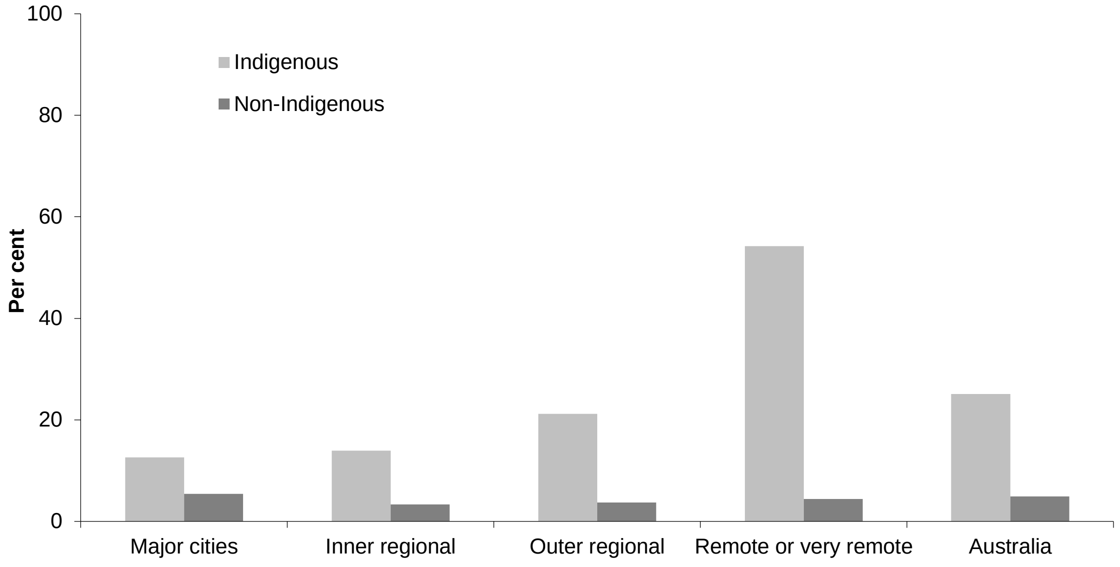
(a) Excludes visitors.

(b) Based on Canadian National Occupancy Standard.

(c) Includes migratory.

(d) Proportions calculated from denominator excluding dwellings for which the number of bedrooms was not stated.

Source: ABS and AIHW analysis of 2006 Census data.



Note: Overcrowding based on Canadian National Occupancy Standard.

Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.02.5: Proportion of persons aged 18 years and over living in overcrowded households, by Indigenous status and remoteness, 2006

Table 2.02.16: Number and proportion of overcrowded households[(a)], by Indigenous status and remoteness, 2006

	Major Cities	Inner Regional	Outer Regional	Remote or Very Remote	Australia[(b)]
		One or more additional bedrooms required			
Number of overcrowded Indigenous households	5,705	3,726	4,268	7,033	20,725
% of Indigenous households overcrowded[(c)]	9.4	10.0	13.4	32.3	13.7
Number of overcrowded other households	151,946	28,302	14,922	2,946	198,117
% of other households overcrowded[(c)]	3.3	2.1	2.4	2.8	3.0
Rate ratio	2.8	4.8	5.6	11.5	4.6
		Two or more additional bedrooms required			
Number of overcrowded Indigenous households	1,201	814	1,203	4,103	7,319
% of Indigenous households overcrowded[(c)]	2.0	2.2	3.8	18.9	4.8
Number of overcrowded other households	25,358	4,103	2,461	508	32,428
% of other households overcrowded[(c)]	0.6	0.3	0.4	0.5	0.5
Rate ratio	3.3	7.3	9.5	37.8	9.6

(a) Based on Canadian National Occupancy Standard.

(b) Includes migratory.

(c) Proportions calculated from denominator excluding dwellings for which the number of bedrooms was not stated.

Source: ABS and AIHW analysis of 2006 Census data.

Overcrowding by tenure type

Canadian National Occupancy Standard

- 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 classified as overcrowded according to the Canadian National Occupancy Standard (Table 2.02.17).
- 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 classified as overcrowded according to the Canadian National Occupancy standard in 2006 (Table 2.02.17).
- In 2006, 32% of Indigenous Australians aged 18 years and over who were renters and 10% who were home owners/purchasers lived in overcrowded households according to the Canadian National Occupancy Standard. Comparatively, 8.9% of non-Indigenous Australians who were renters and 3.4% who were home owners/purchasers lived in overcrowded households (Table 2.02.18).

Proxy Occupancy Standard

- In 2006, household overcrowding varied by tenure type with 31% of Indigenous households in co-operative/community/church group housing being overcrowded, 9.2% of state/territory housing authority households, 5.3% of private and other renter households and 4.5% of home owners or purchaser households were classified as overcrowded according to the Proxy Occupancy Standard. Comparatively, for other households, overcrowding did not vary much with tenure type, with 1.3–2.2% of other households classified as overcrowded for each tenure type according to the Proxy Occupancy Standard (Table 2.02.19).
- The proportion of Indigenous Australians aged 18 years and over living in overcrowded households varied by tenure type in 2006 according to the Proxy Occupancy Standard; 54% of Indigenous Australians living in housing co-operative/community or church group housing, 18% of Indigenous Australians in state/territory housing authority housing, 8.7% of private or other renters and 7.0% of home owners/purchasers living in overcrowded households in 2006. Comparatively, the proportion of other Australians living in overcrowded households did not vary much by tenure type, with 2.5–4.9% for each tenure type living in overcrowded households (Table 2.02.20).

Table 2.02.17: Number and proportion of overcrowded households, using the Canadian National Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

Tenure type	**NSW & ACT**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**NT**	**Australia**[(a)]
				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(b)	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(c)	138	40	246	109	31	22	163	752
Total dwellings(d)	**5,339**	**1,170**	**6,232**	**2,615**	**1,064**	**530**	**3,775**	**20,734**
				Per cent of overcrowded Indigenous households(e)				
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(b)	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(c)	11.2	11.4	20.7	19.4	14.6	11.4	39.9	18.1
Total dwellings(d)	**9.8**	**9.0**	**14.8**	**16.0**	**11.8**	**7.2**	**38.5**	**13.6**

(continued)

Table 2.02.17 (continued): Number and proportion of overcrowded households, using the Canadian National Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

Tenure type	NSW & ACT	Vic	Qld	WA	SA	Tas	NT	Australia[(a)]
			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[(b)]	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[(c)]	1,986	1,244	1,022	331	289	102	106	5,086
Total dwellings[(d)]	**86,058**	**52,334**	**32,418**	**10,308**	**11,515**	**3,722**	**1,752**	**198,151**
			Per cent of overcrowded non-Indigenous households[(e)]					
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[(b)]	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[(c)]	4.2	3.8	3.5	1.9	2.1	2.6	5.4	3.5
Total dwellings[(d)]	**3.8**	**3.1**	**2.5**	**1.6**	**2.1**	**2.3**	**4.2**	**3.0**

(continued)

Table 2.02.17 (continued): Number and proportion of overcrowded households, using the Canadian National Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

(a) Includes other territories.

(b) 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).

(c) 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.

(d) Includes tenure type not stated.

(e) Proportions have been calculated on all occupied private dwellings excluding those where number of bedrooms was not stated. Includes not stated state/territory.

Note: Households are considered overcrowded if one or more additional bedrooms are required to satisfy the Canadian National Occupancy Standard.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.02.18: Number and proportion of persons aged 18 years and over living in overcrowded households, using the Canadian National Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

Tenure type	NSW & ACT	Vic	Qld	WA	SA	Tas	NT	Australia[(a)]
	Number of Indigenous persons living in overcrowded households							
Home owner/purchaser	1,987	406	1,696	752	305	286	479	5,911
Renter								
State or territory housing authority	2,413	525	3,676	2,286	826	184	991	10,901
Housing co-operative/community/church group	1,384	104	4,357	3,216	908	9	13,364	23,351
Private and other[(b)]	2,429	469	2,893	666	264	209	415	7,345
Not stated	136	21	204	67	31	n.p.	107	569
Total renters	*6,362*	*1,119*	*11,130*	*6,235*	*2,029*	*405*	*14,877*	*42,166*
Other tenure types[(c)]	207	48	752	307	77	35	555	1,996
Total dwellings[(d)]	**8,639**	**1,593**	**13,716**	**7,349**	**2,435**	**732**	**16,028**	**50,515**
	Per cent of Indigenous persons living in overcrowded households [(e)]							
Home owner/purchaser	8.5	7.0	10.7	12.3	8.4	6.3	19.7	9.6
Renter								
State or territory housing authority	17.0	18.4	34.0	32.6	23.1	14.3	41.3	25.9
Housing co-operative/community/church group	28.9	25.1	49.6	60.4	60.5	11.8	77.9	61.3
Private and other[(b)]	13.5	11.9	16.9	14.5	12.4	11.0	23.3	14.9
Not stated	20.9	21.4	34.2	33.7	25.8	7.7	65.6	30.5
Total renters	*16.9*	*15.3*	*29.9*	*36.4*	*27.7*	*12.3*	*69.2*	*32.1*
Other tenure types[(c)]	14.7	12.2	38.6	34.8	28.2	16.2	62.5	33.1
Total dwellings[(d)]	**13.7**	**11.6**	**24.7**	**30.2**	**21.4**	**9.0**	**64.2**	**25.1**

(continued)

Table 2.02.18 (continued): Number and proportion of persons aged 18 years and over living in overcrowded households, using the Canadian National Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

Tenure type	NSW & ACT	Vic	Qld	WA	SA	Tas	NT	Australia[(a)]
Number of non-Indigenous persons living in overcrowded households								
Home owner/purchaser	128,408	92,218	45,438	16,398	19,575	5,820	2,516	310,441
Renter								
State or territory housing authority	15,260	8,672	5,310	1,626	2,683	1,081	401	35,071
Housing co-operative/community/church group	1,442	501	669	114	394	89	76	3,285
Private and other[(b)]	104,005	54,393	40,311	10,898	10,330	2,906	1,704	224,554
Not stated	1,231	707	592	193	219	44	20	3,011
Total renters	*121,938*	*64,273*	*46,882*	*12,831*	*13,626*	*4,120*	*2,201*	*265,921*
Other tenure types[(c)]	5,278	3,471	2,793	876	749	253	306	13,744
Total dwellings[(d)]	**258,679**	**162,413**	**96,051**	**30,562**	**34,372**	**10,290**	**5,080**	**597,583**
Per cent of non-Indigenous persons living in overcrowded households [(e)]								
Home owner/purchaser	4.2	3.8	2.7	1.9	2.7	2.6	5.6	3.4
Renter								
State or territory housing authority	9.8	11.8	9.1	5.0	5.3	8.4	9.4	9.0
Housing co-operative/community/church group	8.8	5.6	8.3	3.2	5.5	6.4	11.7	7.1
Private and other[(b)]	11.4	9.4	7.0	4.8	6.8	6.3	7.4	8.9
Not stated	12.9	12.6	9.7	8.5	9.4	6.3	10.1	11.3
Total renters	*11.1*	*9.6*	*7.2*	*4.8*	*6.4*	*6.7*	*7.8*	*8.9*
Other tenure types[(c)]	7.0	6.6	5.8	3.2	3.5	4.1	9.1	5.9
Total dwellings[(d)]	**6.0**	**5.1**	**4.0**	**2.6**	**3.5**	**3.5**	**6.6**	**4.8**

(continued)

Table 2.02.18 (continued): Number and proportion of persons aged 18 years and over living in overcrowded households, using the Canadian National Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

(a) Includes other territories.

(b) 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).

(c) 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.

(d) Includes tenure type not stated.

(e) Proportions have been calculated on all occupied private dwellings excluding those where number of bedrooms was not stated. Includes state/territory not stated.

Note: Households are considered overcrowded if one or more additional bedrooms are required to satisfy the Canadian National Occupancy Standard.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.02.19: Number and proportion of overcrowded households, using the Proxy Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[a]
				Number of overcrowded households					
Indigenous									
Home owner/purchaser	900	224	733	261	119	122	18	152	2,524
Renter—state or territory housing authority	698	150	1,027	601	249	48	22	255	3,046
Renter—housing co-operative/community/church group	305	31	930	629	174	5	—	2,410	4,480
Private and other renter[b]	866	176	1,030	242	110	66	9	140	2,643
Other[c]	66	27	175	76	14	11	—	121	497
Total[d]	**2,860**	**618**	**3,928**	**1,818**	**672**	**253**	**46**	**3,105**	**13,302**
Other									
Home owner/purchaser	24,571	18,171	9,021	3,249	3,793	1,105	496	435	60,848
Renter—state or territory housing authority	2,480	1,456	889	235	429	164	154	61	5,877
Renter—housing co-operative/community/church group	228	89	83	n.p.	49	15	7	9	490
Private and other renter[b]	15,031	7,373	5,498	1,449	1,402	392	199	230	31,586
Other[c]	900	586	450	170	124	38	10	35	2,322
Total[d]	**43,805**	**28,198**	**16,116**	**5,191**	**5,879**	**1,732**	**876**	**778**	**102,603**

(continued)

Table 2.02.19 (continued): Number and proportion of overcrowded households, using the Proxy Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(a)]
	Per cent of overcrowded households[(e)]								
Indigenous									
Home owner/purchaser	4.4	4.0	5.1	4.9	3.6	3.0	2.4	7.6	4.5
Renter—state or territory housing authority	5.8	5.5	13.7	12.8	8.7	3.7	4.6	16.0	9.2
Renter—housing co-operative/community/church group	11.0	9.0	23.7	32.0	28.4	6.7	—	53.4	31.4
Private and other renter[(b)]	4.7	4.1	6.2	5.5	4.7	3.3	1.9	9.0	5.3
Other[(c)]	5.2	7.3	14.1	12.8	6.2	5.3	—	28.5	11.4
Total[(d)]	**5.2**	**4.6**	**8.9**	**10.6**	**7.1**	**3.3**	**2.6**	**30.6**	**8.4**
Other									
Home owner/purchaser	1.6	1.4	1.0	0.7	0.9	0.9	0.6	1.8	1.3
Renter State or territory housing authority	2.6	2.9	2.2	1.0	1.2	1.8	1.8	2.1	2.2
Renter Housing co-operative/community/church group	2.0	1.3	1.5	0.1	0.9	1.5	1.8	2.6	1.5
Private and other renter[(b)]	2.9	2.1	1.6	1.0	1.4	1.3	0.8	1.7	2.1
Other[(c)]	1.9	1.8	1.5	0.9	0.9	0.9	0.7	1.7	1.5
Total[(d)]	**2.0**	**1.6**	**1.2**	**0.8**	**1.0**	**1.0**	**0.8**	**1.8**	**1.5**

(a) Includes other territories.

(b) Includes those renting privately with landlord not in same household and those renting from a real estate agent, relatives, employers, caravan park owners/managers and other landlords not elsewhere classified.

(c) Includes dwellings being purchased under a rent/buy scheme, occupied rent-free, and occupied under a life tenure type and other tenure type not further defined.

(d) Includes tenure type not stated.

(e) Percentage calculated from denominator excluding dwellings for which the number of bedrooms was not stated.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.02.20: Number and proportion of persons aged 18 years and over living in overcrowded households, using the Proxy Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(a)]
					Number of persons living in overcrowded households				
Indigenous									
Home owner/purchaser	1,472	304	1,295	608	219	206	26	400	4,533
Renter—state or territory housing authority	1,498	289	2,896	1,827	595	89	32	827	8,053
Renter—housing co-operative/community/church group	1,054	71	3,642	2,775	817	—	n.p.	12,561	20,934
Private and other renter[(b)]	1,364	222	1,893	547	175	86	6	366	4,659
Other[(c)]	139	31	638	257	53	28	n.p.	474	1,630
Total[(d)]	**5,572**	**924**	**10,461**	**6,054**	**1,874**	**414**	**70**	**14,738**	**40,128**
Other									
Home owner/purchaser	99,001	72,842	34,163	12,416	14,430	3,961	2,026	1,639	240,528
Renter—state or territory housing authority	8,562	4,752	3,101	878	1,496	551	517	229	20,133
Renter—housing co-operative/community/church group	815	258	366	47	165	47	13	105	1,816
Private and other renter[(b)]	53,116	26,485	19,040	5,013	4,727	1,218	723	850	111,189
Other[(c)]	3,086	2,079	1,585	584	401	130	40	163	8,077
Total[(d)]	**166,789**	**108,302**	**58,875**	**19,174**	**21,473**	**5,973**	**3,358**	**3,008**	**387,080**

(continued)

Table 2.02.20 (continued): Number and proportion of persons aged 18 years and over living in overcrowded households, using the Proxy Occupancy Standard, by Indigenous status, tenure type and state/territory, 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(a)]
	Per cent of persons living in overcrowded households[(e)]								
Indigenous									
Home owner/purchaser	6.2	5.0	7.8	9.3	5.8	4.4	3.2	15.5	7.0
Renter—state or territory housing authority	10.3	9.7	25.2	23.9	15.6	6.5	6.6	31.9	17.9
Renter—housing co-operative/community/church group	21.1	16.3	40.4	51.8	54.0	—	5.8	73.2	54.2
Private and other renter[(b)]	7.2	5.3	10.3	10.8	7.4	4.3	0.8	17.9	8.7
Other[(c)]	9.5	7.6	31.7	26.9	18.0	11.6	11.1	52.5	25.7
Total[(d)]	**8.7**	**6.4**	**18.0**	**23.5**	**15.7**	**4.9**	**3.6**	**57.9**	**19.1**
Other									
Home owner/purchaser	3.2	2.9	2.0	1.4	1.9	1.7	1.3	3.4	2.5
Renter—state or territory housing authority	5.7	6.1	5.0	2.5	2.8	4.0	3.9	5.0	4.9
Renter—housing co-operative/community/church group	4.9	2.7	4.3	1.3	2.2	3.2	2.5	14.9	3.7
Private and other renter[(b)]	5.7	4.3	3.1	2.1	2.9	2.5	1.7	3.5	4.2
Other[(c)]	4.0	3.8	3.2	2.0	1.8	2.0	1.6	4.6	3.3
Total[(d)]	**3.9**	**3.3**	**2.4**	**1.5**	**2.1**	**1.9**	**1.6**	**3.7**	**3.0**

(a) Includes Other Territories.

(b) Includes those renting privately with landlord not in same household and those renting from a real estate agent, relatives, employers, caravan park owners/managers and other landlords not elsewhere classified.

(c) 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.

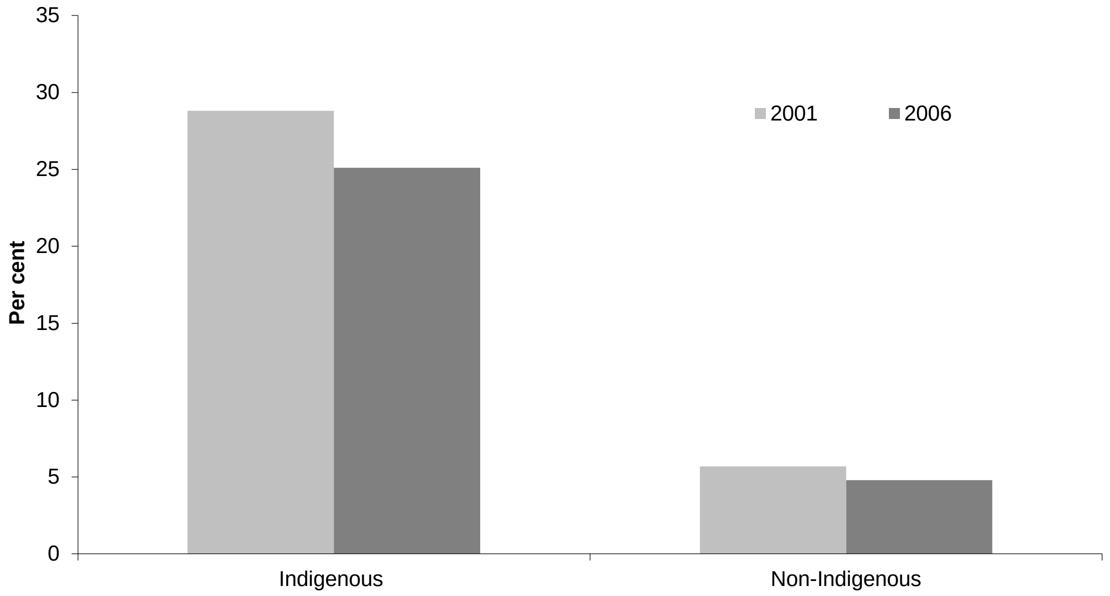
(d) Includes tenure type not stated.

(e) Percentage calculated from denominator excluding dwellings for which the number of bedrooms was not stated.

Source: ABS and AIHW analysis of 2006 Census data.

Time series

- Between 2001 and 2006, the proportion of Indigenous people aged 18 years and over living in overcrowded households declined from around 29% to 25%. Over the same period, the proportion of non-Indigenous people living in overcrowded households also declined, from around 5.7% to 4.8% (Figure 2.02.6).



(a) Overcrowding based on Canadian National Occupancy Standard.

(b) Proportions calculated from total excluding dwellings with number of bedrooms not stated.

Source: ABS and AIHW analysis of 2001 and 2006 Census data.

Figure 2.02.6: Proportion of people aged 18 years and over living in overcrowded households[(a)(b)], by Indigenous status, 2001 and 2006

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, 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.

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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).

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).

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 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

References

ABS (Australian Bureau of Statistics) 1996. Occasional paper: Population issues, Indigenous Australians. ABS cat.no. 4708.0. Canberra: ABS.

ABS 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat.no. 4715.0. Canberra: ABS.

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AIHW 2006.National housing assistance data dictionary version 3. Cat. no. HOU 147. Canberra: AIHW.

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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 2007-08 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2011–12. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 2013.

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

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; Figure 2.03.1).

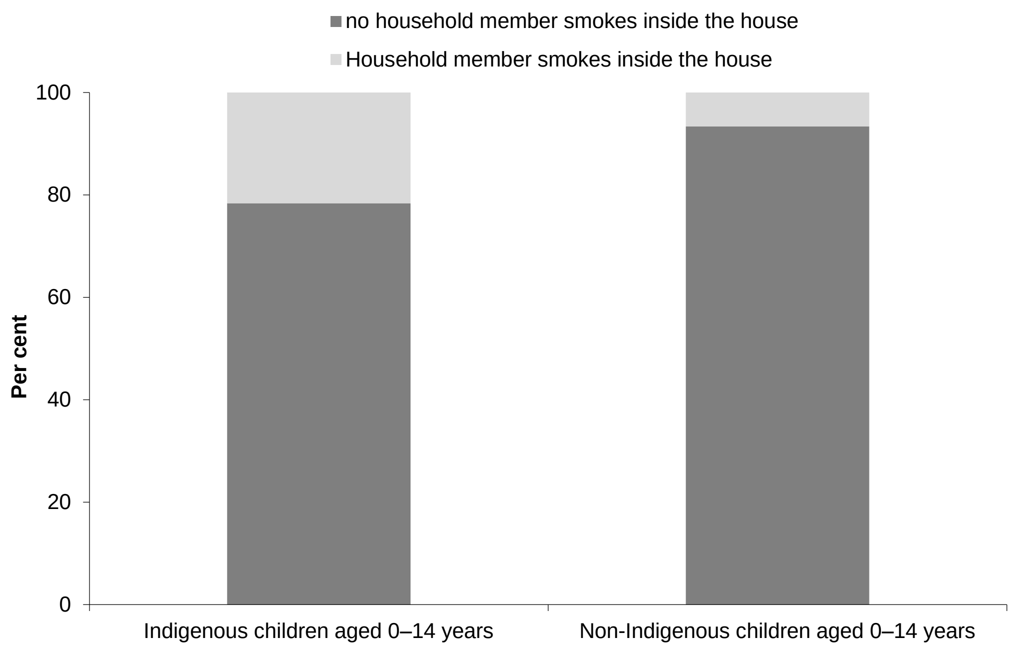
Table 2.03.1: Whether children aged 0–14 years are living in households with current daily smoker(s), by Indigenous status of children, 2007–08

	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.

(a) Includes households in which there were no current daily smokers.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.



Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Figure 2.03.1: Percentage of Indigenous and non-Indigenous children aged 0–14 years, by whether a household member smokes inside the house, 2008

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.

(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

- 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. *Outer regional* and remote areas had a similar proportion to Indigenous Children in *Very remote* areas (Table 2.03.4). The same pattern was evident for Indigenous households with Indigenous children aged 0–17 years (Table 2.03.5).
- Indigenous children in *Major cities* were four times as likely to live in households with a daily smoker who smoked at home indoors as non-Indigenous children in *Major cities*. 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).

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.**	**R rat**
	%	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**	
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
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
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.

(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.

Time series

- A higher proportion of Indigenous children aged 0–14 years lived in households with daily smokers in 2004–05 than in 2007–08 (68% compared with 65%) in non-remote areas.
- 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 2004–05 and 2007–08 (Table 2.03.6).

Table 2.03.6: 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.

Source: ABS and AIHW analysis of 2004–05 NATSIHS, 2008 NATSISS, 2004–05 NHS, and 2007–08 NHS

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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) 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 Years 3, 5 and 7 literacy and numeracy

The proportion of Year 3, 5 and 7 students achieving national benchmarks for literacy and numeracy achievement

Data sources

Data for this measure come from the *National report on schooling in Australia 2008*, published by the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA 2008), The National Assessment Program—Literacy and Numeracy (NAPLAN) tests conducted in May 2008 and the National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

National report on schooling in Australia 2008

Data for this measure come from the National report on schooling in Australia 2008, published by the Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA 2008).

The benchmarks articulate nationally agreed minimum acceptable standards in literacy and numeracy for the year levels given above, and are part of a national literacy and numeracy plan agreed to by state, territory and Australian Government Ministers for Education. The benchmarks do not attempt to describe the whole of literacy and numeracy learning, nor the full range of what students are taught. They also do not try to describe the full range of student achievement. Instead, they represent important and essential elements of literacy and numeracy at a minimum acceptable level (Curriculum Corporation 2000). A description of the national benchmarks for reading, writing and numeracy for Years 3, 5 and 7 can be found at the following addresses:

<http://cms.curriculum.edu.au/litbench/intro.asp>

<http://cms.curriculum.edu.au/numbench/index.htm>.

The 2008 report includes a section Indigenous education. This section reports on outcomes including literacy and numeracy achievement data against the national minimum standard, for Indigenous and non-Indigenous students by state and territory and for Indigenous students, disaggregated nationally by the four MCEETYA geographic locations (metropolitan, provincial, remote and very remote).

National Assessment Program – Literacy and Numeracy

The first 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 are reported 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 (2008 NAPLAN Annual Report).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 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 2013.

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Data analyses

Reading, writing and numeracy benchmarks

The proportion of Indigenous and non-Indigenous students who achieved the reading, writing and numeracy benchmarks in 2009 are presented in tables 2.04.1, 2.04.3 and 2.04.9.

Reading

- Nationally in 2009, approximately 75% of Indigenous students achieved the Year 3 reading benchmark compared with 95% of non-Indigenous students; 67% of Indigenous students achieved the Year 5 reading benchmark compared with 93% of non-Indigenous students; 73% of Indigenous students achieved the Year 7 reading benchmark compared with 95% of non-Indigenous students; and 67% of Indigenous students achieved the Year 9 reading benchmark compared with 94% of non-Indigenous students (Table 2.04.1).

Writing

- Nationally in 2009, approximately 80% of Indigenous students achieved the Year 3 writing benchmark compared with 97% of non-Indigenous students; 70% of Indigenous students achieved the Year 5 writing benchmark compared with 94% of non-Indigenous students; and 70% of Indigenous students achieved the Year 7 writing benchmark compared with 94% of non-Indigenous students; and 59% of Indigenous students achieved the Year 9 writing benchmark compared with 89% of non-Indigenous students (Table 2.04.3).

Numeracy

- Nationally in 2009, approximately 74% of Indigenous students achieved the Year 3 numeracy benchmark compared with 95% of non-Indigenous students; 74% of Indigenous students achieved the Year 5 numeracy benchmark compared with 95% of non-Indigenous students; 75% of Indigenous students achieved the Year 7 numeracy benchmark compared with 95% of non-Indigenous students; and 75% of Indigenous students achieved the Year 9 numeracy benchmark compared with 96% 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 2009 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 87% in Victoria (Table 2.04.1).
- The proportion of Indigenous students who achieved the Year 5 benchmark ranged from 31% in the Northern Territory to 85% in Victoria.
- The proportion of Indigenous students who achieved the Year 7 benchmark was lowest in the Northern Territory (36%) and highest in the Australian Capital Territory (87%).
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (32%) and the highest in Victoria (79%).

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, 2008–2009(a)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	83.5	88.1	66.2	57.3	71.5	88.4	84.9	30.4	68.3
2009	85.8	87.2	77.1	66.3	77.6	87.0	83.5	39.9	75.1
Year 5									
2008	77.6	83.0	62.9	51.8	60.6	84.5	81.1	25.8	63.4
2009	77.9	84.8	65.7	56.2	67.7	79.0	77.4	31.0	66.7
Year 7									
2008	82.4	85.5	74.8	63.4	69.6	89.0	94.3	32.4	71.9
2009	81.2	84.4	74.0	65.2	71.5	82.4	86.5	36.4	73.2
Year 9									
2008	82.3	79.9	70.0	62.8	62.5	90.7	84.2	37.9	70.7
2009	78.2	79.3	64.5	56.4	67.6	79.2	78.1	32.3	67.0
					Non-Indigenous				
Year 3									
2008	95.7	95.6	88.7	92.1	92.5	93.0	94.8	88.2	93.5
2009	96.0	95.8	93.1	93.4	94.2	93.6	95.1	89.9	94.8
Year 5									
2008	94.4	94.0	88.8	92.2	91.3	90.7	95.2	88.9	92.6
2009	94.3	94.6	90.6	91.8	91.9	91.8	94.4	89.1	93.1
Year 7									
2008	96.1	96.1	94.3	95.0	94.4	94.4	96.4	93.5	95.4
2009	95.4	95.7	94.2	94.3	94.4	93.6	95.8	92.4	95.0
Year 9									
2008	95.1	95.0	92.0	94.0	93.5	93.5	96.9	92.2	94.2
2009	94.3	94.7	91.7	92.4	93.0	92.5	94.5	90.7	93.5

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Table 2.04.2: Mean scale scores of Year 3, 5, 7 and 9 students for reading, by Indigenous status and state/territory, 2008–2009(a)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Indigenous									
Year 3									
2008	347.5	368.9	309.5	292.7	329.7	376.6	359.5	208.1	313.7
2009	355.6	375.3	327.9	304.4	329.5	365.4	361.6	239.4	327.4
Year 5									
2008	432.8	449.7	404.4	381.3	405.9	456.6	441.9	307.3	403.4
2009	438.0	458.7	413.3	391.4	414.1	442.1	458.5	333.1	414.4
Year 7									
2008	486.5	488.8	472.4	450.0	464.9	513.8	519.4	386.1	466.5
2009	488.6	494.2	474.6	456.8	469.4	492.0	501.0	404.3	473.2
Year 9									
2008	531.7	536.0	514.2	498.3	506.3	564.9	552.8	446.5	513.8
2009	530.7	535.0	506.4	493.6	511.3	537.6	540.1	434.7	510.2
Non-Indigenous									
Year 3									
2008	414.9	420.6	375.9	394.5	403.9	403.4	422.8	382.5	405.0
2009	425.0	431.0	390.0	403.8	401.6	408.2	435.7	383.2	415.0
Year 5									
2008	497.4	497.3	470.9	481.4	481.0	480.1	504.9	474.5	488.7
2009	506.0	506.9	482.3	490.7	486.9	493.7	514.1	480.8	498.1
Year 7									
2008	544.9	543.9	532.3	533.2	536.4	536.6	559.2	531.0	540.2
2009	548.2	547.8	536.9	541.3	538.9	538.6	559.9	532.5	544.4
Year 9									
2008	585.5	585.2	572.2	575.6	578.5	580.9	603.1	578.1	581.3
2009	587.8	588.4	574.7	579.4	579.6	582.3	600.2	580.2	583.8

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Writing

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 45% in the Northern Territory to 94% in Tasmania (Table 2.04.3).
- The proportion of Indigenous students who achieved the Year 5 benchmark was lowest in the Northern Territory (32%) and highest in Tasmania (85%).
- The proportion of Indigenous students who achieved the Year 7 benchmark ranged from 31% in the Northern Territory to 80% in Victoria.
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (26%) and highest in Tasmania (72%).

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, 2008–2009[(a)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	90.9	92.1	77.2	72.0	82.5	94.2	89.5	46.6	78.8
2009	90.8	90.7	80.2	74.1	81.7	93.6	88.2	45.4	79.9
Year 5									
2008	81.7	82.7	72.0	59.2	69.0	83.8	82.1	32.8	69.7
2009	81.5	84.1	68.9	62.0	73.4	84.5	79.4	32.1	70.1
Year 7									
2008	76.9	77.6	72.3	59.9	67.5	81.9	84.1	29.9	67.9
2009	77.2	80.1	71.8	62.5	73.0	76.5	76.0	30.8	69.9
Year 9									
2008	67.7	68.9	61.8	49.9	57.4	68.9	73.4	32.8	59.7
2009	67.1	68.6	59.5	50.1	56.4	72.4	71.3	26.3	59.0
					Non-Indigenous				
Year 3									
2008	97.9	96.6	93.6	97.0	95.7	97.5	96.6	95.2	96.4
2009	97.5	96.9	94.8	96.9	96.5	96.5	96.1	95.2	96.6
Year 5									
2008	95.9	94.3	90.8	93.7	92.8	93.8	95.3	90.2	93.9
2009	95.6	95.1	91.5	94.3	93.9	92.4	94.3	89.9	94.2
Year 7									
2008	94.3	93.8	91.2	92.6	93.4	91.2	93.6	89.2	93.2
2009	94.4	94.0	92.7	93.5	93.9	89.6	93.6	89.2	93.7
Year 9									
2008	90.0	90.6	85.3	88.2	88.9	85.7	89.3	84.6	88.8
2009	89.9	90.8	87.1	88.7	89.0	84.6	89.8	84.8	89.2

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Table 2.04.4: Mean scale scores of Year 3, 5, 7 and 9 students for writing by Indigenous status and state/territory, 2008–2009[(a)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	370.6	383.9	334.6	314.0	354.7	388.1	374.0	258.2	339.3
2009	368.5	384.7	339.1	318.1	342.2	379.8	373.3	256.0	340.2
Year 5									
2008	436.4	454.4	416.2	386.7	413.4	447.7	442.9	325.4	411.2
2009	435.3	454.3	411.2	392.9	419.9	446.3	439.5	322.6	412.1
Year 7									
2008	474.4	486.6	468.6	437.2	464.1	485.7	485.8	362.2	455.9
2009	474.9	485.5	466.6	447.2	465.9	480.7	474.0	365.6	460.2
Year 9									
2008	508.3	525.9	497.3	470.7	490.7	515.7	515.7	417.0	491.3
2009	506.7	517.3	488.4	472.8	486.7	524.6	527.7	400.9	488.4
					Non-Indigenous				
Year 3									
2008	430.1	426.4	396.2	405.2	418.2	419.5	424.7	398.3	418.2
2009	426.8	428.0	399.8	410.2	413.8	408.8	423.1	398.8	418.3
Year 5									
2008	498.0	503.1	473.1	478.9	483.9	481.9	492.0	471.2	490.6
2009	495.1	498.0	470.9	486.4	484.4	477.3	490.8	470.3	488.5
Year 7									
2008	538.1	550.7	526.8	529.4	541.1	525.3	535.5	526.1	537.9
2009	535.1	541.9	530.1	538.5	538.8	520.0	540.5	517.1	536.0
Year 9									
2008	572.2	589.9	559.6	567.8	574.8	561.7	572.2	569.2	573.6
2009	570.9	582.7	563.7	573.0	574.2	563.1	579.1	566.8	572.8

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Spelling

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 29% in the Northern Territory to 85% in Victoria (Table 2.04.5).
- The proportion of Indigenous students who achieved the Year 5 benchmark was lowest in the Northern Territory (34%) and highest in Victoria (85%).
- The proportion of Indigenous students who achieved the Year 7 benchmark ranged from 37% in the Northern Territory to 82% in New South Wales.
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (30%) and highest in the Australian Capital Territory (78%).

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, 2008–2009[(a)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	86.1	84.3	68.4	56.8	71.8	87.4	79.3	28.8	69.2
2009	82.8	85.0	71.1	60.9	67.2	82.2	77.5	29.4	69.6
Year 5									
2008	82.1	85.0	72.6	60.1	66.2	85.4	81.9	28.8	69.7
2009	81.7	84.8	73.7	62.8	69.5	81.3	73.3	33.9	71.5
Year 7									
2008	82.0	81.7	76.2	63.0	71.7	87.4	90.3	31.1	71.8
2009	81.9	81.4	77.8	64.0	73.4	79.0	80.0	36.7	74.3
Year 9									
2008	78.4	71.6	70.5	57.9	63.0	83.1	85.6	33.3	67.8
2009	74.4	72.8	68.4	57.9	64.1	73.7	78.1	29.6	66.1
					Non-Indigenous				
Year 3									
2008	96.7	95.8	88.9	92.2	92.2	92.7	94.2	87.0	93.9
2009	95.4	95.0	90.2	93.2	91.4	90.7	93.3	86.4	93.5
Year 5									
2008	95.2	94.4	89.4	92.2	91.3	90.5	93.1	86.5	93.0
2009	95.2	94.8	91.1	92.6	92.1	91.9	93.2	86.7	93.6
Year 7									
2008	94.9	94.6	91.3	93.0	93.2	91.7	94.9	88.4	93.6
2009	95.2	93.9	93.0	92.3	93.1	90.8	93.5	87.7	93.8
Year 9									
2008	92.9	91.3	88.8	90.0	89.7	87.7	94.4	86.4	91.0
2009	92.3	91.3	89.8	89.7	90.0	88.2	91.3	85.4	90.9

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Table 2.04.6: Mean scale scores of Year 3, 5, 7 and 9 students for spelling, by Indigenous status and state/territory, 2008–2009[a]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	361.2	359.4	317.0	295.3	330.6	373.7	344.9	208.4	319.6
2009	357.3	370.4	324.5	301.1	319.4	358.5	342.9	217.5	322.8
Year 5									
2008	446.8	455.2	422.1	397.2	421.5	457.5	448.6	313.5	417.1
2009	446.2	453.0	423.7	403.8	419.8	443.8	444.6	333.6	421.6
Year 7									
2008	497.2	491.1	485.7	455.3	479.0	512.4	504.4	375.9	474.0
2009	496.4	491.4	489.2	459.1	478.2	492.6	482.9	386.3	479.1
Year 9									
2008	534.9	529.6	522.7	494.0	512.9	556.0	543.9	428.5	514.6
2009	528.1	525.0	517.4	495.9	504.6	527.7	538.3	413.5	509.8
					Non-Indigenous				
Year 3									
2008	421.9	416.1	370.5	389.1	400.3	396.9	408.6	370.0	403.8
2009	426.5	420.0	379.7	397.9	397.7	396.0	413.0	369.8	409.0
Year 5									
2008	501.8	494.0	465.1	477.6	482.2	474.4	488.9	460.7	487.4
2009	505.7	496.3	469.3	483.0	481.0	481.1	489.6	462.9	490.6
Year 7									
2008	552.5	543.1	531.1	533.3	542.1	529.4	545.4	519.1	542.2
2009	553.5	540.9	535.9	535.3	538.4	526.9	541.4	516.1	543.0
Year 9									
2008	589.1	581.0	571.1	572.3	578.4	568.2	587.8	566.6	580.2
2009	588.1	579.8	572.7	572.2	574.3	566.9	585.5	565.0	579.5

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Grammar and punctuation

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 32% in the Northern Territory to 86% in Victoria (Table 2.04.7).
- The proportion of Indigenous students who achieved the Year 5 benchmark was lowest in the Northern Territory (28%) and highest in Victoria (84%).
- The proportion of Indigenous students who achieved the Year 7 benchmark ranged from 27% in the Northern Territory to 79% in the Australian Capital Territory and Victoria.
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (27%) and highest in the Australian Capital Territory (78%).

Table 2.04.7: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standard for grammar and punctuation, by Indigenous status and state/territory, 2008–2009[(a)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	82.2	87.7	62.9	51.4	69.7	85.3	81.3	25.8	65.3
2009	81.6	86.2	69.8	56.1	70.0	83.3	77.6	31.5	68.7
Year 5									
2008	77.6	84.1	65.7	49.3	62.9	86.4	79.6	24.5	64.1
2009	75.0	84.0	64.8	51.4	64.9	79.0	75.1	27.5	64.3
Year 7									
2008	75.0	76.1	65.9	47.5	59.9	85.8	87.4	23.9	62.7
2009	72.2	78.5	66.6	51.7	65.2	77.8	78.5	26.9	64.9
Year 9									
2008	71.2	68.8	62.7	47.6	53.5	82.6	79.3	28.4	60.7
2009	69.5	70.4	61.6	49.3	60.4	74.7	78.3	26.6	60.8
					Non-Indigenous				
Year 3									
2008	95.8	95.6	88.3	90.8	92.0	92.2	94.1	87.1	93.3
2009	95.4	95.5	90.9	91.4	93.0	91.9	94.7	86.3	93.8
Year 5									
2008	94.7	95.1	90.6	92.6	92.5	92.2	96.0	88.3	93.5
2009	94.5	95.2	91.3	92.2	92.3	91.5	94.9	88.3	93.6
Year 7									
2008	94.3	94.1	91.9	91.5	92.5	91.7	94.2	88.0	93.2
2009	93.5	94.5	92.7	92.5	93.2	91.3	95.0	89.4	93.5
Year 9									
2008	92.4	92.2	90.0	90.3	90.6	88.4	95.1	87.4	91.5
2009	91.8	93.1	90.9	91.0	91.7	90.2	93.1	88.8	91.8

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Table 2.04.8: Mean scale scores of Year 3, 5, 7 and 9 students for grammar and punctuation, by Indigenous status and state/territory, 2009

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	347.1	377.5	302.3	277.7	319.9	370.7	352.2	176.7	305.5
2009	354.9	378.4	324.3	290.2	322.6	369.7	355.5	216.1	321.4
Year 5									
2008	434.0	456.4	407.6	373.8	407.9	472.1	444.5	286.4	402.4
2009	434.3	453.1	411.7	379.3	408.4	442.3	450.6	308.5	407.9
Year 7									
2008	472.0	474.7	455.6	419.4	446.1	505.2	502.4	346.8	446.3
2009	473.4	483.7	463.9	433.5	457.2	488.5	481.2	365.0	457.3
Year 9									
2008	513.0	515.2	501.8	474.7	491.8	541.2	534.4	411.5	494.7
2009	513.5	516.6	500.3	480.5	496.6	525.5	540.1	414.9	497.0
					Non-Indigenous				
Year 3									
2008	420.2	429.2	375.7	392.3	400.5	405.9	421.6	378.6	408.4
2009	435.1	440.8	399.4	413.9	411.8	416.8	443.1	389.5	424.8
Year 5									
2008	508.0	514.2	482.0	492.5	491.8	497.6	514.9	481.2	501.2
2009	513.8	511.0	490.7	496.4	492.8	495.5	518.0	487.3	504.6
Year 7									
2008	539.5	538.7	522.7	522.6	532.2	529.8	547.7	519.0	533.4
2009	546.2	545.5	539.0	539.7	539.2	538.1	559.1	528.2	543.4
Year 9									
2008	579.0	575.5	567.6	562.4	567.8	559.5	590.2	560.7	573.0
2009	578.7	581.0	573.6	571.5	574.1	571.9	593.5	570.2	577.2

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Numeracy

- The proportion of Indigenous students who achieved the Year 3 benchmark ranged from 41% in the Northern Territory to 89% in Victoria (Table 2.04.9).
- The proportion of Indigenous students who achieved the Year 5 benchmark was lowest in the Northern Territory (46%) and highest in Victoria (87%).
- The proportion of Indigenous students who achieved the Year 7 benchmark ranged from 44% in the Northern Territory to 85% in Victoria.
- The proportion of Indigenous students who achieved the Year 9 benchmark was lowest in the Northern Territory (45%) and highest in Tasmania (85%).

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, 2008–2009[(a)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	88.6	93.0	75.5	75.5	79.2	94.5	88.4	52.4	78.6
2009	84.1	89.4	74.0	68.8	71.5	87.7	83.3	41.0	74.0
Year 5									
2008	78.9	83.3	69.5	61.6	68.5	87.8	82.3	38.3	69.2
2009	82.5	86.9	73.9	67.4	73.5	85.7	83.6	45.5	74.2
Year 7									
2008	84.5	87.9	81.8	74.2	75.9	92.4	90.3	50.2	78.6
2009	80.4	85.4	78.5	71.7	73.6	82.9	84.0	44.2	75.8
Year 9									
2008	80.3	78.4	73.2	66.2	68.7	88.5	83.8	46.1	72.5
2009	80.9	83.8	76.5	67.4	76.0	84.8	81.9	45.2	75.0
					Non-Indigenous				
Year 3									
2008	97.3	96.8	93.3	96.1	94.6	96.8	96.7	96.5	96.0
2009	96.0	96.1	93.6	94.5	93.5	94.4	95.1	92.4	95.2
Year 5									
2008	95.2	95.0	92.0	93.7	91.7	92.9	95.3	91.6	94.0
2009	96.1	95.9	94.0	95.0	94.1	94.1	95.8	92.9	95.3
Year 7									
2008	96.6	96.8	95.9	96.5	95.4	95.5	97.3	95.6	96.4
2009	95.8	96.3	95.9	95.4	95.0	93.9	95.9	93.8	95.8
Year 9									
2008	95.4	95.5	93.8	94.3	93.7	93.1	96.9	93.6	94.8
2009	96.1	96.7	95.7	95.5	95.4	94.6	95.7	94.4	96.0

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Table 2.04.10: Mean scale scores of Year 3, 5, 7 and 9 students for numeracy, by Indigenous status and state/territory, 2008–2009[(a)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Indigenous				
Year 3									
2008	350.3	376.9	316.2	313.9	330.7	377.1	355.1	275.0	327.6
2009	344.4	369.1	317.2	304.1	312.4	358.6	344.9	251.7	320.5
Year 5									
2008	424.9	440.6	406.8	393.0	409.1	447.4	428.5	355.9	408.0
2009	439.5	453.0	417.0	403.7	415.6	440.2	443.2	367.5	420.5
Year 7									
2008	485.6	492.9	483.2	463.2	468.7	512.3	504.7	428.3	476.2
2009	482.2	492.4	480.1	462.8	466.8	490.3	487.3	421.3	474.4
Year 9									
2008	528.3	530.2	515.9	500.6	508.8	551.0	546.5	470.5	515.1
2009	532.0	540.6	520.4	506.9	515.7	539.3	540.9	471.3	520.2
					Non-Indigenous				
Year 3									
2008	411.3	417.5	371.9	387.4	391.7	401.6	413.1	386.9	400.5
2009	407.7	411.3	376.4	386.6	381.8	393.8	409.8	374.4	397.7
Year 5									
2008	490.5	490.3	462.3	466.5	462.9	467.5	485.3	459.4	479.5
2009	503.9	496.6	474.1	479.4	472.4	477.4	497.1	471.4	490.3
Year 7									
2008	554.1	553.2	543.2	539.5	539.2	536.9	557.5	534.2	548.6
2009	551.8	550.0	543.9	542.8	534.0	528.4	551.2	525.1	547.0
Year 9									
2008	594.3	591.5	574.7	576.4	574.6	570.2	596.0	575.4	585.7
2009	599.3	597.0	583.5	587.8	580.8	577.3	601.7	579.8	592.4

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

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 2009, 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%, 79%, 79% and 83% respectively in metropolitan areas, and 43%, 47%, 35%, 34% and 40% 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%, 81%, 76% and 83% respectively in metropolitan areas and 26%, 30%, 35%, 22% and 40% in Very Remote areas.
- The proportion of Indigenous Year 7 students who achieved the reading, writing, spelling, grammar and punctuation and numeracy benchmarks was 83%, 80%, 83%, 75% and 84% respectively in metropolitan areas and 32%, 30%, 39%, 23% 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 74%, 67%, 74%, 69% and 81% respectively in metropolitan areas and 26%, 21%, 31%, 23% and 41% 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 and punctuation and numeracy, by Indigenous status and remoteness area, 2008-2009[(a)]

	Metropolitan			Provincial			Remote			Very Remote		
	Indig.	**Non-Indig.**	**All students**	**Indig.**	**Non-Indig.**	**All students**	**Indig.**	**Non-Indig.**	**All students**	**Indig.**	**Non-Indig.**	**All students**
Reading												
Year 3												
2008	78.6	n.a.	93.6	76.2	n.a.	91.0	53.9	n.a.	79.6	30.5	n.a.	51.1
2009	83.8	95.2	94.7	81.5	94.1	93.0	58.4	92.5	83.9	43.4	91.0	61.1
Year 5												
2008	74.4	n.a.	92.4	71.0	n.a.	90.0	47.8	n.a.	79.7	21.7	n.a.	46.1
2009	76.7	93.5	93.0	73.8	92.2	90.7	47.3	89.9	79.5	26.4	88.0	49.1
Year 7												
2008	83.0	n.a.	95.2	79.6	n.a.	93.9	56.6	n.a.	83.9	28.0	n.a.	49.2
2009	82.8	95.4	95.0	77.7	94.2	92.9	54.1	93.1	83.1	32.3	90.7	53.9
Year 9												
2008	78.4	n.a.	93.7	75.3	n.a.	92.4	57.4	n.a.	82.3	29.0	n.a.	51.3
2009	74.1	93.7	93.1	71.2	92.9	91.3	49.9	90.5	79.3	26.2	87.1	48.4
Writing												
Year 3												
2008	86.9	n.a.	96.2	86.2	n.a.	95.3	69.0	n.a.	88.5	45.0	n.a.	62.7
2009	87.7	96.7	96.3	87.3	96.3	95.5	65.3	96.1	88.6	47.0	94.7	64.9
Year 5												
2008	79.7	n.a.	93.8	76.0	n.a.	91.5	58.1	n.a.	83.7	31.6	n.a.	52.9
2009	80.3	94.8	94.3	76.6	92.9	91.6	53.5	92.3	82.8	29.5	91.2	52.3

(continued)

Table 2.04.11(continued): Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standards for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status and remoteness area, 2008-2009[(a)]

	Metropolitan			Provincial			Remote			Very Remote		
	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students
Year 7												
2008	78.7	n.a.	93.3	73.8	n.a.	90.4	54.0	n.a.	81.0	28.5	n.a.	48.1
2009	79.7	94.3	93.9	74.3	92.0	90.7	49.5	91.1	80.4	29.5	90.2	52.2
Year 9												
2008	67.9	n.a.	88.9	62.6	n.a.	84.7	44.4	n.a.	73.3	23.8	n.a.	44.3
2009	67.4	90.1	89.4	61.8	86.9	85.0	38.3	83.9	71.3	21.4	79.3	42.7
Spelling												
Year 3												
2008	80.0	n.a.	94.1	77.0	n.a.	91.0	56.0	n.a.	80.0	29.6	n.a.	49.7
2009	79.1	94.2	93.7	76.8	91.9	90.7	50.8	89.4	79.8	35.2	87.8	54.6
Year 5												
2008	80.0	n.a.	93.4	76.6	n.a.	89.9	55.9	n.a.	80.5	30.5	n.a.	51.1
2009	80.5	94.3	93.8	78.1	91.8	90.7	55.1	89.6	81.2	34.5	88.0	54.1
Year 7												
2008	82.9	n.a.	94.1	77.6	n.a.	90.4	57.4	n.a.	81.4	32.7	n.a.	51.0
2009	83.0	94.6	94.2	78.3	91.9	90.9	55.1	90.8	81.6	38.9	87.5	56.6
Year 9												
2008	76.9	n.a.	91.5	70.9	n.a.	87.0	52.9	n.a.	76.3	27.3	n.a.	47.9
2009	74.0	91.9	91.3	68.3	88.5	86.9	48.7	85.1	75.0	31.3	81.5	49.3

(continued)

Table 2.04.11 (continued): Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standards for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status and remoteness area, 2008-2009[(a)]

	Metropolitan			Provincial			Remote			Very Remote		
	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students
Grammar and punctuation												
Year 3												
2008	76.7	n.a.	93.2	73.8	n.a.	90.7	49.3	n.a.	78.2	24.1	n.a.	46.1
2009	78.7	94.3	93.8	75.7	92.5	91.1	49.4	89.6	79.5	33.6	88.3	53.9
Year 5												
2008	75.3	n.a.	93.3	72.2	n.a.	91.1	48.2	n.a.	80.5	20.0	n.a.	45.2
2009	75.5	94.1	93.5	71.3	92.3	90.6	44.1	90.2	78.9	21.6	87.7	45.8
Year 7												
2008	74.7	n.a.	93.1	70.4	n.a.	90.4	44.2	n.a.	77.7	17.7	n.a.	40.3
2009	75.2	93.9	93.4	69.5	92.3	90.6	42.4	91.2	78.7	22.9	88.5	47.0
Year 9												
2008	69.5	n.a.	91.4	64.2	n.a.	87.7	44.2	n.a.	75.3	20.1	n.a.	43.8
2009	68.6	92.2	91.6	64.2	90.9	88.9	40.9	88.1	75.1	23.1	84.9	45.6
Numeracy												
Year 3												
2008	85.9	n.a.	95.8	85.5	n.a.	94.8	70.4	n.a.	88.5	47.5	n.a.	64.4
2009	83.0	95.4	94.9	80.5	94.5	93.4	58.7	93.8	85.1	40.1	91.5	59.2
Year 5												
2008	78.5	n.a.	93.8	75.7	n.a.	91.9	56.3	n.a.	83.4	32.9	n.a.	54.3
2009	83.2	95.6	95.2	79.8	94.5	93.4	57.3	93.5	84.6	40.3	92.8	59.5

(continued)

Table 2.04.11 (continued): Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standards for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status and remoteness area, 2008-2009(a)

	Metropolitan			Provincial			Remote			Very Remote		
	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students
Year 7												
2008	87.0	n.a.	96.2	83.9	n.a.	95.1	67.8	n.a.	88.4	46.4	n.a.	62.2
2009	83.7	96.1	95.7	79.7	95.2	94.0	58.7	94.6	85.3	42.3	94.0	61.2
Year 9												
2008	78.9	n.a.	94.4	76.2	n.a.	92.9	60.4	n.a.	84.1	38.2	n.a.	57.8
2009	80.7	96.2	95.7	78.8	95.6	94.3	60.0	95.0	85.3	40.9	92.9	59.7

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

Table 2.04.12: Mean scale scores of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status and remoteness area, 2009[(a)]

	Metropolitan			Provincial			Remote			Very Remote		
	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students
Reading												
Year 3												
2008	343.4	n.a.	408.0	331.0	n.a.	389.3	280.4	n.a.	352.5	215.4	n.a.	274.2
2009	350.1	419.9	418.1	342.6	402.5	398.0	287.6	386.5	362.1	248.9	386.6	300.1
Year 5												
2008	428.7	n.a.	490.2	420.3	n.a.	476.7	371.3	n.a.	448.1	307.6	n.a.	365.0
2009	436.5	501.4	499.6	428.6	490.1	485.4	374.4	477.2	452.1	329.4	479.0	384.3
Year 7												
2008	488.5	n.a.	541.7	480.9	n.a.	529.6	439.0	n.a.	500.1	381.0	n.a.	425.8
2009	492.9	548.0	546.6	479.7	535.2	531.3	435.8	527.6	504.0	399.7	521.2	444.8
Year 9												
2008	529.3	n.a.	582.1	522.6	n.a.	571.3	488.2	n.a.	543.4	430.8	n.a.	478.5
2009	524.9	586.2	584.6	517.6	577.6	573.3	471.0	565.7	539.6	435.5	558.9	480.7
Writing												
Year 3												
2008	364.3	n.a.	420.9	356.4	n.a.	404.3	307.0	n.a.	371.6	252.7	n.a.	301.7
2009	363.0	422.8	421.2	357.2	406.8	403.1	297.7	394.3	370.8	257.7	391.8	307.3
Year 5												
2008	435.1	n.a.	493.5	425.8	n.a.	475.2	385.1	n.a.	450.0	322.3	n.a.	373.4
2009	436.5	493.4	491.8	426.0	475.8	472.0	374.2	469.3	446.4	320.1	469.5	375.3

(continued)

Table 2.04.12 (continued): Mean scale scores of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status and remoteness area, 2009[(a)]

	Metropolitan			Provincial			Remote			Very Remote		
	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students
Year 7												
2008	482.7	n.a.	540.9	470.7	n.a.	521.9	421.8	n.a.	491.7	360.0	n.a.	409.5
2009	484.1	541.0	539.5	470.0	522.7	518.9	414.2	519.1	492.3	364.3	512.3	419.5
Year 9												
2008	512.8	n.a.	576.2	499.5	n.a.	556.5	458.0	n.a.	527.2	391.2	n.a.	447.8
2009	508.5	577.5	575.7	496.7	560.0	555.3	442.9	549.6	520.6	388.8	542.3	445.5
Spelling												
Year 3												
2008	349.2	n.a.	408.7	337.8	n.a.	384.0	290.1	n.a.	350.3	217.1	n.a.	269.4
2009	348.0	415.9	414.1	340.3	391.2	387.4	277.1	375.0	350.9	234.9	372.3	285.9
Year 5												
2008	442.3	n.a.	492.0	432.6	n.a.	469.4	387.4	n.a.	444.4	323.7	n.a.	371.9
2009	443.0	496.8	495.3	434.5	474.7	471.7	386.0	465.3	446.1	339.9	461.7	384.7
Year 7												
2008	500.2	n.a.	546.5	487.1	n.a.	525.0	441.5	n.a.	497.0	383.1	n.a.	425.2
2009	500.8	548.8	547.6	486.7	527.8	524.8	434.3	520.8	498.4	398.5	510.3	439.4
Year 9												
2008	535.6	n.a.	583.7	522.1	n.a.	563.8	483.7	n.a.	537.0	417.5	n.a.	466.9
2009	528.7	584.7	583.2	515.0	565.6	561.9	466.2	554.2	529.9	429.0	547.5	472.0

(continued)

Table 2.04.12 (continued): Mean scale scores of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status and remoteness area, 2009[(a)]

	Metropolitan			Provincial			Remote			Very Remote		
	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students	Indig.	Non-Indig.	All students
Grammar and punctuation												
Year 3												
2008	339.2	n.a.	411.2	327.5	n.a.	392.0	269.8	n.a.	349.9	186.7	n.a.	253.0
2009	349.0	430.4	428.2	339.5	410.5	405.2	274.7	392.7	363.6	226.0	393.3	288.2
Year 5												
2008	432.0	n.a.	502.9	423.0	n.a.	487.2	366.3	n.a.	454.4	287.6	n.a.	354.4
2009	434.3	509.1	507.0	424.2	492.9	487.7	362.9	482.6	453.7	306.9	479.7	370.3
Year 7												
2008	473.3	n.a.	535.9	464.6	n.a.	518.9	410.9	n.a.	483.7	341.1	n.a.	393.3
2009	480.7	547.3	545.6	466.5	533.5	528.7	410.2	526.2	496.4	366.9	517.9	422.7
Year 9												
2008	514.6	n.a.	575.8	503.2	n.a.	556.5	463.9	n.a.	526.3	398.2	n.a.	452.3
2009	513.1	580.4	578.6	503.1	568.9	564.0	454.7	557.1	528.9	425.5	552.7	472.2
Numeracy												
Year 3												
2008	345.7	n.a.	402.6	339.2	n.a.	388.3	305.7	n.a.	360.0	265.9	n.a.	306.2
2009	339.7	401.7	400.1	334.3	387.4	383.4	287.4	375.3	353.6	251.2	371.7	295.9
Year 5												
2008	424.9	n.a.	482.0	418.1	n.a.	465.9	383.8	n.a.	439.5	349.1	n.a.	386.3
2009	437.6	494.7	493.1	429.8	479.1	475.4	386.9	466.6	447.2	361.8	471.1	401.6

(continued)

Table 2.04.12 (continued): Mean scale scores of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status and remoteness area, 2009(a)

	Metropolitan			Provincial			Remote			Very Remote		
	Indig.	**Non-Indig.**	**All students**	**Indig.**	**Non-Indig.**	**All students**	**Indig.**	**Non-Indig.**	**All students**	**Indig.**	**Non-Indig.**	**All students**
Year 7												
2008	493.5	n.a.	551.4	485.0	n.a.	534.0	453.9	n.a.	506.4	416.9	n.a.	451.1
2009	491.1	551.8	550.3	478.7	534.5	530.4	442.2	525.1	503.7	417.0	521.7	455.5
Year 9												
2008	528.0	n.a.	588.3	520.4	n.a.	570.2	492.1	n.a.	542.0	455.9	n.a.	493.2
2009	531.4	596.8	595.1	525.5	580.6	576.6	489.2	567.9	546.1	466.4	565.0	502.2

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2008; MCEECDYA 2009.

NAPLAN 2008 and 2009

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 2009. 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 2009 there was an increase in the proportion of Indigenous students achieving the Years 3, 5, and 7 national minimum standards for reading. However, there was a decrease in Indigenous students achieving the Year 9 national minimum standard 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, and 7 national minimum standards for reading.

Writing

- Between 2008 and 2009 there was an increase in the proportion of Indigenous students achieving the Years 3, 5, and 7 national minimum standards for writing. However, there was a decrease in Indigenous students achieving the year 9 national minimum standard for writing.
- Over the same period, there was a decrease in the difference between Indigenous and non-Indigenous students who met the years 3, 5, and 7 national minimum standards for writing.

Spelling

- Between 2008 and 2009 there was an increase in the proportion of Indigenous students achieving the Years 3, 5, and 7 national minimum standards for spelling. However, there was a decrease in Indigenous students achieving the year 9 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, 5, and 7 national minimum standards for spelling.

Grammar and punctuation

- Between 2008 and 2009 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, and 7 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 5, and 9 national minimum standards for numeracy. However, there was a decrease in Indigenous students achieving the year 3 and 7 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 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 and punctuation and numeracy, by Indigenous status, 2008–2009(a)

	2008	2009	Difference
		Reading	
Indigenous			
Year 3	68.3	75.1	6.8
Year 5	63.4	66.7	3.3
Year 7	71.9	73.2	1.3
Year 9	70.7	67.0	–3.7
Non-Indigenous			
Year 3	93.5	94.8	1.3
Year 5	92.6	93.1	0.5
Year 7	95.4	95.0	–0.4
Year 9	94.2	93.5	–0.7
Indigenous and non-Indigenous difference(c)			
Year 3	25.2	19.7	. .
Year 5	29.2	26.4	. .
Year 7	23.5	21.8	. .
Year 9	23.5	26.5	. .
		Writing	
Indigenous			
Year 3	78.8	79.9	1.1
Year 5	69.7	70.1	0.4
Year 7	67.9	69.9	2.0
Year 9	59.7	59.0	–0.7
Non-Indigenous			
Year 3	96.4	96.6	0.2
Year 5	93.9	94.2	0.3
Year 7	93.2	93.7	0.5
Year 9	88.8	89.2	0.4
Indigenous and non-Indigenous difference(c)			
Year 3	17.6	16.7	. .
Year 5	24.2	24.1	. .
Year 7	25.3	23.8	. .
Year 9	29.1	30.2	. .
		Spelling	
Indigenous			
Year 3	69.2	69.6	0.4
Year 5	69.7	71.5	1.8
Year 7	71.8	74.3	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 and punctuation and numeracy, by Indigenous status, 2008–2009[(a)]

	2008	2009	Difference[(b)]
Year 9	67.8	66.1	–1.7
Non-Indigenous			
Year 3	93.9	93.5	–0.4
Year 5	93.0	93.6	0.6
Year 7	93.6	93.8	0.2
Indigenous and non-Indigenous difference[(c)]			
Year 3	24.7	23.9	. .
Year 5	23.3	22.1	. .
Year 7	21.8	19.5	. .
Year 9	23.2	24.8	. .
		Grammar and punctuation	
Indigenous			
Year 3	65.3	68.7	3.4
Year 5	64.1	64.3	0.2
Year 7	62.7	64.9	2.2
Year 9	60.7	60.8	0.1
Non-Indigenous			
Year 3	93.3	93.8	0.5
Year 5	93.5	93.6	0.1
Year 7	93.2	93.5	0.3
Year 9	91.5	91.8	0.3
Indigenous and non-Indigenous difference[(c)]			
Year 3	28.0	25.1	. .
Year 5	29.4	29.3	. .
Year 7	30.5	28.6	. .
Year 9	30.8	31.0	. .
		Numeracy	
Indigenous			
Year 3	78.6	74.0	–4.6
Year 5	69.2	74.2	5.0
Year 7	78.6	75.8	–2.8
Year 9	72.5	75.0	2.5
Non-Indigenous			
Year 3	96.0	95.2	–0.8
Year 5	94.0	95.3	1.3

(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 and punctuation and numeracy, by Indigenous status, 2008–2009[(a)]

	2008	2009	Difference
Year 7	96.4	95.8	–0.6
Year 9	94.8	96.0	1.2
Indigenous and non-Indigenous difference[(c)]			
Year 3	17.4	21.2	. .
Year 5	24.8	21.1	. .
Year 7	17.8	20.0	. .
Year 9	22.3	21.0	. .

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

(b) Difference is 2009 proportion minus 2008 proportion

(c) Difference is non-Indigenous proportion minus Indigenous proportion

Source: MCEECDYA 2009.

Table 2.04.14: Mean scale scores of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status, 2008–2009[(a)]

	2008	2009	Difference
		Reading	
Indigenous			
Year 3	313.7	327.4	13.7*
Year 5	403.4	414.4	11.0*
Year 7	466.5	473.2	6.7
Year 9	513.8	510.2	-3.6
Non-Indigenous			
Year 3	405.0	415.0	10.0*
Year 5	488.7	498.1	9.4*
Year 7	540.2	544.4	4.2
Year 9	581.3	583.8	2.5
		Writing	
Indigenous			
Year 3	339.3	340.2	0.9
Year 5	411.2	412.1	0.9
Year 7	455.9	460.2	4.3
Year 9	491.3	488.4	-2.9
Non-Indigenous			
Year 3	418.2	418.3	0.1
Year 5	490.6	488.5	–2.1*
Year 7	537.9	536.0	–1.9*
Year 9	573.6	572.8	–0.8
		Spelling	
Indigenous			
Year 3	319.6	322.8	3.2
Year 5	417.1	421.6	4.5
Year 7	474.0	479.1	5.1
Year 9	514.6	509.8	–4.8
Non-Indigenous			
Year 3	403.8	409.0	5.2
Year 5	487.4	490.6	3.2
Year 7	542.2	543.0	0.8
Year 9	580.2	579.5	–0.7

(continued)

Table 2.04.14 (continued): Mean scale scores of Year 3, 5, 7 and 9 students for reading, writing, spelling, grammar and punctuation and numeracy, by Indigenous status, 2008–2009[(a)]

	2008	2009	Difference
		Grammar and punctuation	
Indigenous			
Year 3	305.5	321.4	15.9*
Year 5	402.4	407.9	5.5
Year 7	446.3	457.3	11.0
Year 9	494.7	497.0	2.3
Non-Indigenous			
Year 3	408.4	424.8	16.4*
Year 5	501.2	504.6	3.4
Year 7	533.4	543.4	10.0
Year 9	573.0	577.2	4.2
		Numeracy	
Indigenous			
Year 3	327.6	320.5	–7.1
Year 5	408.0	420.5	12.5*
Year 7	476.2	474.4	–1.8
Year 9	515.1	520.2	5.1
Non-Indigenous			
Year 3	400.5	397.7	–2.8
Year 5	479.5	490.3	10.8*
Year 7	548.6	547.0	–1.6
Year 9	585.7	592.4	6.7

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the periods for which data are available.

(a) Equating the 2008 NAPLAN results with the 2009 results 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 2008 and 2009 (MCEECDYA 2009).

Source: MCEECDYA 2009.

NATSISS

School attendance

- In 2008, 98% of Aboriginal and Torres Strait Islander children aged 6-14 years usually attended school. The main reason for not attending school was that the child was the cost (62%), followed by the child is not ready for school (Table 2.04.15a).
- 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 2.04.15b).

Table 2.04.15a: School attendance by Aboriginal and Torres Strait Islander children aged 2-14 years, 2008

	Age in years					
	2–4		6–14		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	**39,180**	**100.0**	**127,159**	**100.0**	**166,339**	**100.0**
Main reason child does not usually attend school[(a)]						
Problems with getting a place	642	2.5	161	6.0	803	2.9
Cost too high / Can't afford it	1,968	7.8	1,664	61.7	3,631	13.0
Child is not ready for school	19,959	79.1	485	18.0	20,444	73.2
Other reason	2,648	10.5	388	14.4	3,035	10.9
Total	**25,217**	**100.0**	**2,697**	**100.0**	**27,914**	**100.0**

(a) Children who do not usually attend school.

Source: 2008 NATSISS.

Table 2.04.15b: 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**	**12,3450**	**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 2.04.16).
- In 2008, around 75% to 78% of Indigenous children were taught Indigenous culture at school (Figure 2.04.1).

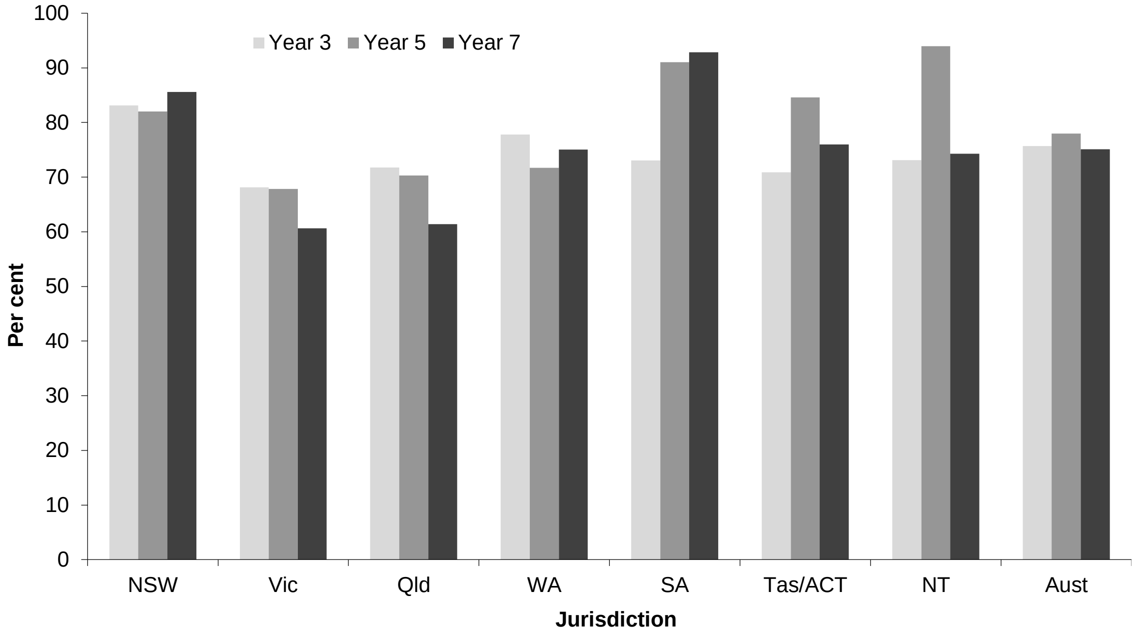
Table 2.04.16: Number and proportion of Indigenous children[(a)] participating in selected informal learning activities and time spent with main carer (hours per week), 2008

Whether main carer spent time doing informal learning activities with child last week		
	Number	**Proportion (%)**
Activities were undertaken with child	180,736.2	93.6
No activities were undertaken with child	12,394.1	6.4
Total	**193,130.3**	**100.0**
Not stated	118.7	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	17,479.6	9.1
1 to less than 2 hours per day	77,582.5	40.4
2 to less than 5 hours per day	72,199.8	37.6
5 hours or more per day	12,580.3	6.5
No time spent doing activities with child in last week	12,394.1	6.4
Total	**192,236.2**	**100.0**
Not stated	1,012.8	0.5
Informal learning activities main carer did with child last week[(b)]		
	Number	**Proportion (%)**
Read from a book	95,080.8	49.2
Told child a story	85,102.3	16.4
Listened to child read	72,346.2	13.9
Assisted with homework or other educational activities	73,314.1	14.1
Spent time with child using computer	52,769.3	10.1
Watched TV, video or DVD	161,381.4	31.0
Assisted with drawing, writing or other creative activites	91,774.8	17.6
Played music, songs, dance or other musical activities	119,514.9	23.0
Played a game or did sport together indoors or outdoors	105,032.9	20.2
Took part in or attended playgroup	17,469.8	3.4
None of the above	12,394.1	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.



(a) Children aged 2-14 years who usually attend school

(b) Tasmania and Australian Capital Territory have been combined dues to low numbers

Note: Proportions exclude unknown and not stated responses

Source: AIHW analyses of 2008 NATSISS

Figure 2.04.1: Number and proportion of Aboriginal and Torres Strait Islander children[(a)] taught Indigenous culture at school, years 3, 5 and 7, by state/territory[(b)], 2008

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 2.04.17a). In 2008, between 79% and 87% of Indigenous children reported not being bullied or treated unfairly at school.
- Of those Indigenous children at school in 2008, who said they were bullied and both bullied and treated unfairly, 75% to 94% were bullied or treated unfairly at current school. Between 78% and 96% of students in years 3, 5 and 7did not change school because of bullying or unfair treatment, while 66% to 71% of Indigenous children in these years reported the treatment did not affect their attendance at school in 2008 (Table 2.04.17b).
- Of those Indigenous children at school in 2008, 62% reported that they were treated unfairly and 86% both treated unfairly and bullied at the current school. A large proportion of children in years 3, 5 and 7 (90 5, 92% and 95% respectively) did not change school because of this treatment (Table 2.17.17c).

Table 2.04.17a: Bullying and unfair treatment at school, years 3, 5 and 7[(a)], 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	289	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**

(a) Children aged 2 to 14 year.

Note: Proportions exclude unknown responses.

Source: AIHW analyses of 2008 NATSISS.

Table 2.04.17b: Bullying and unfair treatment at school and impact on school attendance, years 3, 5 and 7[(a)], 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**
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**
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**

(a) Children aged 2 to 14 year.

Note: Proportions exclude unknown responses.

Source: AIHW analyses of 2008 NATSISS.

Table 2.04.17c: Bullying and unfair treatment at school and impact on school attendance, years 3, 5 and 7[(a)], 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		

(a) Children aged 2 to 14 year.

Note: Proportions exclude unknown responses.

Source: AIHW analyses of 2008 NATSISSData quality issues

Reading, writing and numeracy data

Indigenous status question

Note that the question and method used to identify Indigenous students varied between jurisdictions. For example, in New South Wales, Indigenous students were those who answered 'yes' to the question 'Are you an Aboriginal or Torres Strait Islander person?' In Queensland, Indigenous students were those who answered 'yes' to either or both of the questions 'Are you an Aboriginal person? Or are you a Torres Strait Islander person?' In South Australia and the Australian Capital Territory, Indigenous students were identified through enrolment information provided to schools by parents/guardians. In the Northern Territory and Tasmania, Indigenous students were identified by schools at the time of enrolment or by self-identification. In Victoria, students were identified as Indigenous on enrolment forms at the commencement of school and also those who answered 'yes' to the question 'Is this student Aboriginal or Torres Strait Islander?' on the front page of the student's test booklet. In Western Australia, Indigenous students were identified through enrolment data on School Information Systems.

National Report on Schooling in Australia

Points to be considered when interpreting the National report on schooling in Australia data (MCEECDYA 2008) are discussed below:

- Comparisons involving Remote and Very Remote students must be made with caution as the small numbers of students tested means that measurement uncertainty is relatively high.
- When comparing results across states and territories, it is important to note that there are many structural differences between the educational systems that influence the estimated proportions of students who are achieving the benchmarks. Relevant issues include major differences between jurisdictions in starting age, grade structures, and other arrangements that result in variations in the time students would have spent in relevant schooling before testing.
- There are differences between states and territories in relation to factors known to influence measured literacy and numeracy achievement. For example, achievement in literacy and numeracy is strongly correlated with the socioeconomic circumstances of students. As well, students who do not usually speak English, or who have just begun to speak English, would be expected to be at some disadvantage during assessment of aspects of English literacy. There are variations in the proportions of such students between states and territories, and also in the policies regarding their inclusion in the testing programs.
- Comparable national benchmarks are prepared using a nationally agreed procedure that was designed to equate state and territory tests. It is important to recognise that there are inevitable limits in the extent to which the measuring instruments can be assured to be perfectly comparable across time and jurisdictions. For example, it is not feasible for testing programs to fully assess the complete range of valued literacy and numeracy outcomes. As such, each state and territory's testing program includes a sample of valued outcomes, and this sampling can lead to variations in the outcomes, both over time and across states and territories.
- Note that absent or withdrawn students are not included in the benchmark calculations. Exempted students, however, are reported as falling below the benchmark and are included in the benchmark calculation. The report provides information on the proportions of students exempted from testing as footnotes to the relevant tables.

- The publication of confidence intervals with the benchmark results reflects the uncertainty associated with the measurement of student achievement and provides a way of making inferences about the achievement of students. The confidence intervals are calculated at 95% and account for three components of uncertainty: error associated with the location of the benchmark cut-score, sampling error (where applicable) and measurement error. Error associated with the location of the benchmark cut-score is the largest component.
- An additional component of error known as 'equating error' also potentially results. These sources of error are not currently reflected in the published confidence intervals.

NAPLAN

Test administration authorities for the states and territories collect data and their data management teams provide data for analysis.

The National Report: Achievement in Reading, Writing, Language Conventions and Numeracy 2008, released by Education Ministers on 19 December 2008, is publicly available on the Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA) website. The NAPLAN website makes explicit reference to this document and provides a link with the website.

Raw data collected by jurisdictions is held as work-in-progress by the Contractor for the purposes of conducting the analysis and generating the National Report. Its purpose is to inform national reporting and it is not available for other purposes.

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. Students who may be except from testing 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.

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. School participation data are not collected. The National Report includes only student participation rate.

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. Participation rates for non-Indigenous students are not published as a separate category but could be calculated using the student participation for all students and student participation for Indigenous students.

Achievement rates as reported by band levels are provided for both Indigenous and non-Indigenous students by domain, year level and state and territory.

Ninety-five per cent confidence intervals are reported for the average (mean) scale scores, percentage of students in each band and percentage of students at or above the national minimum standard.

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 socioeconomic status (SES) (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.

Non-response for Aboriginal and Torres Strait Islander status

The non-response for Aboriginal and Torres Strait Islander status is approximately three per cent nationally. This information is captured from student test book covers where three per cent of students did not state their Indigenous status.

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

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2.05 Years 10 and 12 retention and attainment

Years 10 and 12 retention rates and Year 12 attainment rates for Aboriginal and Torres Strait Islander peoples

Data sources

Data for this measure come from the Australian Bureau of Statistics (ABS) National Schools Statistics Collection (NSSC). The NSSC is a collaborative arrangement between all Australian government education authorities and the ABS. The NSSC is an annual collection of data on schools, students, staff and finance. The ABS undertakes this data collection in the government sector and the Australian Government Department of Education, Employment and Workplace Relations collects data in the non-government sector. Student data are collected through a school census in August of each year and the ABS publishes selected results annually in *Schools Australia*. Only full-time students were included in the analysis; part-time students were not included.

Care should be taken when comparing attainment outcomes for Indigenous students because of the small number of Indigenous students represented.

National Schools Statistics Collections (NSSC) 2009

Data for this measure come from the ABS National Schools Statistics Collection (NSSC). The NSSC is a collaborative arrangement between state, territory and government education departments and the ABS. The data for this census were collected from State Education authorities (government schools) and the Department of Education Science and Training (DEST) (non-government schools), according to agreed standard definitions, instructions and tabulations that the ABS developed. The full-time plus part-time School Participation Rates (SPR) were added to this publication for the first time in 2009.

Care should be taken when comparing attainment outcomes for Indigenous students because of the small number of Indigenous students represented.

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.

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 2009, there were approximately 10,799 Indigenous students in Year 10 (approximately 3.9% of all Year 10 students), 8,173 Indigenous students in Year 11 (approximately 3.3% of all students in Year 11) and 5,060 Indigenous students in Year 12 (approximately 2.5% of all students in Year 12).
- In 2009, the apparent retention rate of full-time Indigenous students from Year 7/8 to Year 10 was 90.9% compared with 100.1% 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 69.5% compared with 91.8% for non-Indigenous students.
- The apparent retention rate of full-time Indigenous students from Year 7/8 to Year 12 was much lower—45.4% compared with 77.3% for non-Indigenous students.
- Similarly, the apparent retention rate of full-time Indigenous students from Year 10 to Year 12 was much lower—50.1% compared with 77.7% 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— 67.0% compared with 86.1% 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 (92.3% compared with 89.6%); and slightly higher than for Indigenous males from Year 7/8 to Year 11 (71.6% compared with 67.5%), Year 7/8 to Year 12 (49.5% compared with 41.5%), Year 10 to Year 12 (54.3% compared with 46.1%), and Year 11 to Year 12 (69.6% compared with 64.2%).

Apparent retention rates by state/territory

- South Australia had the highest retention rates of Indigenous students from Year 7/8 to Year 10 (98.0%), whereas the Northern Territory rates were lower (75.0%).
- Retention rates of Indigenous students from Year 7/8 to Year 11 were highest in Western Australia (85.3%) and lowest in the Northern Territory (52.6%).
- The South Australia had the highest retention rates of Indigenous students from Year 7/8 to Year 12 (56.0%), and the Northern Territory had the lowest (34.5%).
- The South Australia had the highest retention rates of Indigenous students from Year 10 to Year 12 (63.9%), whereas Western Australia had the lowest (41.3%).
- The Queensland had the highest retention rates of Indigenous students from Year 11 to Year 12 (75.4%), whereas Western Australia had the lowest (49.3%).
- 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, 2009(a)(b)(c)(d)

		Year 7/8 to Year 10(h)		Year 7/8 to Year 11(h)		Year 7/8 to Year 12(h)		Year 10 to Year 12(i)		Year 11 to Year 12(j)	
		Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
						Males					
NSW	Indigenous	1,419	85.2	825	50.5	548	33.3	548	39.7	548	71.2
	Non-Indigenous	41,630	96.8	34,760	80.2	29,083	67.6	29,083	69.8	29,083	86.1
Vic	Indigenous	310	81.2	205	59.2	102	35.8	102	42.5	102	61.4
	Non-Indigenous	33,294	98.6	30,056	90.0	24,723	74.3	24,723	76.3	24,723	83.4
Qld	Indigenous	1,780	96.3	1,476	80.3	930	53.6	930	56.3	930	73.4
	Non-Indigenous	28,378	100.7	25,659	93.0	20,953	77.5	20,953	76.8	20,953	86.7
WA(e)	Indigenous	881	89.0	809	84.4	370	39.3	370	41.8	370	48.1
	Non-Indigenous	14,373	103.0	13,722	98.5	9,785	71.0	9,785	69.8	9,785	76.8
SA	Indigenous	306	101.0	249	73.9	185	53.3	185	60.1	185	69.0
	Non-Indigenous	9,939	102.8	9,791	101.1	7,068	72.5	7,068	71.9	7,068	76.7
Tas	Indigenous	236	105.4	142	59.7	61	27.4	61	28.5	61	73.5
	Non-Indigenous	3,283	99.1	2,395	72.9	1,893	59.9	1,893	60.1	1,893	83.3
ACT(f)	Indigenous	40	100.0	35	77.8	29	69.0	29	55.8	29	90.6
	Non-Indigenous	2,312	99.2	2,465	100.4	2,138	84.8	2,138	87.7	2,138	88.6
NT(g)	Indigenous	469	75.9	340	52.3	157	30.1	157	36.7	157	44.5
	Non-Indigenous	863	97.4	682	83.9	591	62.5	591	68.7	591	78.0
Australia	Indigenous	5,441	89.6	4,081	67.5	2,382	41.5	2,382	46.1	2,382	64.2
	Non-Indigenous	134,072	99.2	119,530	88.9	96,234	72.1	96,234	73.1	96,234	83.7

(continued)

Table 2.05.1(continued): Apparent retention rates, by Indigenous status, sex and state/territory, 2009[(a)(b)(c)(d)]

		Year 7/8 to Year 10[(h)]		Year 7/8 to Year 11[(h)]		Year 7/8 to Year 12[(h)]		Year 10 to Year 12[(i)]		Year 11 to Year 12[(j)]	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
						Females					
NSW	Indigenous	1,532	90.0	1,009	58.2	615	40.4	615	48.1	615	72.0
	Non-Indigenous	40,722	98.5	35,999	86.8	31,914	77.8	31,914	79.4	31,914	90.2
Vic	Indigenous	266	79.6	227	67.2	146	50.9	146	55.1	146	65.8
	Non-Indigenous	32,592	101.9	31,608	97.4	27,122	87.0	27,122	86.7	27,122	89.1
Qld	Indigenous	1,775	99.4	1,379	83.5	1,056	62.5	1,056	64.9	1,056	77.2
	Non-Indigenous	27,222	102.8	25,686	98.4	22,446	84.5	22,446	83.0	22,446	88.3
WA[(e)]	Indigenous	799	93.8	736	86.4	338	40.2	338	40.8	338	50.8
	Non-Indigenous	13,719	103.7	13,325	102.1	10,847	84.1	10,847	81.5	10,847	85.0
SA	Indigenous	280	94.9	263	86.5	194	58.8	194	68.1	194	78.5
	Non-Indigenous	9,506	103.2	9,673	104.5	7,955	86.4	7,955	84.2	7,955	85.5
Tas	Indigenous	249	109.2	155	69.5	106	53.5	106	51.5	106	89.1
	Non-Indigenous	2,968	99.3	2,585	81.6	2,230	71.0	2,230	71.3	2,230	88.2
ACT[(f)]	Indigenous	34	94.4	28	53.8	28	70.0	28	87.5	28	121.7
	Non-Indigenous	2,383	99.5	2,404	103.8	2,106	89.8	2,106	90.7	2,106	89.1
NT[(g)]	Indigenous	423	74.0	295	52.9	195	39.2	195	48.0	195	56.0
	Non-Indigenous	798	96.7	780	86.2	612	70.2	612	76.4	612	81.5
Australia	Indigenous	5,358	92.3	4,092	71.6	2,678	49.5	2,678	54.3	2,678	69.6
	Non-Indigenous	129,910	101.1	122,060	94.8	105,232	82.7	105,232	82.5	105,232	88.5

(continued)

Table 2.05.1(continued): Apparent retention rates, by Indigenous status, sex and state/territory, 2009(a)(b)(c)(d)

		Year 7/8 to Year 10(e)		Year 7/8 to Year 11(e)		Year 7/8 to Year 12(e)		Year 10 to Year 12(f)		Year 11 to Year 12(g)	
		Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
						Persons					
NSW	Indigenous	2,951	87.6	1,834	54.5	1,163	36.7	1,163	43.7	1,163	71.6
	Non-Indigenous	82,352	97.6	70,759	83.4	60,997	72.6	60,997	74.5	60,997	88.2
Vic	Indigenous	576	80.4	432	63.2	248	43.4	248	49.1	248	63.9
	Non-Indigenous	65,886	100.2	61,664	93.6	51,845	80.5	51,845	81.4	51,845	86.3
Qld	Indigenous	3,555	97.8	2,855	81.8	1,986	58.0	1,986	60.6	1,986	75.4
	Non-Indigenous	55,600	101.7	51,345	95.6	43,399	81.0	43,399	79.8	43,399	87.5
WA(h)	Indigenous	1,680	91.2	1,545	85.3	708	39.7	708	41.3	708	49.3
	Non-Indigenous	28,092	103.3	27,047	100.3	20,632	77.3	20,632	75.5	20,632	80.9
SA	Indigenous	586	98.0	512	79.9	379	56.0	379	63.9	379	73.6
	Non-Indigenous	19,445	103.0	19,464	102.8	15,023	79.3	15,023	77.9	15,023	81.1
Tas	Indigenous	485	107.3	297	64.4	167	39.7	167	39.8	167	82.7
	Non-Indigenous	6,251	99.2	4,980	77.2	4,123	65.4	4,123	65.7	4,123	85.9
ACT(i)	Indigenous	74	97.4	63	64.9	57	69.5	57	67.9	57	103.6
	Non-Indigenous	4,695	99.3	4,869	102.0	4,244	87.2	4,244	89.2	4,244	88.8
NT(j)	Indigenous	892	75.0	635	52.6	352	34.5	352	42.2	352	50.2
	Non-Indigenous	1,661	97.1	1,462	85.1	1,203	66.2	1,203	72.4	1,203	79.7
Australia	Indigenous	10,799	90.9	8,173	69.5	5,060	45.4	5,060	50.1	5,060	67.0
	Non-Indigenous	263,982	100.1	241,590	91.8	201,466	77.3	201,466	77.7	201,466	86.1

(continued)

Table 2.05.1(continued): Apparent retention rates, by Indigenous status, sex and state/territory, 2009[(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) he 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) 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).

(f) Retention rate = Year 12 students as a proportion of the corresponding cohort from Year 10.

(g) Retention rate = Year 12 students as a proportion of the corresponding cohort from Year 11.

(h) Data for Western Australia have been affected by changes in scope and coverage over time.

(i) 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.

(j) 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.

Source: ABS 2010; ABS and AIHW analysis of National Schools Statistics Collection.

Apparent retention rates over time

- Apparent retention rates for Indigenous full-time students, from Year 7/8 to Year 10, Year 11 and Year 12, as well as from Year 10 to Year 12 and Year 11 to Year 12, have continued to increase over the last 5 years (Table 2.05.2).
- The retention rate for Indigenous students from Year 7/8 to Year 10 increased from 85.8% in 2004 to 90.9% in 2009, compared with an increase from 98.5% to 100.1% for non-Indigenous students over the same period. From 2004 to 2009 the retention rate from Year 7/8 to Year 12 for Indigenous students increased from 39.8% to 45.4%, compared with an increase from 76.9% to 77.3% for non-Indigenous students.
- The apparent retention rate for Indigenous students from Year 10 to Year 12 increased from 46.0% in 2004 to 50.1% in 2009. Over the same period there was a slight decrease in the non-Indigenous retention rate from 78.1% to 77.7%.
- The apparent retention rate for Indigenous students from Year 11 to Year 12 increased from 64.7% in 2004 to 67.0% in 2009. Over the same period, the non-Indigenous retention rate remained about the same at 86.0% in 2004 and 86.1% in 2009.

Table 2.05.2: Apparent retention rates, by Indigenous status, 2004 and 2009[(a)(b)(c)]

	2004			2009			Change		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
					Number				
Year 7/8 to Year 10[(d)]									
Indigenous	3,994	3,982	7,976	5,441	5,358	10,799	1,447	1,376	2,823
Non-Indigenous	126,779	123,323	250,102	134,072	129,910	263,982	7,293	6,587	13,880
Year 7/8 to Year 11[(d)]									
Indigenous	2,500	2,797	5,297	4,081	4,092	8,173	1,581	1,295	2,876
Non-Indigenous	108,619	112,977	221,596	119,530	122,060	241,590	10,911	9,083	19,994
Year 7/8 to Year 12[(d)]									
Indigenous	1,466	1,754	3,220	2,382	2,678	5,060	916	924	1,840
Non-Indigenous	90,689	99,573	190,262	96,234	105,232	201,466	5,545	5,659	11,204
Year 10 to Year 12[(e)]									
Indigenous	1,466	1,754	3,220	2,382	2,678	5,060	916	924	1,840
Non-Indigenous	90,689	99,573	190,262	96,234	105,232	201,466	5,545	5,659	11,204
Year 11 to Year 12[(f)]									
Indigenous	1,466	1,754	3,220	2,382	2,678	5,060	916	924	1,840
Non-Indigenous	90,689	99,573	190,262	96,234	105,232	201,466	5,545	5,659	11,204
					Per cent				
Year 7/8 to Year 10[(d)]									
Indigenous	84.3	87.4	85.8	89.6	92.3	90.9	5.3	4.9	5.1
Non-Indigenous	97.7	99.5	98.5	99.2	101.1	100.1	1.5	1.6	1.6
Year 7/8 to Year 11[(d)]									
Indigenous	57.5	64.7	61.1	67.5	71.6	69.5	10.0	6.9	8.4

(continued)

Table 2.05.2 (continued): Apparent retention rates, by Indigenous status, 2004 and 2009[b][c][d][e]

	2004			2009			Change		
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Non-Indigenous	85.4	92.6	89.0	88.9	94.8	91.8	3.5	2.2	2.8
Year 7/8 to Year 12[d]									
Indigenous	35.4	44.3	39.8	41.5	49.5	45.4	6.1	5.2	5.6
Non-Indigenous	71.5	82.6	76.9	72.1	82.7	77.3	0.6	0.1	0.4
Year 10 to Year 12[e]									
Indigenous	42.4	49.5	46.0	46.1	54.3	50.1	3.7	4.8	4.1
Non-Indigenous	73.2	83.2	78.1	73.1	82.5	77.7	–0.1	–0.7	–0.4
Year 11 to Year 12[f]									
Indigenous	60.8	68.5	64.7	64.2	69.6	67.0	3.4	1.1	2.3
Non-Indigenous	83.1	88.8	86.0	83.7	88.5	86.1	0.6	–0.3	0.1

(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) 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).

(e) Retention rate = Year 12 students as a proportion of the corresponding cohort from Year 10.

(f) Retention rate = Year 12 students as a proportion of the corresponding cohort from Year 11.

Source: ABS 2010; ABS and AIHW analysis of National Schools Statistics Collection.

Table 2.05.3 and figures 2.05.1a, 2.05.1b and 2.05.1c present apparent retention rates over the period 1998–2009.

- Between 1998 and 2009 there was a significant increase in apparent retention rates for Indigenous students from Year 7/8 to Year 10, Year 11 and Year 12 (Figure 2.05.1a). The fitted trend implies an average yearly increase in the rate of around 0.8% for Year 10 (equivalent to a 11% increase over the period), 1.7% for Year 11 (equivalent to a 35% increase over the period) and 1.2% for Year 12 (equivalent to a 40% 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 (Figure 2.05.1b). The fitted trend implies an average yearly increase in the rate of around 0.7%, which is equivalent to a 19% 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%, which is equivalent to an 0.1% increase over the period.
- Between 1998 and 2009 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 (Figure 2.05.1a). The fitted trend implies an average yearly increase in the rate of around 0.2% for Year 10 (equivalent to a 2% increase over the period), 0.4% for Year 11 (equivalent to a 6% increase over the period) and 0.3% for Year 12 (equivalent to a 5% increase over the period).
- Over the same period there was a significant increase in apparent retention rates for non-Indigenous students from Year 10 to Year 12 (Figure 2.05.1b). The fitted trend implies an average yearly increase in the rate of around 0.2%, which is equivalent to a 3% increase over the period. The change in apparent retention rates for non-Indigenous students from Year 11 to Year 12 was, however, not significant. The fitted trend implied an average yearly change of 0%, which is equivalent to an 0.2% decline over the period.

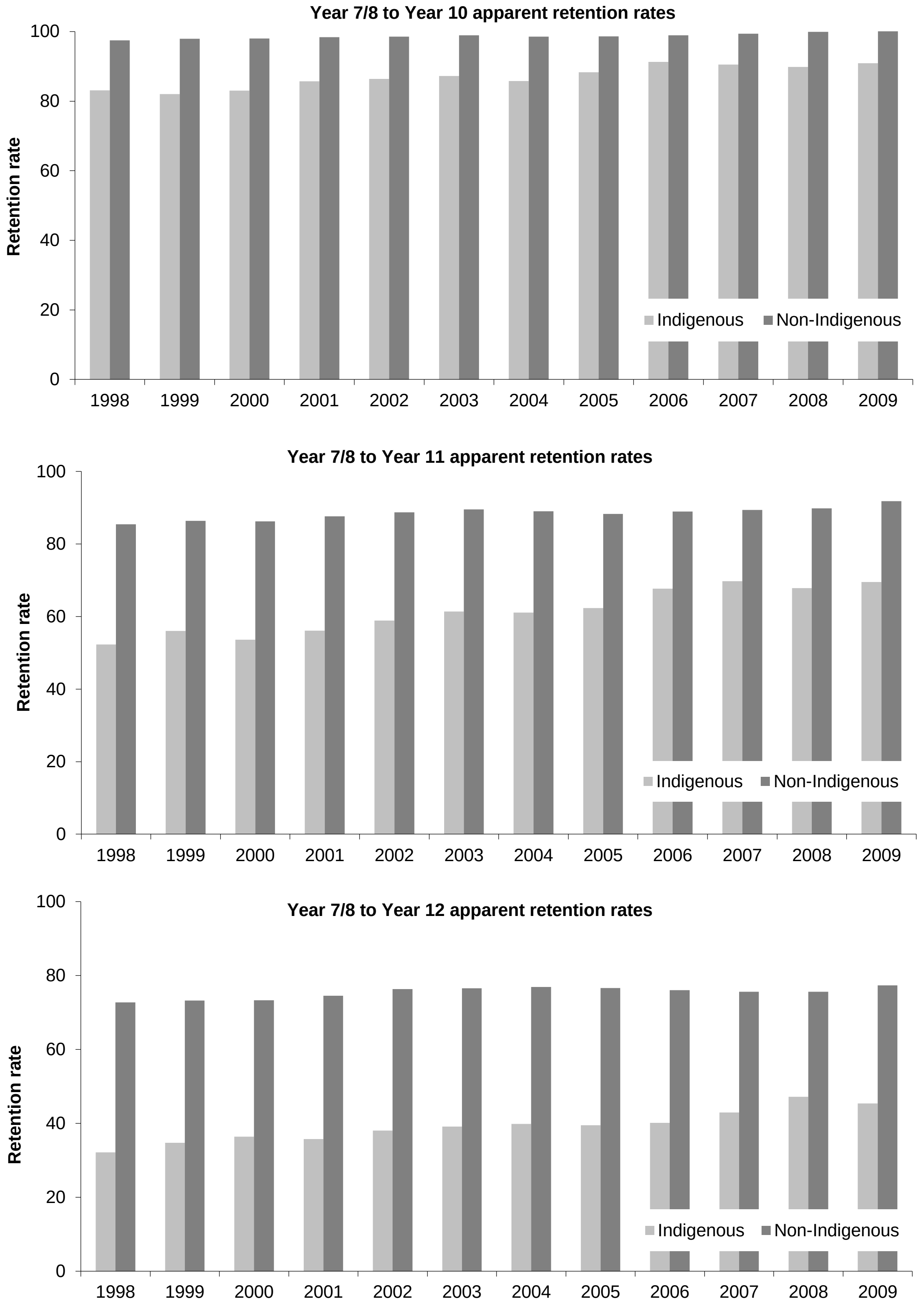
Table 2.05.3: Apparent Year 10 and Year 12 retention rates, by Indigenous status, 1998–2009

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Annual change[(a)]	Per cent 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	0.8*	11.1*
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	0.2*	2.3*
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	1.7*	35.0*
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	0.4*	5.8*
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	1.2*	39.7*
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	0.3*	5.1*
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	0.7*	19.0*
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	0.2*	3.0*
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	0.0	0.1
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	0.0	–0.2

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

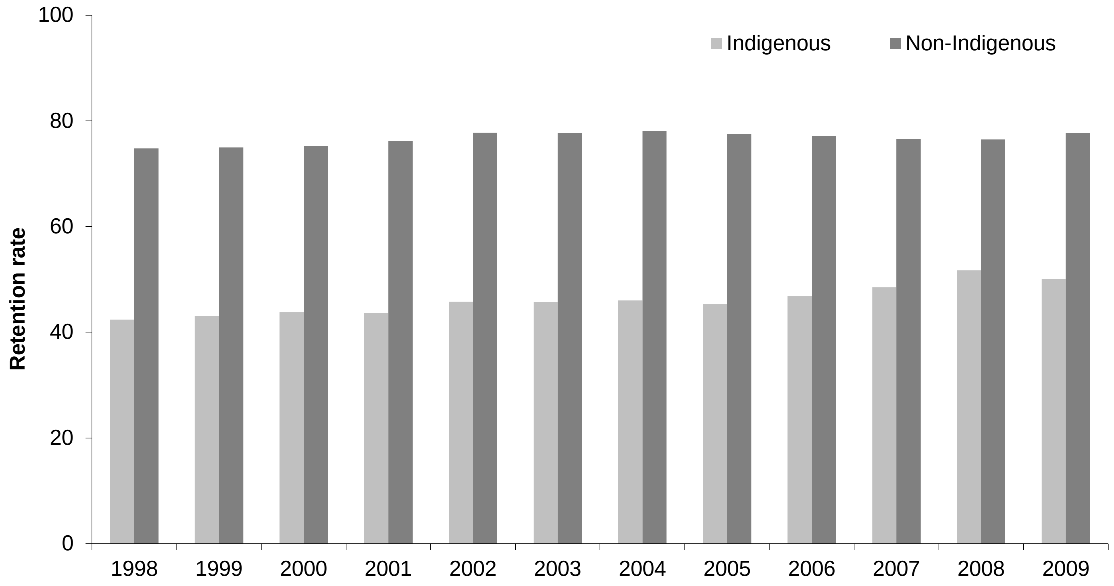
(a) Average annual change in rates determined using linear regression analysis.
(b) Per cent change between 1998 and 2009 based on the average annual change over the period.
(c) Retention rate = Year 10, 11 or 12 students as a proportion of the corresponding cohort from the first year of secondary schooling (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 2010; ABS and AIHW analysis of National Schools Statistics Collection.



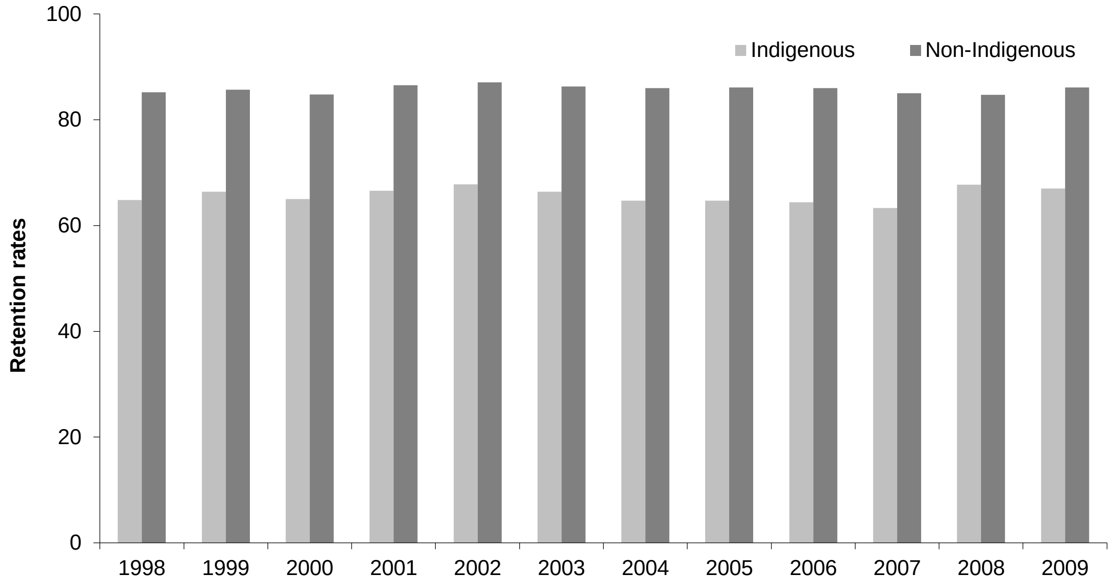
Source: ABS 2010; ABS 2008; ABS and AIHW analysis of National Schools Statistics Collection.

Figure 2.05.1a: Apparent Year 7/8 to Year 10, 11 and 12 retention rates, full-time students, by Indigenous status, 1998–2009



Source: ABS 2010; ABS and AIHW analysis of National Schools Statistics Collection.

Figure 2.05.1b: Apparent Year 10 to Year 12 retention rates, full-time students, by Indigenous status, 1998–2009



Source: ABS 2010; ABS and AIHW analysis of National Schools Statistics Collection.

Figure 2.05.1c: Apparent Year 11 to Year 12 retention rates, full-time students, by Indigenous status, 1998–2009

NATSISS

Tables 2.05.4a and 2.05.4b present data on school attendance by Aboriginal and Torres Strait Islander children. Table 2.05.5 presents data on types of assistance that would help Aboriginal and Torres Strait Islander secondary school students. The data are from the 2008 NATSISS.

- In 2008, 98% of Aboriginal and Torres Strait Islander children aged 6-14 years usually attended school. The main reason for not attending school was that the child was the cost (62%), followed by the child is not ready for school (Table 2.05.4a).
- Just over a third (34%) of children aged 9–14 years 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 2.05.4b).

Table 2.05.4a: School attendance by Aboriginal and Torres Strait Islander children aged 2–14 years, 2008

	Age in years					
	2–4		6–14		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	**39,180**	**100.0**	**127,159**	**100.0**	**166,339**	**100.0**
Main reason child does not usually attend school[a]						
Problems with getting a place	642	2.5	161	6.0	803	2.9
Cost too high / Can't afford it	1,968	7.8	1,664	61.7	3,631	13.0
Child is not ready for school	19,959	79.1	485	18.0	20,444	73.2
Other reason	2,648	10.5	388	14.4	3,035	10.9
Total	**25,217**	**100.0**	**2,697**	**100.0**	**27,914**	**100.0**

(a) Children who do not usually attend school.

Source: 2008 NATSISS.

Table 2.05.4b: Child school attendance, Year 9 or higher, Indigenous students, 2008

	Number	Per cent
Whether child missed days at school in last week[(b)(c)]		
Missed days at school/preschool/kindergarten	3,408.4	34.3
Did not miss days at school/preschool/kindergarten	6,519.3	65.7
Total	**9,927.7**	**100.0**
Not stated	67.4	0.7
Main reason missed school in last week[(c)]		
Child had illness or injury	822.5	8.3
School not available or not open	1,155.1	11.6
Cultural commitments or sorry business	17.2	0.2
Other reason	1,413.6	14.2
Total missed school last week	*3,409*	*34.3*
Did not miss school in last week	6,519.3	65.7
Total	**9,927.7**	**100.0**
Not stated	67.4	0.7
Number of days child usually attends school[(a)]		
Less than five days	0.0	0.0
5 days or more	9,180.1	92.5
Total	**9,927.7**	**100.0**
Not stated	67.4	0.7
Whether child missed school without permission in last 12 months		
Yes	1,803.5	18.0
No	8,191.6	82.0
Total	**9,995.1**	**100.0**
How well school advised respondent of child's progress[(a)]		
Very well	3,546.5	36.6
Well	3,583.0	37.0
Not well	1,911.4	19.7
Not at all	639.7	6.6
Total	**9,680.7**	**100.0**
Not known	314.4	3.1

(a) Children who do usually attend school.

(b) Applicable to children aged 2–14 years.

(c) Children who do not usually attend school.

Source: 2008 NATSISS.

Table 2.05.5: Types of assistance that respondents suggest 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

Changes affecting this release

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. In addition, while Tasmania underwent a significant restructure of post-Year 10 education in 2009, the Tasmanian Department of Education undertook processes to ensure that data provided fully complied with collection definitions.

Indigenous identification

Parents or guardians are asked to identify their child as Aboriginal, Torres Strait Islander, both or neither, when enrolling for the first time. Provision of Indigenous status is not generally mandatory and if this section of the enrolment form is left blank, 'not stated' is recorded on the enrolment database. The incompleteness of Indigenous identification means the number of students recorded as Indigenous is an underestimate of the Aboriginal and Torres Strait Islander student population.

Standard Indigenous status question

Although the Ministerial Council on Education, Employment, Training and Youth Affairs agreed to use the standard Indigenous status question in the schools sector, this has still not been implemented in some jurisdictions.

Retention data

There is no Australia-wide standard method of allocating students and classes to a certain year of school education (grade) and a number of schools do not maintain a formal grade structure. Students at these schools have been allocated to equivalent grades where possible, but otherwise appear against the ungraded category in either the primary or secondary level of school education.

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.

Particularly in small jurisdictions, relatively small changes in student numbers can create apparently large movements in retention rates. In addition, changes in such factors as the proportion of ungraded and/or mature-aged students from year to year may noticeably affect the rates in the smaller jurisdictions. 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 (ABS 2010).

Attainment data

The following points should be considered when interpreting attainment statistics:

- Full-time and part-time students were included in this analysis
- Because of the small number of Indigenous students represented, care should be taken when comparing attainment outcomes for Indigenous students.

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. Schools Australia 2007. ABS cat. no. 4221.0. Canberra: ABS.

ABS 2010. Schools Australia 2009. ABS cat. no. 4221.0. Canberra: ABS.

List of tables

List of figures

2.06 Educational participation and attainment of Aboriginal and Torres Strait Islander 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 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS), the 2006 Census of Population and Housing, the 2001 Census of Population and Housing, the National Centre for Vocational Education Research and the Department of Education, Science and Training 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 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 2013.

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 Centre for Vocational Education Research

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.

DEST Higher Education Statistics Collection

The Australian Government Department of Education, Science and Training (DEST) 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, DEST has provided institutions with suggested wording for questions relating to Indigenous status (ABS 2003).

Higher education data could not be provided by remoteness area because DEST does not collect information on where a student comes from. Postcode of home location is often used as a substitute, but it is a poor measure because many students report the campus postcode as their postcode of home location. Using this variable results in participation rates incorrectly biased towards major cities at the expense of regional and remote areas because most campuses are in major cities.

Census of Population and Housing

The ABS conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, and it is designed to include all Australian households. The Census uses the ABS standard Indigenous status question and it is asked for each household member.

Although the Census data are adjusted for under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

Data analyses

Comparison of Census and NATSISS data

The NATSISS and the Census both collect information on educational institution currently attended, highest year of school completed and non-school qualifications for Indigenous Australians.

This measure presents data included in the 2008 edition of this report from the 2006 Census for persons aged 15–64 years and new data from the 2008 NATSISS. Data from the NATSISS is presented first, followed by data from the 2006 Census.

A brief summary of the similarities and differences between the estimates for educational participation from the 2008 NATSISS and the 2006 Census are presented below.

Educational institution currently attended

Where Indigenous responses in the NATSISS have been compared to non-Indigenous responses from other data sources, not stated educational institution currently attended responses have been excluded where possible. Please see table footnotes for details.

When comparing the educational institution attendance status of Indigenous persons recorded in the 2006 Census with the 2008 NATSISS, the Census estimates are generally lower. The NATSISS estimated that 19% of Indigenous persons aged 15 years and over were currently studying, whereas results from the Census showed that 16% were currently studying. The difference is larger for Indigenous females (17% Census compared with 20% NATSISS) than Indigenous males (15% Census compared with 18% NATSISS). Comparatively, the difference in estimates for non-Indigenous persons currently studying is smaller—NATSISS estimated 16% compared with 14% from the Census.

Highest level of school completed

The proportion of persons whose attendance status at educational institutions was not stated was much higher in the Census data than in the NATSIHS data, especially for Indigenous persons. Therefore, these responses have been excluded from the Census calculations to allow for better comparison. When Indigenous responses in the NATSISS have been compared to non-Indigenous responses from other data sources, not stated attendance status at educational institutions have been excluded where possible. More details on data limitations are provided in table footnotes.

When comparing the highest level of school that Indigenous persons completed recorded in the 2006 Census with the 2008 NATSISS, the results are fairly similar. The NATSISS estimated that Year 12 was the highest level of school completed for 23% of Indigenous persons aged 18 years and over, Year 10 or 11 was the highest level completed for 43% and Year 9 or below was the highest level completed for 34% (Table 2.06.5). Results from the Census showed that Year 12 was the highest level of school completed for 24% of Indigenous persons aged 18 years and over, Year 10 or 11 was the highest level completed for 42%, and Year 9 or below was the highest level completed for 34% (Table 2.06.30).

Non-school qualifications

The proportion of persons whose non-school qualifications were not stated was much higher in the Census data than in the NATSIHS data, especially for Indigenous persons. Therefore, these responses have been excluded from the Census calculations to allow for better comparison. Where Indigenous responses in the NATSISS have been compared to non-Indigenous responses from other data sources, not stated non-school qualifications have been excluded where possible. Please see table footnotes for details.

When comparing the non-school qualification status of Indigenous persons recorded in the 2006 Census with the 2008 NATSISS, the Census estimates are generally lower. The NATSISS estimated that 40% of Indigenous persons aged 25–64 years had a non-school qualification, whereas results from the Census showed that 30% had a non-school qualification. The main area of difference is in the results for certificate level qualifications—the NATSISS estimated that 25% of Indigenous persons aged 25–64 years had a certificate level non-school qualification, which is higher than the Census estimate of 18%. The non-Indigenous results are also different—the NATSIHS estimated that 25% of non-Indigenous persons aged 25–64 years had a certificate level non-school qualification, compared with 21% shown in the Census.

Self-reported survey data—NATSISS

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 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 2008 NATSISS.

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 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 2008 NATSISS.

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.
- A higher proportion of Indigenous Australians in non-remote areas were currently studying at secondary school (9.3%) and TAFE colleges or equivalent (6.5%) than those in remote areas (5.5% and 4.5% respectively). The proportion studying at university or other higher education institutions was 3.2%in non-remote areas and 1.3% 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[(d)]		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[(d)]		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[(d)]		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[(d)]		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[(d)]		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[(d)]		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[(d)]		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[(c)]	4.9[(c)]	6.7[(b)]	16.6[(b)]	83.4	100.0	111,250
	Rate ratio[(d)]		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[(d)]		2.0	1.3	0.5	1.2	1.0		

* Represents results with statistically significant differences 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) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Indigenous rate divided by non-Indigenous rate.

Source: ABS and AIHW analysis of 2008 NATSISS.

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(b)	1.9*	3.2*	1.9(b)	1.0(b)	1.3b)	2.7*
Total currently studying(a)	*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(a)	*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(a)	*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 in the Indigenous/non-Indigenous comparisons.

(a) Includes other educational institutions not further defined.

(b) Estimate has a relative standard error between 25% and 50%.

(c) Indigenous rate divided by Indigenous rate.

Source: ABS and AIHW analysis of 2008 NATSISS.

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 of 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	65,494
	Non-Indigenous	%	75.9*	20.6*	3.5*	100	1,923,185
	Rate ratio[(c)]		0.4	2.3	5.7		
25–34	Indigenous	%	30.1*	47.8*	22.0*	100	69,786
	Non-Indigenous	%	72.6*	23.4*	4.0*	100	2,818,872
	Rate ratio[(c)]		0.4	2	5.5		
35–44	Indigenous	%	24.3*	48.5*	27.2*	100	63,851
	Non-Indigenous	%	55.6*	38.5*	5.9*	100	2,987,350
	Rate ratio[(c)]		0.4	1.3	4.6		
45–64 years	Indigenous	%	9.6*	37.5	52.9*	100	73,551
	Non-Indigenous	%	41.8*	40.8	17.5*	100	5,190,548
	Rate ratio[(c)]		0.2	0.9	3		
65+ years	Indigenous	%	5.2[(c)]*	13.2*	81.5*	100	15,979
	Non-Indigenous	%	22.5*	30.7*	46.8*	100	2,592,921
	Rate ratio[(c)]		0.2	0.4	1.7		
Total	Indigenous	%	22.7*	43.4*	33.9*	100	288,660
	Non-Indigenous	%	51.1*	33.0*	16.0*	100	15,512,876
	Rate ratio[(c)]		0.4	1.3	2.1		

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Excludes those still attending secondary school.

(b) Includes persons who never attended school.

(c) Estimate has a standard error of between 25% and 50%.

Source: ABS and AIHW analysis of 2008 NATSISS.

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**	**1.0**	**100.0**	**100.0**	**1.0**	**100.0**	**100.0**	**1.0**
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 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 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.

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		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		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		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		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)		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)		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		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*(b)	100.0	108,248
	Rate ratio		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		**0.4**	**1.3**	**2.1**		

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Includes persons who never attended school.

(b) 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 2008 NATSISS.

Table 2.06.8: Highest level of school completed, by Indigenous status and remoteness area, persons aged 18 years and over, 2008

Highest level of school completed	Major Cities			Inner Regional			Outer Regional			*Subtotal non-remote*			Remote			Very Remote			*Subtotal 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
	%	%		%	%		%	%		%	%		%	%		%	%		%	%				
Completed Year 12	30.1*	57.4*	0.5	20.8*	37.1*	0.6	21.0*	36.3*	0.6	24.8*	51.2*	0.5	16.8*	39.1*	0.4	16.1	n.a.	. .	16.4	n.a.	. .	22.7*	51.1*	0.4
Completed Year 10 or 11	43.5*	28.6*	1.5	45.1	41.7	1.1	42.7	45.3	0.9	43.7*	32.9*	1.3	43.9	44.1*	1.0	41.9	n.a.	. .	42.7	n.a.	. .	43.4*	33.0*	1.3
Completed Year 9 or below(a)	26.4*	14.1*	1.9	34.1*	21.2*	1.6	36.3*	18.4*	2.0	31.5*	16.0*	2.0	39.3*	16.8*(a)	2.3	41.9	n.a.	. .	41.0	n.a.	. .	33.9*	16.0*	2.1
Total	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**. .**	**100.0**	**n.a.**	**. .**	**100.0**	**n.a.**	**. .**	**100.0**	**100.0**	**. .**
Number	91,775	10,700,140	. .	57,723	3,259,384	. .	64,455	1,397,750	. .	213,953	15,357,274	. .	26,917	154,254	. .	49,348	n.a.	. .	76,993	n.a.	. .	288,660	15,512,876	. .

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

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

Note: Excludes those who are still attending secondary school.

Source: ABS and AIHW analysis of 2008 NATSISS.

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 2.06.9).

Table 2.06.9: 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)]	**100.0**	**100.0**	**100.0**	**100.0**
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 2.06.10: Highest year of school completed by child's main carer, 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 analyses of 2008 NATSISS.

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 2.06.11).

Table 2.06.11: Highest level of school completed, by selected population characteristics and Indigenous status, persons aged 18 years and over, 2008

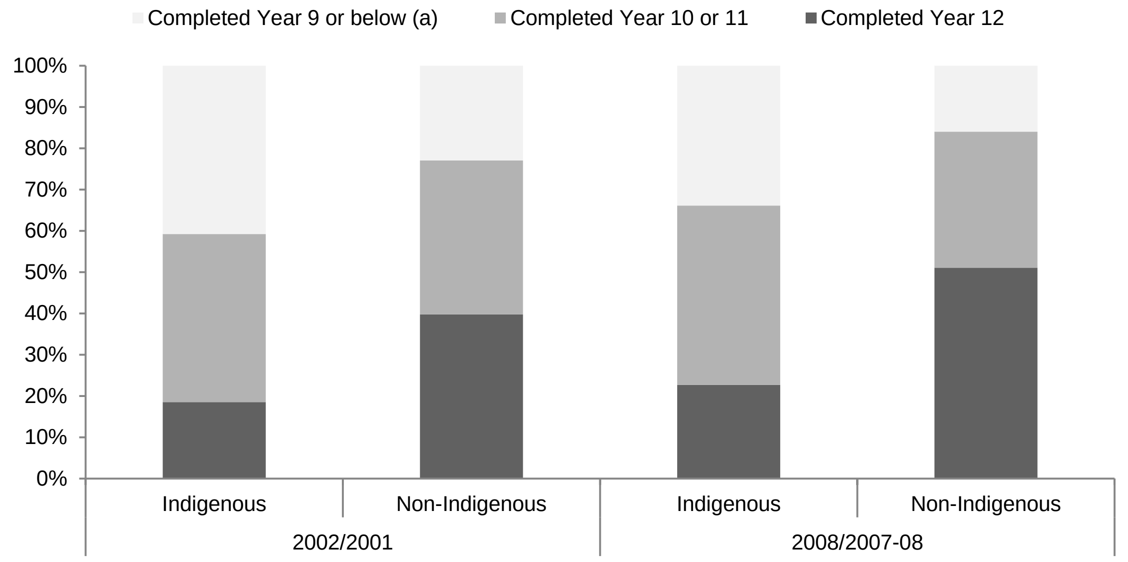
	Completed Yr 12		Completed Yr 10 or 11		Completed Yr 9 or below(a)		Total(b)	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
				Per cent				
Main language spoken at home								
English	90.6	86.5	88.1	96.0	81.4	83.5	86.4	89.1
Language other than English	9.4	13.5	11.9	4.0	18.6	16.5	13.6	10.9
Total	**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	**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 disadvataged)	8.3(g	31.6	3.2(g)	14.4	1.5(g)	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	**65,383**	**7,920,077**	**125,356**	**5,114,976**	**97,921**	**2,477,823**	**288,660**	**15,512,876**
Housing tenure type								
Owner(d)	41.0	61.7	28.8	68.2	21.7	70.1	29.2	65.2
Renter(e)	57.4	30.2	69.5	27.4	76.9	25.3	69.2	28.5
Other(f)	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) Includes without a mortgage, with a mortgage and participants in rent-buy schemes.
(e) Includes boarders.
(f) Includes life tenure schemes, rent-free, and other tenure types not further defined.
(g) 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.

Time series analyses

- A slightly 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%). 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%) (Figure 2.06.1).



(a) Includes persons who never attend school

Note: excludes those still attending secondary school

Source: 2002 NATSISS; 2008 NATSISS; NHS 01 and NHS 07–08.

Figure 2.06.1: Highest level of school completed, by Indigenous status, persons aged 18 years and over, 2002 and 2008

Table 2.06.12: Highest level of school completed, by Indigenous status, 2002 and 2008

	2002		2008	
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Level of schooling	**Per cent**		**Per cent**	
Completed Year 12	18.5	39.8	22.7	51.1
Completed Year 10 or 11	40.7	37.3	43.4	33.0
Completed Year 9 or below[(a)]	40.8	22.9	33.9	16.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes persons who never attend school.

Note: excludes those still attending secondary school.

Source: 2002 NATSISS; 2008 NATSISS; NHS 01 and NHS 07–08.

Highest year of school completed by summary health and population characteristics

- During 2004–05, around half of all Indigenous Australians aged 25–64 years 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 2.06.13).
- For Indigenous Australians 18 years and over in 2008, those who reported Year 9 or below as their highest year of school completed were less likely to be in the fifth quintile of household income than Indigenous Australians who reported Year 12 as their highest year of school completed (19% compared with 45%) (Table 2.06.14). A similar trend was evident for index of disparity.

Table 2.06.13: Highest year of school completed, by selected population characteristics and Indigenous status, persons aged 25–64 years, 2004–05

	Completed Year 12		Completed Yr 10 or 11		Completed Yr 9 or below(a)		Total(b)(c)	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
				Per cent				
Main language spoken at home								
English	24*	46*	44*	37*	32*	17*	100	100
Language other than English(d)	15*	58*	35*	12*	50*	30*	100	100
Location								
Remote(e)	14*	34*	43	47	42*	19*	100	100
Non-remote	26*	47*	42*	35*	32*	19*	100	100
Household income								
1st quintile	11*	25*	41*	32*	48	42	100	100
5th quintile	46*	68*	38*	26*	16*(f)	5*	100	100
Index of disparity								
1st quintile	16*	36*	44*	36*	40*	28*	100	100
5th quintile	60(f)	65	29(f)	26	11(f)	9	100	100
Employment								
Employed CDEP	19	. .	46	. .	35	. .	100	. .
Employed non-CDEP	35*	56*	47*	35*	18*	9*	100	100
Subtotal employed	32*	56*	46*	35*	22*	9*	100	100
Unemployed	16*	54*	54*	33*	30*	13*	100	100
Not in the labour force	12*	28*	35	33	53*	39*	100	100
Housing tenure type								
Owner	33*	43*	45*	37*	22	20	100	100
Renter(g)	19*	50*	42*	33*	39*	17*	100	100
Other(h)	31*(f)	62*	36	26	32*	12*	100	100
Treatment when seeking health care in last 12 months								
Worse	19	. .	41	. .	40	. .	100	. .
The same or better	23	. .	42	. .	35	. .	100	. .
Other	23	. .	45	. .	32	. .	100	. .
Total(i)	**23***	**47***	**43***	**35***	**35***	**19***	**100**	**100**
Total number ('000)	**10.4**	**2,298.5**	**10.6**	**1,062.4**	**48.3**	**2,770.9**	**71.4**	**6,252.8**

(continued)

Table 2.06.13 (continued): Highest year of school completed, by selected population characteristics and Indigenous status, persons aged 25–64 years, 2004–05

*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(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.

(d) Includes not stated, insufficient information to classify and non-verbal languages.

(e) Non-Indigenous data are for Remote areas only and do not include Very Remote areas.

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

(g) 'Renter' includes renter (excluding boarders) and boarder.

(h) 'Other' includes life tenure scheme, participant in rent/buy scheme, rent-free and other.

(i) Includes not known, not stated and not applicable.

Source: ABS and AIHW analyses of 2004–05 NATSIHS and 2004–05 National Health Survey.

Table 2.06.14: Highest year of school completed, by selected population characteristics, Indigenous persons aged 18 years and over, 2008

	Completed Year 12	Completed Yr 10 or 11	Completed Yr 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	13.0	42.1	44.9	100
5th quintile	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	17.2	42.8	40.0	100.0
5th quintile	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: 2008 NATSISS and 2007–08 NHS.

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 2.06.15).
- A similar 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 2.06.15).
- 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 2.06.16).

Table 2.06.15: 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 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: NATSISS 2008 and NHS 07–08

Table 2.06.16: 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
	59.0	35.4	1.7	60.6	41.8	1.4	59.9	38.6	1.6
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 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: 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 2.06.17). 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%.
- 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 2.06.18).

Table 2.06.17: 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(d)**	**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 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: NATSISS 2008 and NHS 07–08.

Table 2.06.18: 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[c]		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[c]		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[c]		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[c]		*0.3**	*0.7**	*1.1*	*0.7**	*1.4**	***1.0***	
Remote	Indigenous	%	4.6#	3.4#	19.6	29.9	70.1	**100.0**	*20,064*
	Non-Indigenous	%	14.7	8.2#	28.2	52.1	47.9	**100.0**	*120,616*
	Rate Ratio[c]		0.3	0.4	0.7	*0.6*	1.5	**1.0**	
Very Remote	Indigenous	%	3.0#	3.3	14.5	*23.8*	76.2	**100.0**	*33,527*
	Non-Indigenous	%	..	..	..		..	**. .**	..
	Rate ratio[c]	%	..	..	..		..	**. .**	
Subtotal remote	Indigenous	%	3.6	3.3	16.4	*26.1*	73.9	**100.0**	53,591

(continued)

Table 2.06.18 (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***
	Non-Indigenous	%	. .	. .	. .		. .	. .	
	Rate ratio(c)	%	. .	. .	. .		. .	. .	
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(c)	%	0.3*	0.6*	1.0	0.7*	1.6*	1.0	

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

* Represents results with statistically significant differences 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: 2008 NATSISS and 2007–08 NHS.

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 much 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 2.06.19).
- During 2008, 36% of primary carers for a child aged 0-14 years did not have a non-school qualification (Table 2.06.20).

Table 2.06.19: 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 2.06.20: 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: 2008 NATSISS.

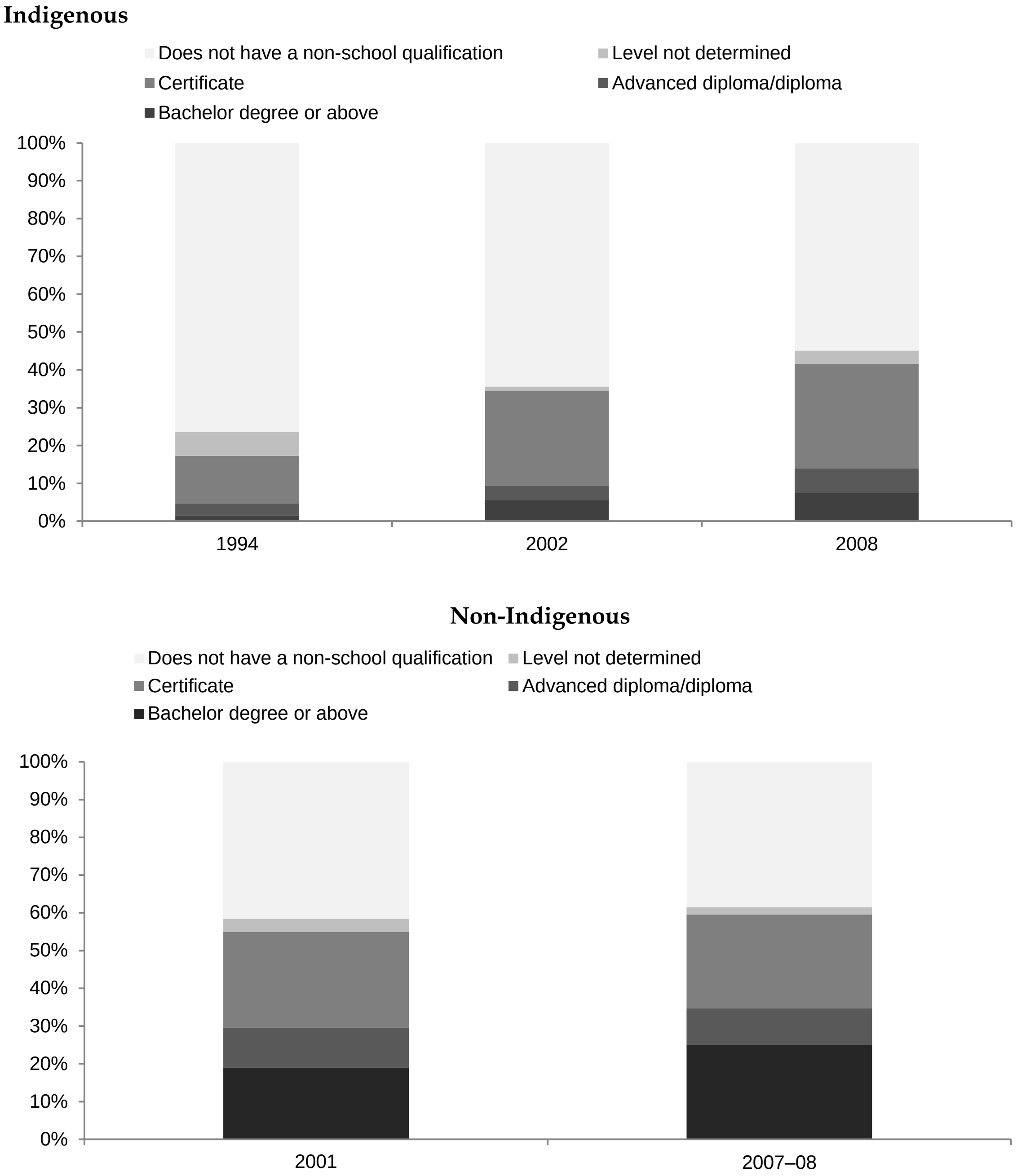
Time series analyses

- A higher proportion of Indigenous Australians aged 25–64 years in 2008 reported that they had a non-school qualification (45%) than in 2002 (36%) or 1994 (24%) (Figure 2.06.2). Approximately 8% of Indigenous Australians had a bachelor degree or higher in 2008, compared with 2% in 1994. A higher proportion of non-Indigenous Australians also had a non-school qualification in 2008 (62%) than in 2001 (58%).

Non-school qualifications by summary health and population characteristics

Table 2.06.20 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 2.06.21).



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.

Figure 2.06.2: Non-school qualifications, by Indigenous status, non-remote areas , persons aged 25-64 years, 1994, 2002, 2008

Table 2.06.21: 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 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.

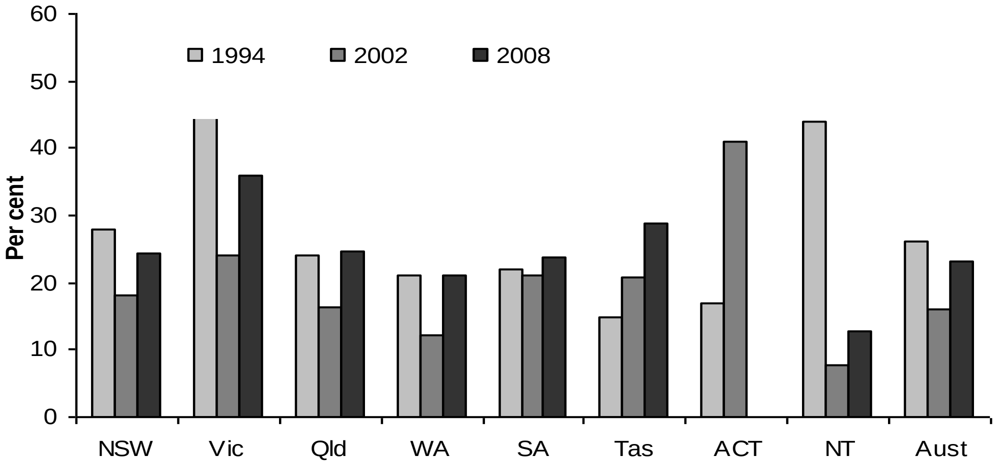
Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

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. Figure 2.06.3 and Table 2.06.22 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.

- Between 1994 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 23% in 2008.



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.
3. The 2008 estimates for the Australian Capital Territory/Tasmania is reported under Tasmania and not the Australian Capital Territory.

Source: SCRGSP 2005a; ABS & AIHW analyses of ABS 1994 NATSIS, ABS 2002 NATSISS and ABS 2008 NATSISS.

Figure 2.06.3: Post-secondary attainment of certificate III or above, by Indigenous people aged 18 years and over, 1994 and 2002, 2008

Table 2.06.22: Post-secondary attainment of certificate III or above, by Indigenous people aged 18 years and over, 1994, 2002 and 2008

	1994	2002	2008
		Per cent	
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 analyses of ABS 1994 NATSISS, ABS 2002 NATSISS and ABS 2008 NATSISS.

Other study and study intentions

The 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) collected information on other study and study intentions by Indigenous people. Tables 2.06.23 and 2.06.24 present information on future study intentions. Table 2.06.25 presents the reasons for not pursuing another education qualification in the last 12 months. Finally, Table 2.06.26 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 2.06.23).
- The main reason for future educational intentions was to increase knowledge and skills, followed by improving qualifications and getting a better job (Table 2.06.24).
- 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 it was too expensive/ financial reasons, caring for family members, and personal or other family reasons (Table 2.06.25).
- Fifty-four per cent of Indigenous people stated that they were not taught Indigenous culture either 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 culture education received was usually accurate (55% of the time) and 58% of the time the Indigenous person learnt about their own tribe/ clan/ language (Table 2.06.26).

Table 2.06.23: Future study intentions 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 analyses of 2008 NATSISS.

Table 2.06.24: Future study intentions 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 analyses of 2008 NATSISS.

Table 2.06.25: 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 analyses of 2008 NATSISS.

Table 2.06.26: 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**
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 analyses of 2008 NATSISS.

Census data

The 2006 Census of Population and Housing collected information on the educational institution currently attended, the highest level of non-school qualification and the highest level of school that Indigenous adults completed. These data are presented in the following tables.

Educational institution currently attended

- In 2006, approximately 16% of Indigenous people and 14% of non-Indigenous people aged 15 years and over were currently studying. Indigenous Australians were more likely to be studying at secondary school (7%) or technical or further educational institutions (4%) than non-Indigenous Australians (5% and 3% respectively). However, non-Indigenous Australians were more likely to be studying at university or in higher education than Indigenous Australians (5% compared with 3%) (Table 2.06.27).

Educational institution currently attended by age and sex

- A lower proportion of Indigenous than non-Indigenous Australians aged 15–24 years were currently attending secondary school (22% and 26% respectively) and technical or further education institutions (6% and 8% respectively). Only 4% of Indigenous Australians aged 15–24 years were currently attending university or higher education compared with 18% of non-Indigenous Australians of the same age.
- In 2006, a higher proportion of Indigenous females aged 15 years and over were currently studying (17%) than Indigenous males (15%). Approximately 13% of non-Indigenous males and 15% of non-Indigenous females of the same age were currently studying (Table 2.06.28).
- Approximately 2% of Indigenous males and 3% of Indigenous females were currently studying at university or other higher education compared with 5% and 6% of non-Indigenous males and females respectively.

Table 2.06.27: Educational institution currently attended, by Indigenous status and age group, persons aged 15 years and over, 2006

			Educational participation							
			Secondary school	Technical or further education [(a)]	University/other higher education	Total currently studying[(b)]	Not attending	Total[(c)]	Total number [(c)]	Attendance unknown [(d)]
15–24 years	Indig.	%	22	6	4	37	63	**100**	79,540	8
	Non-Indig.	%	26	8	18	56	44	**100**	2,414,604	2
	Rate ratio		0.8	0.8	0.2	0.7	1.4	**. .**	. .	4.2
25–34 years	Indig.	%	. .	4	3	9	91	**100**	56,057	10
	Non-Indig.	%	. .	4	7	12	88	**100**	2,402,389	2
	Rate ratio		. .	1.1	0.5	0.7	1	**. .**	. .	4.9
35–44 years	Indig.	%	. .	3	3	8	92	**100**	52,484	9
	Non-Indig.	%	. .	3	3	7	93	**100**	2,664,383	2
	Rate ratio		. .	1.3	0.9	1.2	1	**. .**	. .	4
45 years and over	Indig.	%	. .	2	1	5	95	**100**	70,609	9
	Non-Indig.	%	. .	1	1	2	98	**100**	6,789,677	4
	Rate ratio		. .	2.4	1.6	2.1	1	**. .**	. .	2.2
Total	**Indig.**	**%**	**7**	**4**	**3**	**16**	**84**	100	**258,690**	**9**
	Non-Indig.	**%**	**5**	**3**	**5**	**14**	**86**	100	**14,271,053**	**3**
	Rate ratio		**1.5**	**1.4**	**0.5**	**1.2**	**1**	**. .**	**. .**	**2.9**

(a) Includes TAFE colleges.

(b) Includes other educational institution and type of educational institution not stated.

(c) Excludes attendance at educational institution unknown.

(d) Persons whose attendance at an educational institution was unknown as a proportion of total persons.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.06.28: Educational institution currently attended, by Indigenous status and sex, persons aged 15 years and over, 2006

	Males			Females		
Educational participation	**Indigenous**	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**
	%	**%**		**%**	**%**	
Secondary school	7	5	1.6	7	4	1.5
Technical or further education[(a)]	4	3	1.2	4	3	1.5
University/other higher education	2	5	0.4	3	6	0.6
Total currently studying[(b)]	***15***	***13***	***1.1***	***17***	***15***	***1.2***
Not attending	85	87	1.0	83	85	1.0
Total[(c)]	**100**	**100**	. .	**100**	**100**	. .
Total number[(c)]	**122,024**	**6,947,041**	. .	**136,669**	**7,324,010**	. .
Attendance unknown[(d)]	11	3	3.6	7	3	2.3

(a) Includes TAFE colleges.

(b) Includes other educational institution and type of educational institution not stated.

(c) Excludes attendance at educational institution unknown.

(d) Persons whose attendance at an educational institution was unknown as a proportion of total persons.

Source: ABS and AIHW analysis of 2006 Census data.

Educational institution currently attended by state/territory and remoteness

- The Australian Capital Territory had the highest proportion of Indigenous persons aged 15 years and over currently studying (22%) and the Northern Territory had the lowest proportion (11%) (Table 2.06.29).
- In all states and territories except the Northern Territory, there was a higher proportion of Indigenous persons currently studying than non-Indigenous persons.
- The proportion of Indigenous people currently studying who were attending technical or further education institutions ranged from 1% in the Northern Territory to 7% in Tasmania. The proportion of Indigenous people currently studying who were attending a university or other tertiary institution ranged from 2% in Western Australian and the Northern Territory to 7% in the Australian Capital Territory.
- A higher proportion of Indigenous Australians in non-remote areas were currently studying at secondary school (8%), technical or further education institutions (5%) and university or higher education (3%) than in remote areas (5%, 2% and 1% respectively) (Table 2.06.30).

Table 2.06.29: Educational institution currently attended, by Indigenous status and state/territory, persons aged 15 years and over, 2006

	Educational participation		Secondary school	Technical or further education[(a)]	University or other tertiary institution	*Total currently studying[(b)]*	Not attending	Total[(c)]	Total number[(c)]	Attendance unknown[(d)]
NSW	Indigenous	%	7	5	3	18	82	100	78,126	8
	Non-Indigenous	%	5	3	5	14	86	100	4,696,887	3
	Rate ratio		1.6	1.6	0.6	1.3	1.0			2.7
Vic	Indigenous	%	8	5	4	20	80	100	17,351	9
	Non-Indigenous	%	5	3	5	15	85	100	3,627,895	3
	Rate ratio		1.6	1.9	0.7	1.4	0.9			2.7
Qld	Indigenous	%	8	3	3	16	84	100	71,912	8
	Non-Indigenous	%	4	2	5	13	87	100	2,755,536	3
	Rate ratio		1.8	1.4	0.6	1.3	1.0			2.6
WA	Indigenous	%	6	3	2	14	86	100	32,939	11
	Non-Indigenous	%	4	3	5	13	87	100	1,382,971	3
	Rate ratio		1.5	1.1	0.5	1.0	1.0			3.7
SA	Indigenous	%	8	5	3	18	82	100	14,935	8
	Non-Indigenous	%	5	3	5	13	87	100	1,126,978	3
	Rate ratio		1.7	1.7	0.6	1.4	0.9			2.8
Tas	Indigenous	%	8	7	3	19	81	100	10,129	5
	Non-Indigenous	%	4	3	4	13	87	100	341,194	4
	Rate ratio		1.8	1.9	0.6	1.5	0.9			1.5
ACT	Indigenous	%	8	5	7	22	78	100	2,382	4
	Non-Indigenous	%	5	3	9	19	81	100	242,905	2
	Rate ratio		1.6	1.5	0.7	1.1	1.0			2.0
NT	Indigenous	%	5	1	2	11	89	100	30,760	12
	Non-Indigenous	%	4	2	6	13	87	100	95,268	2
	Rate ratio		1.2	0.7	0.3	0.8	1.0			5.0
Aust.[(e)]	Indigenous	%	7	4	3	16	84	100	258,693	9
	Non-Indigenous	%	5	3	5	14	86	100	14,271,050	3
	Rate ratio		1.5	1.4	0.5	1.2	1.0			2.9

(a) Includes TAFE colleges.

(b) Includes other educational institution and type of educational institution not stated.

(c) Excludes attendance at educational institution unknown.

(d) Persons whose attendance at an educational institution was unknown as a proportion of total persons.

(e) Includes other territories.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.06.30: Educational institution currently attended, by Indigenous status and remoteness, persons aged 15 years and over, 2006

		Major Cities	Inner Regional	Outer Regional	*Subtotal non-remote*	Remote	Very Remote	*Subtotal remote*	Total
					Indigenous				
Secondary school	%	8	8	8	8	6	4	5	7
Technical or further education[(a)]	%	5	5	4	5	3	2	2	4
University/other higher education	%	5	3	2	3	1	1	1	3
Total currently studying[(b)]	%	***19***	***19***	***16***	***18***	***12***	***9***	***10***	***16***
Not attending	%	81	81	84	82	88	91	90	84
Total[(c)]	%	100	100	100	100	100	108	110	100
Total number[(c)]	**no.**	**85,039**	**54,430**	**54,471**	**193,940**	**22,326**	**41,356**	**63,682**	**258,692**
Attendance unknown[(d)]	%	8	9	10	9	11	8	9	9
					Non-Indigenous				
Secondary school	%	5	5	4	5	3	2	3	5
Technical or Further Education[(a)]	%	3	3	3	3	2	2	2	3
University/other higher education	%	6	3	2	5	2	2	2	5
Total currently studying[(b)]	%	***15***	***12***	***10***	***14***	***8***	***7***	***8***	***14***
Not attending	%	**85**	**88**	**90**	86	**92**	**93**	**92**	**86**
Total[(c)]	%	100	104	100	100	100	100	100	100
Total number[(c)]	**no.**	**9,932,022**	**2,789,706**	**1,282,265**	**14,003,993**	**176,616**	**58,566**	**235,182**	**14,271,055**
Attendance unknown[(d)]	%	3	4	3	9	11	3	9	3
					Rate ratio				
Secondary school		1.7	1.6	1.8	1.7	1.7	1.9	1.5	1.5
Technical or Further Education[(a)]		1.5	1.9	1.6	1.6	1.1	0.9	0.9	1.4
University/other higher education		0.7	0.9	0.9	0.6	0.8	0.3	0.5	0.5
Total currently studying[(b)]		1.3	***1.6***	***1.6***	***1.3***	***1.4***	***1.3***	***1.2***	***1.2***
Not attending		0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0
Attendance unknown[(d)]		2.7	2.5	3.1	1.0	1.0	2.6	1.0	2.9

(a) Includes TAFE colleges.

(b) Includes other educational institution and type of educational institution not stated.

(c) Excludes attendance at educational institution unknown.

(d) Persons whose attendance at an educational institution was unknown as a proportion of total persons.

Source: ABS and AIHW analysis of 2006 Census data.

Highest level of school completed

- In 2006, Indigenous adults aged 18 years and over were more than 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%). The highest level of schooling completed was Year 10 for 31% of Indigenous adults and 25% of non-Indigenous adults, Year 11 for 11% of Indigenous adults and 10% of non-Indigenous adults, and Year 12 for 24% of Indigenous adults compared with 49% of non-Indigenous adults (Table 2.06.31).

Highest level of school completed by age and sex

- Indigenous Australians aged 45 years and over were much more likely to report that their highest level of schooling completed was Year 9 or below (54%) compared with Indigenous Australians of younger ages (Table 2.06.31).
- Indigenous Australians aged 18–24, 25–34 and 35–44 years were between four and six times as likely to report Year 9 or below as their highest level of schooling as non-Indigenous adults (Table 2.06.31).
- In 2006, males and females in the Indigenous population reported similar levels of school completed, as did males and females in the non-Indigenous population (Table 2.06.32).

Table 2.06.31: Highest level of school completed, by Indigenous status and age group, persons aged 18 years and over, 2006

		18–24			25–34			35–44			45 years and over			Total		
Highest level of school completed		**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**
Completed Year 12 or equivalent	%	36	74	0.5	32	70	0.5	19	51	0.4	12	35	0.3	24	49	0.5
Completed Year 11 or equivalent	%	15	9	1.6	14	10	1.5	12	14	0.9	5	9	0.6	11	10	1.1
Completed Year 10 or equivalent	%	28	13	2.1	30	16	1.9	40	28	1.4	29	29	1.0	31	25	1.3
Completed Year 9 or below[(a)]	%	22	4	6.0	24	4	5.3	28	8	3.7	54	26	2.1	34	16	2.1
Total[(b)(c)]	**%**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**
Total number of persons[(c)]	no.	47,956	1,608,316	. .	54,720	2,385,869	. .	50,918	2,639,254	. .	66,634	6,559,510	. .	220,228	13,192,949	. .
Highest year of school not stated[(d)]	**%**	10	3	3.9	12	3	4.6	12	3	3.7	14	7	1.9	12	5	2.4

(a) Includes persons who never attended school.

(b) Excludes persons currently attending primary and secondary educational institutions.

(c) Excludes persons who did not state the highest year of school completed.

(d) Persons who did not state the highest year of school completed as a proportion of total persons.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.06.32: Highest year of school completed, by Indigenous status and sex, persons aged 18 years and over, 2006

Highest level of school completed	Male			Female			Total		
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio
	%	%		%	%		%	%	
Year 12 or equivalent	23	49	0.5	25	50	0.5	24	49	0.5
Year 11 or equivalent	11	10	1.0	12	10	1.2	11	10	1.1
Year 10 or equivalent	31	25	1.3	31	24	1.3	31	25	1.3
Year 9 or below[(a)]	35	16	2.3	32	16	2.0	34	16	2.1
Total[(b)(c)]	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**
Total number of persons[(c)]	102,494	6,406,636	. .	117,731	6,786,312	. .	220,228	13,192,949	. .
Highest year of school not stated[(d)]	14	5	2.9	10	5	1.9	12	5	2.4

(a) Includes persons who never attended school.

(b) Excludes persons currently attending primary and secondary educational institutions.

(c) Excludes persons who did not state the highest year of school completed.

(d) Persons who did not state the highest year of school completed as a proportion of total persons.

Source: ABS and AIHW analysis of 2006 Census data.

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 11% in the Northern Territory to 47% in the Australian Capital Territory. The proportion of Indigenous students reporting Year 9 or below as their highest level of schooling ranged from 16% in the Australian Capital Territory to 60% in the Northern Territory (Table 2.06.33).
- 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 Indigenous Australians in remote areas of Australia (27% compared with 14%) (Table 2.06.34).
- In all remoteness areas, Indigenous Australians were more likely than non-Indigenous Australians to report their highest level of schooling completed was Year 9 or below.

Table 2.06.33: Highest level of school completed, by state/territory and Indigenous status, persons aged 18 years and over, 2006

State/ territory			Year 12	Year 11	Year 10	Year 9 or below[(a)]	Total[(b)(c)]	Total no. of persons[(c)]	Highest year of school not stated[(d)]
NSW	Indigenous	%	23	8	35	34	100	66,233	12
	Non-Indigenous	%	50	5	28	16	100	4,338,253	5
	Rate ratio		0.5	1.5	1.2	2.1	. .	. .	2.2
Vic	Indigenous	%	29	16	26	29	100	14,780	12
	Non-Indigenous	%	51	15	17	18	100	3,344,922	5
	Rate ratio		0.6	1.1	1.6	1.7	. .	. .	2.2
Qld	Indigenous	%	31	11	32	27	100	61,551	11
	Non-Indigenous	%	48	8	29	15	100	2,554,880	5
	Rate ratio		0.6	1.4	1.1	1.9	. .	. .	2.2
WA	Indigenous	%	21	14	36	29	100	27,687	16
	Non-Indigenous	%	50	11	27	12	100	1,278,663	5
	Rate ratio		0.4	1.2	1.3	2.5	. .	. .	3.2
SA	Indigenous	%	18	21	27	30	100	12,482	13
	Non-Indigenous	%	44	21	19	16	100	1,044,597	5
	Rate ratio		0.4	1.0	1.4	1.9	. .	. .	2.7
Tas	Indigenous	%	23	11	43	23	100	8,716	6
	Non-Indigenous	%	37	8	36	18	100	314,375	6
	Rate ratio		0.6	1.2	1.2	1.3	. .	. .	1.1
ACT	Indigenous	%	47	9	27	16	100	2,083	5
	Non-Indigenous	%	70	5	17	8	100	226,947	3
	Rate ratio		0.7	1.9	1.6	2.2	. .	. .	1.8
NT	Indigenous	%	11	10	19	60	100	26,548	15
	Non-Indigenous	%	50	15	24	11	100	88,985	4
	Rate ratio		0.2	0.7	0.8	5.7	. .	. .	3.8
Aust.[(e)]	**Indigenous**	**%**	**24**	**11**	**31**	**34**	**100**	**220,228**	**12**
	Non-Indigenous	**%**	**49**	**10**	**25**	**16**	**100**	**13,192,949**	**5**
	Rate ratio		**0.5**	**1.1**	**1.3**	**2.1**	**. .**	**. .**	**2.4**

(a) Includes persons who never attended school.

(b) Excludes persons currently attending primary and secondary educational institutions.

(c) Excludes persons who did not state the highest year of school completed.

(d) Persons who did not state the highest year of school completed as a proportion of total persons.

(e) Includes other territories.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.06.34: Highest level of school completed, by Indigenous status and remoteness area, persons aged 18 years and over, 2006

			Year 12	Year 11	Year 10	Year 9 or below[(a)]	Total[(b)(c)]	Total no. of persons[(c)]	Highest year of school not stated[(d)]
Major Cities	Indigenous	%	32	11	32	24	100	72,645	11
	Non-Indigenous	%	55	9	22	14	100	9,198,201	5
	Rate ratio		0.6	1.2	1.5	1.7	. .	. .	2.2
Inner Regional	Indigenous	%	24	11	35	31	100	45,856	12
	Non-Indigenous	%	37	11	32	19	100	2,560,665	6
	Rate ratio		0.6	0.9	1.1	1.6	. .	. .	2.1
Outer Regional	Indigenous	%	23	13	33	31	100	45,526	14
	Non-Indigenous	%	36	12	32	20	100	1,181,968	6
	Rate ratio		0.6	1.1	1.0	1.5	. .	. .	2.6
Subtotal non-remote	*Indigenous*	%	*27*	*12*	*33*	*28*	*100*	*164,027*	*12.2*
	Non-Indigenous	%	*50*	*10*	*25*	*16*	*100*	*12,940,834*	*5.2*
	Rate ratio		*0.5*	*1.1*	*1.4*	*1.8*	. .	. .	2.4
Remote	Indigenous	%	17	13	30	40	100	18,969	16
	Non-Indigenous	%	39	14	31	17	100	165,719	5
	Rate ratio		0.4	0.9	1.0	2.4	. .	. .	3.4
Very Remote	Indigenous	%	13	9	23	54	100	36,279	10
	Non-Indigenous	%	41	12	30	16	100	55,840	4
	Rate ratio		0.3	0.7	0.8	3.4	. .	. .	2.4
Subtotal remote	*Indigenous*	%	*14*	*10*	*26*	*49*	*100*	*55,248*	*12*
	Non-Indigenous	%	*39*	*13*	*31*	*17*	*100*	*221,559*	*5*
	Rate ratio		*0.4*	*0.8*	*0.8*	*3.0*	. .	. .	2.7
Aust.[(e)]	**Indigenous**	**%**	**24**	**11**	**31**	**34**	**100**	**220,229**	**12**
	Non-Indigenous	**%**	**49**	**10**	**25**	**16**	**100**	**13,192,949**	**5**
	Rate ratio		**0.5**	**1.1**	**1.3**	**2.1**	**. .**	**. .**	**2.4**

(a) Includes persons who never attended school

(b) Excludes persons currently attending primary or secondary educational institutions.

(c) Excludes persons who did not state the highest year of school completed.

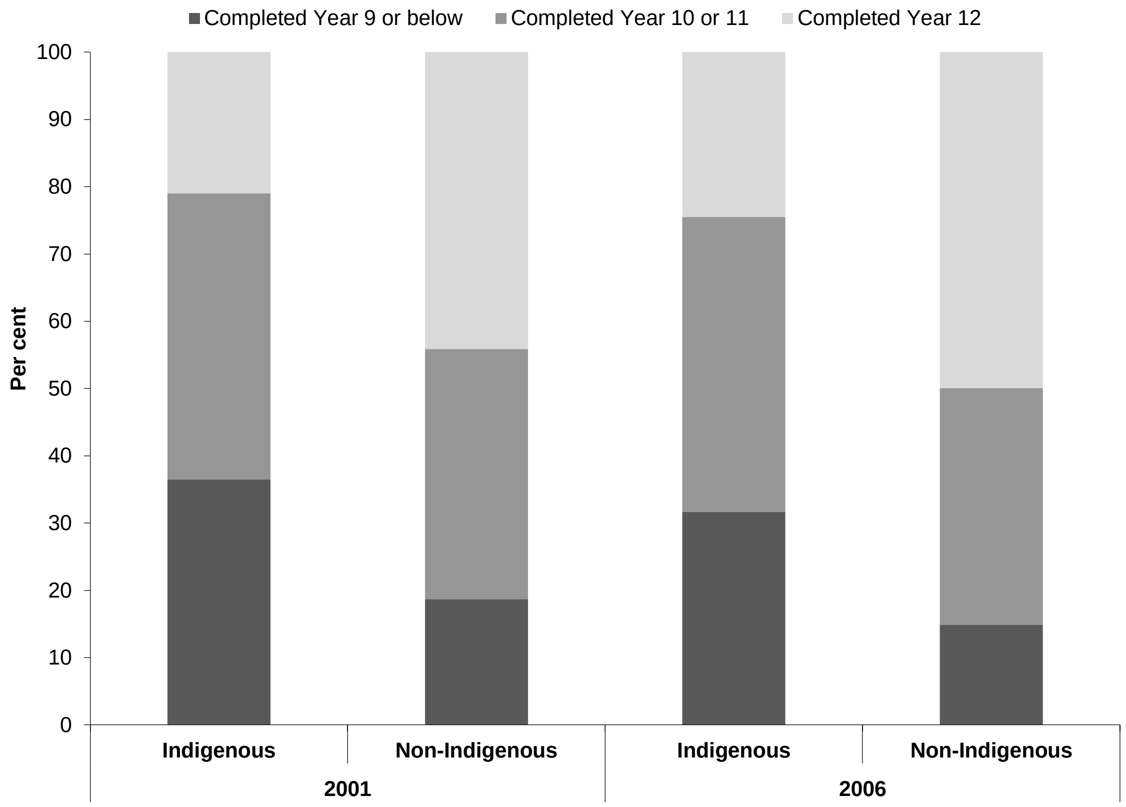
(d) Persons who did not state the highest year of school completed as a proportion of total persons.

(e) Includes migratory and no usual address.

Source: ABS and AIHW analysis of 2006 Census data.

Time series analyses

- A slightly higher proportion of Indigenous Australians aged 18 years and over reported that the highest year of school completed was Year 12 in 2006 (25%) than in 2001 (21%). A higher proportion of non-Indigenous Australians aged 18 years and over in 2006 also reported that Year 12 was their highest year of school completed (50%) than in 2001 (44%) (Table 2.06.35).



Source: ABS and AIHW analysis of 2001 and 2006 Census data.

Figure 2.06.4: Highest level of school completed, by Indigenous status, persons aged 18 years and over, 2001 and 2006

Table 2.06.35: Highest level of school completed, by Indigenous status, persons aged 18 years and over, 2001 and 2006, per cent

	2001		2006	
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Completed Year 12	21.0	44.1	24.5	49.9
Completed Year 10 or 11	42.5	37.2	43.8	35.2
Completed Year 9 or below	36.5	18.7	31.7	14.9

Source: ABS and AIHW analysis of 2001 and 2006 Census data.

Non-school qualifications

- In 2006, approximately 30% of Indigenous Australians aged 25–64 years reported they had a non-school qualification compared with 55% of non-Indigenous Australians of the same age (Table 2.06.36).
- A higher proportion of non-Indigenous than Indigenous Australians aged 25–64 years had completed a certificate course in 2006 (21% and 18% respectively). A much higher proportion of non-Indigenous Australians had a bachelor degree or diploma as their highest level of non-school qualification (23% and 10% respectively) compared with Indigenous Australians (6% and 5% 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 (32%). For non-Indigenous Australians the highest rate was in the 25–34 year group (63%) (Table 2.06.36).
- In 2006, a higher proportion of Indigenous males than females aged 25–64 years had a non-school qualification (32% and 29%, respectively). Indigenous males were more likely to have completed a certificate course (22%) and less likely to have completed a diploma (4%) or bachelor degree or above (5%) than Indigenous females (14%, 6% and 7% respectively) (Table 2.06.37).

Table 2.06.36: Whether has non-school qualification, by Indigenous status and age group, persons aged 25–64, 2006

	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												
Bachelor degree or above[(b)]	5	30	0.2	6	23	0.3	7	19	0.4	6	23	0.3
Advanced diploma/diploma	4	9	0.4	5	10	0.5	6	9	0.6	5	10	0.5
Certificate	21	22	0.9	19	22	0.8	14	20	0.7	18	21	0.8
Total with non-school qualification[(c)]	*31*	*63*	*0.5*	*32*	*57*	*0.6*	*28*	*50*	*0.6*	*30*	*55*	*0.6*
Does not have a non-school qualification[(d)]	69	37	1.9	68	43	1.6	72	50	1.4	70	45	1.6
Total[(e)]	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**
Total number of persons[(e)]	53,174	2,356,291	. .	49,532	2,600,129	. .	53,687	4,368,476	. .	156,393	9,324,896	. .
Not stated[(f)]	15	4	3.7	14	5	3.1	14	6	2.5	14	5	2.9

(a) As classified to the ABS Classification of Qualifications.

(b) Includes bachelor degree, doctorate, masters, graduate diploma, graduate certificate.

(c) Includes inadequately described responses and cases where no response was given to the level of qualification.

(d) Includes persons with a qualification outside the scope of the Australia Standard Classification of Education.

(e) Excludes those who did not state whether they had a non-school qualification.

(f) Persons who did not state whether they had a non-school qualification as a proportion of total persons.

Source: AIHW analysis of 2006 Census data.

Table 2.06.37: Whether has a non-school qualification, by sex and Indigenous status, persons aged 25–64 years, 2006

	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	21	0.2	7	24	0.3	6	23	0.3
Advanced diploma/diploma	4	8	0.5	6	11	0.6	5	10	0.5
Certificate	22	29	0.8	14	14	1.1	18	21	0.8
Total with non-school qualification[(c)]	*32*	*60*	*0.5*	*29*	*51*	*0.6*	*30*	*55*	*0.6*
Does not have a non-school qualification[(d)]	68	40	1.7	71	49	1.4	70	45	1.6
Total[(e)]	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**
Total number of persons[(e)]	72,441	4,590,867	. .	83,952	4,734,029	. .	156,393	9,324,896	. .
Not stated[(f)]	16	5	3.5	13	5	2.4	14	5	2.9

(a) As classified to the ABS Classification of Qualifications.

(b) Includes bachelor degree, doctorate, masters, graduate diploma and graduate certificate.

(c) Includes inadequately described responses and cases where no response was given to the level of qualification.

(d) Includes persons with a qualification outside the scope of the Australia Standard Classification of Education.

(e) Excludes those who did not state whether they had a non-school qualification.

(f) Persons who did not state whether they had a non-school qualification as a proportion of total persons.

Source: ABS and AIHW analysis of 2006 Census data.

Non-school qualifications by state/territory and remoteness

- In 2006, the proportion of Indigenous Australians aged 25–64 years with a non-school qualification ranged from 17% in the Northern Territory to 50% in the Australian Capital Territory (Table 2.06.38). Approximately 22% 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 3% and 9%.
- In 2006, a higher proportion of Indigenous Australians aged 25–64 years in non-remote areas reported having a non-school qualification (35%) than Indigenous Australians in remote areas (18%) (Table 2.06.39). In Major Cities, approximately the same proportion of Indigenous and non-Indigenous Australians had a certificate qualification (20%). In other remoteness categories, non-Indigenous Australians were more likely to have this qualification.

Table 2.06.38: Whether has a non-school qualification, by state/territory and Indigenous status, persons aged 25–64 years, 2006

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[(d)]	Total[(e)]	Total no. of persons[(e)]	Not stated[(f)]
NSW	Indigenous	%	7	5	20	34	66	100	46,944	14
	Non-Indigenous	%	24	10	22	58	42	100	3,046,285	5
	Rate ratio		0.3	0.5	0.9	0.6	1.6	. .	. .	2.6
Vic	Indigenous	%	9	7	20	38	62	100	10,482	14
	Non-Indigenous	%	25	10	19	55	45	100	2,362,297	5
	Rate ratio		0.4	0.7	1.0	0.7	1.4	. .	. .	2.7
Qld	Indigenous	%	6	5	19	31	69	100	44,017	13
	Non-Indigenous	%	19	9	23	52	48	100	1,823,942	5
	Rate ratio		0.3	0.6	0.8	0.6	1.4	. .	. .	2.8
WA	Indigenous	%	5	4	15	25	75	100	19,627	18
	Non-Indigenous	%	21	10	22	55	45	100	913,931	5
	Rate ratio		0.3	0.4	0.7	0.5	1.7	. .	. .	3.6
SA	Indigenous	%	6	5	18	30	70	100	8,754	15
	Non-Indigenous	%	19	9	22	51	49	100	720,956	5
	Rate ratio		0.3	0.6	0.8	0.6	1.4	. .	. .	3.2
Tas	Indigenous	%	6	5	23	35	65	100	6,160	8
	Non-Indigenous	%	17	8	22	49	51	100	220,658	5
	Rate ratio		0.4	0.6	1.0	0.7	1.3	. .	. .	1.6
ACT	Indigenous	%	22	8	18	50	50	100	1,516	7
	Non-Indigenous	%	41	11	16	68	32	100	164,713	3
	Rate ratio		0.6	0.8	1.1	0.7	1.6	. .	. .	2.2

(continued)

Table 2.06.38 (continued): Whether has a non-school qualification, by state/territory and Indigenous status, persons aged 25–64 years, 2006

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[(d)]	Total[(e)]	Total no. of persons[(e)]	Not stated[(f)]
NT	Indigenous	%	3	3	11	17	83	100	18,792	17
	Non-Indigenous	%	22	10	25	59	41	100	71,055	5
	Rate ratio		0.1	0.3	0.4	0.3	2.0	. .	. .	3.7
Aust.	**Indigenous**	**%**	**6**	**5**	**18**	**30**	**70**	**100**	**156,393**	**14**
	Non-Indigenous	**%**	**23**	**10**	**21**	**55**	**45**	**100**	**9,324,896**	**5**
	Rate ratio		**0.3**	**0.5**	**0.8**	**0.6**	**1.6**	**. .**	**. .**	**2.9**

(a) As classified to the ABS Classification of Qualifications.

(b) Includes bachelor degree, doctorate, masters, graduate diploma and graduate certificate.

(c) Includes inadequately described responses and cases where no response was given to the level of qualification.

(d) Includes persons with a qualification outside the scope of the Australia Standard Classification of Education.

(e) Excludes those who did not state whether they had a non-school qualification.

(f) Persons who did not state whether they had a non-school qualification as a proportion of total persons.

Source: **ABS and AIHW analysis of 2006 Census data.**

Table 2.06.39: Whether has a non-school qualification, by Indigenous status and remoteness area, persons aged 25–64 years, 2006

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(d)**	**Total(e)**	**Total no. of persons(e)**	**Not stated(f)**
Major Cities	Indig.	%	10	7	20	39	61	**100**	51,396	13
	Non-Indig.	%	26	10	20	58	42	**100**	6,502,768	5
	Rate ratio		0.4	0.7	1.0	0.7	1.5			2.6
Inner Regional	Indig.	%	6	5	21	34	66	**100**	32,354	14
	Non-Indig.	%	15	8	25	51	49	**100**	1,780,797	5
	Rate ratio		0.4	0.6	0.8	0.7	1.3			2.6
Outer Regional	Indig.	%	4	5	18	29	71	**100**	33,088	16
	Non-Indig.	%	13	8	24	47	53	**100**	849,820	5
	Rate ratio		0.3	0.6	0.7	0.6	1.3			3.1
Subtotal non-remote	*Indig.*	*%*	*7*	*6*	*20*	*35*	*65*	*100*	*116,838*	*14*
	Non-Indig.	*%*	*23*	*10*	*21*	*55*	*45*	*100*	*9,133,385*	*5*
	Rate ratio		*0.3*	*0.6*	*0.9*	*0.6*	*1.5*			*2.7*
Remote	Indig.	%	3	3	15	23	77	**100**	13,666	18
	Non-Indig.	%	13	7	24	46	54	**100**	125,494	5
	Rate ratio		0.2	0.5	0.6	0.5	1.4			3.6
Very Remote	Indig.	%	2	2	10	15	85	**100**	25,189	13
	Non-Indig.	%	15	8	25	49	51	**100**	43,662	5
	Rate ratio		0.1	0.3	0.4	0.3	1.7			2.6
Subtotal remote	*Indig.*	*%*	*2*	*3*	*12*	*18*	*82*	*100*	*38,855*	*17*
	Non-Indig.	*%*	*13*	*8*	*24*	*47*	*53*	*100*	*169,156*	*5*
	Rate ratio		*0.2*	*0.4*	*0.5*	*0.4*	*1.5*			*3.3*

(continued)

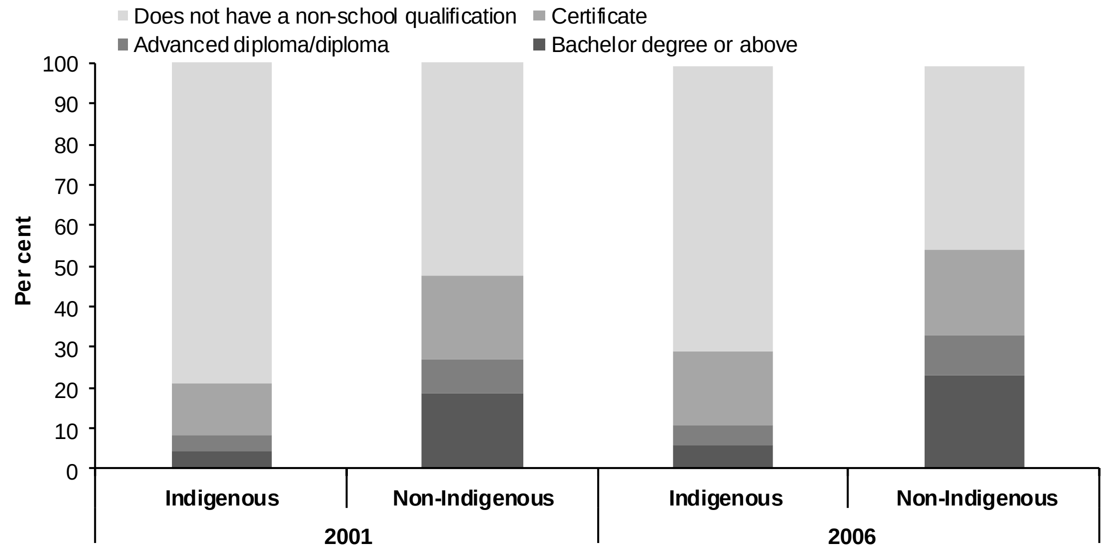
Table 2.06.39 (continued): Whether has a non-school qualification, by Indigenous status and remoteness area, persons aged 25–64 years, 2006

(a) As classified to the ABS Classification of Qualifications.
(b) Includes bachelor degree, doctorate, masters, graduate diploma, graduate certificate.
(c) Includes inadequately described responses and cases where no response was given to the level of qualification.
(d) Includes persons with a qualification outside the scope of the Australia Standard Classification of Education.
(e) Excludes those who did not state whether they had a non-school qualification.
(f) Persons who did not state whether they had a non-school qualification as a proportion of total persons.

Source: ABS and AIHW analysis of 2006 Census data.

Time series analyses

- A higher proportion of Indigenous Australians aged 25–64 years in 2006 reported that they had a non-school qualification (approximately 30%) than in 2001 (approximately 21%). Approximately 6% of Indigenous Australians had a bachelor degree or higher in 2006, compared with 5% in 2001. A higher proportion of non-Indigenous Australians also had a non-school qualification in 2006 (approximately 55%) than in 2001 (approximately 47%) (Table 2.06.40).



Source: ABS and AIHW analysis of 2001 and 2006 Census data.

Figure 2.06.5: Non-school qualifications, persons aged 25–64 years, by Indigenous status, 2001 and 2006

Table 2.06.40: Non-school qualifications, persons aged 25-64 years, by Indigenous status, 2001 and 2006, per cent

	2001		2006	
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Bachelor degree or above	5	19	6	23
Advanced diploma/diploma	4	8	5	10
Certificate	13	21	18	21
Does not have a non-school qualification	79	53	70	45

Note: Percentages in tables may not add to 100 due to rounding.

Source: ABS and AIHW anlaysis of 2001 and 2006 Census data.

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 2008 and 2006 are presented below.

- During the year 2008, there were approximately 9,660 course completions in the VET sector by Indigenous Australians aged 15 years and over. This constitutes 2.8% of the Indigenous population aged 15 years and over. In comparison, approximately 1.8% of the non-Indigenous population aged 15 years and over completed a course in the VET sector in 2008 (Table 2.06.41).
- 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 (0.5% each) or certificate III, (0.9% and 0.7% respectively) in 2008. A higher proportion of Indigenous Australians aged 15 years and over had completed a certificate I/II (1.4%) than other Australians (0.6%).

Educational attainment by age and sex

- In 2008, a higher proportion of Indigenous Australians 35 years and older, had completed a VET course than other Australians (Table 2.06.41).
- Overall, a higher proportion of Indigenous females had completed a course in the VET sector in 2008 than Indigenous males (1.6% compared with 1.2%).

Table 2.06.41: Educational attainment in the VET sector, by Indigenous status, sex and age group, 2008[(a)]

		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)]**
							Males						
Certificate IV, diploma or higher	No.	138	14,123	146	9,290	155	7,643	110	5,337	42	2,131	591	38,524
	%	0.1	0.5	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.0	0.2	0.2
Certificate III	No.	648	32,743	270	11,664	179	6,591	96	4,049	42	1,803	1,235	56,850
	%	0.6	1.1	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.0	0.4	0.3
Certificate I/Certificate II	No.	1,558	27,430	412	6,094	277	4,557	169	3,208	51	1,873	2,467	43,162
	%	1.4	0.9	0.6	0.2	0.4	0.1	0.3	0.1	0.1	0.0	0.7	0.3
Other certificates [(c)]	No.	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	0.0	0.0	0.0	0.0
Total completions	**No.**	**2,344**	**74,296**	**828**	**27,048**	**611**	**18,791**	**375**	**12,594**	**135**	**5,807**	**4,293**	**138,536**
	%	**2.2**	**2.6**	**1.1**	**0.9**	**0.9**	**0.6**	**0.8**	**0.4**	**0.3**	**0.1**	**1.2**	**0.8**
							Females						
Certificate IV, diploma or higher	No.	242	17,985	272	10,853	337	10,198	251	8,128	97	2,342	1,199	49,506
	%	0.2	0.6	0.4	0.4	0.5	0.3	0.5	0.3	0.2	0.0	0.3	0.3
Certificate III	No.	850	29,094	339	10,566	332	11,410	189	8,323	50	2,568	1,760	61,961
	%	0.8	1.0	0.5	0.4	0.5	0.4	0.4	0.3	0.1	0.0	0.5	0.4
Certificate I/Certificate II	No.	1,392	28,794	348	6,324	334	7,612	228	6,256	99	2,450	2,401	51,436
	%	1.3	1.0	0.5	0.2	0.5	0.2	0.5	0.2	0.2	0.0	0.7	0.3
Other certificates[(c)]	No.	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	0.0	0.0	0.0	0.0

(continued)

Table 2.06.41 (continued): Educational attainment in the VET sector, by Indigenous status, sex and age group, 2008[(a)]

		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)]
Total completions	**No.**	**2,484**	**75,873**	**959**	**27,743**	**1,003**	**29,220**	**668**	**22,707**	**246**	**7,360**	**5,360**	**162,903**
	%	**2.3**	**2.6**	**1.3**	**1.0**	**1.5**	**1.0**	**1.4**	**0.8**	**0.6**	**0.1**	**1.6**	**1.0**
							Persons						
Certificate IV, diploma or higher	No.	380	32,117	419	20,155	493	17,868	361	13,495	139	4,478	1,792	88,113
	%	0.4	1.1	0.4	0.7	0.7	0.6	0.7	0.5	0.3	0.1	0.5	0.5
Certificate III	No.	1,498	61,853	610	22,240	511	18,017	286	12,387	92	4,375	2,997	118,872
	%	1.4	2.1	0.6	0.8	0.8	0.6	0.6	0.4	0.2	0.1	0.9	0.7
Certificate I/Certificate II	No.	2,951	56,252	761	12,431	611	12,187	398	9,477	150	4,328	4,871	94,675
	%	2.7	1.9	0.7	0.4	0.9	0.4	0.8	0.3	0.3	0.1	1.4	0.6
Other certificates[(c)]	No.	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	0.0	0.0	0.0	0.0
Total completions	**No.**	**4,828**	**150,222**	**1,790**	**54,826**	**1,615**	**48,072**	**1,045**	**35,359**	**381**	**13,181**	**9,660**	**301,660**
	%	**4.5**	**5.2**	**1.7**	**1.9**	**2.4**	**1.6**	**2.2**	**1.2**	**0.9**	**0.3**	**2.8**	**1.8**

(a) The number of qualifications completed are based on preliminary data and will be revised upwards in the next collection.

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

(c) Includes statements of attainment and bridging courses.

Note: Percentages are calculated using the Indigenous and non-Indigenous estimated resident population for 2008.

Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2008.

Educational attainment by state/territory and remoteness

- In 2006, the proportion of Indigenous Australians aged 15 years and over who completed a VET course ranged from 2% in the Northern Territory to 8% in New South Wales (Table 2.06.42). The Australian Capital Territory had the highest proportion of Indigenous Australians who completed a certificate IV, diploma or higher in 2006 (2%).
- The proportion of Indigenous and other students who completed a VET course in 2006 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 non-Indigenous Australians.
- The proportion of Indigenous Australians aged 15 years and over who completed a course in the VET sector in 2006 was highest in Outer Regional areas (6%) and lowest in Major Cities and Very Remote areas of Australia (4%). Higher proportions of Indigenous Australians living in Major Cities and Inner and Outer Regional areas had completed a certificate III, certificate IV, diploma or higher than Indigenous Australians in Remote and Very Remote areas (Table 2.06.43).

Table 2.06.42: Educational attainment in the VET sector, by Indigenous status, sex and state/territory, 2006

	Indigenous										Other[(a)]									
	Certificate IV, diploma or higher		Certificate III		Certificate I/ Certificate II		Other certificates [(b)]		Total completions		Certificate IV, diploma or higher		Certificate III		Certificate I/ Certificate II		Other certificates [(b)]		Total completions	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
											Males									
NSW	187	0.4	309	0.7	553	1.2	2,298	5.1	3,347	7.5	12,605	0.5	15,353	0.6	11,250	0.4	44,475	1.7	83,683	3.2
Vic	35	0.4	61	0.6	146	1.5	2	0.0	244	2.5	9,610	0.5	14,743	0.7	10,302	0.5	1,397	0.1	36,052	1.8
Qld	100	0.2	190	0.5	309	0.7	1,446	3.5	2,045	4.9	4,318	0.3	6,739	0.4	6,299	0.4	19,754	1.3	37,110	2.4
WA	69	0.3	94	0.4	580	2.6	0	0.0	743	3.3	3,878	0.5	3,837	0.5	5,576	0.7	0	0.0	13,291	1.7
SA	26	0.3	81	0.9	78	0.9	1	0.0	186	2.1	1,372	0.2	2,333	0.4	2,022	0.3	273	0.0	6,000	1.0
Tas	20	0.3	36	0.6	52	0.9	2	0.0	110	1.9	1,052	0.6	1,496	0.8	1,406	0.8	297	0.2	4,251	2.3
ACT	13	0.9	5	0.4	39	2.8	4	0.3	61	4.4	1,108	0.8	697	0.5	499	0.4	1,233	0.9	3,537	2.7
NT	35	0.2	93	0.5	271	1.4	118	0.6	517	2.6	152	0.2	401	0.6	333	0.5	45	0.1	931	1.5
Australia	**485**	**0.3**	**869**	**0.6**	**2,028**	**1.3**	**3,871**	**2.5**	**7,253**	**4.7**	**34,095**	**0.4**	**45,599**	**0.6**	**37,687**	**0.5**	**67,474**	**0.8**	**184,855**	**2.3**
											Females									
NSW	300	0.6	463	1.0	585	1.3	2,225	4.8	3,573	7.6	16,208	0.6	17,604	0.6	15,635	0.6	45,884	1.7	95,331	3.5
Vic	72	0.7	82	0.8	124	1.2	7	0.1	285	2.8	13,533	0.6	15,530	0.7	8,943	0.4	1,968	0.1	39,974	1.9
Qld	216	0.5	369	0.8	288	0.6	678	1.5	1,551	3.4	5,578	0.3	8,120	0.5	5,614	0.4	11,838	0.7	31,150	2.0
WA	124	0.5	212	0.9	283	1.2	0	0.0	619	2.6	5,361	0.7	6,235	0.8	4,420	0.6	0	0.0	16,016	2.0
SA	74	0.8	124	1.3	117	1.2	0	0.0	315	3.4	1,813	0.3	2,303	0.4	1,651	0.3	31	0.0	5,798	0.9
Tas	38	0.6	70	1.2	49	0.8	0	0.0	157	2.6	1,575	0.8	2,028	1.0	1,252	0.6	4	0.0	4,859	2.5
ACT	30	2.1	24	1.7	55	3.9	5	0.4	114	8.1	1,716	1.3	1,095	0.8	748	0.5	1,319	1.0	4,878	3.6
NT	55	0.3	75	0.4	209	1.0	49	0.2	388	1.9	309	0.6	310	0.6	401	0.7	11	0.0	1,031	1.8
Australia	**909**	**0.6**	**1,419**	**0.9**	**1,710**	**1.0**	**2,964**	**1.8**	**7,002**	**4.3**	**46,093**	**0.6**	**53,225**	**0.6**	**38,664**	**0.5**	**61,055**	**0.7**	**199,037**	**2.4**

(continued)

Table 2.06.42 (continued): Educational attainment in the VET sector, by Indigenous status, sex and state/territory, persons aged 15 years and over, 2006

	Indigenous										Other(a)									
	Certificate IV, diploma or higher		Certificate III		Certificate I/ Certificate II		Other certificates(b)		Total completions		Certificate IV, diploma or higher		Certificate III		Certificate I/ Certificate II		Other certificates (b)		Total completions	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
											Persons									
NSW	487	0.5	772	0.8	1,142	1.2	4,523	4.9	6,924	7.6	28,822	0.5	32,968	0.6	26,906	0.5	90,359	1.7	179,055	3.3
Vic	107	0.5	143	0.7	270	1.3	9	0.0	529	2.6	23,147	0.6	30,292	0.7	19,248	0.5	3,368	0.1	76,055	1.8
Qld	316	0.4	559	0.6	597	0.7	2,124	2.4	3,596	4.1	9,897	0.3	14,860	0.5	11,918	0.4	31,601	1.0	68,276	2.2
WA	193	0.4	306	0.7	864	1.9	0	0.0	1,363	2.9	9,239	0.6	10,077	0.6	10,010	0.6	0	0.0	29,326	1.8
SA	100	0.6	205	1.1	198	1.1	1	0.0	504	2.8	3,193	0.3	4,668	0.4	3,694	0.3	306	0.0	11,861	0.9
Tas	58	0.5	106	0.9	101	0.9	2	0.0	267	2.3	2,634	0.7	3,534	0.9	2,660	0.7	305	0.1	9,133	2.4
ACT	44	1.6	30	1.1	95	3.4	9	0.3	178	6.4	2,856	1.1	1,799	0.7	1,255	0.5	2,552	0.9	8,462	3.1
NT	90	0.2	168	0.4	480	1.2	167	0.4	905	2.2	462	0.4	711	0.6	735	0.6	57	0.0	1,965	1.7
Australia	**1,395**	**0.4**	**2,289**	**0.7**	**3,747**	**1.2**	**6,835**	**2.1**	**14,266**	**4.5**	**80,250**	**0.5**	**98,909**	**0.6**	**76,426**	**0.5**	**128,548**	**0.8**	**384,133**	**2.4**

(a) Includes persons for whom Indigenous status was not stated.

(b) Includes statements of attainment.

Note: Percentages are calculated using the Indigenous and non-Indigenous estimated resident population for 2006.

Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2006.

Table 2.06.43: Educational attainment in the VET sector, by Indigenous status, sex and remoteness area, 2006

		Major Cities		Inner Regional		Outer Regional		Remote		Very Remote	
Qualification		**Indigenous**	**Other**	**Indigenous**	**Other**	**Indigenous**	**Other**	**Indigenous**	**Other**	**Indigenous**	**Other**
						Males					
Cert. IV, diploma or higher	Number	181	20,776	115	5,986	110	2,361	31	366	46	254
	Per cent	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.3	0.2	0.6
Certificate III	Number	273	25,294	174	10,551	233	5,860	64	891	99	383
	Per cent	0.6	0.5	0.5	0.6	0.6	0.7	0.5	0.7	0.4	0.9
Certificate I/Certificate II	Number	550	19,009	344	9,158	469	6,036	253	1,274	393	735
	Per cent	1.1	0.4	1.1	0.5	1.3	0.7	1.8	1.1	1.4	1.7
Other certificates[(a)]	Number	703	30,657	676	16,131	1,393	16,814	350	1,974	716	813
	Per cent	1.5	0.6	2.1	1.0	3.9	2.1	2.5	1.7	2.6	1.9
Total completions	**Number**	**1,707**	**95,736**	**1,309**	**41,826**	**2,205**	**31,071**	**698**	**4,505**	**1,254**	**2,185**
	Per cent	**3.6**	**1.8**	**4.0**	**2.5**	**6.1**	**3.8**	**5.0**	**3.8**	**4.5**	**5.1**
						Females					
Cert IV, diploma or higher	Number	301	27,236	188	9,072	234	4,093	72	507	102	269
	Per cent	0.6	0.5	0.6	0.5	0.6	0.5	0.5	0.5	0.4	0.8
Certificate III	Number	463	30,176	269	12,680	416	6,871	103	873	149	397
	Per cent	0.9	0.5	0.8	0.7	1.1	0.9	0.7	0.9	0.5	1.2
Certificate I/Certificate II	Number	502	21,296	302	9,160	424	5,790	188	872	277	415
	Per cent	1.0	0.4	0.9	0.5	1.1	0.7	1.3	0.9	1.0	1.3
Other certificates[(a)]	Number	587	32,137	536	13,411	1,157	12,588	365	1,647	288	547
	Per cent	1.1	0.6	1.7	0.8	3.1	1.6	2.5	1.6	1.0	1.7
Total completions	**Number**	**1,853**	**110,845**	**1,295**	**44,323**	**2,231**	**29,342**	**728**	**3,899**	**816**	**1,628**
	%	**3.6**	**2.0**	**4.0**	**2.6**	**5.9**	**3.8**	**4.9**	**3.8**	**2.8**	**5.1**

(continued)

Table 2.06.43 (continued): Educational attainment in the VET sector, by Indigenous status, sex and remoteness, persons aged 15 years and over, 2006

		Major Cities		Inner Regional		Outer Regional		Remote		Very Remote	
Qualification		**Indigenous**	**Other**	**Indigenous**	**Other**	**Indigenous**	**Other**	**Indigenous**	**Other**	**Indigenous**	**Other**
						Persons					
Certificate IV, diploma or higher	Number	482	48,050	304	15,076	344	6,456	103	873	148	523
	Per cent	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.3	0.7
Certificate III	Number	736	55,519	444	23,254	649	12,740	167	1,766	248	780
	Per cent	0.7	0.5	0.7	0.7	0.9	0.8	0.6	0.8	0.4	1.0
Certificate I/Certificate II	Number	1,055	40,356	647	18,332	895	11,833	441	2,148	673	1,150
	Per cent	1.1	0.4	1.0	0.5	1.2	0.7	1.5	1.0	1.2	1.5
Other certificates[(a)]	Number	1,290	62,800	1,212	29,546	2,550	29,410	715	3,621	1,004	1,361
	Per cent	1.3	0.6	1.9	0.9	3.5	1.9	2.5	1.6	1.8	1.8
Total completions	**Number**	**3,563**	**206,725**	**2,607**	**86,208**	**4,438**	**60,439**	**1,426**	**8,408**	**2,073**	**3,814**
	Per cent	**3.6**	**1.9**	**4.0**	**2.5**	**6.0**	**3.8**	**4.9**	**3.8**	**3.7**	**5.1**

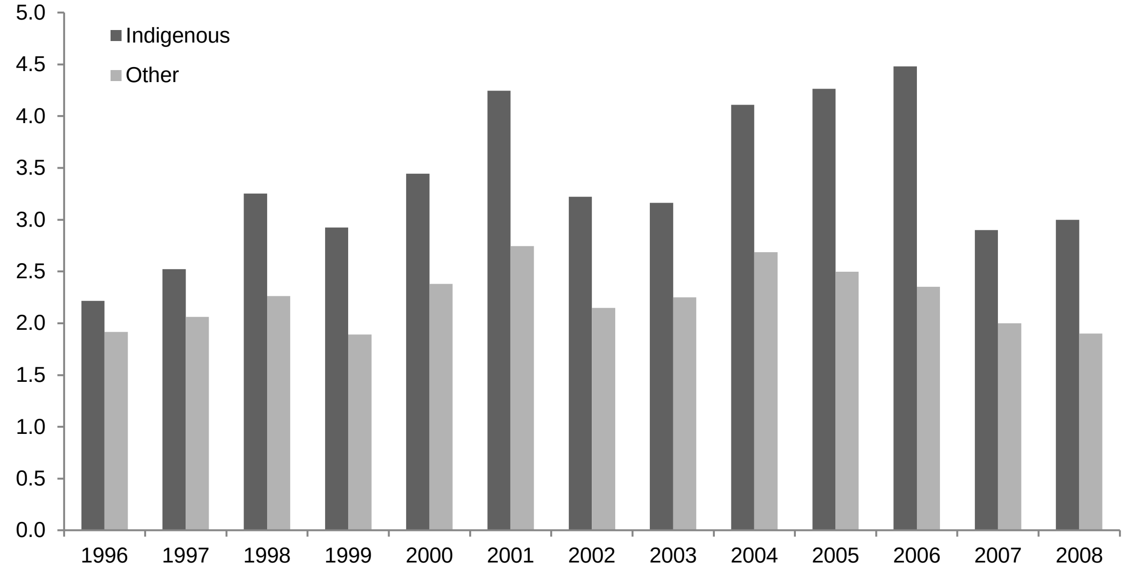
(a) Includes statements of attainment.

Note: Percentages are calculated using the 2006 Indigenous and non-Indigenous estimated resident populations by ASGC remoteness category.

Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2006.

Time series analyses

- Between 1996 and 2008, there was a non-statistically significant increase in the proportion of Indigenous students who had completed a course in the VET sector. Over the same period there was no change in the proportion of other students who had completed a course in the VET sector (Figure 2.06.6).



Notes

1. Percentages are calculated using the Indigenous and non-Indigenous estimated resident populations for 2006.
2. Includes statements of attainment.

Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2008.

Figure 2.06.6: Total completions in the VET sector, by Indigenous status, persons aged 15 years and over, 1996–2008

Table 2.06.44: Total completions in the VET sector, by Indigenous status, persons aged 15 years and over, 1996–2006

	Indigenous		Other	
	Number	**Per cent**	**Number**	**Per cent**
1996	5,515	2.2	271,087	1.9
1997	6,414	2.5	295,694	2.1
1998	8,460	3.3	328,235	2.3
1999	7,790	2.9	278,040	1.9
2000	9,399	3.4	354,931	2.4
2001	11,877	4.2	415,643	2.7
2002	9,241	3.2	330,198	2.1
2003	9,311	3.2	351,315	2.3
2004	12,413	4.1	425,409	2.7
2005	13,213	4.3	401,372	2.5
2006	14,266	4.5	384,133	2.4
2007	9,402	2.9	326,988	2.0
2008	9,824	3.0	304,435	1.9

Notes

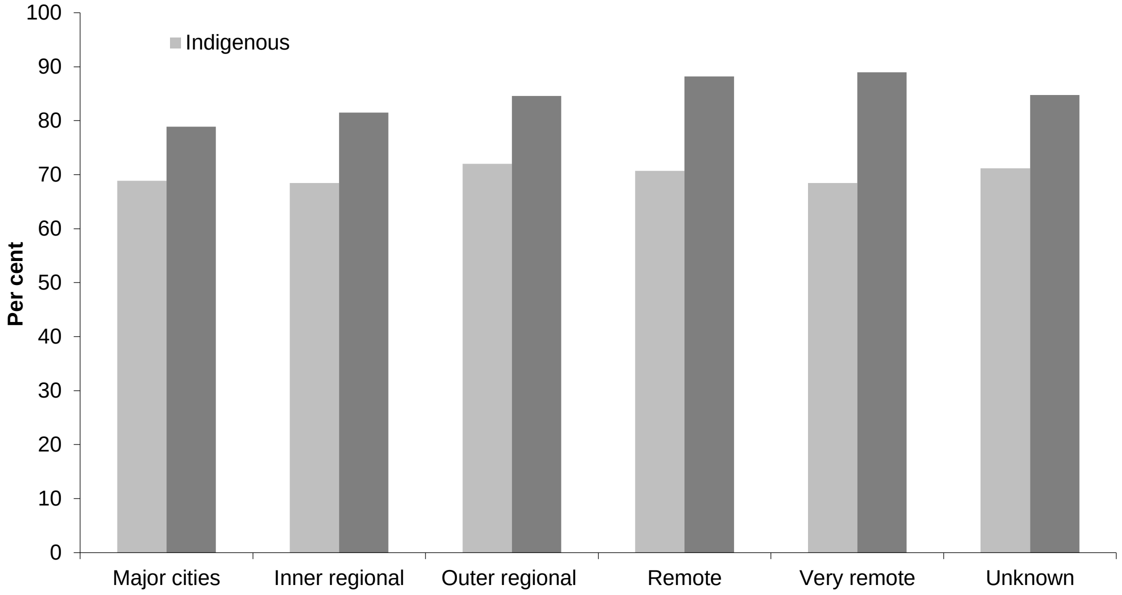
1. Percentages are calculated using the Indigenous and non-Indigenous estimated resident populations for 2006.
2. Includes statements of attainment.

Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2008.

VET 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 2008, the VET load pass rate for Indigenous students was 70% compared with 80% for non-Indigenous students. The rate was lower for Indigenous students than for non-Indigenous students across all geographical regions (Figure 2.06.7).



Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2008.

Figure 2.06.7: VET load pass rate, by remoteness, 2008

Table 2.06.45: VET load pass rate, by remoteness, 2008

	Indigenous	Non-Indigenous	Other[(a)]
		Per cent	
Major cities	68.9	78.9	78.7
Inner regional	68.5	81.5	81.6
Outer regional	72.0	84.6	84.5
Remote	70.7	88.2	88.1
Very remote	68.5	89.0	87.5
Unknown	71.2	84.8	84.2
Total[(b)]	**69.7**	**80.4**	**80.3**

(a) Includes non-Indigenous and not stated Indigenous status combined.

(b) The total does not include the load pass rate for students located outside Australia.

Note: Load pass rate equals the 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

Source: AIHW analysis of National Centre for Vocational Education Research, National VET Provider Collection 2008.

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, Science and Training (DEST). Data collected for the years 2006 and 2008 are presented in the following tables.

- During the year 2008, 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% of Indigenous Australians completed a postgraduate degree. This compared with 0.6% for both undergraduate and postgraduate degrees for other Australians.

Educational attainment by age and sex

- Indigenous Australians aged 22–24 years were more likely to complete a higher education course in 2008 (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 2006 than those in other age groups (8%) (Table 2.06.46).
- In 2008, 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 2.06.46: Completions in the higher education sector, by Indigenous status, sex and age group, 2008[(a)]

	22–24				25–34				35–44				45–54				55+				Total[(a)]			
	Indigenous		Other[(b)]		Indigenous		Other[(b)]		Indigenous		Other[(b)]		Indigenous		Other[(b)]		Indigenous		Other[(b)]		Indigenous		Other[(b)]	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
												Males												
Doctorate or higher	0	0.0	48	0.0	n.p.	0.0	1,642	0.1	n.p.	0.0	778	0.1	n.p.	0.0	447	0.0	n.p.	0.0	214	0.0	7	0.0	3,129	0.0
Master's degree	n.p.	0.0	7,984	1.7	n.p.	0.0	14,015	1.0	n.p.	0.1	4,993	0.3	n.p.	0.1	1,905	0.1	n.p.	0.0	479	0.0	47	0.0	29,376	0.4
Postgrad. diploma or certificate[(c)]	n.p.	0.1	2,433	0.5	24	0.1	5,422	0.4	21	0.1	3,355	0.2	23	0.1	1,604	0.1	4	0.0	435	0.0	80	0.1	13,249	0.2
Subtotal postgraduate	*10*	*0.1*	*10,465*	*2.3*	*38*	*0.1*	*21,079*	*1.4*	*41*	*0.1*	*9,126*	*0.6*	*38*	*0.2*	*3,956*	*0.3*	*7*	*0.0*	*1128*	*0.0*	*134*	*0.1*	*45,754*	*0.6*
Bachelor's degree	82	0.6	23,166	5.0	84	0.2	12,161	0.8	32	0.1	2,613	0.2	24	0.1	931	0.1	5	0.0	283	0.0	227	0.2	39,154	0.5
Other undergraduate[(d)]	6	0.0	1112	0.2	19	0.1	823	0.1	8	0.0	264	0.0	5	0.0	97	0.0	0	0.0	41	0.0	38	0.0	2,337	0.0
Subtotal undergraduate	*88*	*0.6*	*24,278*	*5.3*	*103*	*0.3*	*12,984*	*0.9*	*40*	*0.1*	*2,877*	*0.2*	*29*	*0.1*	*1,028*	*0.1*	*5*	*0.0*	*324*	*0.0*	*265*	*0.2*	*41,491*	*0.6*
All graduates[(e)]	**98**	**0.7**	**34,743**	**7.5**	**141**	**0.4**	**34,063**	**2.3**	**81**	**0.2**	**12,003**	**0.8**	**67**	**0.3**	**4,984**	**0.3**	**12**	**0.1**	**1,452**	**0.1**	**399**	**0.3**	**87,245**	**1.2**
												Females												
Doctorate or higher	0	0.0	53	0.0	n.p.	0.0	1,481	0.1	5	0.0	664	0.0	6	0.0	497	0.0	n.p.	0.0	240	0.0	14	0.0	2,935	0.0
Master's degree	9	0.1	8,161	1.8	n.p.	0.1	12,724	0.9	26	0.1	4,193	0.3	24	0.1	2,213	0.2	n.p.	0.0	589	0.0	96	0.1	27,880	0.4
Postgrad. diploma or certificate[(c)]	21	0.2	4,337	1.0	49	0.1	7,957	0.6	43	0.1	4,412	0.3	24	0.1	2,718	0.2	n.p.	0.0	607	0.0	146	0.1	20,031	0.3
Subtotal postgraduate	*30*	*0.2*	*12,551*	*2.8*	*79*	*0.2*	*22,162*	*1.5*	*74*	*0.2*	*9,269*	*0.6*	*54*	*0.2*	*5,428*	*0.4*	*19*	*0.1*	*1,436*	*0.1*	*256*	*0.2*	*50,846*	*0.7*
Bachelor's degree	109	0.8	27,052	6.1	119	0.3	14,008	1.0	117	0.3	5,172	0.3	67	0.3	2,567	0.2	n.p.	0.1	568	0.0	435	0.3	49,367	0.6
Other undergraduate[(d)]	5	0.0	757	0.2	25	0.1	544	0.0	31	0.1	215	0.0	16	0.1	142	0.0	n.p.	0.0	67	0.0	80	0.1	1,725	0.0
Subtotal undergraduate	*114*	*0.8*	*27,809*	*6.3*	*144*	*0.4*	*14,552*	*1.0*	*148*	*0.4*	*5,387*	*0.4*	*83*	*0.3*	*2,709*	*0.2*	*26*	*0.1*	*635*	*0.0*	*515*	*0.4*	*51,092*	*0.7*
All graduates[(e)]	**144**	**1.0**	**40,360**	**9.1**	**223**	**0.6**	**36,714**	**2.5**	**222**	**0.6**	**14,656**	**1.0**	**137**	**0.5**	**8,137**	**0.6**	**45**	**0.2**	**2,071**	**0.1**	**771**	**0.6**	**101,938**	**1.3**

(continued)

Table 2.06.46 (continued): Completions in the higher education sector, by Indigenous status, sex and age group, 2006

	22–24				25–34				35–44				45–54				55+				Total[(a)]			
	Indigenous		Other[(b)]		Indigenous		Other[(b)]		Indigenous		Other[(b)]		Indigenous		Other[(b)]		Indigenous		Other[(b)]		Indigenous		Other[(b)]	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
													Persons											
Doctorate or higher	0	0.0	101	0.0	5	0.0	3,123	0.1	7	0.0	1,442	0.0	8	0.0	944	0.0	n.p.	0.0	454	0.0	21	0.0	6,064	0.0
Master's degree	11	0.0	16,145	1.8	39	0.1	26,739	0.9	44	0.1	9,186	0.3	37	0.1	4,118	0.1	n.p.	0.0	1068	0.0	143	0.1	57,256	0.4
Postgrad. diploma or certificate[(c)]	29	0.1	6,770	0.7	73	0.1	13,379	0.5	64	0.1	7,767	0.3	47	0.1	4,322	0.1	13	0.0	1042	0.0	226	0.1	33,280	0.2
Subtotal postgraduate	*40*	*0.1*	*23,016*	*2.5*	*117*	*0.2*	*43,241*	*1.5*	*115*	*0.2*	*18,395*	*0.6*	*92*	*0.2*	*9,384*	*0.3*	*26*	*0.1*	*2,564*	*0.0*	*390*	*0.1*	*96,600*	*0.6*
Bachelor's degree	191	0.7	50,218	5.6	203	0.3	26,169	0.9	149	0.2	7,785	0.3	91	0.2	3,498	0.1	n.p.	0.1	851	0.0	662	0.3	88,521	0.6
Other undergraduate[(d)]	11	0.0	1,869	0.2	44	0.1	1367	0.0	39	0.1	479	0.0	21	0.0	239	0.0	n.p.	0.0	108	0.0	118	0.0	4,062	0.0
Subtotal undergraduate	*202*	*0.7*	*52,087*	*5.8*	*247*	*0.3*	*27,536*	*0.9*	*188*	*0.3*	*8,264*	*0.3*	*112*	*0.2*	*3,737*	*0.1*	*31*	*0.1*	*959*	*0.0*	*780*	*0.3*	*92,583*	*0.6*
All graduates[(e)]	**242**	**0.9**	**75,103**	**8.3**	**364**	**0.5**	**70,777**	**2.4**	**303**	**0.4**	**26,659**	**0.9**	**204**	**0.4**	**13,121**	**0.5**	**57**	**0.1**	**3,523**	**0.1**	**1170**	**0.4**	**189,183**	**1.3**

(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) Includes Indigenous status not stated.

(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.

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 DEST Higher Education Statistics Collection data.

Educational attainment by state/territory

- The proportion of Indigenous persons who completed a course in the higher education sector ranged from 0.2% in the Northern Territory to 1.7% in the Australian Capital Territory (Table 2.06.47). The Australian Capital Territory also had the highest proportion of Indigenous persons who completed a postgraduate degree or undergraduate degree in 2008.
- A lower proportion of Indigenous persons completed a higher education course than other Australians in all states and territories.

Table 2.06.47: Completions in the higher education sector[a] by Indigenous status, sex and state/territory, 2008[a]

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Australia	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	%
Indigenous																		
									Males									
Doctorate or higher	n.p.	0.0	n.p	0.0	n.p.	0.0	0	0.0	n.p.	0.0	0	0.0	0	0.0	0	0.0	7	0.0
Master Degree	n.p.	0.0	11	0.1	9	0.0	5	0.0	n.p.	0.0	0	0.0	n.p.	0.2	n.p.	0.0	48	0.0
Postgrad. Dip. or certificate[b]	41	0.1	7	0.1	14	0.0	0	0.0	9	0.1	n.p.	0.0	n.p.	0.3	n.p.	0.0	81	0.1
Subtotal postgraduate	*60*	*0.2*	*19*	*0.2*	*24*	*0.1*	*5*	*0.0*	*14*	*0.2*	*n.p.*	*0.0*	*5*	*0.5*	*n.p.*	*0.0*	*136*	*0.1*
Bachelor's degree	98	0.3	39	0.5	62	0.2	29	0.2	18	0.3	8	0.2	8	0.7	8	0.0	274	0.2
Other undergraduate[c]	19	0.1	n.p.	0.0	n.p.	0.0	9	0.0	7	0.1	n.p.	0.0	0	0.0	n.p.	0.0	45	0.0
Subtotal undergraduate	*117*	*0.3*	*40*	*0.5*	*63*	*0.2*	*38*	*0.2*	*25*	*0.4*	*10*	*0.2*	*8*	*0.7*	*11*	*0.1*	*319*	*0.3*
All graduates	**177**	**0.5**	**59**	**0.7**	**87**	**0.2**	**43**	**0.2**	**39**	**0.6**	**11**	**0.2**	**13**	**1.2**	**14**	**0.1**	**455**	**0.4**
									Female									
Doctorate or higher	5	0.0	4	0.0	n.p.	0.0	n.p.	0.0	0	0.0	n.p.	0.0	0	0.0	0	0.0	14	0.0
Master Degree	46	0.1	14	0.2	16	0.0	n.p.	0.0	8	0.1	4	0.1	n.p.	0.3	n.p.	0.0	99	0.1
Postgrad. Dip. or certificate[b]	66	0.2	14	0.2	26	0.1	11	0.1	8	0.1	5	0.1	5	0.4	n.p.	0.0	150	0.1
Subtotal postgraduate	*117*	*0.3*	*32*	*0.4*	*43*	*0.1*	*18*	*0.1*	*16*	*0.2*	*11*	*0.2*	*8*	*0.7*	*8*	*0.0*	*263*	*0.2*
Bachelor's degree	196	0.5	60	0.7	119	0.3	80	0.4	32	0.4	23	0.5	16	1.4	37	0.2	586	0.4
Other undergraduate[c]	26	0.1	0	0.0	n.p.	0.0	32	0.2	6	0.1	n.p.	0.0	n.p.	0.1	9	0.0	93	0.1
Subtotal undergraduate	*222*	*0.6*	*60*	*0.7*	*121*	*0.3*	*112*	*0.6*	*38*	*0.5*	*24*	*0.5*	*17*	*1.5*	*46*	*0.3*	*679*	*0.5*
All graduates	**339**	**0.9**	**92**	**1.0**	**164**	**0.4**	**130**	**0.7**	**54**	**0.7**	**35**	**0.7**	**25**	**2.2**	**54**	**0.3**	**942**	**0.7**

(continued)

Table 2.06.47 (continued): Completions in the higher education sector, by Indigenous status, sex and state/territory, 2008

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Australia	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Persons																		
Doctorate or higher	8	0.0	n.p.	0.0	n.p.	0.0	n.p.	0.0	n.p.	0.0	n.p.	0.0	0	0.0	0	0.0	21	0.0
Master Degree	62	0.1	25	0.1	25	0.0	n.p.	0.0	n.p.	0.1	4	0.0	n.p.	0.2	n.p.	0.0	147	0.1
Postgrad. Dip. or certificate[(b)]	107	0.1	21	0.1	40	0.1	11	0.0	17	0.1	6	0.1	8	0.4	n.p.	0.0	231	0.1
Subtotal postgraduate	*177*	*0.2*	*51*	*0.3*	*67*	*0.1*	*23*	*0.1*	*30*	*0.2*	*12*	*0.1*	*13*	*0.6*	*11*	*0.0*	*399*	*0.2*
Bachelor degree	294	0.4	99	0.6	181	0.2	109	0.3	50	0.3	31	0.3	24	1.1	45	0.1	860	0.3
Other undergraduate[(c)]	45	0.1	n.p.	0.0	n.p.	0.0	41	0.1	13	0.1	n.p.	0.0	n.p.	0.0	12	0.0	138	0.1
Subtotal undergraduate	*339*	*0.4*	*100*	*0.6*	*184*	*0.3*	*150*	*0.4*	*63*	*0.4*	*34*	*0.4*	*25*	*1.1*	*57*	*0.2*	*998*	*0.4*
All graduates	**516**	**0.7**	**151**	**0.9**	**251**	**0.3**	**173**	**0.5**	**93**	**0.7**	**46**	**0.5**	**38**	**1.7**	**68**	**0.2**	**1,397**	**0.5**
Other[(e)]																		
Males																		
Doctorate or higher	981	0.0	798	0.0	504	0.0	278	0.0	279	0.0	50	0.0	197	0.2	11	0.0	3,129	0.0
Master Degree	10,347	0.4	7,779	0.4	5,693	0.4	2,144	0.3	2,335	0.4	280	0.2	968	0.8	79	0.1	29,955	0.4
Postgrad. Dip. or certificate[(b)]	4,017	0.2	3,511	0.2	2,804	0.2	1,300	0.2	981	0.2	155	0.1	474	0.4	58	0.1	13,681	0.2
Subtotal postgraduate	*15,345*	*0.6*	*12,088*	*0.7*	*9,001*	*0.6*	*3,722*	*0.5*	*3,595*	*0.6*	*485*	*0.3*	*1,639*	*1.4*	*148*	*0.3*	*46,765*	*0.6*
Bachelor degree	17,588	0.7	18,258	1.0	10,081	0.7	6,562	0.9	4,453	0.8	1,196	0.7	1,539	1.3	154	0.3	60,583	0.8
Other undergraduate[(c)]	2,327	0.1	1,624	0.1	857	0.1	859	0.1	348	0.1	104	0.1	39	0.0	1	0.0	6,306	0.1
Subtotal undergraduate	*19,915*	*0.8*	*19,882*	*1.1*	*10,938*	*0.8*	*7,421*	*1.0*	*4,801*	*0.9*	*1,300*	*0.8*	*1,578*	*1.3*	*155*	*0.3*	*66,889*	*0.9*
All graduates	**35,260**	**1.5**	**31,970**	**1.7**	**19,939**	**1.4**	**11,143**	**1.5**	**8,396**	**1.5**	**1,785**	**1.1**	**3,217**	**2.7**	**303**	**0.5**	**113,654**	**1.5**

(continued)

Table 2.06.47 (continued): Completions in the higher education sector, by Indigenous status, sex and state/territory, 2008

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Australia	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	%
									Female									
Doctorate or higher	921	0.0	795	0.0	466	0.0	251	0.0	272	0.0	57	0.0	146	0.1	14	0.0	2,936	0.0
Master Degree	11,328	0.5	7,065	0.4	5,089	0.3	1,795	0.2	1,815	0.3	248	0.1	857	0.7	63	0.1	28,652	0.4
Postgrad. Dip. or certificate[(b)]	5,769	0.2	5,622	0.3	3,730	0.3	2,101	0.3	1,712	0.3	371	0.2	711	0.6	157	0.3	21,011	0.3
Subtotal postgraduate	*18,018*	*0.7*	*13,482*	*0.7*	*9,285*	*0.6*	*4,147*	*0.6*	*3,799*	*0.6*	*676*	*0.4*	*1,714*	*1.4*	*234*	*0.5*	*52,599*	*0.7*
Bachelor degree	24,233	1.0	24,588	1.3	14,307	1.0	9,271	1.2	6,815	1.2	1,531	0.9	2,110	1.7	459	0.9	85,091	1.1
Other undergraduate[(c)]	2,146	0.1	1,595	0.1	911	0.1	792	0.1	371	0.1	27	0.0	35	0.0	4	0.0	6,061	0.1
Subtotal undergraduate	*26,379*	*1.0*	*26,183*	*1.4*	*15,218*	*1.0*	*10,063*	*1.4*	*7,186*	*1.2*	*1,558*	*0.9*	*2,145*	*1.7*	*463*	*0.9*	*91,152*	*1.2*
All graduates	44,397	1.8	39,665	2.0	24,503	1.7	14,210	1.9	10,985	1.9	2,234	1.3	3,859	3.1	697	1.4	143,751	1.9
									Persons									
Doctorate or higher	1,902	0.0	1,593	0.0	970	0.0	529	0.0	551	0.0	107	0.0	343	0.1	25	0.0	6,065	0.0
Master Degree	21,675	0.4	14,844	0.4	10,782	0.4	3,939	0.3	4,150	0.4	528	0.2	1,825	0.8	142	0.1	58,607	0.4
Postgrad. Dip. or certificate[(b)]	9,786	0.2	9,133	0.2	6,534	0.2	3,401	0.2	2,693	0.2	526	0.2	1,185	0.5	215	0.2	34,692	0.2
Subtotal postgraduate	*33,363*	*0.7*	*25,570*	*0.7*	*18,286*	*0.6*	*7,869*	*0.5*	*7,394*	*0.6*	*1,161*	*0.3*	*3,353*	*1.4*	*382*	*0.3*	*99,364*	*0.7*
Bachelor degree	41,821	0.9	42,846	1.1	24,388	0.8	15,833	1.1	11,268	1.0	2,727	0.8	3,649	1.5	613	0.6	145,674	1.0
Other undergraduate[(c)]	4,473	0.1	3,219	0.1	1,768	0.1	1,651	0.1	719	0.1	131	0.0	74	0.0	5	0.0	12,367	0.1
Subtotal undergraduate	*46,294*	*0.9*	*46,065*	*1.2*	*26,156*	*0.9*	*17,484*	*1.2*	*11,987*	*1.0*	*2,858*	*0.8*	*3,723*	*1.5*	*618*	*0.6*	*158,041*	*1.1*
All graduates	79,657	1.6	71,635	1.9	44,442	1.5	25,353	1.7	19,381	1.7	4,019	1.2	7,076	2.9	1,000	0.9	257,405	1.7

Table 2.06.47 (continued): Completions in the higher education sector, by Indigenous status, sex and state/territory, 2008

(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) Includes postgrad. qual/prelim., grad.(post) dip.—new area, grad.(post) dip.—ext. area, and graduate certificate.

(c) Includes associate degree, advanced diploma (AQF), diploma (AQF) and other undergraduate award courses.

(d) Includes enabling courses and non-award courses.

(e) Includes Indigenous status not stated.

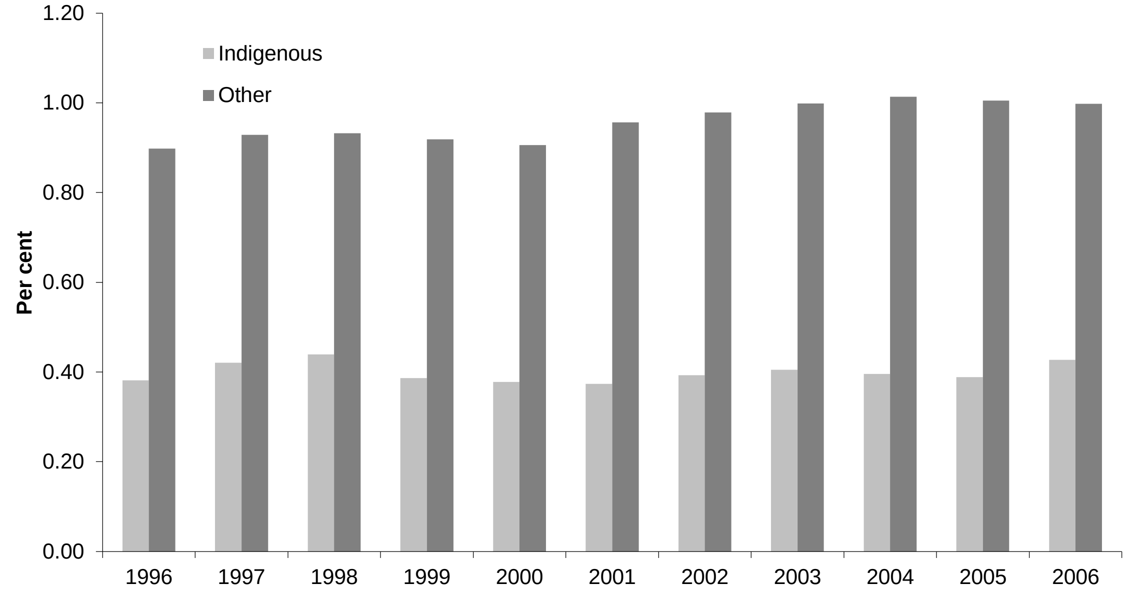
Notes

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 DEST Higher Education Statistics Collection.

Time series analyses

- Between 1996 and 2006, there was little change in the proportion of domestic Indigenous or other students who completed a higher education award course (Table 2.06.48, Figure 2.06.8).



Source: AIHW analysis of DEST Higher Education Statistics Collection.

Figure 2.06.8: Higher education award course completions for domestic students, by Indigenous status, 1996–2006

Table 2.06.48: Higher education award course completions for domestic students, by Indigenous status, 1996–2006 (per cent)

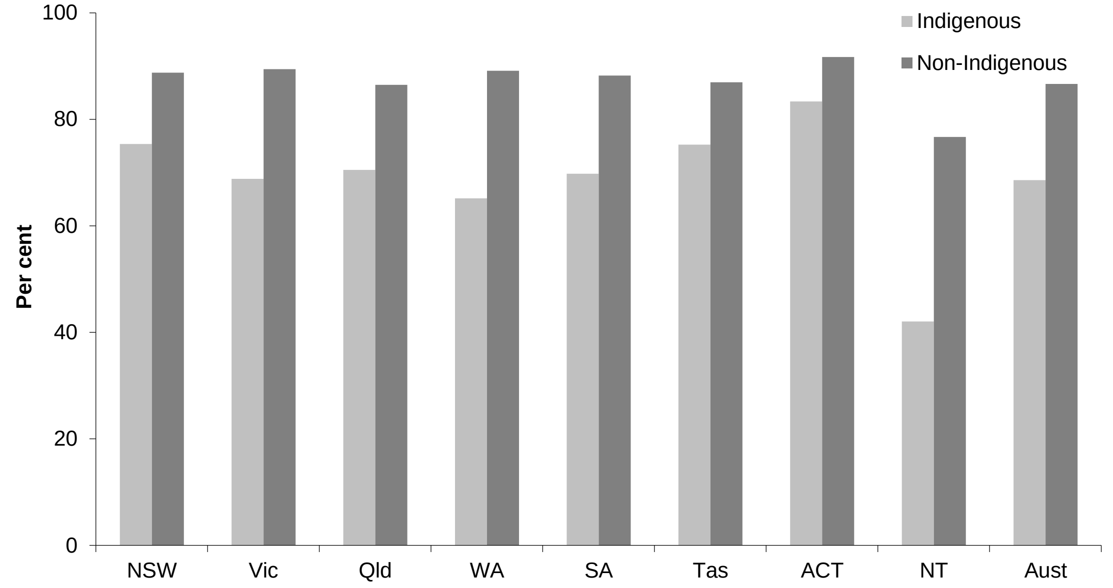
Year	Indigenous	Other
1996	0.38	0.90
1997	0.42	0.93
1998	0.44	0.93
1999	0.39	0.92
2000	0.38	0.91
2001	0.37	0.96
2002	0.39	0.98
2003	0.40	1.00
2004	0.40	1.01
2005	0.39	1.01
2006	0.43	1.00

Source: AIHW analysis of DEST 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 2006, the success rate for Indigenous students varied by state and territory, ranging from 42% 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 92%), except for the Northern Territory (77%) (Table 2.06.49), (Figure 2.06.9).



Source: AIHW analysis of DEST Higher Education Statistics Collection.

Figure 2.06.9: Higher education success rates, by Indigenous status and state/territory, 2006

Table 2.06.49: Higher education success rates, by Indigenous status and state/territory, 2006

	Indigenous	Other
NSW	75.4	88.8
Vic	68.9	89.5
Qld	70.5	86.5
WA	65.2	89.1
SA	69.8	88.2
Tas	75.3	87.0
ACT	83.4	91.7
NT	42.1	76.7
Australia	**68.6**	**88.5**

Source: AIHW analysis of DEST Higher Education Statistics Collection.

Additional information

New apprenticeships

DEST (2006) reported an increase in the participation rates of Indigenous Australians in new apprenticeships in 2004.

- Indigenous people represented 3.3% (8,570) of all new apprenticeship commencements in 2004, an increase from 2.9% (7,970) in 2003.
- Overall, the Indigenous participation rate in new apprenticeships increased from 2.2% (8,500) in 2003 to 2.5% (9,470) in 2004.
- In 2004, the majority (63%) of Indigenous Australians participating in new apprenticeships were male.
- Indigenous students represented 2.4% of new apprenticeships completions, which is in line with their overall participation rate of 2.5%.

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 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).

For the 2002 National Aboriginal and Torres Strait Islander Social Survey (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 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.

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 2010).

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

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.

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).

DEST Higher Education Schools Statistics Collection

The Higher Education Schools Statistics Collection only includes information from higher education institutions in Australia as determined under the Higher Education Funding Act 1988. This includes:

- institutions that receive block operating grant funding for teaching and research activities

- other public higher education institutions that receive some level of operating grant funding
- the Australian Film, Television and Radio School, the National Institute of Dramatic Art and the Australian Defence Force Academy.

Private institutions are not required to report statistical data to DEST and are therefore outside the scope of the collection (ABS 2003). The collection of data from private higher education institutions is being trialled (ABS 2004b).

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 for institutions to use to collect the required information from students. DEST has provided institutions with suggested wording for questions relating to Indigenous status, language spoken at home and disability (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 separately record the 'not stated' responses.

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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2.07 Employment status including CDEP participation

The employment status of Aboriginal and Torres Strait Islander peoples aged 15–64 years

Data sources

Data for this measure come from the 2006 Census of Population and Housing, 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 Australian Bureau of Statistics Labour Force Survey.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

The labour force categories and terminologies for the 2004–05 NATSIHS 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 2004–05 NATSIHS rather than the Census.

The 2004–05 NATSIHS 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.

National Aboriginal and Torres Strait Islander Social Survey

The ABS conducted the 2002 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 population 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 2013.

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 ABS Census of Population and Housing is conducted at 5-yearly intervals, with 2006 being the most recent, and it 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 under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

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, 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, including persons who:
  - are retired
  - no longer work
  - do not intend to work in the future
  - are permanently unable to work
  - have never worked and never intend to work.
- **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 2004–05 NATSIHS and 2008 NATSISS and are discussed at the end of the indicator.

ABS Labour Force Survey

The ABS runs the Labour Force Survey (LFS) 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 2009. 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, NATSIHS and Census data

The NATSISS, NATSIHS 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 and NATSIHS. 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. The 2008 NATSISS estimated that 54% of Indigenous persons aged 15–64 years were employed, 11% were unemployed and 36% were not in the labour force. Results from the 2006 Census showed that 48% of Indigenous persons aged 15–64 years were employed, 9% were unemployed and 43% were not in the labour force.

This measure presents data included in the 2008 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 (48% in non-CDEP and 6% in CDEP) 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	5.3	. .	6.9	. .	7.0	. .	4.8	. .	2.2(a)	. .	5.6	. .
Employed non-CDEP	40.2	. .	50.9	. .	56.8	. .	56.8	. .	36.4	. .	48.2	. .
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**

*Differences between Indigenous and non-Indigenous rates are statistically significant for these categories.

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

Note: Non-Indigenous data are from the 2007–08 NHS.

Sources: 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
	%	%		%	%		%	%	
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*	*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**	**. .**

Difference between rates for Indigenous and non-Indigenous persons are NOT statistically significant for these categories.

Sources: 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, Queensland, Victoria, Western Australia and South Australia the proportion of Indigenous Australians unemployed was significantly 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; Figure 2.07.1).
- 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*	0.5*	4.1*	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**

* 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(a)	**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	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*	*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#	3.83#	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(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**	**100.0**	**100.0**	**100.0**

Difference between rates for Indigenous and non-Indigenous persons is NOT statistically significant for this category.

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

Sources: 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)

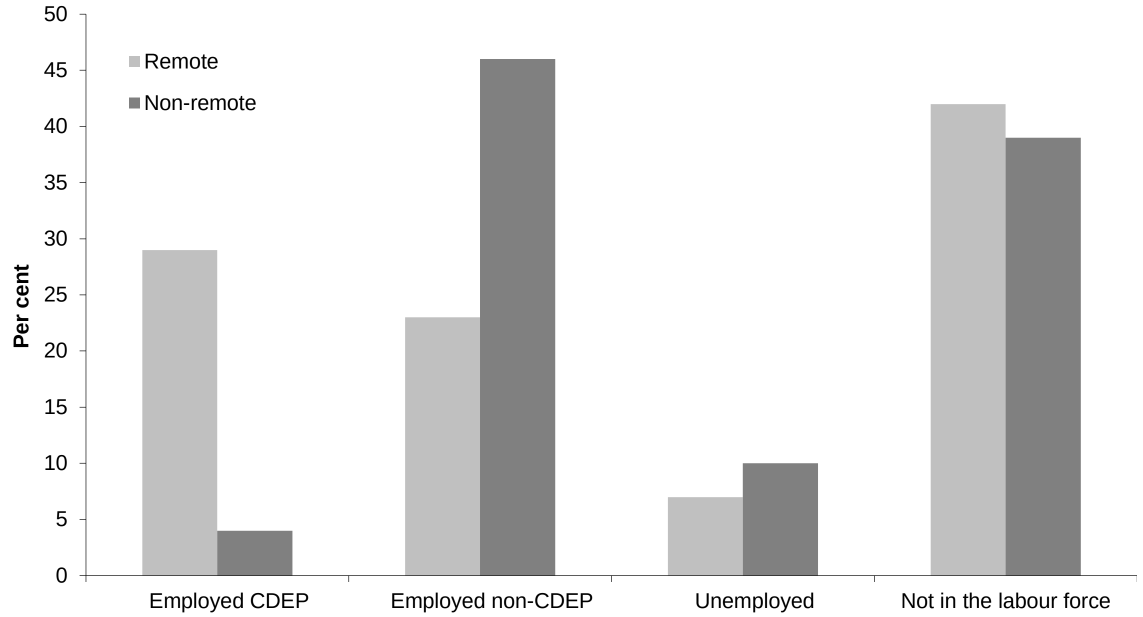
Table 2.07.7 (continued): Labour force status of persons aged 15–64 years, by Indigenous status and remoteness, 2008

			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 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 2004–05 NATSIHS and 2004–05 NHS.

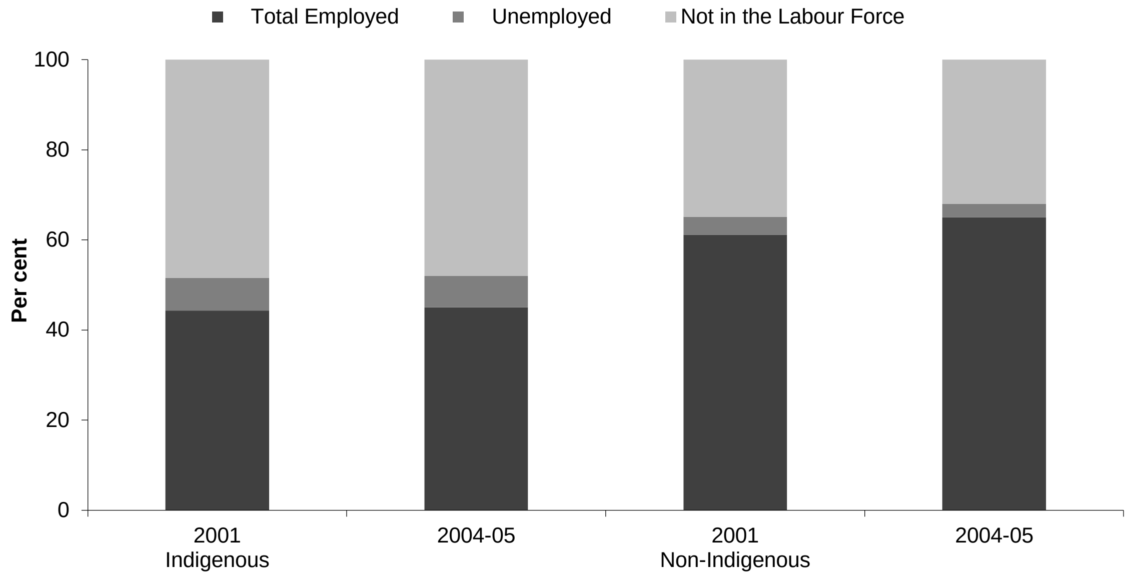


Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Figure 2.07.1: Labour force status, by remoteness, Indigenous persons aged 15–64 years, 2008

Time series analyses

Various data sources suggest different trends in employment status. Data from the NATSIHS and National Health Surveys presented in Figure 2.07.2 and Table 2.07.8 suggest that there has been little change in the labour force status of Indigenous and non-Indigenous Australians between 2001 and 2004–05. However, data from the 1994 NATSIS and 2002 NATSISS indicate that, nationally, the labour force participation rate for Indigenous Australians aged 15–64 years increased from 57% in 1994 to 64% in 2002 and the unemployment rate fell from 30% to 20% in the same period (SCRGSP 2009).



Sources: ABS and AIHW analysis of 2001 NHS (Indigenous supplement); 2004–05 NATSIHS and 2004–05 NHS.

Figure 2.07.2: Labour force status of persons aged 15–64 years, by Indigenous status, 2001 and 2004-05

Table 2.07.8: Labour force status of persons aged 15–64 years, by Indigenous status, 2001 and 2004–05

	Indigenous		Non-Indigenous	
	2001	**2004–05**	**2001**	**2004–05**
Total Employed	44.3	45.0	61.2	65.0
Unemployed	7.2	7.0	4.0	3.0
Not in the Labour Force	48.5	48.0	34.9	32.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Sources: ABS and AIHW analysis of 2001 NHS (Indigenous supplement); 2004–05 NATSIHS and 2004–05 NHS.

Employment status by summary health characteristics

The 2004–05 NATSIHS and the 2008 NATSISS collected information on the labour force status and selected health characteristics of Indigenous Australians. Results are shown in tables 2.07.9a, 2.07.9b, 2.07.10a and 2.07.10b.

- 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 2.07.9a).
- 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 2.07.9b).
- In 2004–05, approximately 65% of Indigenous Australians aged 15–64 years with reported excellent/very good/good health were in the labour force (55% employed) compared with 43% of Indigenous Australians with reported fair/poor health (35% employed) (Table 2.07.10a). Approximately 13% of Indigenous Australians with no long-term health conditions were unemployed compared with 7.0% of Indigenous Australians with three or more long-term conditions.
- Indigenous Australians with no long-term health conditions were three times as likely as non-Indigenous Australians with no long-term health conditions to be unemployed. Indigenous Australians with three or more long-term health conditions were twice as likely as non-Indigenous Australians with three or more long-term health conditions to be unemployed (Table 2.07.10b).

Table 2.07.9a: 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**
			Per cent		
In the labour force					
Employed CDEP	6.3	6.0	6.2	3.8	3.8
Employed non-CDEP	53.5	54.8	48.5	40.5	20.1
Total employed	*59.7*	*60.8*	*54.7*	*44.3*	*23.9*
Unemployed	11.5	10.6	10.5	10.8	10.4
Not in the labour force	28.8	28.6	34.8	44.8	65.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number	**52,343**	**87,141**	**107,047**	**44,735**	**19,857**

Source: AIHW analyses of 2008 NATSISS.

Table 2.07.9b: 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	Total
	Per cent					
In the labour force						
Employed CDEP	18.8	29.6	37.7	9.7	4.3	100.0
Employed non-CDEP	18.7	31.9	34.7	12.1	2.7	100.0
Total employed	18.7	31.6	35.0	11.8	2.8	100.0
Unemployed	18.0	27.8	33.6	14.5	6.2	100.0
Not in the labour force	13.7	22.6	33.8	18.2	11.8	100.0
Total	**16.8**	**28.0**	**34.4**	**14.4**	**6.4**	**100.0**

Source: AIHW analyses of 2008 NATSISS.

Table 2.07.10a: Labour force status of Indigenous persons aged 15–64 years, by summary health characteristics, 2004–05[(a)]

	Self-assessed health status		Number of long-term conditions				
	Excellent/very good/good	Fair/poor	0	1	2	3+	Total[(b)]
	Per cent						
In the labour force	65	43	60	65	65	56	60
Employed CDEP	12	7	16	12	9	8	11
Employed non-CDEP	43	28	31	43	47	40	40
Total employed	*55*	*35*	*47*	*55*	*56*	*49*	*51*
Unemployed	10	8	13	10	9	7	9
Not in the labour force	35	57	40	35	35	44	40
Total[(c)]	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**222,665**	**58,668**	**66,107**	**53741**	**49,337**	**112,219**	**281,404**

(a) Proportions are calculated of those in each category of self-assessed health status and number of long-term conditions, the proportion in each labour force status category.

(b) Includes self-assessed health status not stated and number of long-term conditions not stated.

(c) Includes labour force status not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 2.07.10b: Labour force status of persons aged 15–64 years, by summary health characteristics and Indigenous status, 2004–05

	Self-assessed health status						Number of long-term health conditions														
	Excellent/very good/good			Fair/Poor			0			1			2			3+			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
	%	%		%	%		%	%		%	%		%	%		%	%		%	%	
In the labour force	64	81	0.8*	45	61	0.7*	61	79	0.8*	64	82	0.8*	62	82	0.8*	56	76	0.7*	58	78	0.7*
Employed CDEP	12	. .	. .	7	. .	. .	17	. .	. .	12	. .	. .	9	. .	. .	8	. .	. .	11	. .	. .
Employed non-CDEP	45	. .	. .	29	. .	. .	35	. .	. .	44	. .	. .	46	. .	. .	40	. .	. .	40	. .	. .
Total employed	*57*	*78*	*0.7**	*36*	*56*	*0.6**	*52*	*76*	*0.7**	*56*	*79*	*0.78*	*55*	*79*	*0.7**	*48*	*72*	*0.7**	*51*	*75*	*0.7**
Unemployed	7	3	2.2*	9	5	1.8*	9	3	2.7*	8	3	2.4*	7	3	2.5*	8	4	1.9*	8	3	2.3*
Not in the labour force	36	19	1.9*	55	39	1.4*	39	21	1.9*	36	18	2.1*	38	18	2.1*	44	24	1.8*	42	22	1.9*
Total[(a)]	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Includes labour force status not stated.

Note: Data are age standardised

Sources: ABS & AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey & 2004–05 National Health Survey.

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 to 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 2.07.11).

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 to 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 2.07.12).
- 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 2.07.13).
- 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 2.07.14).

Table 2.07.11: 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 2.07.12: 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 2.07.13: 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 2.07.14: 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

- In 2006, Indigenous Australians aged 15–64 years were less likely than non-Indigenous Australians to be employed (48% compared with 72%), particularly in full-time work (26% of Indigenous Australians employed full time compared with 46% of non-Indigenous Australians) (Table 2.07.15).
- A much higher proportion of Indigenous Australians were not in the labour force (43%) compared with non-Indigenous Australians (25%) (Table 2.07.15).

Employment status by age and sex

- Indigenous Australians aged 35–44 and 45–54 years were more likely to be employed (55% and 56% respectively) than those in the younger and older age groups (Table 2.07.15). Indigenous Australians aged 15–24 were most likely to be unemployed (11%).
- In 2006, Indigenous Australians had a 54% labour force participation rate, compared with 75% for non-Indigenous Australians (Table 2.07.16; Figure 2.07.3).
- Indigenous Australians had an employment to population ratio of 0.5, compared with the non-Indigenous ratio of 0.7 (Table 2.07.17; Figure 2.07.4).
- A higher proportion of Indigenous males than Indigenous females reported they were employed (53% compared with 43%) (Table 2.07.18). Indigenous males were also more likely than Indigenous females to be unemployed (10% compared with 7.9%).

Table 2.07.15: Persons aged 15–64 years: labour force status, by Indigenous status and age, 2006

	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											
Employed												
Employed, worked full-time	14,038	721,919	16,801	1,368,405	16,875	1,429,557	12,719	1,400,982	4,261	708,193	64,694	5,629,056
Employed, worked part-time	14,218	641,896	10,359	414,020	10,416	589,654	6,798	523,203	2,750	349,029	44,541	2,517,802
Employed, away from work[(a)]	3,711	108,469	3,067	123,119	2,761	124,325	1,922	115,414	842	76,810	12,303	548,137
Total employed	*31,967*	*1,472,284*	*30,227*	*1,905,544*	*30,052*	*2,143,536*	*21,439*	*2,039,599*	*7,853*	*1,134,032*	*121,538*	*8,694,995*
Unemployed												
Unemployed, looking for full-time work	6,475	85,035	4,086	66,697	3,297	58,208	1,652	50,181	456	29,012	15,966	289,133
Unemployed, looking for part-time work	2,736	76,188	1,580	30,956	1,375	33,823	652	23,888	233	17,241	6,576	182,096
Total unemployed	*9,211*	*161,223*	*5,666*	*97,653*	*4,672*	*92,031*	*2,304*	*74,069*	*689*	*46,253*	*22,542*	*471,229*
Not in the labour force	39,953	795,814	23,034	422,149	19,865	461,434	14,392	442,778	12,142	846,835	109,386	2,969,010
Labour force status not stated	4,885	29,354	3,386	27,156	3,175	29,610	2,380	26,082	1,515	29,350	15,341	141,552
Total	**86,016**	**2,458,675**	**62,313**	**2,452,502**	**57,764**	**2,726,611**	**40,515**	**2,582,528**	**22,199**	**2,056,470**	**268,807**	**12,276,786**

(continued)

Table 2.07.15 (continued): Persons aged 15–64 years: labour force status, by Indigenous status and age, 2006

	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.**
							Per cent[(b)]					
Employed												
Employed, worked full-time	17.3	29.7	28.5	56.4	30.9	53.0	33.3	54.8	20.6	34.9	25.5	46.4
Employed, worked part-time	17.5	26.4	17.6	17.1	19.1	21.9	17.8	20.5	13.3	17.2	17.6	20.7
Employed, away from work(a)	4.6	4.5	5.2	5.1	5.1	4.6	5.0	4.5	4.1	3.8	4.9	4.5
Total employed	*39.4*	*60.6*	*51.3*	*78.6*	*55.1*	*79.5*	*56.2*	*79.8*	*38.0*	*55.9*	*48.0*	*71.7*
Unemployed												
Unemployed, looking for full-time work	8.0	3.5	6.9	2.7	6.0	2.2	4.3	2.0	2.2	1.4	6.3	2.4
Unemployed, looking for part-time work	3.4	3.1	2.7	1.3	2.5	1.3	1.7	0.9	1.1	0.9	2.6	1.5
Total unemployed	*11.4*	*6.6*	*9.6*	*4.0*	*8.6*	*3.4*	*6.0*	*2.9*	*3.3*	*2.3*	*8.9*	*3.9*
Not in the labour force	49.2	32.8	39.1	17.4	36.4	17.1	37.7	17.3	58.7	41.8	43.2	24.5
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) Includes persons who stated they worked but who did not state the number of hours worked.

(b) Because of the large proportion of Indigenous respondents for whom labour force status was not stated, all proportions are calculated without including ‘not stated’ in total.

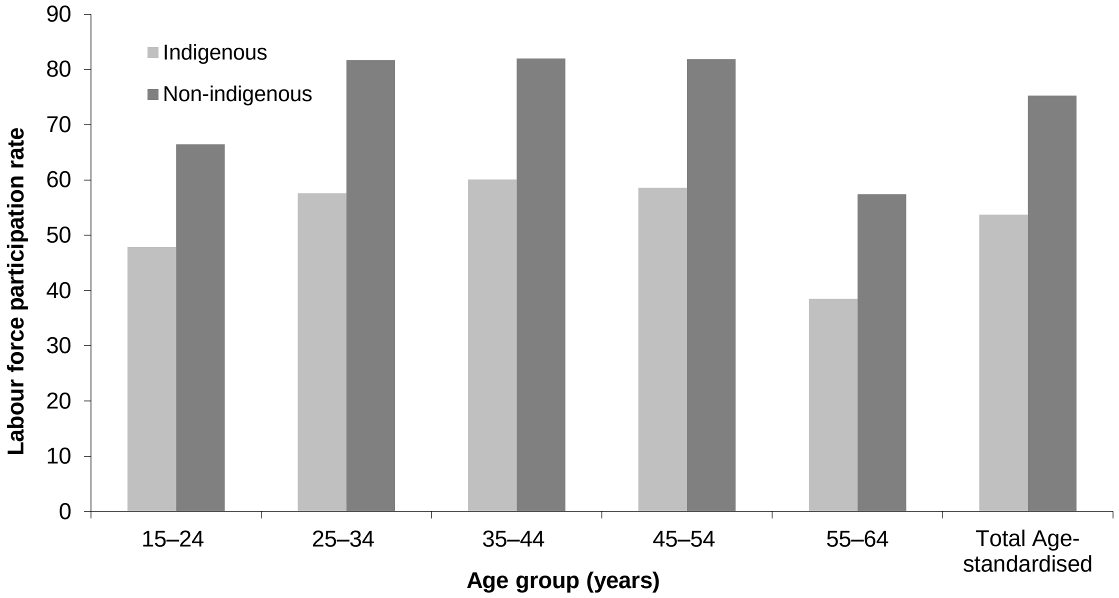
Source: ABS and AIHW analysis of 2006 Census data.

Table 2.07.16: 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.



Note: Total directly age-standardised using the Australian 2001 standard population.

Source: ABS and AIHW analysis of 2006 Census data.

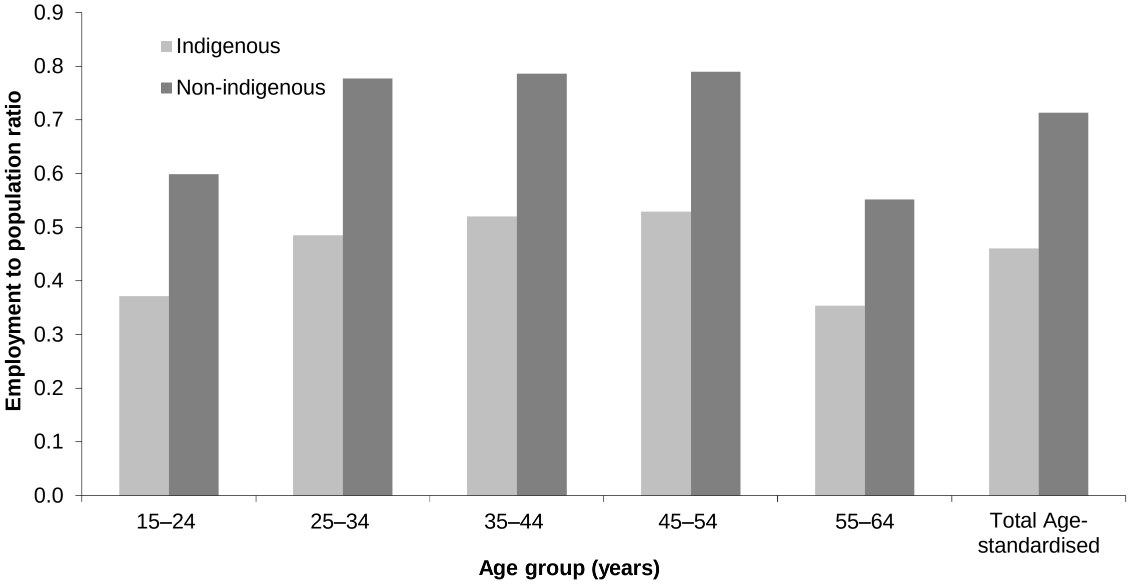
Figure 2.07.3: Age-specific labour force participation rates, by Indigenous status, 2006

Table 2.07.17: 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.



Note: Total directly age-standardised using the Australian 2001 standard population.

Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.07.4: Age-specific employment to population ratios, by Indigenous status, 2006

Table 2.07.18: Labour force status[(a)] of persons aged 15–64 years, by Indigenous status and sex, 2006

	Males			Females			Persons		
	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio
	%	%		%	%		%	%	
Employed									
Employed, worked full-time	32.4	60.5	0.5	19.1	32.6	0.6	25.5	46.4	0.5
Employed, worked part-time	15.0	12.6	1.2	20.0	28.7	0.7	17.6	20.7	0.9
Employed, away from work[(b)]	5.6	4.8	1.2	4.2	4.3	1.0	4.9	4.5	1.1
Total employed	*53.0*	*77.8*	*0.7*	*43.2*	*65.6*	*0.7*	*48.0*	*71.7*	*0.7*
Unemployed									
Unemployed, looking for full-time work	7.9	3.1	2.5	4.8	1.7	2.8	6.3	2.4	2.6
Unemployed, looking for part-time work	2.0	1.1	1.8	3.1	1.9	1.6	2.6	1.5	1.7
Total unemployed	*10.0*	*4.2*	*2.4*	*7.9*	*3.6*	*2.2*	*8.9*	*3.9*	*2.3*
Not in the labour force	37.0	18.0	2.1	48.9	30.8	1.6	43.2	24.5	1.8
Total	**100.0**	**100.0**	. .	**100.0**	**100.0**	. .	**100.0**	**100.0**	. .

(a) Because of the large proportion of Indigenous respondents for whom labour force status was not stated, all proportions are calculated without including 'not stated' in total.

(b) Includes persons who stated they worked but who did not state the number of hours worked.

Source: ABS and AIHW analysis of 2006 Census data.

Employment status by state/territory and remoteness

- The proportion of Indigenous Australians who were unemployed ranged from 11% in New South Wales to 7% in the Northern Territory (Table 2.07.19). The proportion of Indigenous Australians not in the labour force ranged from 28% in the Australian Capital Territory to 55% in the Northern Territory.
- In every state and territory, a higher proportion of Indigenous Australians than non-Indigenous Australians were unemployed, and were not in the labour force (Table 2.07.19).
- The difference between Indigenous and non-Indigenous total employment varied by remoteness. The largest difference between Indigenous and non-Indigenous total employment was observed in *Very remote* areas (47% and 83% respectively). The largest amount of unemployment among Indigenous Australians however was in *Inner regional* areas (10%) (Table 2.07.20).
- Indigenous Australians in non-remote areas were more likely than those in remote areas to be employed full-time and more likely to be unemployed (Table 2.07.21; Figure 2.07.5).

Table 2.07.19: Labour force status of persons aged 15–64 years, by Indigenous status and state/territory, 2006

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT	
	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								
Employed																
Employed, worked full-time	19,634	1,814,135	5,091	1,406,228	20,684	1,134,235	7,320	573,598	3,236	413,792	3,043	117,002	1,018	115,093	4,633	54,266
Employed, worked part-time	12,059	788,717	2,564	648,126	13,399	495,486	6,233	257,289	2,505	206,632	1,887	62,556	366	44,812	5,509	13,992
Employed, away from work[(a)]	3,241	173,530	794	137,297	3,689	104,382	1,919	61,412	743	42,082	429	13,308	114	10,761	1,370	5,286
Total employed	*34,934*	*2,776,382*	*8,449*	*2,191,651*	*37,772*	*1,734,103*	*15,472*	*892,299*	*6,484*	*662,506*	*5,359*	*192,866*	*1,498*	*170,666*	*11,512*	*73,544*
Unemployed																
Unemployed, looking for full-time work	5,953	107,087	1,119	76,972	3,954	50,311	1,882	19,095	928	22,690	605	8,632	135	3,019	1,386	1,291
Unemployed, looking for part-time work	2,437	63,831	475	48,935	1,786	33,257	708	14,199	314	13,587	250	4,673	53	2,873	550	714
Total unemployed	*8,390*	*170,918*	*1,594*	*125,907*	*5,740*	*83,568*	*2,590*	*33,294*	*1,242*	*36,277*	*855*	*13,305*	*188*	*5,892*	*1,936*	*2,005*
Not in the labour force	33,412	1,013,711	6,818	766,165	27,015	550,470	14,774	269,832	6,810	235,572	3,670	78,918	669	39,831	16,129	14,203
Labour force status not stated	3,685	49,605	946	36,802	3,603	27,650	2,267	12,818	822	9,043	239	3,165	52	1,274	3,728	1,184
Total	**80,421**	**4,010,616**	**17,807**	**3,120,525**	**74,130**	**2,395,791**	**35,103**	**1,208,243**	**15,358**	**943,398**	**10,123**	**288,254**	**2,407**	**217,663**	**33,305**	**90,936**

(continued)

Table 2.07.19 (continued): Labour force status of persons aged 15–64 years, by Indigenous status and state/territory, 2006

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT	
	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(b)								
Employed																
Employed, worked full-time	25.6	45.8	30.2	45.6	29.3	47.9	22.3	48.0	22.3	44.3	30.8	41.0	43.2	53.2	15.7	60.5
Employed, worked part-time	15.7	19.9	15.2	21.0	19.0	20.9	19.0	21.5	17.2	22.1	19.1	21.9	15.5	20.7	18.6	15.6
Employed, away from work(a)	4.2	4.4	4.7	4.5	5.2	4.4	5.8	5.1	5.1	4.5	4.3	4.7	4.9	5.0	4.6	5.9
Total employed	*45.5*	*70.1*	*50.1*	*71.1*	*53.6*	*73.2*	*47.1*	*74.6*	*44.6*	*70.9*	*54.2*	*67.7*	*63.6*	*78.9*	*38.9*	*81.9*
Unemployed																
Unemployed, looking for full-time work	7.8	2.7	6.6	2.5	5.6	2.1	5.7	1.6	6.4	2.4	6.1	3.0	5.7	1.4	4.7	1.4
Unemployed, looking for part-time work	3.2	1.6	2.8	1.6	2.5	1.4	2.2	1.2	2.2	1.5	2.5	1.6	2.2	1.3	1.9	0.8
Total unemployed	*10.9*	*4.3*	*9.5*	*4.1*	*8.1*	*3.5*	*7.9*	*2.8*	*8.5*	*3.9*	*8.7*	*4.7*	*8.0*	*2.7*	*6.5*	*2.2*
Not in the labour force	43.5	25.6	40.4	24.8	38.3	23.2	45.0	22.6	46.9	25.2	37.1	27.7	28.4	18.4	54.5	15.8
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**

(a) Includes persons who stated they worked but who did not state the number of hours worked.

(b) Because of the large proportion of Indigenous respondents for whom labour force status was not stated, all proportions are calculated without including ‘not stated’ in total.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.07.20: Labour force status of persons aged 15–64 years, by Indigenous status and remoteness, 2006

	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
					Number					
Employed										
Employed, worked full-time	26,616	4,016,276	13,646	984,065	13,216	500,521	4,926	85,310	6,059	33,428
Employed, worked part-time	12,970	1,757,281	8,931	506,119	8,574	215,640	3,716	27,634	10,262	7,719
Employed, away from work[(a)]	3,979	377,815	2,308	104,370	2,690	53,008	1,274	8,300	1,976	3,225
Total employed	*43,565*	*6,151,372*	*24,885*	*1,594,554*	*24,480*	*769,169*	*9,916*	*121,244*	*18,297*	*44,372*
Unemployed										
Unemployed, looking for full-time work	5,457	195,403	4,025	61,430	3,721	26,593	1,134	2,701	1,501	734
Unemployed, looking for part-time work	2,245	130,705	1,613	35,468	1,525	13,547	551	1,295	614	342
Total unemployed	*7,702*	*326,108*	*5,638*	*96,898*	*5,246*	*40,140*	*1,685*	*3,996*	*2,115*	*1,076*
Not in the labour force	32,781	2,040,528	23,627	614,240	24,096	265,035	10,096	29,712	18,299	7,760
Labour force status not stated	3,964	98,653	2,375	25,635	3,326	13,642	2,022	2,010	3,489	838
Total	**88,012**	**8,616,661**	**56,525**	**2,331,327**	**57,148**	**1,087,986**	**23,719**	**156,962**	**42,200**	**54,046**

(continued)

Table 2.07.20 (continued): Labour force status of persons aged 15–64 years, by Indigenous status and remoteness, 2006

	Major cities		Inner regional		Outer regional		Remote		Very remote	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
	Per cent[(b)]									
Employed										
Employed, worked full-time	31.7	47.2	25.2	42.7	24.6	46.6	22.7	55.1	15.7	62.8
Employed, worked part-time	15.4	20.6	16.5	22.0	15.9	20.1	17.1	17.8	26.5	14.5
Employed, away from work[(a)]	4.7	4.4	4.3	4.5	5.0	4.9	5.9	5.4	5.1	6.1
Total employed	*51.8*	*72.2*	*46.0*	*69.2*	*45.5*	*71.6*	*45.7*	*78.2*	*47.3*	*83.4*
Unemployed										
Unemployed, looking for full-time work	6.5	2.3	7.4	2.7	6.9	2.5	5.2	1.7	3.9	1.4
Unemployed, looking for part-time work	2.7	1.5	3.0	1.5	2.8	1.3	2.5	0.8	1.6	0.6
Total unemployed	*9.2*	*3.8*	*10.4*	*4.2*	*9.7*	*3.7*	*7.8*	*2.6*	*5.5*	*2.0*
Not in the labour force	39.0	24.0	43.6	26.6	44.8	24.7	46.5	19.2	47.3	14.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Includes persons who stated they worked but who did not state the number of hours worked.

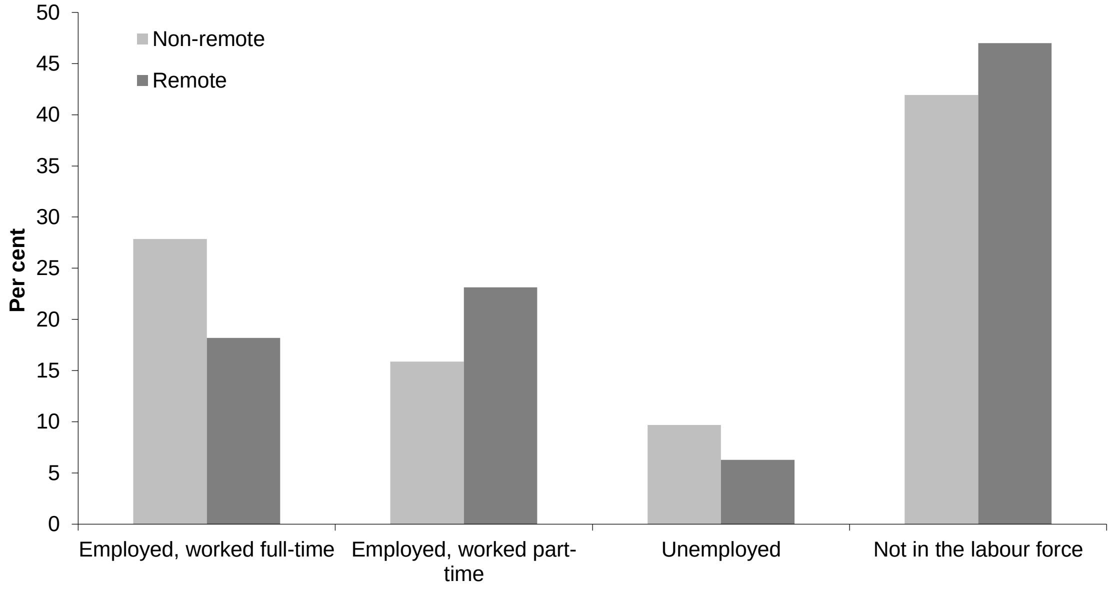
(b) Because of the large proportion of Indigenous respondents for whom labour force status was not stated, all proportions are calculated without including ‘not stated’ in total.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.07.21: Labour force status, by remoteness, Indigenous persons aged 15-64 years, 2006

	Non-remote (per cent)	Remote (per cent)
Employed, worked full-time	27.9	18.2
Employed, worked part-time	15.9	23.1
Unemployed	9.7	6.3
Not in the labour force	41.9	47.0

Source: ABS and AIHW analysis of 2006 Census data.



Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.07.5: Labour force status, by remoteness, Indigenous persons aged 15–64 years, 2006

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 2.07.22).
- 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 2.07.22).
- 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 2.07.22).

Table 2.07.22: 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)]	*109233*	*8146857*	*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)]	*116674*	*8590759*	*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.

Time series analyses

Various data sources suggest different trends in employment status.

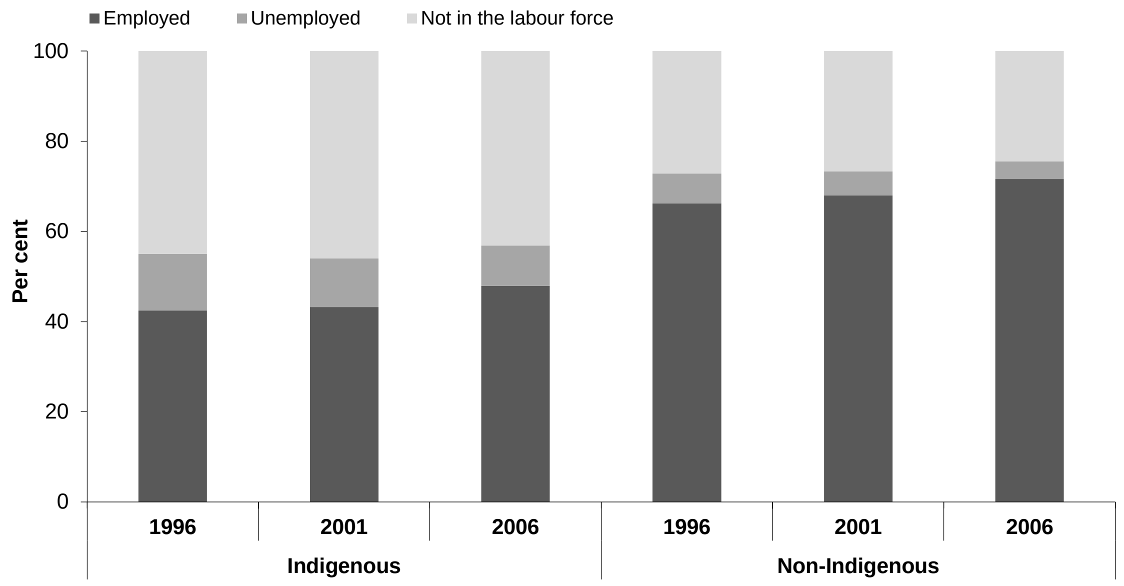
- Census data from 1996, 2001 and 2006 presented in Table 2.07.23 and Figure 2.07.6 suggest that there have been only slight changes in the labour force status of Indigenous Australians aged 15–64 years between 1996 and 2006. Over this period the employment rate for Indigenous Australians increased from 43% to 48% and the unemployment rate fell slightly from 13% to 8.9%.
- Data from the ABS Labour Force Survey over period 2002–2009 indicates that after a steady decrease in unemployment from 11% in 2002 to 8.3% in 2008, unemployment increaseed to 11% again in 2009. Minor changes in employment occurred over the same period and those not in the labour force increased from 39% in 2002 to 42% in 2009 (Table 2.07.24; Figure 2.07.7).

Table 2.07.23: Labour force status of persons aged 15–64 years, by Indigenous status, 1996, 2001 and 2006

	Indigenous			Non-Indigenous		
	1996	2001	2006	1996	2001	2006
	Per cent					
Employed	42.5	43.2	47.9	66.2	68.0	71.7
Unemployed	12.5	10.8	8.9	6.6	5.3	3.8
Not in the labour force	45.0	45.9	43.2	27.2	26.7	24.5
Total[(a)]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

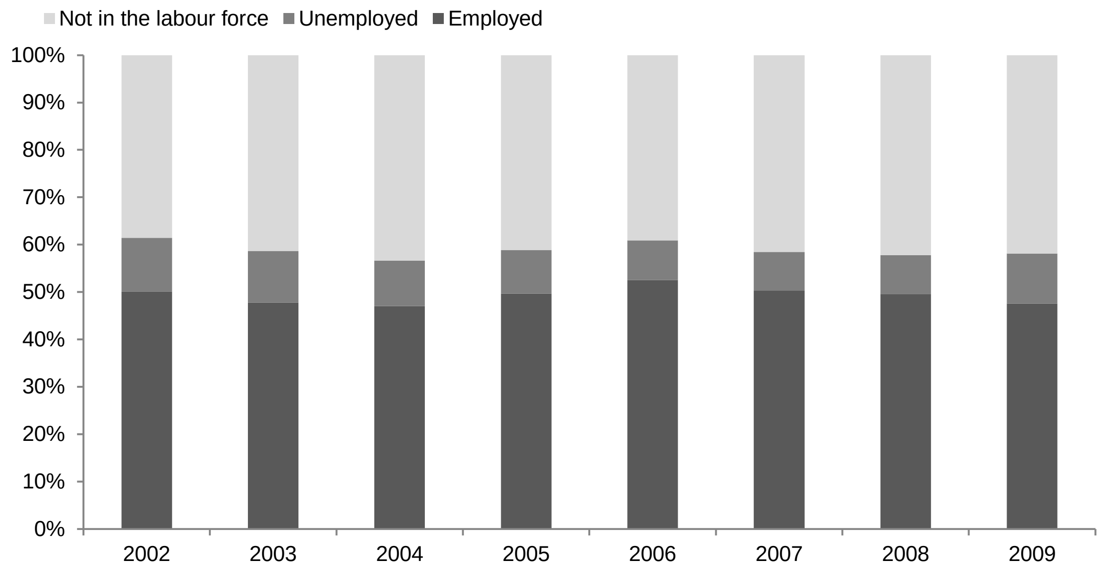
(a) Total excludes labour force status not stated.

Source: ABS and AIHW analysis of 1996, 2001 and 2006 Census data.



Source: ABS and AIHW analysis of 1996, 2001 and 2006 Census data.

Figure 2.07.6: Labour force status of persons aged 15–64 years, by Indigenous status, 1996, 2001 and 2006



Source: ABS 2009.

Figure 2.07.7: Labour force status of Indigenous persons aged 15–64 years, 2002 to 2009

Table 2.07.24: Labour force status of Indigenous persons aged 15–64 years, 2002 to 2009 (per cent)

Year	Employed	Unemployed	Not in the labour force	Total
2002	50.1	11.3	38.6	100.0
2003	47.8	10.9	41.4	100.0
2004	47.0	9.6	43.4	100.0
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

Source: ABS 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 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).

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 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.

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 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

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).

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 2009). 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 (ABS 2009). The ABS considers the estimates in this publication 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.

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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2.08 Income

Equivalised gross household and individual income of Aboriginal and Torres Strait Islander people

Data sources

Data for this measure come from the 2007– 2008 Survey of Income and Housing (SIH), the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS), 2006 Census of Population and Housing, and the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

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 2013.

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 ABS conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, and it 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 under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

Survey of Income and Housing

The ABS conducts the Survey of Income and Housing (SIH) every two years, with the first survey carried out 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 for information regarding their household, including characteristics, costs, assets and liabilities and individual personal characteristics for residents over 15 years.

Data analyses

Comparisons of NATSISS and Census data

The NATSISS and Census all collect information on household, individual income and information on mean equivalised gross household income. Information on equivalised gross household income quintiles and individual equivalised household income is also available from these data sources; however, individual income quintiles were unable to be constructed for the 2006 Census data because of difficulties in grouping the data into even quintile groups.

When comparing the **mean equivalised gross household income** of Indigenous persons aged 18 years and over from the 2008 NATSISS with data from the 2006 Census, the mean income is higher using estimates from the NATSISS ($580) than when using estimates from the Census ($512). This may be explained by the different time periods of the two surveys, because mean income is generally increasing with time.

When comparing **equivalised gross household income quintiles** for Indigenous Australians aged 18 years and over with a stated income from the 2008 NATSISS and the 2006 Census, the results are very similar. For example, the proportions of Indigenous persons in the lowest income quintile from the NATSISS and Census were 39% and 40% respectively. However, the proportions of Indigenous persons in the highest income quintile for the two data sources were 4% and 8% respectively.

When comparing the proportion of Indigenous Australians aged 18 years and over **below the 20th and 50th percentiles for equivalised gross household income** from the two data sources, the estimates are slightly lower from the NATSISS and the Census. The proportions of Indigenous Australians below the 20th percentile were 46% and 40% for the NATSISS and Census respectively, and the proportions of Indigenous Australians below the 50th percentile were 71% and 72% for the two data sources respectively.

This measure presents data included in the 2008 edition of this report for persons 18 years and over (2006 Census) and new data from the 2008 NATSISS. Data from NATSISS are presented first, followed by data from the 2006 Census.

NATSISS and SIH data

Household income

Mean equivalised household income

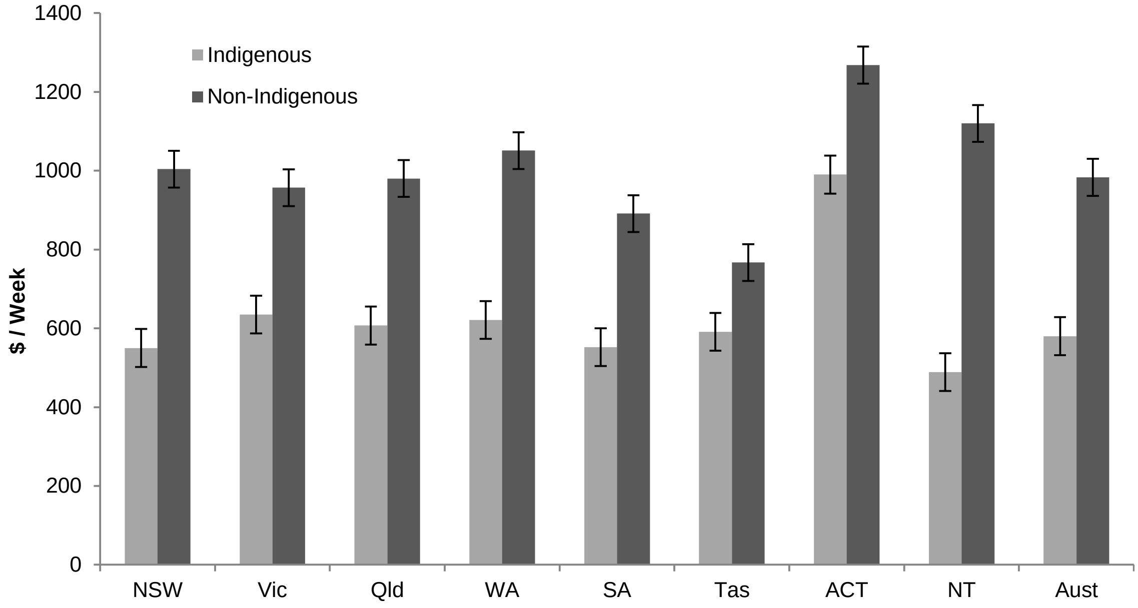
Data on the mean equivalised household income of Indigenous and non-Indigenous persons are available from the 2008 NATSISS and 2007–08 SIH respectively.

- 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 2007–08 NHS estimate (Table 2.08.1).
- The mean equivalised gross household income for Indigenous persons varied by state and territory, ranging from $489 in the Northern Territory to $990 in the Australian Capital Territory (Table 2.08.1; Figure 2.08.1).
- 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 2.08.2; Figure 2.08.2).
- 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 2.08.3; Figure 2.08.3).

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.



Source: NATSISS 2008 and SIH 2007–08.

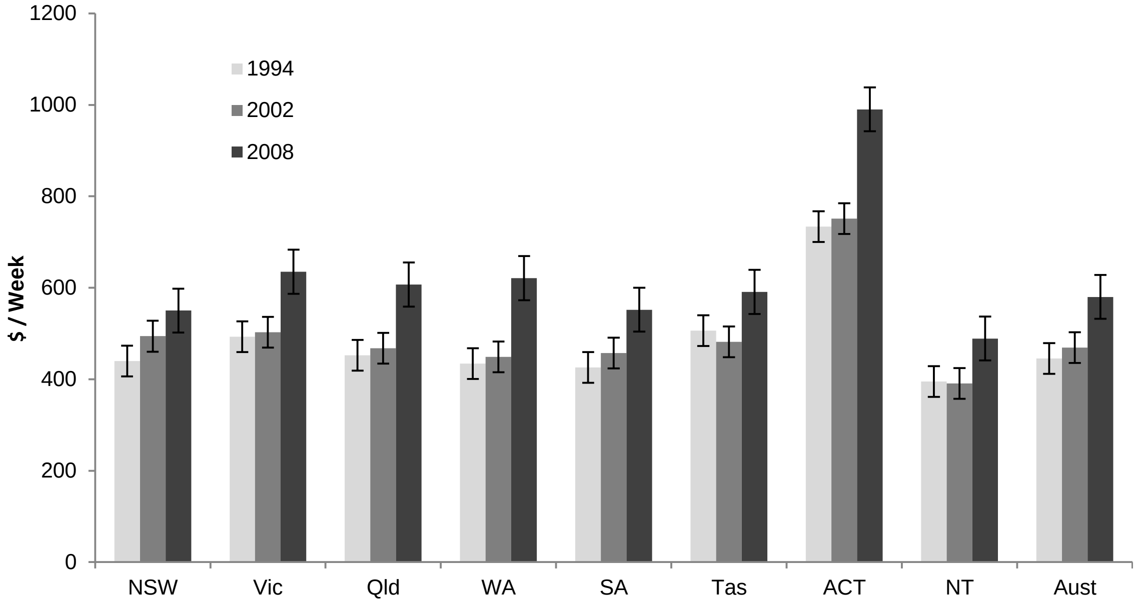
Figure 2.08.1: Mean equivalised gross household income ($ per week), by Indigenous status and state/territory, persons aged 18 years and over, 2008

Table 2.08.2: 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.



Note: Data for 1994 and 2002 are CPI-adjusted.

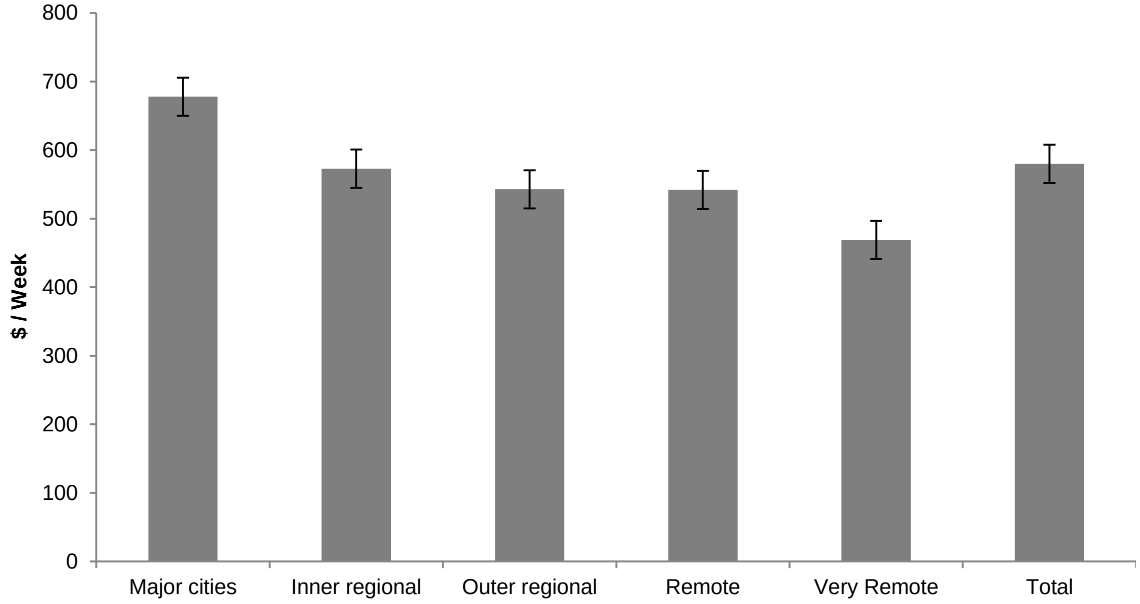
Source: 1994 NATSIS, 2002 NATSISS and 2008 NATSISS.

Figure 2.08.2: Mean gross weekly equivalised household income, Indigenous Australians aged 18 years and over, by state/territory, 1994, 2002 and 2008

Table 2.08.3: 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.



Source: NATSISS 2008.

Figure 2.08.3: Mean gross weekly equivalised household income, Indigenous Australians aged 18 years and over, by remoteness, 2008

Equivalised household income quintiles/percentiles

Data presented below on equivalised household income quintiles and percentiles come from the 2008 NATSISS.

- 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 2.08.4; Figure 2.08.4).

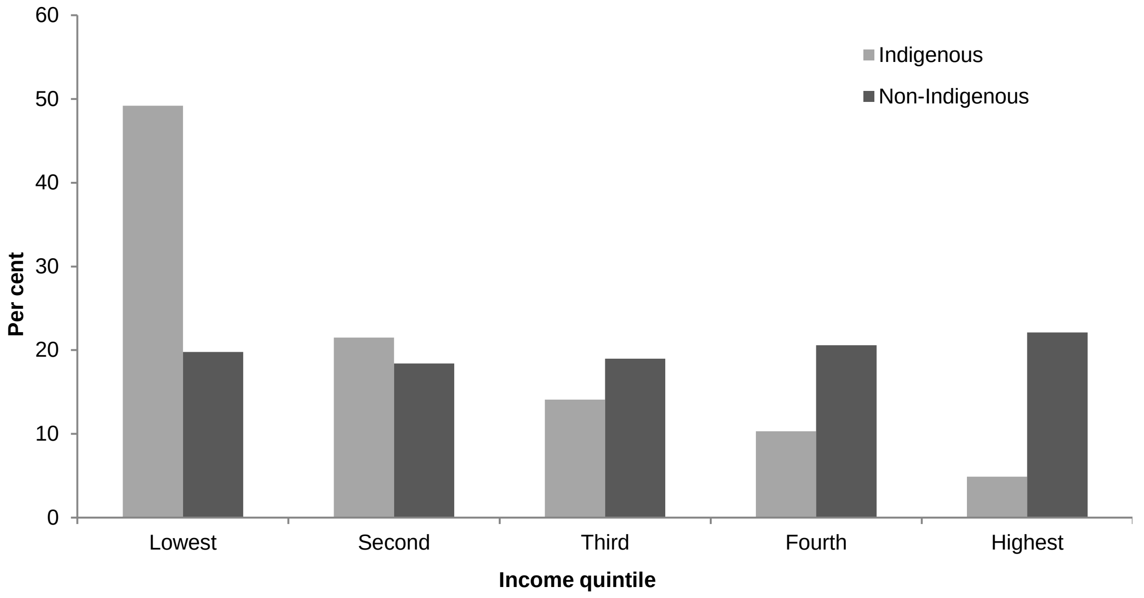
Table 2.08.4: Proportion of persons aged 18 years and over in equivalised gross weekly household income quintiles, by Indigenous status, 2008

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 for these categories.

Note: Excludes not stated & not known response.

Source: NATSISS 2008 and SIH 2007–08.



Note: Excludes not stated & not known response.

Source: NATSISS 2008 and SIH 2007–08.

Figure 2.08.4: Proportion of persons aged 18 years and over in equivalised gross weekly household income quintiles, by Indigenous status, 2008

Equivalised household income quintiles/percentiles by state/territory and remoteness

- New South Wales had the highest proportion of Indigenous Australians in the lowest quintile of equivalised gross weekly household income (44%) and the Australian Capital Territory had the highest proportion of Indigenous Australians in the highest income quintile (16%) (Table 2.08.5).
- The Northern Territory had the highest proportion of Indigenous Australians aged 18 years and over below the 20th percentile (57%) and 50th percentile (80%) of equivalised gross weekly household income (Table 2.08.6). Tasmania and the Australian Capital Territory had the lowest proportions, 39% and 64%, respectively.
- 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 7.3% of Indigenous Australians in *Major cities* were in the fourth and highest quintiles of income respectively compared with 5.2% and 2.6% of Indigenous Australians in *Very remote* areas (Table 2.08.7).

Table 2.08.5: 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	37,266	43.7	51.6	1,064,605	20.9
	Second	15,637	18.3	21.7(d)	979,710	19.2(d)
	Third	10,091	11.8	14.0(d)	878,478	17.2(d)
	Fourth	6,983	8.2	9.7	962,643	18.9
	Fifth	2,223(c)	2.6(c)	3.1(c)	1,210,198	23.7
	Total stated	*72,200*	*84.7*	*100.0*	*5,095,634*	*100.0*
	Not known/not stated	13,057	15.3			
	Total(c)	**85,257**	**100.0**			
Vic	First	6,701	34.7	44.1	768,293	19.5
	Second	3,331	17.2	21.9(d)	759,566	19.3(d)
	Third	2,337	12.1	15.4(d)	738,634	18.8(d)
	Fourth	1,913	9.9	12.6	848,568	21.6
	Fifth	922	4.8	6.1	816,718	20.8
	Total stated	*15,203*	*78.7*	*100.0*	*3,931,779*	*100.0*
	Not known/not stated	4,108	21.3			
	Total(c)	**19,312**	**100.0**			
Qld	First	28,232	35.2	43.6	559,547	18.4
	Second	15,408	19.2	23.8	562,488	18.5
	Third	11,212	14.0	17.3	680,936	22.4
	Fourth	6,416	8.0	9.9	636,344	20.9
	Fifth	3,479(c)	4.3(c)	5.4(c)	603,547	19.8
	Total stated	*64,748*	*80.7*	*100.0*	*3,042,861*	*100.0*
	Not known/not stated	15,470	19.3			
	Total(c)	**80,218**	**100.0**			
WA	First	15,413	39.6	52.0	258,349	16.9
	Second	4,770	12.3	16.1	229,523	15.0
	Third	3,524	9.1	11.9	287,620	18.8
	Fourth	3,241	8.3	10.9	360,547	23.6
	Fifth	2,665	6.8	9.0	391,503	25.6
	Total stated	*29,614*	*76.1*	*100.0*	*1,527,541*	*100.0*
	Not known/not stated	9,311	23.9			
	Total(c)	**38,925**	**100.0**			

Table 2.08.5 (continued): 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	6,720	41.7	50.0	292,869	24.7
	Second	3,175	19.7	23.6(d)	209,542	17.7(d)
	Third	1,557	9.7	11.6	238,560	20.1
	Fourth	1,669	10.4	12.4	232,380	19.6
	Fifth	328(c)	2.0(c)	2.4(c)	212,685	17.9
	Total stated	*13,450*	*83.5*	*100.0*	*1,186,036*	*100.0*
	Not known/not stated	2,660	16.5			
	Total(c)	**16,111**	**100.0**			
Tas	First	4,536	42.1	44.3	96,021	27.1
	Second	2,560	23.8	25.0(d)	80,372	22.7(d)
	Third	1,485	13.8	14.5(d)	65,282	18.4(d)
	Fourth	1,271	11.8	12.4	62,974	17.7
	Fifth	388(c)	3.6(c)	3.8(c)	50,184	14.1
	Total stated	*10,240*	*95.0*	*100.0*	*354,833*	*100.0*
	Not known/not stated	536	5.0			
	Total(c)	**10,777**	**100.0**			
ACT	First	407	15.9	21.3	31,176	12.2
	Second	166(c)	6.5(c)	8.7(c)	21,474	8.4
	Third	458(c)	17.9(c)	23.9(c)	33,911	13.2
	Fourth	470	18.3	24.6	60,174	23.5
	Fifth	412	16.1	21.5	109,660	42.8
	Total stated	*1,913*	*74.6*	*100.0*	*256,395*	*100.0*
	Not known/not stated	650	25.4			
	Total(c)	**2,564**	**100.0**			
NT	First	14,488	38.4	60.2	9,019(c)	9.0(c)
	Second	4,749	12.6	19.7	8,706	8.7
	Third	2,079	5.5	8.6	22,361	22.2
	Fourth	1,916	5.1	8.0	30,227	30.1
	Fifth	846	2.2	3.5	30,190	30.0
	Total stated	*24,077*	*63.7*	*100.0*	*100,503*	*100.0*
	Not known/not stated	13,697	36.3			
	Total(c)	**37,774**	**100.0**			

Table 2.08.5 (continued): 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 (%)**
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[(c)]	**290,937**	**100.0**			

(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).

(b) Equivalised gross household income quintile boundaries for non-Indigenous persons 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.

(d) Difference between rates for Indigenous and non-Indigenous persons are NOT statistically significant for these categories.

Source: NATSISS 2008 and SIH 2007–08.

Table 2.08.6: Proportion of Indigenous persons aged 18 years and over who were below the 20th and 50th percentiles of equivalised gross weekly household income quintiles, 2008

	Below 20th percentile	**Below 50th percentile**
New South Wales	48.5	74.0
Victoria	41.6	66.8
Queensland	39.5	68.0
Western Australia	50.4	69.2
South Australia	47.3	72.9
Tasmania/Australian Capital Territory	38.8	64.4
Northern Territory	56.6	79.8
Australia	**46.1**	**71.3**

Note: Excludes those for whom income was unknown or not stated.

Source: AIHW analyses of 2008 NATSISS.

Table 2.08.7: Proportion of persons aged 18 years and over in each gross weekly household income quintile(a), by Indigenous status and remoteness, 2008

	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile	Total income stated(b)	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(c)	100.0	50,362
Outer Regional	52.9*	20.7	13.8*	9.0*	3.6(c)	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(c)	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*(c)	14.3(c)	16.4(c)	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 for these categories.

(a) Gross weekly equivalised cash income of household quintile boundaries are: lowest quintile less than $329.20; second quintile $554.80–$685.50; third quintile $812.10–$951.80; fourth quintile $1,131.40–$1,380.20; highest quintile $1,784.80 or more for 2008 NATSISS.

(b) 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.

(c) 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 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 2.08.8a).
- 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 2.08.8a).
- 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 2.08.8a).

Table 2.08.8a: Selected population characteristics by equivalised gross weekly household income quintiles[(a)] for Indigenous persons aged 18 years and older, 2008

	Lowest	Second	Third	Fourth	Fifth	*Fourth and fifth*	Total
Self-assessed health status							
Excellent/very good	39.2	18.2	16.2	12.6	13.8	*26.5*	100.0
Good	58.1	17.8	11.4	7.4	5.3	*12.7*	100.0
Fair/poor	45.8	17.8	13.5	12.4	10.5	*22.9*	100.0
Financial stress							
Unable to raise $2,000 within a week for something important	64.4	17.8	10.2	5.7	2.0	*7.7*	100.0
Location							
Remote	54.9	19.9	10.8	7.6	6.7	*14.4*	100.0
Non-remote	43.2	17.3	15.1	12.5	11.8	*24.3*	100.0
Highest year of school completed							
Year 12	25.4	18.6	19.1	16.2	20.8	*37.0*	100.0
Year 11	44.6	17.3	14.7	12.9	10.6	*23.4*	100.0
Year 10	44.7	19.4	14.7	11.9	9.2	*21.2*	100.0
Year 9 or below	61.7	16.6	9.9	6.8	5.0	*11.8*	100.0
Whether has non-school qualification							
Has a non-school qualification	30.4	18.9	17.0	16.2	17.4	*33.7*	100.0
Does not have a non-school qualification	54.9	17.5	12.4	8.5	6.7	*15.3*	100.0
Employment							
Employed	20.5	20.6	21.5	18.8	18.6	*37.4*	100.0
Unemployed	74.1	14.7	6.7	3.6	0.9	*4.5*	100.0
Not in the labour force	75.9	15.0	5.2	2.3	1.6	*3.9*	100.0
Housing							
Owner	24.4	14.8	18.6	20.6	21.6	*42.2*	100.0
Renter	55.0	19.4	12.2	7.4	6.0	*13.4*	100.0
Stressors in last 12 months							
Serious illness or disability	46.5	22.2	13.3	11.3	6.8	*18.1*	100.0
Other stressors	48.1	17.7	14.4	11.0	8.7	*19.7*	100.0
Total experienced stressors	*43.0*	*18.4*	*13.6*	*11.7*	*13.4*	*25.1*	*100.0*
No stressors	46.5	22.2	13.3	11.3	6.8	*18.1*	100.0
All persons aged 15+ years	**46.1**	**18.0**	**14.1**	**11.3**	**10.6**	***21.9***	**100.0**
Total number aged 15+ yrs	106,607	41,601	32,581	26,125	24,533	*50658*	231,447

(a) Gross weekly equivalised cash income of household quintile boundaries for the total population as derived from the 2004–05 NHS are: lowest quintile less than $294; second quintile $295–$478; third quintile $479–$688; fourth quintile $689–$996; highest quintile $997 or more. These have been applied to both the Indigenous and non-Indigenous populations.

Note: Excludes not known and not stated responses.

Source: 2008 NATSISS.

Table 2.08.8b: Equivalised gross weekly household income quintiles(a), by selected population characteristics, Indigenous persons aged 18 years and older, 2008

	Lowest	Second	Third	Fourth	Fifth	*Fourth and fifth*
Self-assessed health status						
Excellent/very good	35.2	42.0	47.7	46.4	54.1	50.2
Good	30.9	24.3	19.8	16.1	12.2	14.2
Fair/poor	33.8	33.7	32.5	37.5	33.6	35.6
Financial stress						
Unable to raise $2,000 within a week for something important	70.3	50.3	35.3	24.2	9.0	16.8
Location						
Remote	28.9	26.9	18.6	16.4	15.4	15.9
Non-remote	71.1	73.1	81.4	83.6	84.6	84.1
Highest year of school completed						
Year 12	12.3	23.0	30.2	32.0	43.9	37.7
Year 11	13.2	13.1	14.1	15.5	13.5	14.5
Year 10	29.7	33.1	32.1	32.4	26.7	29.7
Year 9 or below	44.8	30.8	23.6	20.1	15.9	18.1
Whether has non-school qualification						
Has a non-school qualification	23.7	37.9	43.5	51.8	59.2	55.4
Does not have a non-school qualification	76.3	62.1	56.5	48.2	40.8	44.6
Employment						
Employed	23.9	61.4	81.8	89.4	93.8	91.5
Unemployed	15.7	8.0	4.6	3.1	0.8	2.0
Not in the labour force	60.4	30.6	13.6	7.5	5.4	6.5
Housing						
Owner	15.4	23.9	38.3	52.9	59.0	55.9
Renter	82.8	74.7	60.0	45.7	39.1	42.5
Stressors in last 12 months						
Serious illness or disability	13.8	16.9	12.9	13.6	8.8	11.3
Total experienced stressors	*62.4*	*58.8*	*61.2*	*58.1*	*49.2*	*53.8*
No stressors	37.6	41.2	38.8	41.9	50.8	46.2
All persons aged 18+ years	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total number aged 18+ yrs	106,607	41,601	32,581	26,125	24,533	50,658

(a) Gross weekly equivalised cash income of household quintile boundaries for the total population as derived from the 2004–05 NHS are: lowest quintile less than $294; second quintile $295–$478; third quintile $479–$688; fourth quintile $689–$996; highest quintile $997 or more. These have been applied to both the Indigenous and non-Indigenous populations.

Source: 2008 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 2004-05 NHS 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 7.8% of Indigenous Australians aged 18 years and over were in the highest individual income quintile compared with 21% of non-Indigenous Australians (Table 2.08.9; Figure 2.08.5).

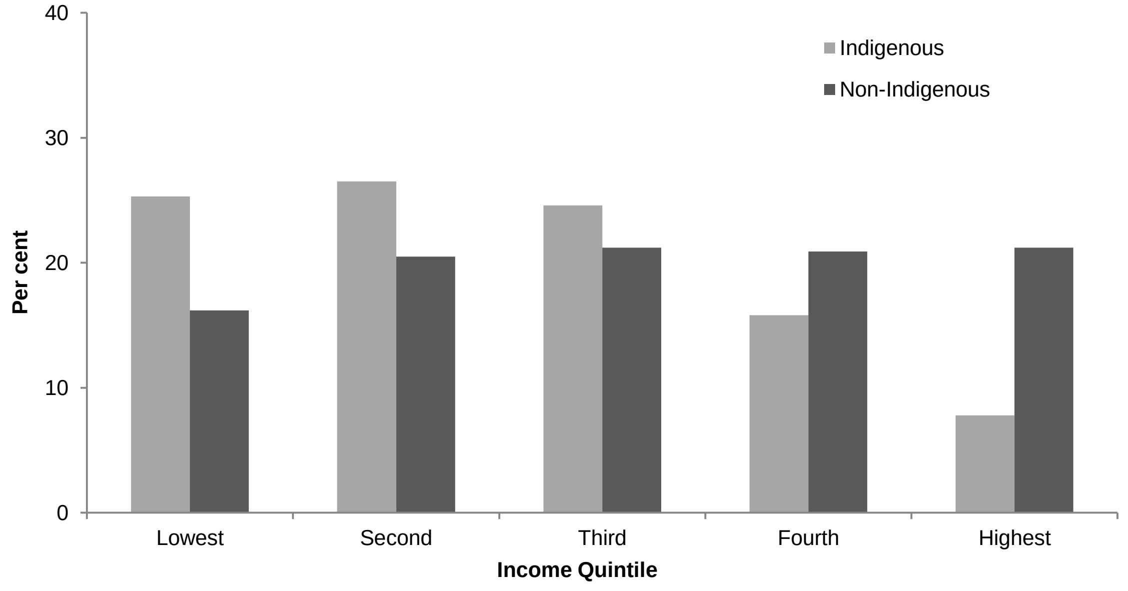
Table 2.08.9: Gross weekly Individual income quintiles by Indigenous status, persons aged 18 years and over, 2008

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 for these categories.

(a) Total excludes not stated or not known responses.

Source: NATSISS 2008 and SIH 2007–08.



Note: Total excludes not stated or not known responses.

Source: NATSISS 2008 and SIH 2007–08.

Figure 2.08.5: Gross weekly Individual income quintiles by Indigenous status, persons aged 18 years and over, 2008

Census data

Household income

Mean equivalised household income

Data on the mean equivalised household income of Indigenous and non-Indigenous persons aged 18 years and over are available from the 2006 Census of Population and Housing.

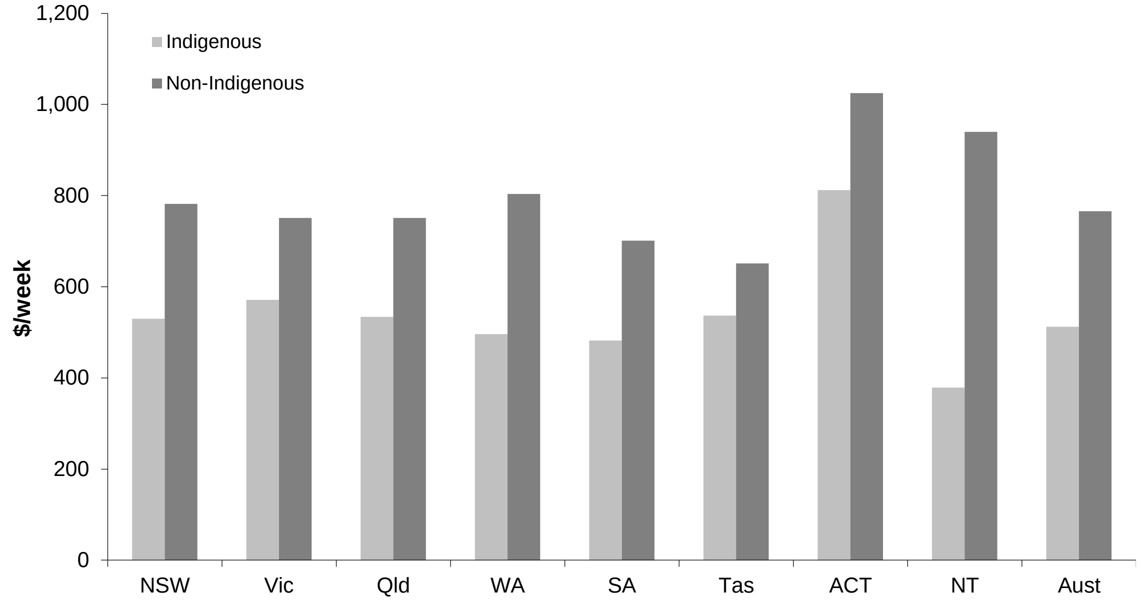
- The mean equivalised gross household income was $512 per week for Indigenous persons aged 18 years and over compared with $766 per week for non-Indigenous persons aged 18 years and over (Table 2.08.10; Figure 2.08.6).
- The mean equivalised gross household income for Indigenous males ($537) was slightly higher than for Indigenous females ($490) (ABS unpublished data).
- The mean equivalised gross household income for Indigenous persons varied by state and territory, ranging from $379 in the Northern Territory to $812 in the Australian Capital Territory (Table 2.08.10; Figure 2.08.6).
- The mean equivalised gross household income of Indigenous Australians decreased with remoteness, from $617 per week in *Major cities* to $348 per week in *Very remote* areas (Table 2.08.11).

Table 2.08.10: Mean equivalised gross household income ($ per week), by Indigenous status and state/territory, persons aged 18 years and over(a), 2006

State/territory	Indigenous	Non-Indigenous
	$	**$**
New South Wales	530	782
Victoria	571	751
Queensland	534	751
Western Australia	496	804
South Australia	482	701
Tasmania	537	651
Australian Capital Territory	812	1,025
Northern Territory	379	940
Australia	**512**	**766**

(a) Persons in households aged 18 years and over in which there were no temporarily absent adults and all incomes were fully stated.

Source: ABS and AIHW analysis of 2006 Census data.



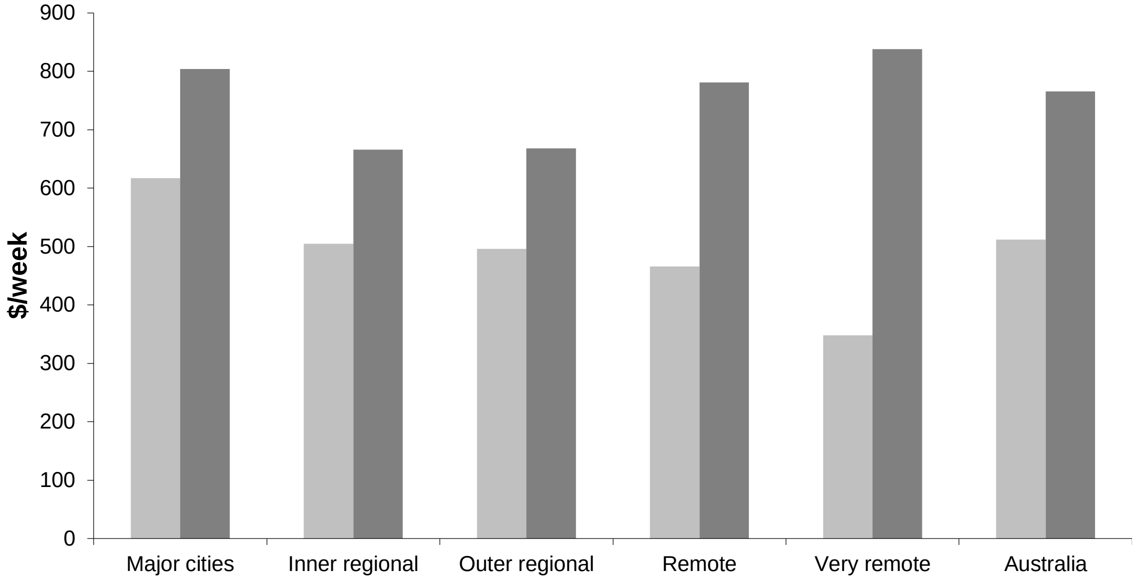
Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.08.6: Mean gross weekly equivalised household income, by Indigenous status and state/territory, persons aged 18 years and over, 2006

Table 2.08.11: Mean gross weekly equivalised household income, by Indigenous status and remoteness, persons aged 18 years and over, 2006

Remoteness area	Indigenous	Non-Indigenous
Major cities	$617	$804
Inner regional	$505	$666
Outer regional	$496	$668
Remote	$466	$781
Very remote	$348	$838
Australia	$512	$766

Source: ABS and AIHW analysis of 2006 Census data.



Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.08.7: Mean gross weekly equivalised household income, by Indigenous status and remoteness, persons aged 18 years and over, 2006

Time series

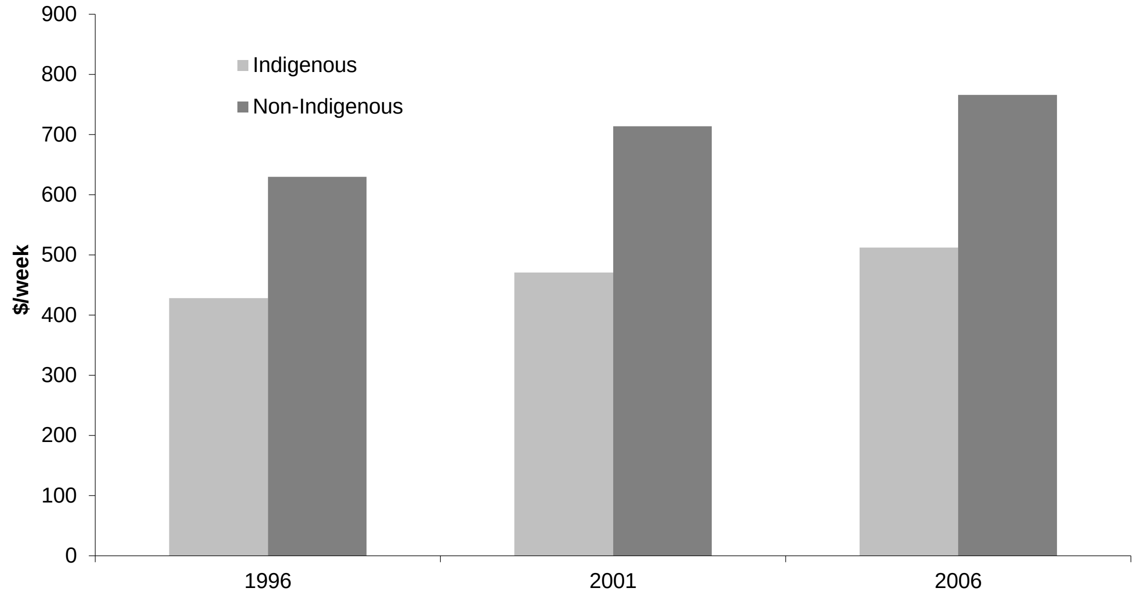
- There was an increase in the mean equivalised gross household income for Indigenous persons aged 18 years and over between 1996 and 2001 ($43; 10% increase) and between 2001 and 2006 ($41; 8.7% increase) (Table 2.08.12; Figure 2.08.8).
- There was also an increase in the mean equivalised gross household income for non-Indigenous persons aged 18 years and over between 1996 and 2001 ($84; 13% increase) and between 2001 and 2006 ($52; 7.3% increase) (Table 2.08.12; Figure 2.08.8).

Table 2.08.12: Mean gross weekly equivalised household income, by Indigenous status, ages 18 years and over, 1996, 2001 and 2006

	1996	2001	2006
Indigenous	$428	$471	$512
Non-Indigenous	$630	$714	$766

Note: Mean weekly equivalised gross household income for 1996 and 2001 has been adjusted for inflation to approximate 2006 dollar value using CPI.

Source: ABS and AIHW analysis of 2006 Census data.



Note: Mean weekly equivalised gross household income for 1996 and 2001 has been adjusted for inflation to approximate 2006 dollar value using CPI.

Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.08.8: Mean gross weekly equivalised household income, Indigenous Australians aged 18 years and over, 1996, 2001 and 2006

Equivalised household income quintiles/percentiles

Data presented below on equivalised household income quintiles and percentiles come from the 2006 Census of Population and Housing.

- In 2006, of those who stated their household income, 40% 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 7.9% of Indigenous Australians were in the highest quintile of equivalised gross weekly household income compared with 22% of non-Indigenous Australians (Table 2.08.13; Figure 2.08.9).
- There was little difference in the proportion of Indigenous males and females in each equivalised household income quintile (Table 2.08.13).

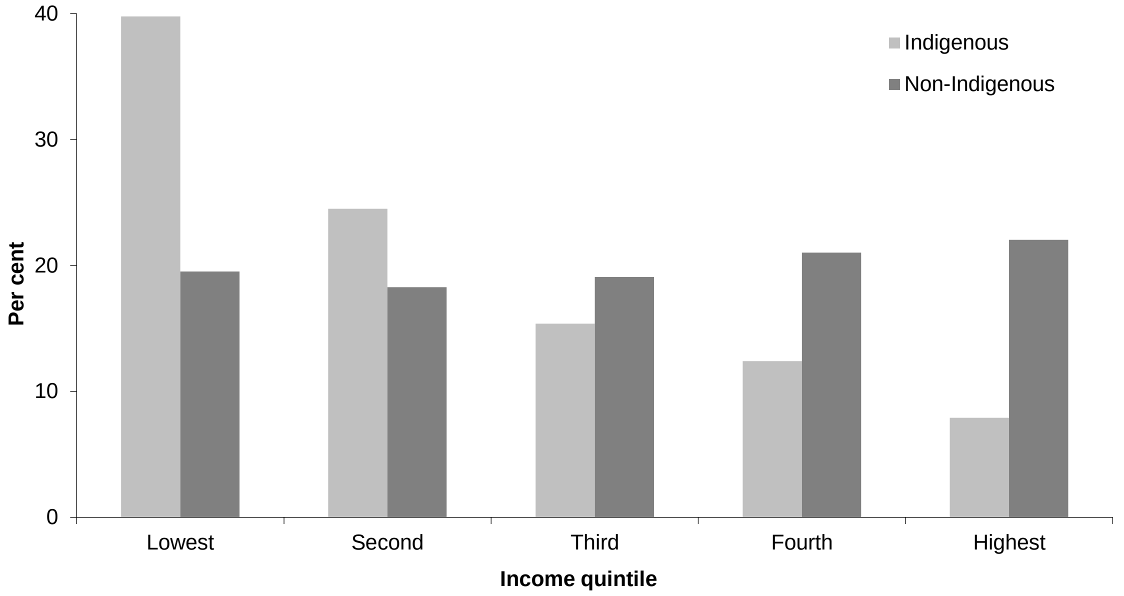
Table 2.08.13: Proportion of persons aged 18 years and over in each equivalised gross weekly household income quintile(a), by Indigenous status and sex, 2006

		Males		Females		Persons	
Income quintile		**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
1st (Lowest)	%	36.6	17.0	42.5	21.9	39.8	19.5
2nd	%	24.7	17.8	24.1	18.6	24.5	18.3
3rd	%	16.3	19.6	14.8	18.8	15.4	19.1
4th	%	13.2	21.3	11.1	19.5	12.4	21.0
5th (Highest)	%	9.3	24.2	7.4	21.3	7.9	22.0
Total stated(b)	**%**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not known/not stated	%	16.8	10.2	18.1	10.9	17.5	10.6

(a) Gross weekly equivalised cash income of household quintile boundaries for the total population as derived from the 2006 Census are: lowest quintile less than $315; second quintile $315–$515; third quintile $516–$742; fourth quintile $743–$1,077; highest quintile $1,078 or more. These have been applied to both the Indigenous and non-Indigenous population.

(b) Total with household income stated shown as a proportion of the total.

Source: ABS and AIHW analysis of 2006 Census data.



Note: Gross weekly equivalised cash income of household quintile boundaries for the total population as derived from the 2006 Census are: lowest quintile less than $315; second quintile $315–$515; third quintile $516–$742; fourth quintile $743–$1,077; highest quintile $1,078 or more. These have been applied to both the Indigenous and non-Indigenous populations.

Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.08.9: Proportion of Indigenous persons aged 18 years and over in equivalised gross weekly household income quintiles, by Indigenous status, 2006

Equivalised household income quintiles by state/territory and remoteness

- In 2006, the Northern Territory had the highest proportion of Indigenous Australians aged 18 years and over in the lowest (1st) quintile of equivalised gross weekly household income (59%) and the Australian Capital Territory had the highest proportion of Indigenous Australians in the highest income quintile (29%) (Table 2.08.14).
- In every state and territory, a higher proportion Indigenous Australians were more likely to be in the lowest quintile of equivalised gross weekly household income and less likely to be in the highest quintile of equivalised gross weekly household income than non-Indigenous Australians (Table 2.08.14).
- In 2006, approximately 40% of Indigenous persons aged 18 years and over were below the 20th percentile of equivalised gross weekly household income and 72% were below the 50th percentile of equivalised gross weekly household income (Table 2.08.15). The Northern Territory had the highest proportions of Indigenous Australians below the 20th and 50th percentiles (59% and 87%).
- There was little difference in the proportion of Indigenous persons age 18 years and over below the 20th and 50th percentiles of equivalised gross weekly household income in 1996, 2001 and 2006 (Table 2.08.15).
- In 2006, approximately 30% of Indigenous Australians aged 18 years and over living in *Major cities* were in the lowest (1st) quintile of equivalised gross weekly household income compared with 60% of Indigenous Australians in *Very remote* areas. Around 18% and 13% of Indigenous Australians in *Major cities* were in the fourth and fifth quintiles of income respectively compared with 3.0% and 2.0% respectively of Indigenous Australians in *Very remote* areas (Table 2.08.16).

Table 2.08.14: Number and proportion of persons aged 18 years and over[(a)] in each equivalised gross weekly household income quintile[(b)], by Indigenous status and state/territory, 2006

		Indigenous		Non-Indigenous	
	Income quintile	**Number**	**Proportion (%)**	**Number**	**Proportion (%)**
NSW	1st (lowest)	21,670	38.8	780,472	20.3
	2nd	12,927	23.1	688,440	17.9
	3rd	8,909	16.0	689,952	17.9
	4th	7,382	13.2	767,724	19.9
	5th (highest)	4,958	8.9	922,536	24.0
	Total stated	*55,846*	*100.0*	*3,849,124*	*100.0*
	Not known/not stated[(c)]	11,129	16.6	463,285	10.7
	Total	**66,975**	**100.0**	**4,312,409**	**100.0**
Vic	1st (lowest)	4,269	34.0	590,821	19.9
	2nd	2,786	22.2	554,241	18.7
	3rd	2,251	17.9	582,092	19.6
	4th	1,940	15.4	618,146	20.8
	5th (highest)	1,312	10.4	621,297	20.9
	Total stated	*12,558*	*100.0*	*2,966,597*	*100.0*
	Not known/not stated[(c)]	2,529	16.8	360,066	10.8
	Total	**15,087**	**100.0**	**3,326,663**	**100.0**
Qld	1st (lowest)	16,728	33.1	409,910	18.3
	2nd	13,783	27.3	423,681	18.9
	3rd	9,140	18.1	458,234	20.5
	4th	6,980	13.8	501,218	22.4
	5th (highest)	3,861	7.6	446,857	19.9
	Total stated	*50,492*	*100.0*	*2,239,900*	*100.0*
	Not known/not stated[(c)]	10,269	16.9	260,060	10.4
	Total	**60,761**	**100.0**	**2,499,960**	**100.0**
WA	1st (lowest)	9,668	44.4	190,335	17.2
	2nd	4,931	22.6	184,076	16.7
	3rd	3,056	14.0	209,508	19.0
	4th	2,417	11.1	248,530	22.5
	5th (highest)	1,720	7.9	272,373	24.7
	Total stated	*21,792*	*100.0*	*1,104,822*	*100.0*
	Not known/not stated[(c)]	5,813	21.1	138,006	11.1
	Total	**27,605**	**100.0**	**1,242,828**	**100.0**

(continued)

Table 2.08.14 (continued): Number and proportion of persons aged 18 years and over[(a)] in each equivalised gross weekly household income quintile[(b)], by Indigenous status and state/territory, 2006

		Indigenous		Non-Indigenous	
	Income quintile	**Number**	**Proportion (%)**	**Number**	**Proportion (%)**
SA	1st (lowest)	4,487	43.3	207,426	22.3
	2nd	2,510	24.2	186,106	20.0
	3rd	1,500	14.5	185,743	20.0
	4th	1,162	11.2	192,926	20.8
	5th (highest)	708	6.8	156,840	16.9
	Total stated	*10,367*	*100.0*	*929,041*	*100.0*
	Not known/not stated[(c)]	2,246	17.8	95,546	9.3
	Total	**12,613**	**100.0**	**1,024,587**	**100.0**
Tas	1st (lowest)	2,447	32.0	68,589	24.7
	2nd	2,062	27.0	63,070	22.7
	3rd	1,476	19.3	56,851	20.4
	4th	1,148	15.0	52,667	18.9
	5th (highest)	516	6.7	36,964	13.3
	Total stated	*7,649*	*100.0*	*278,141*	*100.0*
	Not known/not stated[(c)]	1,041	12.0	30,635	9.9
	Total	**8,690**	**100.0**	**308,776**	**100.0**
ACT	1st (lowest)	392	22.5	18,411	9.4
	2nd	212	12.2	20,059	10.2
	3rd	225	12.9	28,211	14.4
	4th	403	23.1	46,197	23.5
	5th (highest)	509	29.2	83,391	42.5
	Total stated	*1,741*	*100.0*	*196,269*	*100.0*
	Not known/not stated[(c)]	240	12.1	19,870	9.2
	Total	**1,981**	**100.0**	**216,139**	**100.0**
NT	1st (lowest)	12,957	58.6	6,848	9.4
	2nd	5,546	25.1	8,092	11.1
	3rd	1,502	6.8	12,635	17.4
	4th	1,224	5.5	19,868	27.3
	5th (highest)	885	4.0	25,205	34.7
	Total stated	*22,114*	*100.0*	*72,648*	*100.0*
	Not known/not stated[(c)]	5,421	19.7	9,449	11.5
	Total	**27,535**	**100.0**	**82,097**	**100.0**

(continued)

Table 2.08.14 (continued): Number and proportion of persons aged 18 years and over[(a)] in each equivalised gross weekly household income quintile[(b)], by Indigenous status and state/territory, 2006

		Indigenous		Non-Indigenous	
	Income quintile	**Number**	**Proportion (%)**	**Number**	**Proportion (%)**
Australia	1st (lowest)	72,662	39.8	2,272,946	19.5
	2nd	44,795	24.5	2,127,948	18.3
	3rd	28,087	15.4	2,223,472	19.1
	4th	22,672	12.4	2,447,521	21.0
	5th (highest)	14,469	7.9	2,565,718	22.0
	Total stated	*182,685*	*100.0*	*11,637,605*	*100.0*
	Not known/not stated[(c)]	38,695	17.5	1,377,098	10.6
	Total	**221,380**	**100.0**	**13,014,703**	**100.0**

(a) Persons in households aged 18 years and over in which there were no temporarily absent adults and all incomes were fully stated.

(b) Gross weekly equivalised cash income of household quintile boundaries for the total population as derived from the 2006 Census are: lowest quintile less than $315; second quintile $315–$515; third quintile $516–$742; fourth quintile $743–$1,077; highest quintile $1,078 or more. These have been applied to both the Indigenous and non-Indigenous populations.

(c) Total with household income not stated shown as a proportion of the total.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.08.15: Percentage of Indigenous persons[(a)] age 18 years and over who were below the 20th and 50th percentiles of equivalised gross weekly household income quintiles, 1996, 2001 and 2006

	1996		2001		2006	
	Below 20th percentile	**Below 50th percentile**	**Below 20th percentile**	**Below 50th percentile**	**Below 20th percentile**	**Below 50th percentile**
	%	%	%	%	%	%
NSW	34.8	68.7	35.5	69.1	38.8	70.2
Vic	29.6	63.1	30.2	63.2	34.0	65.3
Qld	32.2	72.2	34.2	73.7	33.1	70.0
WA	37.7	76.6	42.9	78.2	44.4	74.4
SA	38.9	72.9	40.5	77.0	43.3	75.0
Tas	30.5	66.0	33.6	69.9	32.0	69.3
ACT	23.6	44.6	19.4	42.0	22.5	40.5
NT	46.9	87.4	57.5	89.3	58.6	87.2
Australia	**35.7**	**72.8**	**38.9**	**74.1**	**39.8**	**72.3**

(a) Persons in households aged 18 years and over in which there were no temporarily absent adults and all incomes were fully stated.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.08.16: Proportion of persons aged 18 years and over in each equivalised gross weekly household income quintile[(a)(b)], by Indigenous status and remoteness, 2006

	First quintile	Second quintile	Third quintile	Fourth quintile	Fifth quintile	Total stated[(b)]	Not stated[(c)]	Total number
				Indigenous				
Major Cities	29.9	20.9	18.4	17.8	13.0	100.0	16.2	73,653
Inner Regional	37.6	25.9	17.3	12.7	6.5	100.0	16.7	45,939
Outer Regional	39.6	25.4	16.7	12.0	6.3	100.0	19.5	46,285
Remote	46.1	25.0	12.5	9.5	6.8	100.0	22.3	19,342
Very Remote	59.6	28.7	6.7	3.0	2.0	100.0	15.9	36,164
Total	**39.8**	**24.5**	**15.4**	**12.4**	**7.9**	**100.0**	**17.5**	**221,383**
				Non-Indigenous				
Major Cities	17.8	16.8	18.6	21.8	25.0	100.0	10.6	9,163,828
Inner Regional	23.5	22.2	20.7	19.3	14.3	100.0	10.3	2,502,197
Outer Regional	24.6	21.7	19.8	18.9	15.0	100.0	11.0	1,146,330
Remote	20.4	17.3	17.9	20.2	24.1	100.0	12.1	154,249
Very Remote	17.8	15.9	17.0	21.2	28.2	100.0	12.7	48,098
Total	**19.5**	**18.3**	**19.1**	**21.0**	**22.0**	**100.0**	**10.6**	**13,014,702**

(a) Gross weekly equivalised cash income of household quintile boundaries for the total population as derived from the 2006 Census are: lowest quintile less than $315; second quintile $315–$515; third quintile $516–$742; fourth quintile $743–$1,077; highest quintile $1,078 or more. These have been applied to both the Indigenous and non-Indigenous populations.

(b) 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.

(c) Total with household income not stated shown as a proportion of the total.

Source: ABS and AIHW analysis of 2006 Census data.

Individual income

Individual income quintiles were unable to be constructed for the 2006 Census data because of the difficulty in grouping the data in even 20% groups owing to the proportions in each income range. Instead, a break down into income ranges is presented in Table 2.08.17 and Figure 2.08.10.

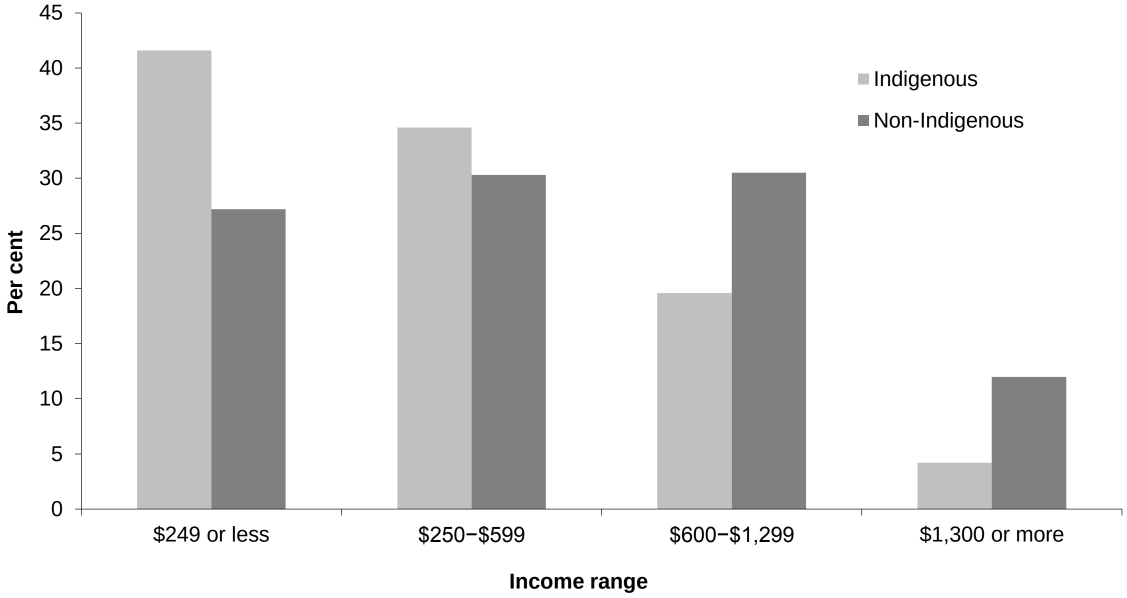
- In 2006 the median gross weekly individual income for Indigenous Australians was $318 compared with $504 for non-Indigenous Australians.
- In 2006, Indigenous people aged 18 years and over were more likely than non-Indigenous people of the same age to have a gross weekly individual income of $249 or less (42% compared with 27%). Only 4.2% of Indigenous Australians aged 18 years and over had a gross weekly individual income of $1,300 or more compared with 12% of non-Indigenous Australians (Table 2.08.17; Figure 2.08.10).

Table 2.08.17: Number and percentage gross weekly individual income, by Indigenous status, persons aged 18 years and over, 2006

Gross weekly income	Indigenous (per cent)	Non-Indigenous (per cent)
$249 or less	41.6	27.2
$250–$599	34.6	30.3
$600–$1,299	19.6	30.5
$1,300 or more	4.2	12.0

Note: The '$249 or less' category includes those with negative or nil income.

Source: ABS and AIHW analysis of 2006 Census data.



Note: The '$249 or less' category includes those with negative or nil income.

Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.08.10: Proportion of persons aged 18 years and over in gross weekly individual income ranges, by Indigenous status, 2006

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 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 undercoverage 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).

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).

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 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.

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, 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 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).

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 surveys 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.

A further limitation of the survey's scope is that households in very remote areas were not covered by the survey. The survey does state that, due to the small population in these areas, it is likely this will have minimal impact.

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 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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2.09 Housing tenure type

The tenure status of a person's occupancy of a residence: owning without a mortgage; owning with a mortgage; renting public housing; renting community housing; and renting privately

Data sources

Data presented for this measure come predominantly from 2006 Census data and 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) data. The 2007–08 National Health Survey is often used throughout the indicator to compare non-Indigenous data with the Indigenous data reported from the 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

Census of Population and Housing

The Australian Bureau of Statistics (ABS) conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, 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 under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

The Census includes data on housing tenure type that are published at a household level. For the purposes of data analysis, Indigenous households can be defined in two different ways:

- a household where the reference person or the spouse is Indigenous
- a household containing one or more Indigenous people.

For this measure, the second definition of an Indigenous household is used, that is, a household containing one or more Indigenous people. This is the definition used in the *National housing assistance data dictionary* (AIHW 2006).

National Aboriginal and Torres Strait Islander Social Survey

The ABS conducted the 2002 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 2013.

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

Comparisons between the NATSISS and Census

The NATSISS and Census collect information on housing tenure. 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 using different rental tenure type categories from the 2007–08 National Health Survey and therefore Indigenous and non-Indigenous comparisons are not available for some tenure type categories from this survey.

When comparing data on tenure type for Indigenous persons aged 18 years and over from the 2008 NATSISS and 2006 Census, the estimates for most tenure type categories are very similar. For example, the proportion of home owners was 29% in the NATSISS and 31% in the Census; the proportion of renters was 69% and 68% in the two surveys respectively. There was however a difference between private and other landlord types (29% and 25% respectively), home owners without a mortgage (9% and 11%) and other tenure type (2% and 1% respectively). The difference in the proportions for ‘other tenure type’ between the two surveys is likely to be due to differences in the tenure types included under this category.

This measure presents data included in the 2008 edition of this report for persons aged 18 years and over (2006 Census data) and new data from the 2008 NATSISS for persons aged 18 years and over. Data from the NATSISS are presented first followed by data from the 2006 Census.

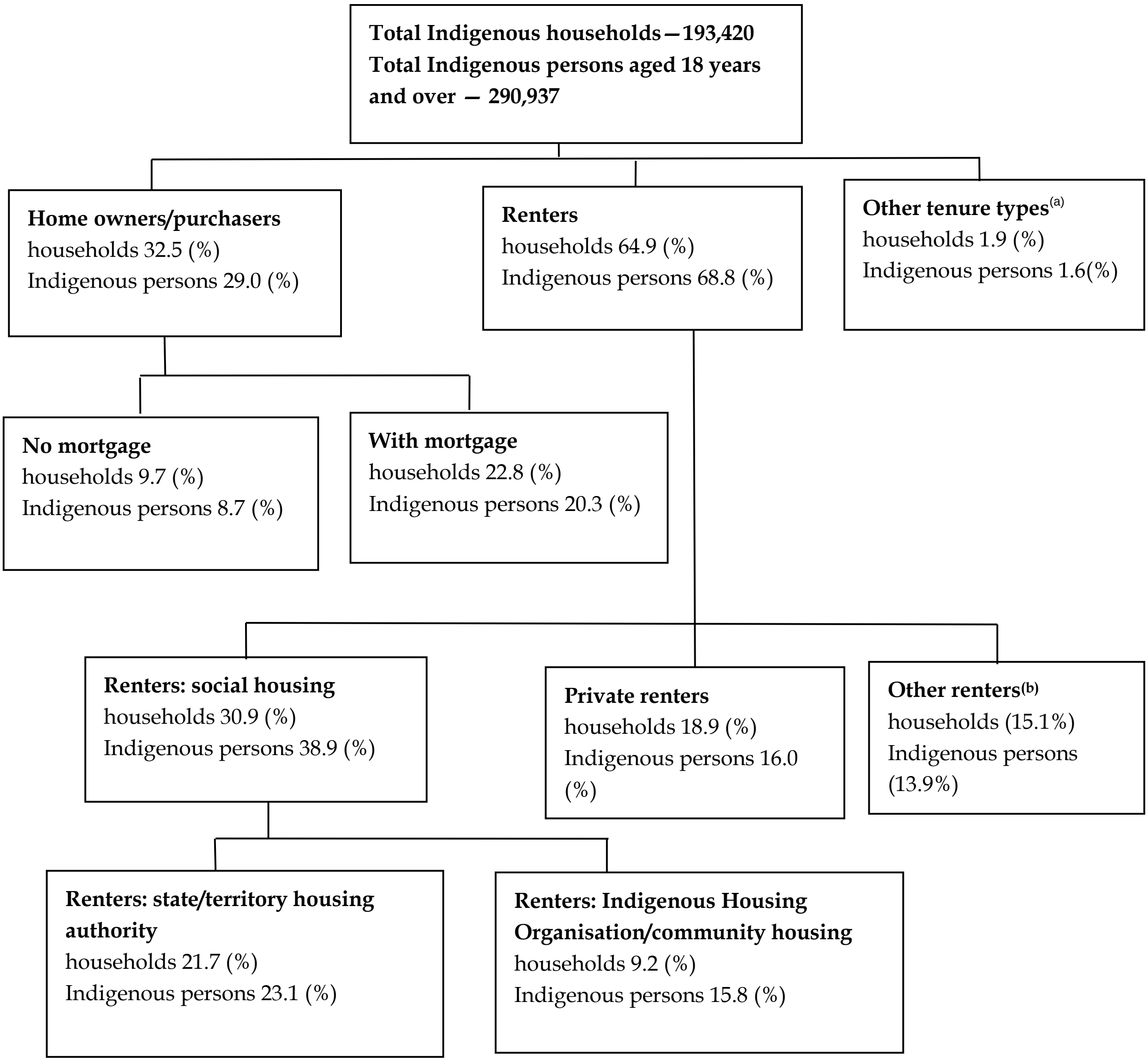
NATSISS data

Tenure type

- Among the estimated 193,420 Indigenous households in 2008, approximately one third were home owners or purchasers and two thirds were renters (Figure 2.09.1). This can be compared with non-Indigenous households where 66% were home owners or purchasers, and 29% were renters (Table 2.09.1).
- 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, 9.9% of Indigenous households owned their homes outright and 23% were purchasing their homes (Table 2.09.1).

- 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%) and, to a lesser extent, from a state and territory housing authority (22%). Around one-third of Indigenous households were in the private rental market.
- 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 2.09.1).



(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: 2008 NATSISS.

Figure 2.09.1: Indigenous households, by tenure type, 2008

Table 2.09.1: Households and persons, by tenure type and Indigenous status, 2008

	Persons(a)				Households			
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous	
	Number	%	Number	%	Number	%	Number	%
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	25.0*
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(d)	*200,297*	*69.2**	*4,430,486*	*28.5**	*115,274*	*65.5**	*2,341,463*	*29.4**
Other tenure types(e)	4,619	1.6	987,032	6.3	3,436	2.0	383,890	4.8
Total(f)	**289,327**	**100.0**	**15,553,828**	**100.0**	**175,981**	**100.0**	**7,973,429**	**100.0**
Not stated	1,610	. .	. .	. .	990	. .	. .	. .

* Represents statistically significant differences in the Indigenous and non-Indigenous comparisons.

(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: ABS and AIHW analysis of 2008 NATSISS 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 2.09.2).
- 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 2.09.2).
- 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 2.09.2).

Table 2.09.2: 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 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 rent-free and other tenure types n.f.d.

(g) Excludes tenure type not stated.

Sources: NATSISS 2008 and NHS 2007–08.

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 2.09.3b).
- 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 2.09.3a).

Table 2.09.3a: Proportion of persons(a), by tenure type, Indigenous status and state/territory, 2008

		Home owners			Renters					Other tenure types		
		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	Indigenous	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-Indigenous	26.1*	36.3*	62.5*	26.4*	3.4*	0.4(g)	. .	30.1	7.4*	**100.0**	**5,106,453**
Vic	Indigenous	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-Indigenous	29.0*	38.9*	67.9*	23.6	2.2*	0.2(g)	. .	26.0	6.1*	**100.0**	**3,966,725**
Qld	Indigenous	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-Indigenous	26.9*	37.5*	64.5*	28.5*	2.0*	0.1(f)	. .	30.6	5.0*	**100.0**	**3,040,931**
WA	Indigenous	6.4*	18.1*	24.5*	25.0	29.2*	n.p.	19.0	73.4	n.p.	**100.0**	**38,729**
	Non-Indigenous	24.3*	41.2*	65.5*	24.4	2.2*	0.5(g)*	. .	27.1	7.4*	**100.0**	**1,529,520**
SA	Indigenous	8.1*	22.9*	30.9*	18.8	36.8*	n.p.	12.2	68.0	n.p.	**100.0**	**16,014**
	Non-Indigenous	30.9*	36.8*	67.7*	20.9	5.6*	0.4(g)*	. .	26.8	5.4*	**100.0**	**1,194,166**
Tas	Indigenous	23.6*	28.0	51.6*	25.3	16.5*	n.p.	n.p.	43.9	n.p.	**100.0**	**10,777**
	Non-Indigenous	35.2*	35.4	70.6*	19.5	4.3*	1.0(f)*	. .	24.8	4.6*	**100.0**	**352,052**
ACT	Indigenous	11.8*	40.9	52.7*	28.1	17.6*	n.p.	n.p.	47.0	n.p.	**100.0**	**2,564**
	Non-Indigenous	26.5*	40.6	67.1*	23.2	4.4(g)*	0.2(f)*	. .	27.8	5.2*	**100.0**	**255,733**
NT	Indigenous	2.0(g)	11.2*	13.2*	20.9	24.9*	n.p.	38.6	84.6	n.p.	**100.0**	**37,536**
	Non-Indigenous	9.0(g)	48.9*	57.9*	34.1	n.p.	0.0	. .	36.9	5.2	**100.0**	**108,248**
Australia	**Indigenous**	**8.7***	**20.5***	**29.2***	**29.3***	**23.2***	**0.6**	**15.9**	**69.2**	**1.6***	**100.0**	**289,327**
	Non-Indigenous	**27.3***	**37.9***	**65.2***	**25.3***	**2.9***	**0.3**	**. .**	**28.5**	**6.3***	**100.0**	**15,553,828**

(continued)

Table 2.09.3a (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 for these categories.

(a) Persons aged 18 years and over.
(b) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(c) Includes real estate agents, unrelated persons, relatives, owner/managers of caravan parks, employers and other landlords.
(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.

Sources: NATSISS 2008 and NHS 2007–08.

Table 2.09.3b: Proportion of households, by tenure type, Indigenous status and state/territory, 2008

		Home owners			Renters					Other tenure types		
		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	Indigenous	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-Indigenous	27.8*	35.1*	62.8	26.6*	4.6*	0.6 (f)	. .	31.8	5.4*	**100.0**	**2,602,138**
Vic	Indigenous	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-Indigenous	31.6*	37.4*	69.0	23.3*	2.8*	0.3 (f)	. .	26.4	4.6*	**100.0**	**1,991,527**
Qld	Indigenous	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-Indigenous	27.2*	2.8*	0.1	30.0*	36.0*	0.1(e)	. .	30.1	3.9*	**100.0**	**1,560,980**
WA	Indigenous	6.9*	20.8*	27.7	30.2	28.8*	n.p.	10.7	69.9	n.p	**100.0**	**20,525**
	Non-Indigenous	25.6*	39.4*	65.1	25.0	3.1*	0.7(e)*	. .	28.9	6.1*	**100.0**	**802,625**
SA	Indigenous	8.7*	26.5*	35.2	22.5	34.2*	n.p.	7.0	63.8	n.p.	**100.0**	**10,505**
	Non-Indigenous	32.0*	36.3*	68.3	19.6	7.3*	0.5*	. .	27.4	4.4*	**100.0**	**640,186**
Tas	Indigenous	23.6*	26.6	50.2	26.7*	17.2*	n.p.	1.3	45.7	n.p.	**100.0**	**8,647**
	Non-Indigenous	37.1*	32.45	69.6	19.3*	5.4*	1.7(e)*	. .	26.3	4.1*	**100.0**	**192,350**
ACT	Indigenous	12.0*	35.6	47.6	32.5*	18.3*	n.p.	1.1	52.2	n.p.	**100.0**	**1,835**
	Non-Indigenous	26.7*	39.3	66.1	23.4*	6.4*	0.2(e)*	. .	30.0	3.9*	**100.0**	**127,172**
NT	Indigenous	3.6	17.8*	21.4	25.2	24.7*	n.p.	25.1	75.3	n.p.	**100.0**	**13,679**
	Non-Indigenous	7.8(f)	48.9*	56.8	35.2	n.p.	—	. .	39.1	4.1(e)*	**100.0**	**56,451**
Australia	Indigenous	9.9*	22.6*	32.5	33.4*	21.7*	0.6	9.6	65.5	2.0*	**100.0**	**175,981**
	Non-Indigenous	29.3*	36.5*	65.8	25.0*	3.9*	0.43	. .	29.4	4.8*	**100.0**	**7,973,429**

(continued)

Table 2.09.3b (continued): Proportion of households, by tenure type, Indigenous status and state/territory, 2008

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant 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 nfd.
(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.

Sources: NATSISS 2008 and NHS 2007–08.

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 2.09.4).
- In comparison, among Indigenous households in non-remote areas, the highest proportion were home owners (36%) followed by private or other renters (34%) and renters of state and territory housing (21%) (Table 2.09.4)

Table 2.09.4: Indigenous households and persons, by tenure type and remoteness, 2008

	Persons[(a)]		Households	
Tenure type	**Non-remote**	**Remote**	**Non-remote**	**Remote**
		Per cent		
Home owners				
Owned without a mortgage	9.9	5.4	10.0	8.6
Owner with a mortgage[(b)]	25.8	5.0	26.1	7.3
Total home owners	*35.7*	*10.4*	*36.1*	*16.0*
Renters				
Private and other landlord types[(c)]	32.3	15.9	34.4	19.7
State/territory housing authority	23.0	23.8	21.2	24.8
Indigenous Housing Organisation/ Community housing	5.9	44.8	4.5	32.6
Other	1.9	1.7	2.2	2.1
Total renters[(d)]	*63.3*	*86.3*	*62.5*	*79.5*
Other[(e)]	1.0	3.3	1.4	4.6
Total[(f)]	**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: AIHW analysis of 2008 NATSISS.

Time series

- Between 1994 and 2008, there was an increase in the proportion of Indigenous households and persons aged 18 years and over who were home owners. Over the same period, there was an increase in the proportion of households and persons who were private or other renters, and a decline in the proportion of renters of state/territory housing (Table 2.09.5).

Table 2.09.5: 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	20.3	13,881	12.8	32,610	19.7	39,811	22.5
Total home owners	*41,032*	*21.5*	*66,703*	*26.5*	*84,411*	*29.0*	*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	84,866	29.2	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	23.1	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	47,866	16.5	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*	*68.8*	*75,029*	*69.1*	*108,946*	*65.7*	*115,274*	*65.1*
Other(d)	10,016	5.2	9,664	3.9	4,619	1.6	4,210	3.9	6,163	3.7	3,436	1.9
Total(e)	**190,843**	**100.0**	**251,398**	**100.0**	**290,937**	**100.0**	**108,579**	**100.0**	**165,674**	**100.0**	**176,971**	**100.0**

(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.

Sources: ABS analysis of 1994 National Aboriginal and Torres Strait Islander Survey, 2002 NATSISS & 2008 NATSISS.

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 2.09.6a).
- After adjusting for differences in age structure, 39% of Indigenous Australian home owners reported excellent/very good health compared to 68% of non-Indigenous Australian home owners. Conversely, amongst renters, 73% of Indigenous Australians reported fair/poor heath compared to 37% of non-Indigenous renters (Table 2.09.6b).
- 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 disparity, 19% were home owners and 80% were renters. This compared with 57% and 38% of Non-Indigenous Australians, respectively (Table 2.09.7a).
- 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 2.09.7b).

Table 2.09.6a: Summary health characteristics and housing tenure, by Indigenous status, 2008

		Persons[(a)]					
		Excellent/very good		Fair/poor		Total persons 18+	
		Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Home owners							
Owned without a mortgage	%	8.4	24.1	10.7	35.9	8.7	27.3
Being purchased[(b)]	%	24.4	41.7	15.5	27.6	20.5	37.9
Total home owners	*%*	*32.7*	*65.8*	*26.2*	*63.5*	*29.2*	*65.2*
Renters							
Private and other landlord types[(c)]	%	29.3	26.1	28.1	21.2	29.3	25.3
State/territory housing authority	%	18.6	1.2	29.1	7.9	23.2	2.9
Housing co-operative or church group	%	0.7[(d)]	0.2[(e)]	0.8[(d)]	0.7	0.6[(e)]	0.3
Indigenous Housing Organisation/ Community housing	%	16.3	. .	14.6	. .	15.9	. .
Total renters[(f)]	*%*	*65.2*	*27.5*	*72.6*	*29.7*	*69.2*	*28.5*
Other tenure types[(g)]	%	2.1[(e)]	6.7	1.2[(e)]	6.9	1.6	6.3
Total[(h)]	**%**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(continued)

Table 2.09.6a (continued): Summary health characteristics and housing tenure, by Indigenous status, 2008

		Persons(a)					
		Excellent/very good		**Fair/poor**		**Total persons 18+**	
		Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
				Households(i)			
Home owners							
Owned without a mortgage	%	9.7	26.5	11.6	36.6	9.9	29.3
Being purchased(b)	%	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(c)	%	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(e)	0.2(e)	0.8(d)	0.9	0.6	0.4
Indigenous Housing Organisation/ Community housing	%	8.6	. .	9.5	. .	9.6	. .
Total renters(f)	*%*	*60.9*	*27.5*	*69.8*	*33.0*	*65.5*	*29.4*
Other tenure types(g)	%	2.5(e)	5.1	1.3(e)	4.9	2.0	4.8
Total(h)	**%**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(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 greater than 50% and is considered too unreliable for general use.
(e) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(f) Includes landlord type not known and boarders.
(g) Includes life tenure schemes; rent-free; and other tenure types nfd.
(h) Excludes tenure type not stated.
(i) Households with person(s) aged 18 years and over.

Source: AIHW analysis of 2008 NATSISS & 2007–08 NHS.

Table 2.09.6b: Age-standardised summary health characteristics and housing tenure, by Indigenous status, 2008

		Persons[(a)(b)]					
		Excellent/very good		Fair/poor		Total persons 18+	
		Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Home owners							
Owned without a mortgage	%	15.2	26.9	10.7	23.3	11.5	25.9
Being purchased[(c)]	%	23.3	41.0	14.9	29.7	19.8	38.5
Total home owners	*%*	*38.6*	*67.9*	*25.6*	*53.1*	*31.3*	*64.4*
Renters							
Private and other landlord types[(d)]	%	24.6	24.4	28.7	29.2	26.6	26.0
State/territory housing authority	%	17.2	1.3	29.2	7.1	23.3	2.8
Housing co-operative or church group	%	0.9[(e)]	0.2[(f)]	0.7[(e)]	0.6	0.7	0.3
Indigenous Housing Organisation/ Community housing	%	16.8	. .	14.5	. .	16.4	. .
Total renters[(g)]	*%*	*59.8*	*25.9*	*73.2*	*36.7*	*67.1*	*29.1*
Other tenure types[(h)]	%	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**

(a) Data are age-standardised.
(b) Persons 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 nfd.
(i) Excludes tenure type not stated.

Source: AIHW analysis of 2008 NATSISS & 2007–08 NHS.

Table 2.09.7a: 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	. .	12.1
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	. .	17.4
Repairs and maintenance carried out in last 12 months	30.5	. .	. .	67.9	. .	30.5
Dwelling requires additional bedroom(s)	15.5	. .	. .	83.6	. .	15.5
Mobility						
Moved dwellings in last 12 months	11.5	. .	. .	86.3	. .	11.5
Total	**29.2**	**. .**	**. .**	**69.2**	**. .**	**29.2**

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant 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.

Sources: NATSISS 2008 and NHS 2007–08.

Table 2.09.7b: 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[(d)]						
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 statistically significant 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.

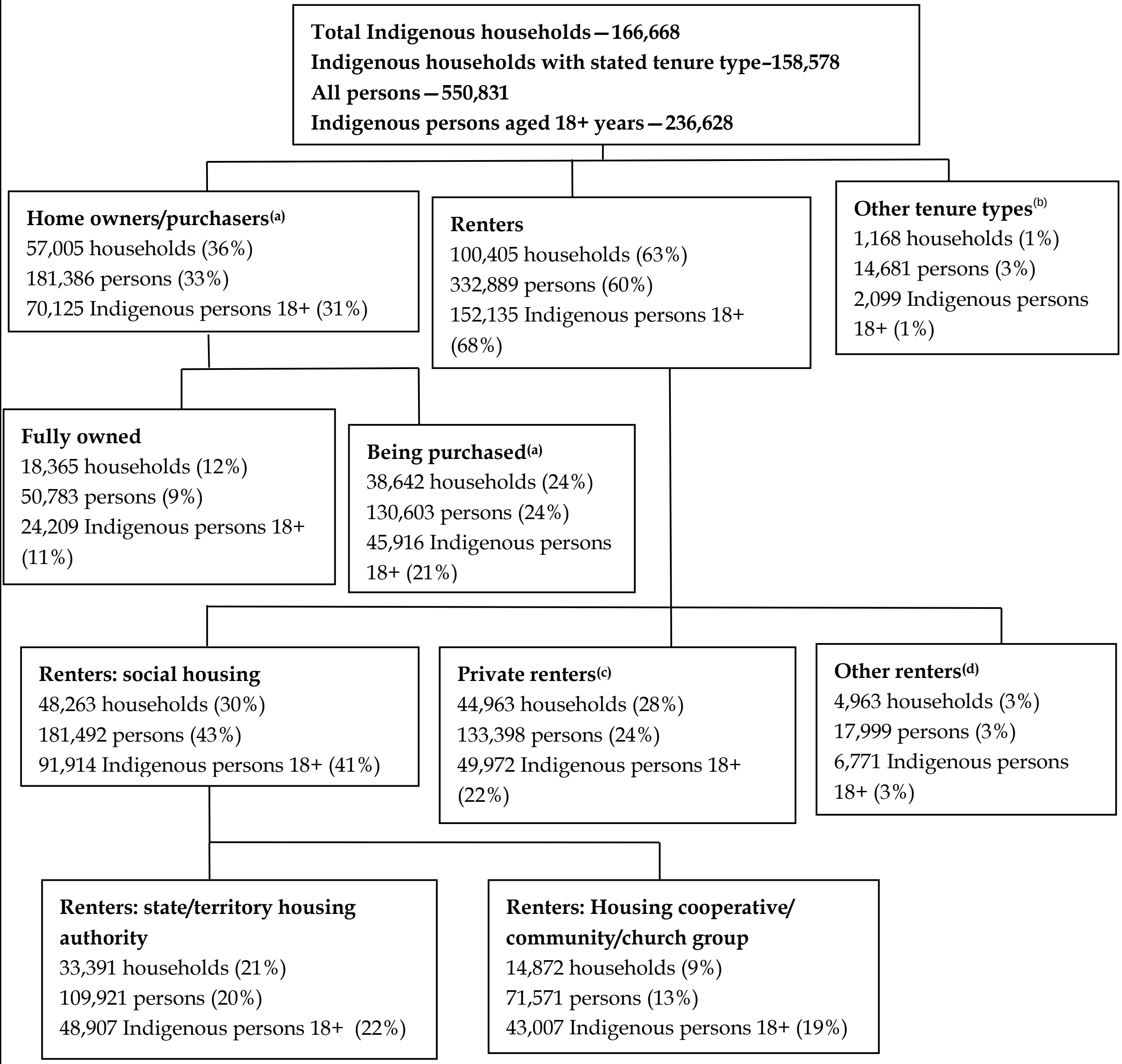
(d) For persons aged 15–64 years.

Sources: NATSISS 2008 and NHS 2007–08.

Census data

Tenure type

- In 2006 there were 166,668 Indigenous households with 550,831 total persons. There were 411,334 total Indigenous persons and 236,682 Indigenous persons aged 18 years and over living in Indigenous households.
- Among the 158,578 Indigenous households where tenure type was stated in 2006, 36% were home owners or purchasers, 31.5% were private and other renters, and 30% were renters of some form of social housing (Figure 2.09.2). This can be compared with non-Indigenous households where 71% were home owners or purchasers, and 28% were renters (Table 2.09.8).
- 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 households live in remote areas on Indigenous land where individual home ownership is generally not possible. In 2006, 12% of Indigenous households owned their homes outright and 24% were purchasing their homes.
- In 2006, the majority of Indigenous households lived in some form of rental accommodation (63%). The largest group were renters of social housing, which included those renting from state or territory housing authorities (that is, those in public housing and State Owned and Managed Indigenous Housing (SOMIH) (21%) and those renting from housing cooperatives, communities or church groups (9%). Around 28% of Indigenous households were in the private rental market.
- In 2006, approximately 31% of Indigenous persons aged 18 years and over were home owners and 68% were renters. Around 19% of Indigenous adults were renters of housing cooperative, community or church group housing. In comparison, 74% of non-Indigenous adults were home owners, and 26% were renters (Table 2.09.8).



Total Indigenous households—166,668
Indigenous households with stated tenure type–158,578
All persons—550,831
Indigenous persons aged 18+ years—236,628

Home owners/purchasers[a]
57,005 households (36%)
181,386 persons (33%)
70,125 Indigenous persons 18+ (31%)

Renters
100,405 households (63%)
332,889 persons (60%)
152,135 Indigenous persons 18+ (68%)

Other tenure types[b]
1,168 households (1%)
14,681 persons (3%)
2,099 Indigenous persons 18+ (1%)

Fully owned
18,365 households (12%)
50,783 persons (9%)
24,209 Indigenous persons 18+ (11%)

Being purchased[a]
38,642 households (24%)
130,603 persons (24%)
45,916 Indigenous persons 18+ (21%)

Renters: social housing
48,263 households (30%)
181,492 persons (43%)
91,914 Indigenous persons 18+ (41%)

Private renters[c]
44,963 households (28%)
133,398 persons (24%)
49,972 Indigenous persons 18+ (22%)

Other renters[d]
4,963 households (3%)
17,999 persons (3%)
6,771 Indigenous persons 18+ (3%)

Renters: state/territory housing authority
33,391 households (21%)
109,921 persons (20%)
48,907 Indigenous persons 18+ (22%)

Renters: Housing cooperative/ community/church group
14,872 households (9%)
71,571 persons (13%)
43,007 Indigenous persons 18+ (19%)

(a) Includes households and persons in rent/buy schemes.
(b) Includes households and persons under a life tenure scheme.
(c) Includes households and persons renting from real estate agents, unrelated persons and relatives.
(d) Includes households and persons renting through a residential park (includes caravan parks and marinas), employer—government (includes Defence Housing Authority) and employer—other (private).

Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.09.2: Indigenous households and persons, by tenure type, 2006

Table 2.09.8: Households and persons, by tenure type and Indigenous status, 2006

	Persons[a]				Households			
	Indigenous		Non-Indigenous		Indigenous[b]		Non-Indigenous	
	Number	%	Number	%	Number	%	Number	%
Home owners								
Fully owned	24,209	10.8	4,708,619	35.7	18,365	11.6	2,412,368	35.6
Being purchased	45,916	20.5	4,990,162	37.8	38,642	24.4	2,397,477	35.4
Total home owners	*70,125*	*31.3*	*9,698,781*	*73.5*	*57,005*	*35.9*	*4,809,842*	*71.0*
Renters								
State or territory housing authority	48,907	21.8	422,469	3.2	33,391	21.1	271,024	4.0
Housing cooperative/ community/church group	43,007	19.2	52,117	0.4	14,872	9.4	35,282	0.5
Private[c]	49,972	22.3	2,641,717	20.0	44,963	28.4	1,453,235	21.4
Other[d]	6,771	3.0	182,002	1.4	4,963	3.1	94,474	1.4
Total renters[e]	*152,135*	*67.8*	*3,394,685*	*25.7*	*100,405*	*63.3*	*1,910,044*	*28.2*
Other tenure types[f]	2,099	0.9	98,090	0.7	1,168	0.7	58,914	0.9
Total stated	**224,359**	**100.0**	**13,191,556**	**100.0**	**158,578**	**100.0**	**6,778,800**	**100.0**
Tenure type not stated	12,269	5.2	304,791	2.3	8,090	4.9	198,624	2.8
Total[g]	**236,628**	**100.0**	**13,496,347**	**100.0**	**166,668**	**100.0**	**6,977,424**	**100.0**

(a) Persons aged 18 years and over.

(b) A household with Indigenous person(s) is any household that had at least one person of any age as a resident at the time of the Census who identified as having Aboriginal and/or Torres Strait Islander origins.

(c) Includes dwellings being rented from a parent/other relative or other person.

(d) Includes dwellings being rented through a residential park (includes caravan parks and marinas), employer—government (includes Defence Housing Authority), employer—other employer (private), and not stated.

(e) Total includes rental type status not stated.

(f) Includes dwellings being purchased under a rent/buy scheme, being occupied rent-free, being occupied under a life tenure scheme, other tenure type not further defined.

(g) Includes not stated.

Source: ABS and AIHW analysis of 2006 Census data.

Tenure type by age

- Indigenous and non-Indigenous Australians aged 55 years and over were most likely to be home owners in 2006 (41% and 84% respectively) than those in the other age groups (Table 2.09.9).
- In 2006, the highest proportion of Indigenous renters were aged 18–24 years (74%), and the highest proportion of non-Indigenous renters were aged 25–34 years (41%).
- Across all age groups Indigenous Australians were more likely to be renting and less likely to be home owners than non-Indigenous Australians in 2006.

Table 2.09.9: Proportion of Indigenous and non-Indigenous persons[(a)], by tenure type and age group, 2006

	18–24		25–34		35–44		45–54		55+		Total	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
							Per cent					
Home owners												
Fully owned	7.2	21.9	5.1	12.8	7.2	17.2	13.4	33.0	28.3	67.6	10.8	35.7
Being purchased	17.9	36.9	20.0	45.7	25.1	55.7	24.7	47.2	13.0	16.6	20.5	37.8
Total home owners	*25.1*	*58.8*	*25.1*	*58.5*	*32.3*	*72.9*	*38.2*	*80.2*	*41.3*	*84.1*	*31.3*	*73.5*
Renters												
State or territory housing authority	20.9	3.2	21.4	2.4	22.2	2.9	21.6	3.2	23.5	3.9	21.8	3.2
Housing cooperative/ community/ church group	19.8	0.4	20.5	0.3	19.0	0.3	17.4	0.3	18.2	0.6	19.2	0.4
Private[(b)]	28.8	34.7	27.4	35.4	20.9	21.2	17.3	14.1	11.6	8.3	22.3	20.0
Other[(c)]	3.1	1.8	3.2	2.1	3.2	1.6	2.9	1.2	2.2	0.8	3.0	1.4
Total renters[(d)]	*74.1*	*40.8*	*74.0*	*41.0*	*66.7*	*26.6*	*60.8*	*19.3*	*57.4*	*14.4*	*67.8*	*25.7*
Other tenure types[(e)]	0.7	0.4	0.9	0.4	1.0	0.4	1.0	0.4	1.2	1.4	0.9	0.7
Total stated	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Tenure type not stated	4.7	2.1	4.9	1.7	5.0	1.6	5.2	1.6	6.7	3.4	5.2	2.3
Total number[(f)]	**51,155**	**1,637,271**	**57,824**	**2,393,620**	**54,156**	**2,670,759**	**38,508**	**2,527,839**	**34,987**	**4,266,856**	**236,630**	**13,496,345**

(a) Persons aged 18 years and over.

(b) Includes dwellings being rented from a real estate agent, parent/other relative or other person.

(c) Includes dwellings being rented through a residential park (includes caravan parks and marinas), employer—government (includes Defence Housing Authority), employer—other employer (private), and not stated.

(d) Total includes rental type status not stated.

(e) Includes being purchased under a rent/buy scheme, being occupied rent-free, being occupied under a life tenure scheme, other tenure type not further defined.

(f) Includes tenure type not stated.

Source: ABS and AIHW analysis of 2006 Census data.

Tenure type by state/territory

- In 2006, the proportion of Indigenous persons aged 18 years and over who were home owners/purchasers was highest in Tasmania (57%) and the Australian Capital Territory (43%) (Table 2.09.10).
- In 2006, the Northern Territory had the lowest proportion of Indigenous households who were home owners (20%) and the highest proportion living in housing cooperative, community or church group housing (46%) (Table 2.09.10).
- South Australia (31%) and Western Australia (28%) had a relatively high proportion of households renting from the state housing authority, that is, those in public housing and SOMIH.

Table 2.09.10: Proportion of households and persons aged 18 years and over, by tenure type, Indigenous status and state/territory, 2006

	NSW		Vic		Qld		WA		SA		Tas		NT		ACT	
	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[(a)]							
Home owners																
Fully owned	14.3	36.5	15.3	37.6	9.7	32.9	7.0	33.4	9.5	36.9	20.8	39.6	3.3	20.1	9.2	31.3
Being purchased[(b)]	23.0	35.9	27.9	38.9	19.3	37.4	19.2	41.3	22.4	38.6	35.8	36.9	7.2	39.2	33.4	40.9
Total home owners	*37.3*	*72.3*	*43.2*	*76.6*	*29.0*	*70.4*	*26.2*	*74.7*	*31.9*	*75.5*	*56.6*	*76.5*	*10.5*	*59.3*	*42.6*	*72.1*
Renters																
State or territory housing authority	23.1	3.6	21.3	2.4	20.2	2.5	29.9	2.8	32.7	5.2	16.2	4.4	10.6	5.8	26.7	6.2
Housing cooperative/ community/church group	7.9	0.4	3.4	0.3	16.5	0.4	21.7	0.3	13.8	0.8	1.0	0.5	68.3	0.9	3.1	0.3
Private renter[(c)]	26.8	21.2	27.7	18.6	27.3	23.2	15.8	18.5	16.6	15.3	22.1	15.6	5.8	21.6	24.8	19.1
Other landlord type[(d)]	2.4	1.1	2.1	0.9	4.3	2.0	3.5	2.0	2.8	1.4	2.2	1.4	2.1	10.1	1.3	1.4
Total renters[(e)]	*62.0*	*27.0*	*55.8*	*22.8*	*70.0*	*28.9*	*72.5*	*24.4*	*67.4*	*23.4*	*42.7*	*22.8*	*88.3*	*39.9*	*56.7*	*27.4*
Other tenure type[(f)]	0.7	0.7	1.0	0.6	1.0	0.8	1.3	0.9	0.8	1.1	0.6	0.7	1.2	0.8	0.7	0.5
Total stated	**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**
Tenure type not stated	4.4	2.3	6.0	2.4	4.7	2.1	6.7	2.1	6.3	2.3	2.8	2.3	6.5	2.2	1.8	1.4
Total number ('000)	**71.3**	**4,454.5**	**16.2**	**3,449.3**	**64.7**	**2,596.5**	**29.9**	**1,293.8**	**13.6**	**1,065.3**	**9.1**	**324.1**	**29.5**	**87.1**	**2.1**	**224.4**

(continued)

Table 2.09.10 (continued): Proportion of households and persons aged 18 years and over, by tenure type, Indigenous status and state /territory, 2006

	NSW		Vic		Qld		WA		SA		Tas		NT		ACT	
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
									Households							
Home owners																
Fully owned	13.8	36.4	14.0	37.5	10.2	33.2	8.2	32.9	9.9	36.2	18.6	39.9	4.9	18.8	8.9	30.7
Being purchased[b]	24.0	33.1	28.3	36.7	23.2	35.1	24.3	39.0	26.0	36.0	35.5	34.4	15.2	37.6	33.5	39.3
Total home owners	*37.8*	*69.5*	*42.3*	*74.1*	*33.4*	*68.3*	*32.5*	*72.0*	*35.9*	*72.2*	*54.1*	*74.3*	*20.0*	*56.4*	*42.4*	*70.0*
Renters																
State or territory housing authority	22.0	4.4	20.7	3.0	17.1	3.1	27.7	3.6	30.6	6.7	17.1	5.4	15.9	6.9	26.9	7.7
Housing cooperative/ community/church group	5.1	0.5	2.6	0.4	9.5	0.4	12.0	0.4	6.9	1.0	0.9	0.6	46.0	0.9	2.2	0.4
Private renter[c]	30.7	22.8	30.4	20.2	33.6	24.3	21.7	20.1	21.8	16.6	23.8	16.6	11.7	22.9	25.8	19.6
Other landlord type[d]	2.3	1.1	2.0	0.8	4.3	2.0	4.0	2.0	2.8	1.3	2.2	1.4	3.8	10.6	1.3	1.4
Total renters[e]	*61.6*	*29.6*	*56.8*	*25.2*	*65.9*	*30.8*	*66.7*	*27.0*	*63.3*	*26.4*	*45.3*	*24.9*	*78.9*	*42.9*	*56.8*	*29.4*
Other tenure type[f]	0.6	0.9	0.9	0.7	0.7	0.9	0.9	1.1	0.8	1.3	0.6	0.8	1.1	0.7	0.7	0.5
Total stated	**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**
Tenure type not stated	4.2	2.9	5.3	3.0	4.3	2.7	6.4	2.7	5.6	2.9	2.7	3.0	8.7	2.7	1.7	1.7
Total number ('000)	**57.2**	**2,271.0**	**14.2**	**1,767.5**	**45.9**	**1,345.7**	**18.4**	**684.8**	**10.0**	**574.0**	**7.9**	**174.0**	**11.2**	**44.7**	**1.8**	**115.1**

(a) Persons aged 18 years and over. Excludes visitors to private dwellings.

(b) Includes dwellings being purchased under a rent/buy scheme.

(c) Includes dwellings being rented from a real estate agent, parent/other relative or other person.

(d) Includes dwellings being rented through a residential park (includes caravan parks and marinas), employer—government (includes Defence Housing Authority) and employer—other employer (private).

(e) Total includes rental type status not stated.

(f) Includes dwellings occupied under a life tenure scheme.

Source: ABS and AIHW analysis of 2006 Census data.

Tenure type by remoteness

- In 2006, the proportion of Indigenous persons in the different tenure types varied by remoteness. Of the estimated 56,089 Indigenous persons aged 18 years and over in remote areas for whom tenure type was stated, 59% were renters of housing cooperative, community or church group housing, 17% were renters of state/territory housing, 5% were renters through private landlords and 11% were home owners. In comparison, among the estimated 167,548 Indigenous persons aged 18 years and over in non-remote areas for whom tenure type was stated, 6% were renters of housing cooperative, community or church group housing, 23% were renters of state/territory housing, 28% were renters through private landlords and over one-third (38%) were homeowners (Table 2.09.11).
- In 2006, the proportion of non-Indigenous persons in the different tenure types also varied by remoteness, but not as much as among Indigenous persons. Among non-Indigenous persons aged 18 years and over in remote areas for whom tenure type was stated, approximately 62% were home owners and 37% were renters. This compared with 74% and 26% respectively of non-Indigenous adults in non-remote areas (Table 2.09.11 and Figure 2.09.3).

Table 2.09.11: Households and persons, by tenure type, Indigenous status and remoteness, 2006

	Remote				Non-remote				Total			
	Indigenous		**Non-Indigenous**		**Indigenous**		**Non-Indigenous**		**Indigenous**		**Non-Indigenous**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
						Persons[a]						
Home owners												
Fully owned	2,905	5.2	74,085	35.2	21,188	12.6	4,624,346	35.7	24,209	10.8	4,708,619	35.7
Being purchased	3,232	5.8	55,641	26.4	42,589	25.4	4,929,751	38.0	45,916	20.5	4,990,162	37.8
Total home owners	*6,137*	*10.9*	*129,726*	*61.6*	*63,777*	*38.1*	*9,554,097*	*73.7*	*70,125*	*31.3*	*9,698,781*	*73.5*
Renters												
State or territory housing authority	9,434	16.8	9,080	4.3	39,233	23.4	411,809	3.2	48,907	21.8	422,469	3.2
Housing cooperative/community/church group	33,090	59.0	2,173	1.0	9,882	5.9	49,730	0.4	43,007	19.2	52,117	0.4
Private[b]	2,916	5.2	29,658	14.1	46,884	28.0	2,606,561	20.1	49,972	22.3	2,641,717	20.0
Other[c]	2,386	4.3	29,586	14.0	4,354	2.6	151,324	1.2	6,771	3.0	182,002	1.4
Total renters[d]	*48,964*	*87.3*	*77,441*	*36.8*	*102,683*	*61.3*	*3,308,283*	*25.5*	*152,135*	*67.8*	*3,394,685*	*25.7*
Other tenure types[e]	988	1.8	3,415	1.6	1,088	0.6	94,167	0.7	2,099	0.9	98,090	0.7
Total stated	**56,089**	**100.0**	**210,582**	**100.0**	**167,548**	**100.0**	**12,956,547**	**100.0**	**224,359**	**100.0**	**13,191,556**	**100.0**
Tenure type not stated	3,596	6.0	5,936	2.7	8,579	4.9	297,599	2.2	12,269	5.2	304,791	2.3
Total[f]	**59,685**	**100.0**	**216,518**	**100.0**	**176,127**	**100.0**	**13,254,146**	**100.0**	**236,628**	**100.0**	**13,496,347**	**100.0**

(continued)

Table 2.09.11 (continued): Households and persons, by tenure type, Indigenous status and remoteness, 2006

	Remote				**Non-remote**				**Total**			
	Indigenous		**Non-Indigenous**		**Indigenous**		**Non-Indigenous**		**Indigenous**		**Non-Indigenous**	
	Number	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**	**Number**	**%**
						Households[g]						
Home owners												
Fully owned	1,804	8.0	39,461	35.3	16,555	12.2	2,372,911	35.6	18,365	11.6	2,412,368	35.6
Being purchased	2,222	9.8	27,345	24.4	36,415	26.8	2,370,129	35.6	38,642	24.4	2,397,477	35.4
Total home owners	*4,028*	*17.8*	*66,807*	*59.7*	*52,973*	*39.0*	*4,743,036*	*71.1*	*57,005*	*35.9*	*4,809,842*	*71.0*
Renters												
State or territory housing authority	4,460	19.7	5,558	5.0	28,939	21.3	265,471	4.0	33,391	21.1	271,024	4.0
Housing cooperative/community/church group	9,758	43.0	1,183	1.1	5,118	3.8	34,098	0.5	14,872	9.4	35,282	0.5
Private[b]	1,987	8.8	16,268	14.5	42,971	31.6	1,436,964	21.6	44,963	28.4	1,453,235	21.4
Other[c]	1,560	6.9	16,330	14.6	3,402	2.5	78,145	1.2	4,963	3.1	94,474	1.4
Total renters[d]	*18,292*	*80.7*	*43,339*	*38.7*	*82,110*	*60.4*	*1,866,707*	*28.0*	*100,405*	*63.3*	*1,910,044*	*28.2*
Other tenure types[e]	360	1.6	1,777	1.6	811	0.6	57,136	0.9	1,168	0.7	58,914	0.9
Total stated	**22,680**	**100.0**	**111,923**	**100.0**	**135,894**	**100.0**	**6,666,879**	**100.0**	**158,578**	**100.0**	**6,778,800**	**100.0**
Tenure type not stated	1,657	6.8	4,002	3.5	6,433	4.5	194,622	2.8	8,090	4.9	198,624	2.8
Total[f]	**24,337**	**100.0**	**115,925**	**100.0**	**142,327**	**100.0**	**6,861,501**	**100.0**	**166,668**	**100.0**	**6,977,424**	**100.0**

(a) Persons aged 18 years and over.

(b) Includes dwellings being rented from a real estate agent, parent/other relative or other person.

(c) Includes dwellings being rented through a residential park (includes caravan parks and marinas), employer—government (includes Defence Housing Authority), employer—other employer (private), and not stated.

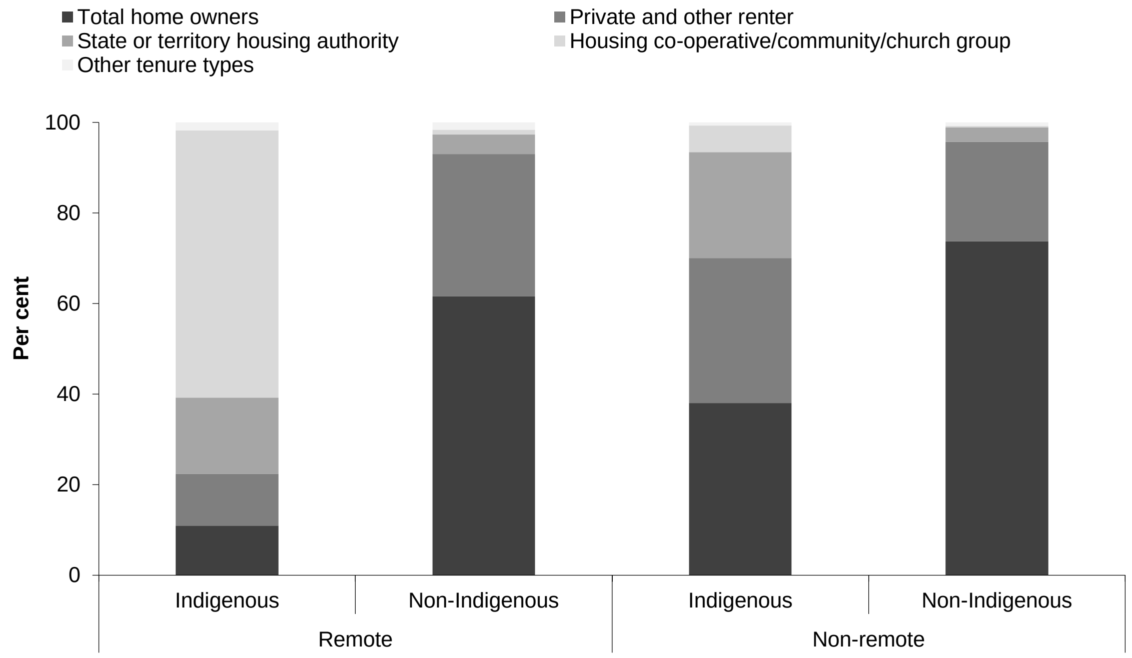
(d) Total includes rental type status not stated.

(e) Includes dwellings being purchased under a rent/buy scheme, occupied rent-free, occupied under a life tenure scheme, other tenure type not further defined.

(f) Includes tenure type not stated.

(g) A household with Indigenous person(s) is any household that had at least one person of any age as a resident at the time of the Census who identified as having Aboriginal and/or Torres Strait Islander origins.

Source: ABS and AIHW analysis of 2006 Census data.



Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.09.3: Percentage of persons aged 18 years and over, by tenure type, Indigenous status and remoteness, 2006

Time series

- Between 1996 and 2006, there was a decrease in the proportion of Indigenous households and Indigenous persons aged 18 years and over who were home owners without a mortgage, but an increase in the proportion of Indigenous households who were purchasing their homes.
- Over the same period, there was a slight decrease in the proportion of Indigenous households and Indigenous persons who were renters (Table 2.09.12).

Table 2.09.12: Indigenous households and persons, by tenure type, 1996, 2001 and 2006

	1996		2001		2006	
	Number	**%**	**Number**	**%**	**Number**	**%**
			Persons[(a)]			
Home owners						
Owned without a mortgage	19,757	12.6	24,019	11.8	24,212	10.3
Being purchased	22,729	14.5	32,940	16.2	44,545	19.0
Total home owners	*42,486*	*27.0*	*56,959*	*28.1*	*68,757*	*29.3*
Renters						
Private	34,543	22.0	44,721	22.0	49,307	21.0
State or territory housing authority	36,920	23.5	42,645	21.0	48,751	20.8
Housing cooperative/ community/church group	27,098	17.2	44,834	22.1	41,723	17.8
Total renters[(b)]	*112,872*	*71.8*	*142,542*	*70.3*	*153,509*	*65.4*
Other tenure type[(c)]	1,802	1.1	3,346	1.6	12,636	5.4
Total stated	**157,160**	**100.0**	**202,847**	**100.0**	**234,902**	**100.0**
Tenure type not stated	11,863	7.0	7,152	3.4	1,727	0.7
Total	**169,023**	**100.0**	**209,999**	**100.0**	**236,629**	**100.0**
			Households			
Home owners						
Owned without a mortgage	15,016	13.3	18,184	13.0	18,364	11.6
Being purchased	20,711	18.3	28,035	20.0	37,663	23.8
Total home owners	*35,727*	*31.6*	*46,219*	*33.0*	*56,027*	*35.3*
Renters						
Private	31,943	28.3	39,601	28.3	44,406	28.0
State or territory housing authority	26,869	23.8	29,517	21.1	33,294	21.0
Housing cooperative/ community/church group	10,576	9.4	15,733	11.2	14,458	9.1
Total renters[(b)]	*76,202*	*67.4*	*91,878*	*65.6*	*101,387*	*63.9*
Other tenure type[(c)]	1,075	1.0	1,892	1.4	1,164	0.7
Total stated	**113,004**	**100.0**	**139,989**	**100.0**	**158,578**	**100.0**
Tenure type not stated	5,135	4.3	4,743	3.3	8,092	4.9
Total	**118,140**	**100.0**	**144,731**	**100.0**	**166,670**	**100.0**

(a) Persons aged 18 years and over.

(b) Includes dwellings being rented through a residential park (includes caravan parks and marinas), employer—government (includes Defence Housing Authority), employer—other employer (private), rent/buy schemes, rent-free dwellings and landlord type not stated.

(c) Includes dwellings occupied under a life tenure scheme.

Note: The figures for 2006 in this table differ slightly from those in the other tables in this measure which use 2006 Census data. This is because the categories of tenure type used in this table have been altered from those in other tables to enable consistency across the three Census years.

Source: ABS and AIHW analysis of 2006 Census data.

Additional information

The Supported Accommodation Assistance Program (SAAP) is part of Australia's overall response to homelessness. The SAAP funds non-government, community or local government agencies that provide accommodation and support services to a range of groups—single men, single women, young people, families, women and children escaping domestic violence, or a combination of client groups (AIHW 2008).

- In 2006–07 it was estimated that 187,900 people who were homeless or at risk of becoming homeless received some form of assistance from SAAP.
- Indigenous people were over-represented as SAAP clients relative to their population size: 2% of Australians aged 10 years and over were estimated to be Aboriginal and/or Torres Strait Islander at 30 June 2006, but they made up 18% of all SAAP clients in 2006–07. The rate of service use was particularly high for accompanying Aboriginal and Torres Strait Islander children (1 in 13) compared with all children (1 in 71).

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, 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 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. 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).

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).

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 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.

Housing tenure data

It is likely that the Census data understate the number of households and residents in community rental housing. The Community Housing and Infrastructure Needs Survey counted 21,854 permanent dwellings managed by Indigenous Housing Organisations, of which 20,407 were occupied. The Census data for the same period found 14,879 households with Indigenous residents in community rental housing. It is likely that some households with Indigenous residents have recorded a state/territory housing authority or private owner as their landlord on the Census when they were actually renting community housing (SCRGSP 2003).

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 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 2001 Census of Population and Housing and the 2006 Census of Population and Housing.

Census of Population and Housing

The Australian Bureau of Statistics (ABS) conducts the Census of Population and Housing at five-yearly intervals, with 2006 being the most recent, and it 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 under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

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 socioeconomic 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 socioeconomic conditions.

Index of Relative Socioeconomic Advantage and Disadvantage

This Index of Relative Socioeconomic Advantage and Disadvantage (IRSAD) is a continuum of most disadvantaged through to most advantaged 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).

Data analyses

Following the concepts and methodology of the IRSAD, persons surveyed were ranked according to their IRSAD and then split into deciles or quintiles based on total population.

Analysis of the SEIFA results at small area levels has found that within any area there will be individuals and subpopulations with very different characteristics to 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. This issue is particularly relevant for the Indigenous population, because they make up a small proportion of the population in most areas in Australia. Kennedy and Firman (2004) found that Indigenous Australians suffer a high level of social and economic disadvantage, regardless of whether they live in high or low socioeconomic status areas. They found that 93.3% of Indigenous people in Queensland are in the lowest decile for disadvantage. Of the approximately 126,000 Indigenous people living in Queensland, less than 2,000 have SEIFA scores in the top five deciles, even though 35,000 live in areas coded to SEIFA scores in the top five deciles. Therefore, the traditional approach to analysing SEIFA at an area level masks the socioeconomic status of Indigenous Australians, due to their small numbers in most areas. Kennedy and Firman also call into question the view that Aboriginal and Torres Strait Islander people living in urban areas are generally better off than those in remote areas.

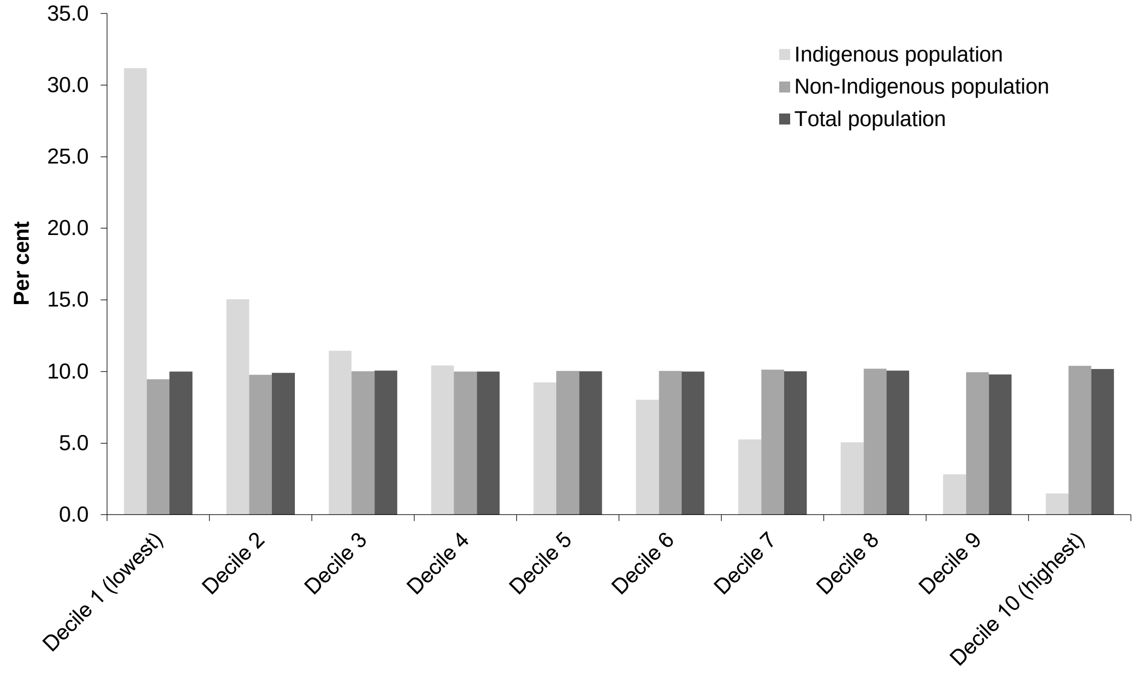
SEIFA

- Indigenous Australians are over-represented in the three most disadvantaged deciles; for example, 31% of the Indigenous population are in the most disadvantaged decile compared with 10% of the non-Indigenous population (Table 2.10.1; Figure 2.10.1).
- Only 2% of the Indigenous population are in the most advantaged decile compared with 10% of the non-Indigenous population (Table 2.10.1; Figure 2.10.1).

Table 2.10.1: 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 2.10.1: Population distribution by SEIFA advantage/disadvantage decile, by Indigenous status, 2006

SEIFA by state/territory

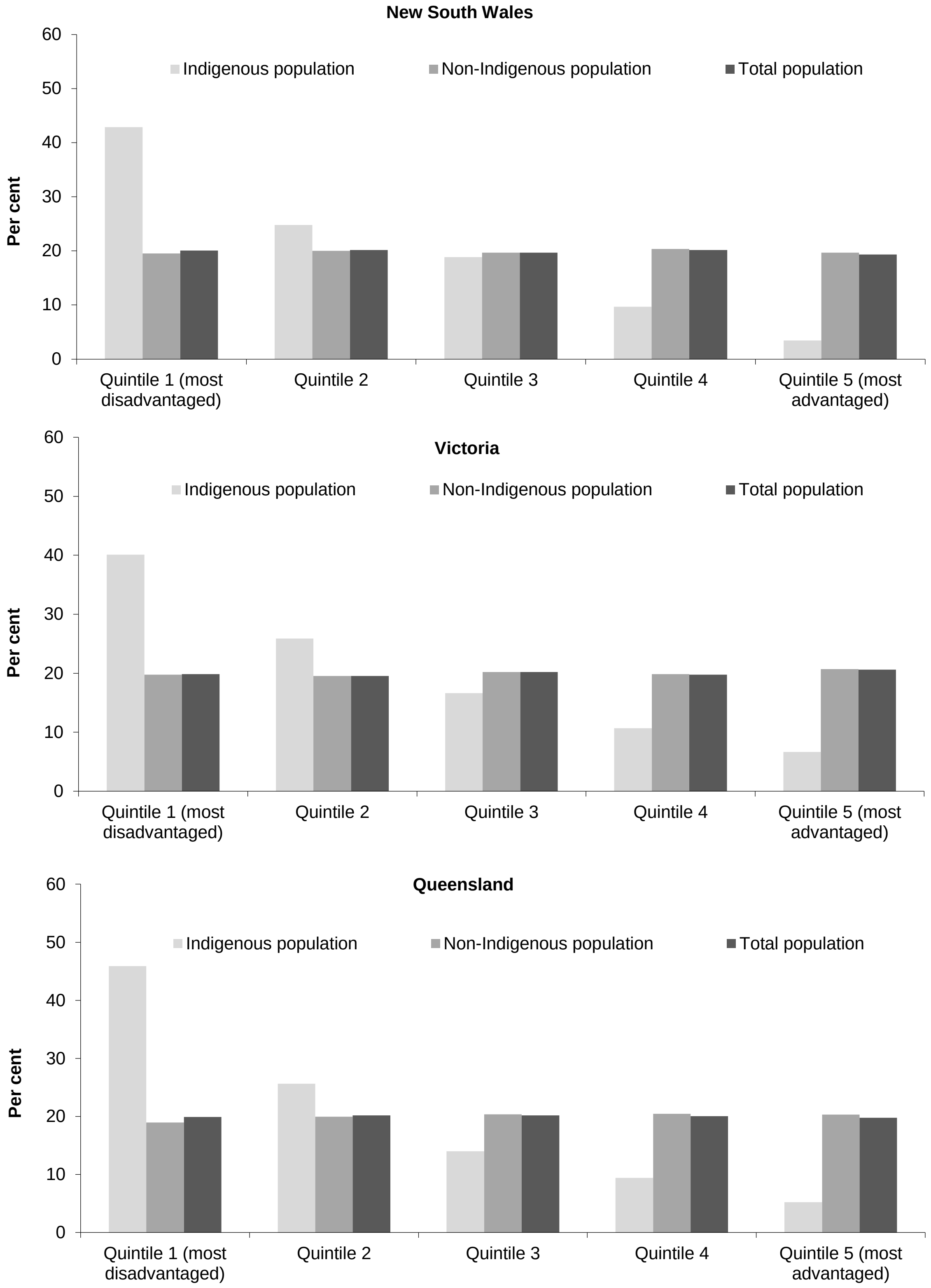
- In 2006, in all states and territories a greater proportion of the Indigenous population were in the most disadvantaged quintile compared with the non-Indigenous population. The Northern Territory had the highest proportion (58%) (Table 2.10.2c; Figure 2.10.2c) and the Australian Capital Territory had the lowest proportion (27%) of the Indigenous population in the most disadvantaged quintile (Table 2.10.2b; Figure 2.10.2b).
- 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 2.10.2a to 2.10.2c ; figures 2.10.2a and 2.10.2b).

Table 2.10.2a: 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.

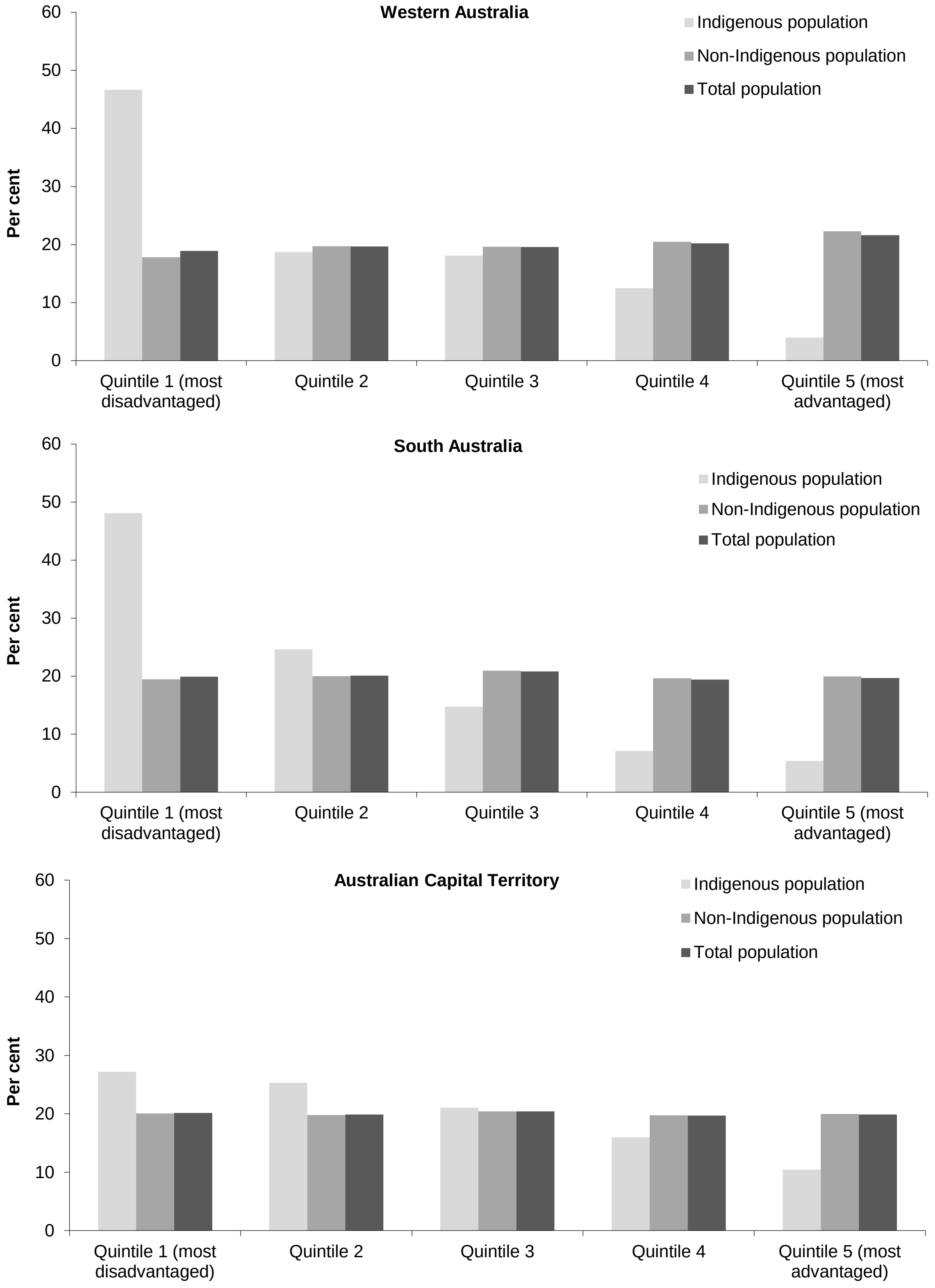
Figure 2.10.2a: Population distribution by SEIFA advantage/disadvantage quintiles, by Indigenous status, NSW, Vic & Qld, 2006

Table 2.10.2b: 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.

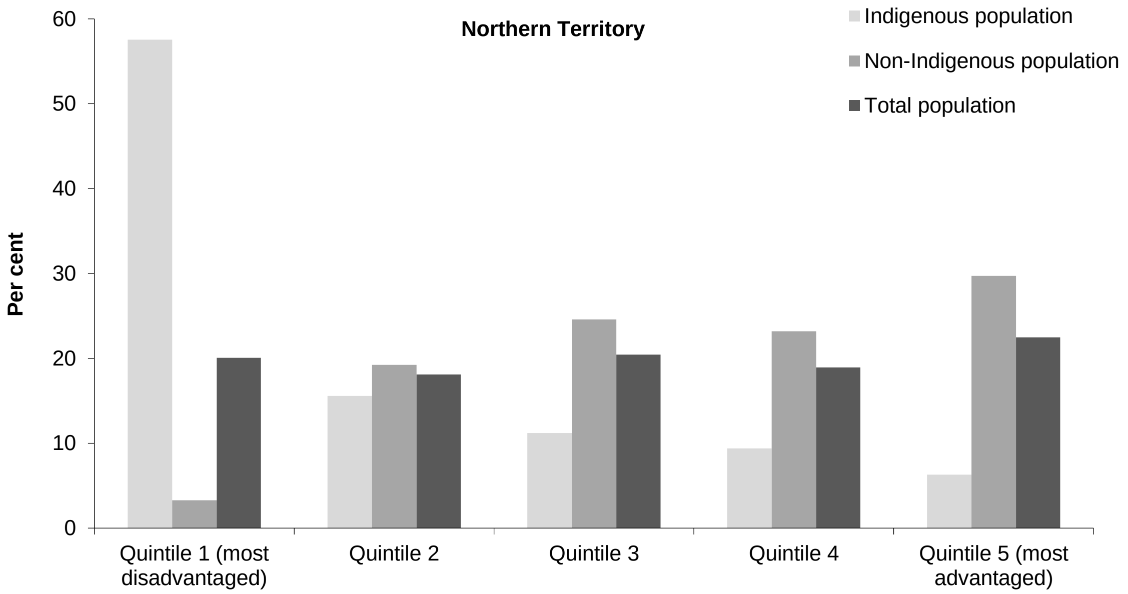
Figure 2.10.2b: Population distribution by SEIFA advantage/disadvantage quintiles, by Indigenous status, WA, SA & ACT, 2006

Table 2.10.2c: 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 2.10.2c: 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 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 under-counted (ABS 1996).

For the 2002 National Aboriginal and Torres Strait Islander Social Survey, 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.

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

References

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ABS 2003. Information paper: Census of Population and Housing, Socioeconomic Indexes for Areas, Australia 2001. ABS cat. no. 2039.0. Canberra: ABS.

Baker J & Adhikari P 2007. Research paper: Socioeconomic indexes for individuals and families. ABS cat. no. 1352.0.55.86. Canberra: ABS.

Kennedy B & Firman D 2004. Indigenous SEIFA—revealing the ecological fallacy. Paper presented at the 12th Biennial Conference of the Australian Population Association, Canberra, September 2004.

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2.11 Dependency ratio

The dependency ratio is expressed as a percentage derived as follows:

$$\frac{\mathit{Percentage\ of\ population\ aged\ under}\ 15\ \mathit{years} + \mathit{percentage\ of\ pupulation\ aged}\ 65\ \mathit{years\ and\ over}}{\mathit{Percentage\ of\ population\ aged}\ 15\text{–}\ 64\ \mathit{years}}$$

It is used as a substitute for the ratio between those who are not economically active (and therefore dependent) and those who are economically active.

The youth and aged dependency ratios can be calculated separately if required:

Youth dependency ratio

$$\frac{\mathit{Percentage\ of\ population\ aged\ under}\ 15\ \mathit{years}}{\mathit{Percentage\ of\ population\ aged}\ 15\text{–}64\ \mathit{years}}$$

Aged dependency ratio

$$\frac{\mathit{Percentage\ of\ population\ aged}\ 65\ \mathit{years\ and\ over}}{\mathit{Percentage\ of\ population\ aged}\ 15\text{–}64\ \mathit{years}}$$

Data sources

Census of Population and Housing

The Australian Bureau of Statistics (ABS) conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, and it 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 under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

The time series data presented for this measure come from the ABS Indigenous-specific 'Series B' population estimates and projections based on the 2006 Census of Population and Housing. The Census year estimate of the Indigenous population is used as the basis for revising Indigenous population figures for previous years. This adjustment removes the effects of unexplained growth between censuses from Indigenous time series, and presents growth in terms of demographic factors alone (following the development of the 2001 Indigenous population estimates, the size and structure of the Indigenous population for 1986 to 2005 were recalculated based on the 2006 estimates).

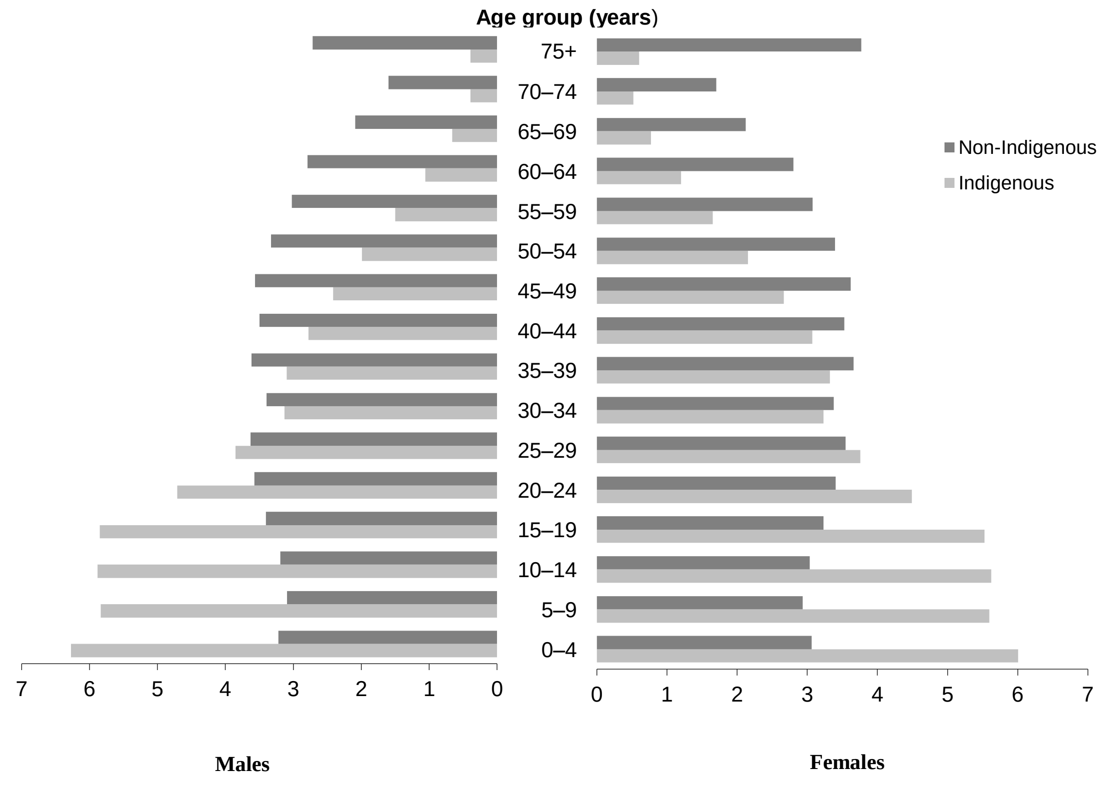
Because Indigenous population estimates by remoteness region are available only for the Census years 2001 and 2006, data by remoteness are presented for these years only.

Data analyses

Age distribution of population

- In 2010 for the total Australian population, 19% of people were aged under 15 years, 67% were aged 15–64 years and 14% were aged 65 years and over.
- The Indigenous population has a younger age structure than the non-Indigenous population, which is shown in the population pyramid in Figure 2.11.1. In 2010, 35% of Indigenous people were aged under 15 years compared with 19% of non-Indigenous people. People aged 65 years and over made up 3% of the Indigenous population and 14% of the non-Indigenous population. These figures reflect higher rates of fertility and deaths occurring at younger ages among the Indigenous population.

The age structures of the Indigenous and non-Indigenous populations are similar across most states and territories (Table 2.11.2).



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

Figure 2.11.1: Population profile, by Indigenous status, age and sex, 2010

Table 2.11.1: Age distribution of Australian population, by Indigenous status and sex, 2010

	Indigenous		Non-Indigenous	
	Male	**Female**	**Male**	**Female**
		Per cent		
0–4	6.3	6.0	3.2	3.1
5–9	5.8	5.6	3.1	2.9
10–14	5.9	5.6	3.2	3.0
15–19	5.9	5.5	3.4	3.2
20–24	4.7	4.5	3.6	3.4
25–29	3.8	3.8	3.6	3.5
30–34	3.1	3.2	3.4	3.4
35–39	3.1	3.3	3.6	3.7
40–44	2.8	3.1	3.5	3.5
45–49	2.4	2.7	3.6	3.6
50–54	2.0	2.2	3.3	3.4
55–59	1.5	1.7	3.0	3.1
60–64	1.1	1.2	2.8	2.8
65–69	0.7	0.8	2.1	2.1
70–74	0.4	0.5	1.6	1.7
75+	0.4	0.6	2.7	3.8
Total	**49.8**	**50.2**	**49.7**	**50.3**

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

Table 2.11.2: Age distribution of population, by age group, state/territory and Indigenous status, 2010

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT		Australia[(a)]	
	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									
0–4	12.7	6.1	11.9	6.3	12.8	6.5	11.6	6.4	11.6	5.8	12.3	6.4	12.3	6.4	11.4	7.1	12.3	6.3
5–9	11.3	6.0	11.2	5.9	11.9	6.3	11.1	6.1	11.2	5.6	10.3	5.9	10.6	5.8	11.5	6.1	11.4	6.0
10–14	11.7	6.2	11.3	6.1	11.8	6.5	11.5	6.4	11.7	6.0	11.2	6.3	11.0	5.9	10.5	5.9	11.5	6.2
15–19	11.7	6.5	11.8	6.6	11.5	6.8	10.9	6.7	11.6	6.5	12.1	6.6	11.6	6.9	10.3	6.0	11.4	6.6
20–24	9.0	6.9	9.5	7.2	8.9	6.9	9.4	7.1	9.7	6.7	9.9	6.0	10.0	8.5	9.6	7.6	9.2	7.0
25–29	7.2	7.2	7.6	7.3	7.4	7.1	8.0	7.1	7.8	6.7	7.5	5.8	8.7	8.6	8.5	9.1	7.6	7.2
30–34	5.8	6.9	5.9	6.9	6.3	6.7	6.9	6.8	6.3	6.2	5.6	5.6	6.6	7.5	7.6	8.4	6.4	6.8
35–39	6.1	7.3	6.2	7.4	6.5	7.3	6.6	7.4	6.4	6.8	5.7	6.5	7.1	7.6	7.1	8.6	6.4	7.3
40–44	5.7	6.8	5.8	7.1	5.8	7.1	6.1	7.3	5.8	7.0	5.7	6.6	5.9	7.1	6.3	7.9	5.8	7.0
45–49	5.2	7.1	5.0	7.1	4.9	7.2	5.2	7.4	5.1	7.2	5.4	7.3	5.0	7.2	4.9	8.0	5.1	7.2
50–54	4.3	6.7	4.2	6.6	3.9	6.7	4.3	6.9	4.1	7.0	4.6	7.3	4.2	6.6	4.1	7.4	4.1	6.7
55–59	3.3	6.1	3.3	5.9	3.0	6.1	3.1	6.2	3.0	6.5	3.5	6.9	3.4	5.9	3.0	6.4	3.2	6.1
60–64	2.5	5.6	2.4	5.4	2.1	5.7	2.2	5.5	2.1	6.0	2.6	6.5	1.6	5.2	2.1	5.0	2.3	5.6
65–69	1.6	4.3	1.7	4.1	1.3	4.2	1.4	4.0	1.4	4.5	n.p.	n.p.	n.p.	n.p.	1.3	3.1	1.4	4.2
70–74	1.1	3.4	1.0	3.3	0.8	3.1	0.9	3.1	1.0	3.7	n.p.	n.p.	n.p.	n.p.	0.8	1.7	0.9	3.3
75+	1.1	6.9	1.3	6.6	0.9	5.8	0.9	5.7	1.1	7.8	n.p.	n.p.	n.p.	n.p.	0.9	1.8	1.0	6.5
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**

(a) Includes Other Territories comprising Jervis Bay Territory, Christmas Island and the Cocos (Keeling) Islands.

Note: Percentages in tables may not add to 100 due to rounding.

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

Dependency ratios

The dependency ratio is the percentage of the population aged under 15 years and aged 65 years and over divided by the percentage of the population aged 15–64 years. The proportion of children is the main influence on the dependency ratio for the Indigenous population, whereas the proportion of older people influences the dependency ratio much more strongly for the non-Indigenous population. Therefore, it is necessary to look at the youth dependency ratio (percentage of the population aged under 15 years divided by the percentage of the population aged 15–64 years) and the aged dependency ratio (percentage of the population aged 65 years and over divided by the percentage of the population aged 15–64 years) separately for the Indigenous and non-Indigenous populations.

- In 1996, 2001, and 2006, the youth dependency ratio was higher for Indigenous Australians than for non-Indigenous Australians, whereas the aged dependency ratio was lower for Indigenous Australians than for non-Indigenous Australians (Table 2.11.3).
- In 2006, the youth dependency ratio for Indigenous people ranged from 0.56 in the Northern Territory to 0.67 in Queensland, and the aged dependency ratio for Indigenous people was 0.02 in the Australian Capital Territory and between 0.05 and 0.07 in all other states and territories (Table 2.11.3).
- In 2006, the youth dependency ratio for Indigenous people was lowest in *Remote* and *Very remote* areas (0.60 and 0.56) and highest in *Inner* and *Outer regional* areas (0.70 and 0.66). In contrast, the aged dependency ratio was similar across all remoteness categories (between 0.05 and 0.06) (Table 2.11.4).
- For non-Indigenous Australians, the youth dependency ratio in 2006 was similar across all remoteness categories (0.3). The aged dependency ratio for non-Indigenous Australians was lowest in *Remote* and *Very remote* areas (between 0.11 and 0.15), and highest in *Inner* and *Outer regional* areas (0.24 and 0.21) (Table 2.11.4).

Table 2.11.3: Total, youth and aged dependency ratios, by state/territory and Indigenous status, 1996, 2001 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(a)]
					1996				
Indigenous									
Dependency ratio	0.77	0.75	0.77	0.75	0.75	0.82	0.71	0.68	0.75
Youth dependency ratio	0.72	0.69	0.71	0.70	0.69	0.77	0.70	0.63	0.70
Aged dependency ratio	0.05	0.06	0.05	0.06	0.05	0.05	0.01	0.05	0.05
Non-Indigenous									
Dependency ratio	0.50	0.50	0.49	0.48	0.52	0.53	0.41	0.36	0.50
Youth dependency ratio	0.31	0.31	0.32	0.32	0.30	0.33	0.31	0.31	0.31
Aged dependency ratio	0.19	0.19	0.17	0.16	0.22	0.20	0.10	0.05	0.18
					2001				
Indigenous									
Dependency ratio	0.75	0.72	0.74	0.72	0.75	0.73	0.64	0.63	0.72
Youth dependency ratio	0.69	0.66	0.69	0.67	0.69	0.68	0.63	0.58	0.67
Aged dependency ratio	0.05	0.05	0.05	0.05	0.05	0.05	0.02	0.05	0.05
Non-Indigenous									
Dependency ratio	0.50	0.49	0.48	0.47	0.52	0.53	0.41	0.35	0.49
Youth dependency ratio	0.30	0.30	0.31	0.30	0.30	0.31	0.28	0.30	0.30
Aged dependency ratio	0.20	0.19	0.18	0.17	0.22	0.22	0.12	0.06	0.19

(continued)

Table 2.11.3 (continued): Total, youth and aged dependency ratios, by state/territory and Indigenous status, 1996, 2001 and 2006

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(a)]
					2006				
Indigenous									
Dependency ratio	0.71	0.68	0.71	0.65	0.66	0.66	0.59	0.60	0.68
Youth dependency ratio	0.65	0.61	0.67	0.60	0.60	0.60	0.57	0.56	0.63
Aged dependency ratio	0.06	0.07	0.05	0.05	0.06	0.06	0.02	0.05	0.05
Non-Indigenous									
Dependency ratio	0.49	0.48	0.47	0.46	0.50	0.52	0.39	0.34	0.48
Youth dependency ratio	0.28	0.28	0.29	0.28	0.27	0.29	0.26	0.26	0.28
Aged dependency ratio	0.20	0.20	0.18	0.18	0.23	0.23	0.13	0.07	0.20

(a) Includes Other Territories comprising Jervis Bay Territory, Christmas Island and the Cocos (Keeling) Islands.

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

Table 2.11.4: Total, youth and aged dependency ratios, by remoteness and Indigenous status, 2001 and 2006

	Major cities	Inner regional	Outer regional	Remote	Very remote
			2001		
Indigenous					
Dependency ratio	0.70	0.79	0.75	0.69	0.66
Youth dependency ratio	0.65	0.75	0.70	0.63	0.60
Aged dependency ratio	0.04	0.05	0.05	0.06	0.06
Non-Indigenous					
Dependency ratio	0.47	0.56	0.53	0.47	0.39
Youth dependency ratio	0.28	0.33	0.33	0.34	0.29
Aged dependency ratio	0.18	0.22	0.20	0.14	0.10
			2006		
Indigenous					
Dependency ratio	0.66	0.75	0.72	0.65	0.62
Youth dependency ratio	0.62	0.70	0.66	0.60	0.56
Aged dependency ratio	0.05	0.05	0.05	0.05	0.06
Non-Indigenous					
Dependency ratio	0.46	0.55	0.52	0.45	0.37
Youth dependency ratio	0.27	0.31	0.31	0.30	0.26
Aged dependency ratio	0.18	0.24	0.21	0.15	0.11

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

Time series analyses

Table 2.11.5 and Figure 2.11.2 present the youth and aged dependency ratios for Indigenous and non-Indigenous Australians over the period 2006–2010.

- Over the period 2006–2010, there was a significant decline in the youth dependency ratio for both Indigenous and non-Indigenous Australians. The fitted trend implies an average yearly decline in the ratio of around 0.02 for Indigenous Australians (equivalent to a 10% decline over the period) and 0.002 for non-Indigenous Australians (equivalent to a 3% decline over the period).
- Over the same period, there was a significant increase in the aged dependency ratio for both Indigenous and non-Indigenous Australians. The fitted trend implies an average yearly increase of around 0.001 for Indigenous Australians (equivalent to a 5% increase over the period) and 0.003 for non-Indigenous Australians (equivalent to a 6% increase over the period).

Table 2.11.5: Youth dependency ratio and aged dependency ratio, by Indigenous status, 2006–2010

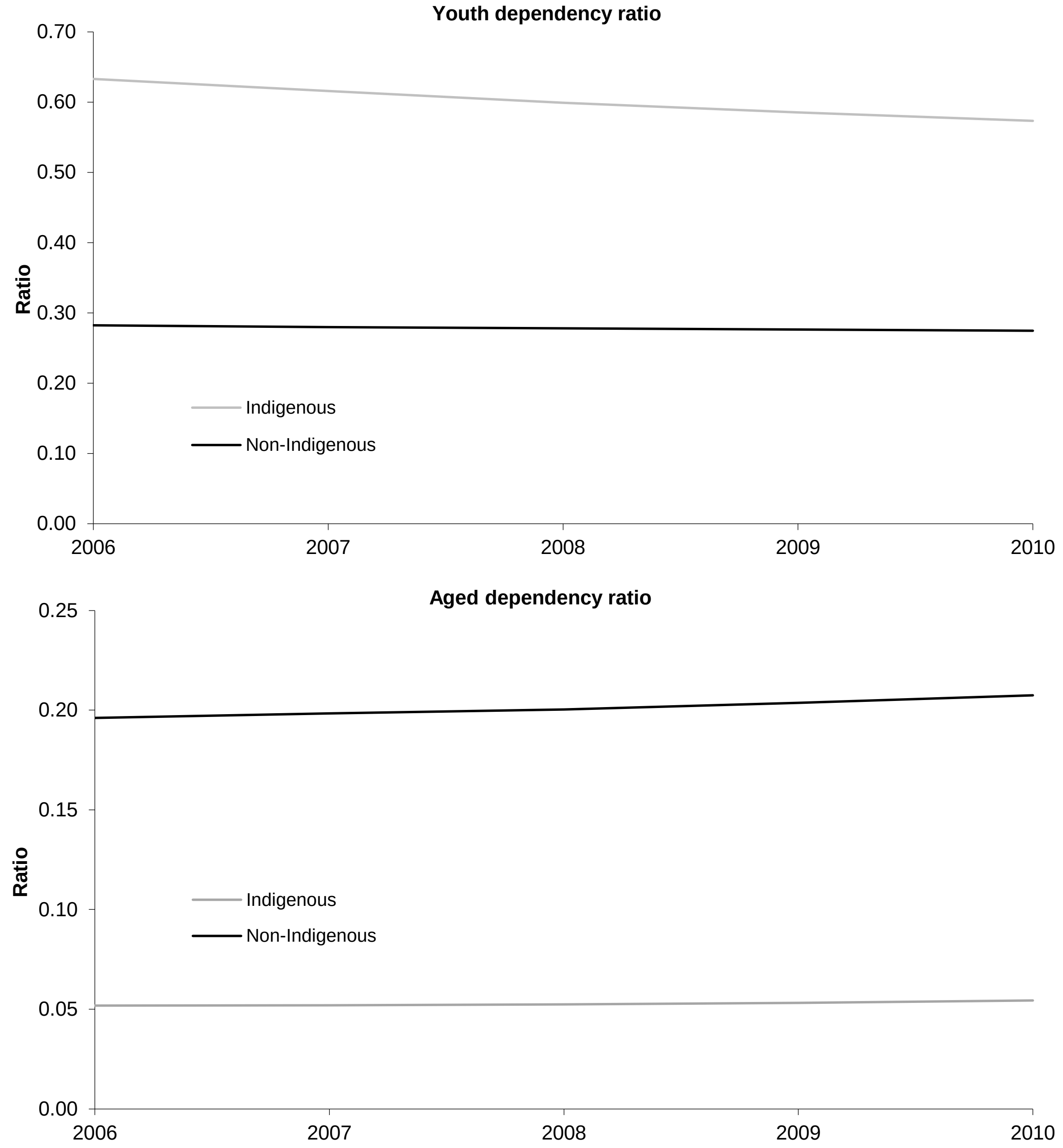
Ratio	2006	2007	2008	2009	2010	Annual change[(a)]	Per cent change[(b)]
Indigenous							
Youth dependency	0.63	0.62	0.60	0.59	0.57	–0.015*	–9.5*
Aged dependency	0.05	0.05	0.05	0.05	0.05	0.001*	4.7*
Non-Indigenous							
Youth dependency	0.28	0.28	0.28	0.28	0.27	–0.002*	–2.7*
Aged dependency	0.20	0.20	0.20	0.20	0.21	0.003*	5.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2006–2010.

(a) Average annual change in ratios determined using linear regression analysis.

(b) Per cent change between 2006 and 2010 based on the average annual change.

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



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

Figure 2.11.2: Youth dependency rate and aged dependency rate, by Indigenous status, 2006–2010

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 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).

For the 2002 National Aboriginal and Torres Strait Islander Social Survey, 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 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 population estimates

The ABS refers to Indigenous population estimates and projections as 'experimental' because of concerns about the quality of the data on which they are based, particularly the quality of the Indigenous status identification in the Census and in birth and death records (ABS 2004).

The ABS's policy of backcasting data from successive censuses retrospectively takes into account changes in the level of Indigenous identification, as occurred between the 1991 and 1996, 1996 and 2001 and the 2001 and 2006 censuses.

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.

ABS 2004. Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians, 1991 to 2009. ABS cat. no. 3238.0. Canberra: ABS.

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2.12 Single-parent families

Household composition, in particular single-parent families, in the Aboriginal and Torres Strait Islander population

Data sources

Data for this measure come from the ABS 2006 Census of Population and Housing and the 2008 National 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 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 2013.

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 ABS conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, and it 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 under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

The Census collects data on family type, household type, household composition and relationships in the household. Indigenous households are defined as households with at least one Indigenous person of any age resident on Census night. One-parent (single-parent) families are defined as families containing a person who has no spouse or partner usually resident in the household but who forms a parent–child relationship with at least one child usually resident in the household. The child may be either dependent or non-dependent.

Care should be taken in interpreting information on relationships among people in a household, because the standard Census relationship classifications may not fully represent the complexity of family relationships in Aboriginal and Torres Strait Islander cultures.

Data analyses

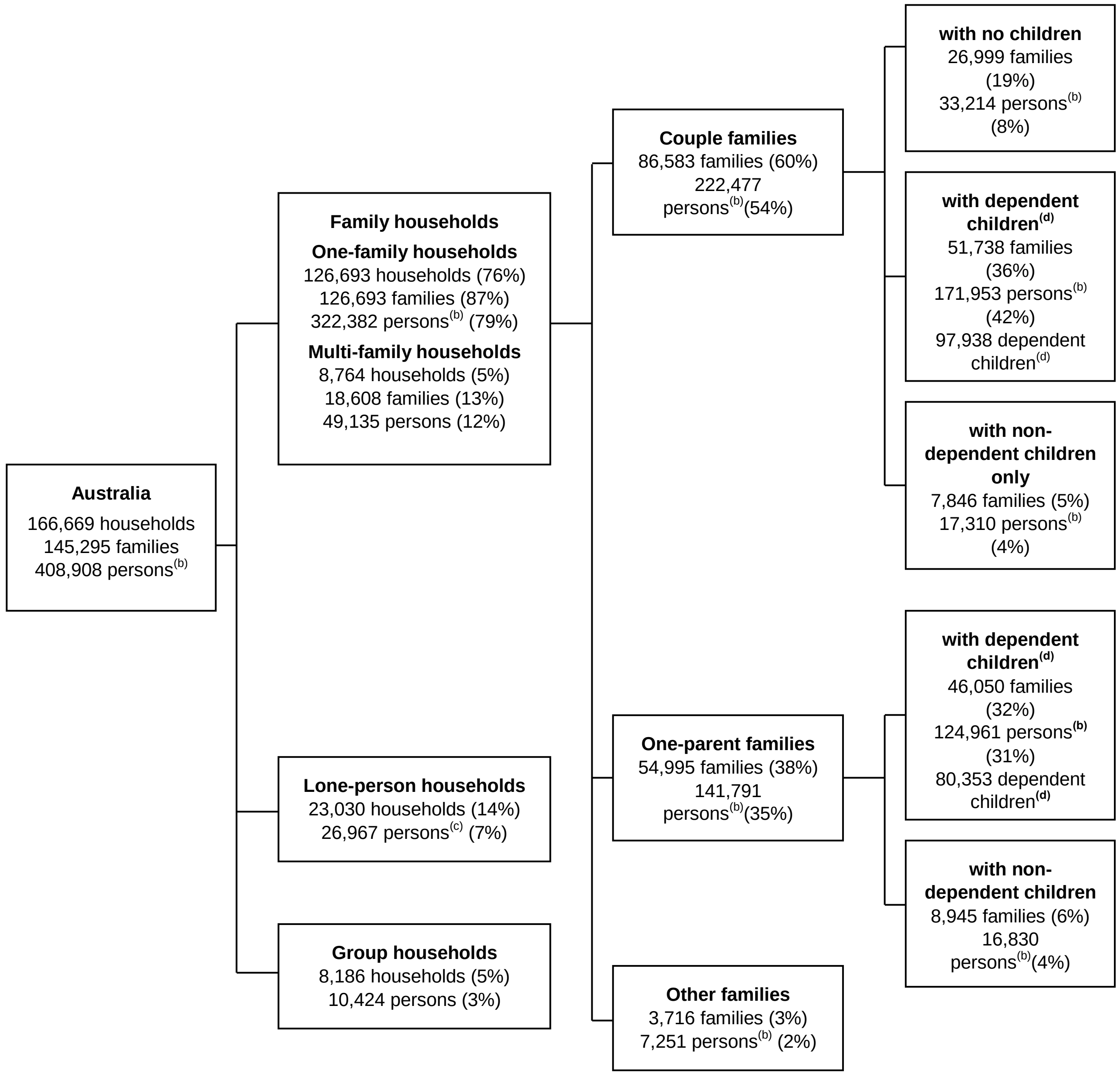
Household composition, family composition and persons

Figures 2.12.1 and 2.12.2 show the household composition, family composition and number of persons in Indigenous households and non-Indigenous households.

- In 2006, of the 166,669 Indigenous households, 126,693 (76%) were one-family households, 23,030 (14%) were lone-person households, 8,186 (5%) were group households and 8,764 (5%) were multi-family households (Figure 2.12.1). The corresponding proportions for non-Indigenous households were 70%, 25%, 4% and 1% respectively (Figure 2.12.2).
- Of the 135,457 Indigenous family households, 86,583 (60%) were couple families, 54,995 (38%) were one-parent families and 3,716 (3%) were other families (Figure 2.12.1). The proportions for non-Indigenous households in Australia were 83%, 15% and 2% respectively (Figure 2.12.2).

One-parent families

- In 2006, there were 52,300 Indigenous households containing Indigenous one-parent families (31%), representing 54,995 families (38%) and 141,791 persons (35%). In comparison there were 759,370 other households containing non-Indigenous/other one-parent families (11%), representing 768,256 families (15%) and 2,012,830 persons (12%) (Table 2.12.1).
- Approximately 32% (46,050) of Indigenous families were one-parent families with dependent children, representing 124,961 persons (31%). Around 6% of Indigenous families (8,945) were one-parent families with non-dependent children, representing 16,830 persons (4%) (Figure 2.12.1). In comparison, 10% of non-Indigenous families were one-parent families with dependent children and 5% were one-parent families with non-dependent children (Figure 2.12.2).



(a) Excludes Visitors only and other not classifiable households.

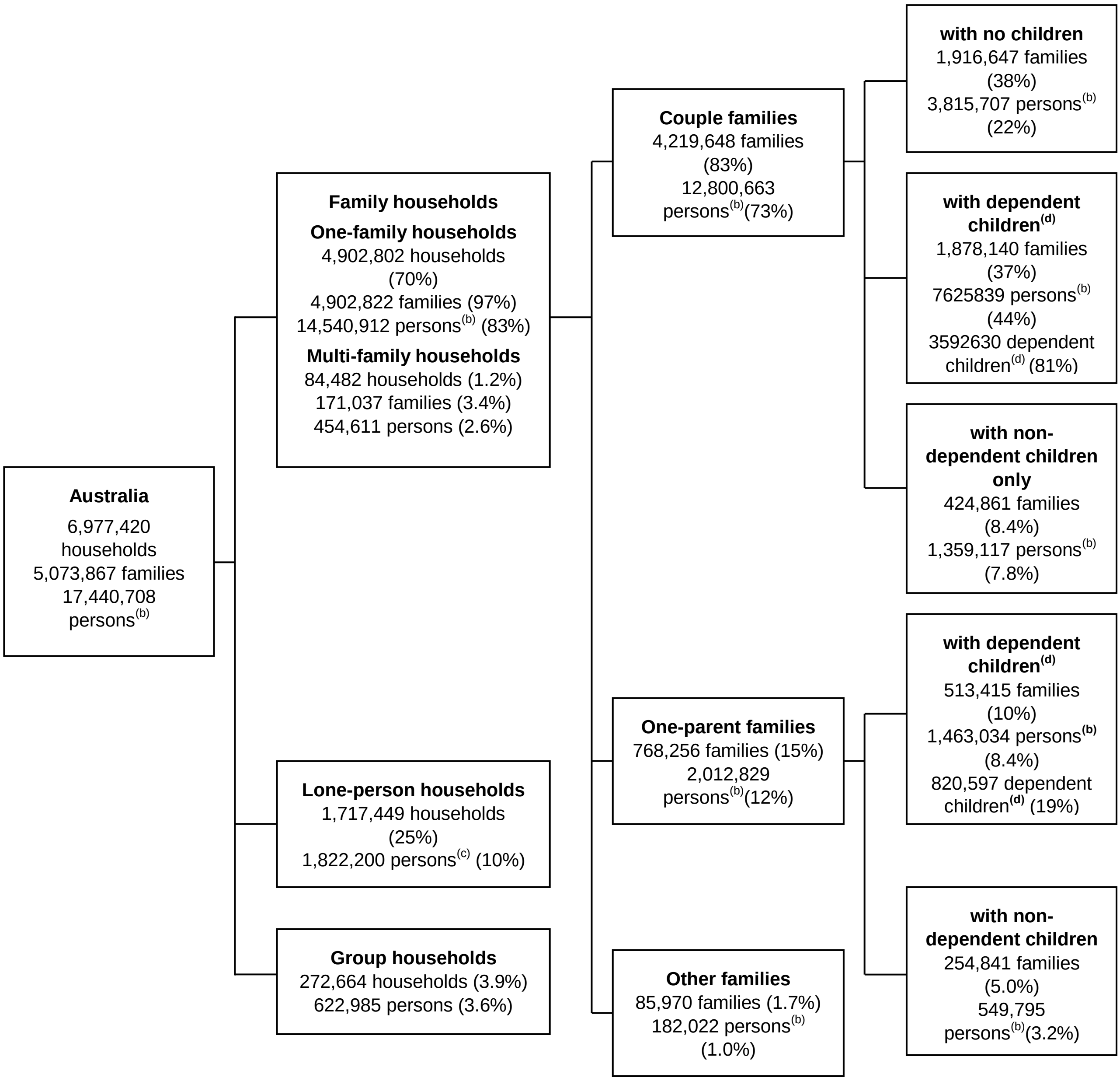
(b) Excludes unrelated individuals living in the family household.

(c) Includes persons not enumerated at home.

(d) Children under 15 years of age and full-time dependent students aged 15–24 years.

Source: ABS and AIHW analysis of 2006 Census data.

Figure 2.12.1: Household composition, family composition and persons(a), Indigenous population, 2006



(a) Excludes Visitors only and other not classifiable households.

(b) Excludes unrelated individuals living in the family household.

(c) Includes persons not enumerated at home.

(d) Children under 15 years of age and full-time dependent students aged 15–24 years.

Source: ABS and AIHW analysis of 2006 Census data.

Note: Percentages are calculated as a proportion of the Australian totals.

Figure 2.12.2: Household composition, family composition and persons[(a)], non-Indigenous population, 2006

Table 2.12.1: One-parent families by Indigenous status, 2006

	Indigenous one-parent families[a]	Non-Indigenous/other one-parent families[b]	Total one-parent families
		Number	
Households	52,300	759,370	811,670
Families	54,995	768,256	823,251
Persons	141,791	2,012,830	2,154,620
		Per cent[c]	
Households	31.4	10.9	11.4
Families	37.9	15.1	15.8
Persons	34.7	11.5	12.1

(a) One-parent families where the parent and/or child(ren) are Indigenous

(b) One parent families where neither the parent nor child(ren) is Indigenous

(c) Proportion of Indigenous households, families and persons; proportion of non-Indigenous households, families and persons; total one-parent families as a proportion of all households, families and persons.

Source: ABS and AIHW analyses of 2006 Census data.

Relationship in household

- In 2006, among Indigenous persons in occupied private dwellings, approximately 39% were children under the age of 15 years. This compared with 20% among non-Indigenous persons. Indigenous persons were also almost twice as likely as non-Indigenous persons to be classified as a lone parent (9% compared with 5%) and half as likely to be classified as a husband, wife or partner in a couple relationship (24% compared with 48%) (Table 2.12.2).
- Approximately 6% of Indigenous persons were classified as extended family members (other related individual) living with relatives other than their spouse/partner or children compared with 2% of non-Indigenous persons (Table 2.12.2).
- There was a slight increase in the relationship composition in Indigenous households between 2001 and 2006 (Table 2.12.3; Figure 2.12.3).

Table 2.12.2: Indigenous persons in occupied private dwellings, relationship in household[(a)], 2006

	Indigenous persons		**Non-Indigenous persons**		**All persons[(b)]**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Husband, wife or partner[(c)]	99,396	24.2	8,209,643	47.8	8,401,489	47.0
Lone parent	36,646	8.9	776,987	4.5	823,253	4.6
Child under 15 years	161,115	39.2	3,446,995	20.1	3,685,435	20.6
Dependent student (15–24 years)	17,177	4.2	876,873	5.1	906,122	5.1
Non-dependent child	33,219	8.1	1,104,538	6.4	1,159,209	6.5
Other related individual						
Brother/sister	7,403	1.8	178,877	1.0	188,961	1.1
Father/mother	2,950	0.7	92,077	0.5	96,631	0.5
Grandchild	2,898	0.7	19,259	0.1	22,655	0.1
Grandfather/grandmother	677	0.2	10,969	0.1	11,855	0.1
Cousin	2,135	0.5	12,988	0.1	15,370	0.1
Uncle/aunt	1,368	0.3	7,434	0.0	8,928	0.0
Nephew/niece	3,767	0.9	18,552	0.1	22,748	0.1
Other	2,763	0.7	19,024	0.1	24,392	0.1
Total	*23,961*	*5.8*	*359,180*	*2.1*	*391,540*	*2.2*
Unrelated individual	6,348	1.5	146,111	0.9	156,447	0.9
Group household member	9,211	2.2	563,699	3.3	581,600	3.3
Lone person	23,484	5.7	1,697,431	9.9	1,770,464	9.9
Total[(d)]	**410,557**	**100.0**	**17,181,457**	**100.0**	**17,875,559**	**100.0**

(a) Based on place of enumeration, includes usual residents enumerated at home and excludes visitors and usual residents temporarily absent.

(b) Includes Indigenous status not stated.

(c) Includes people in tribal marriages and same-sex couples.

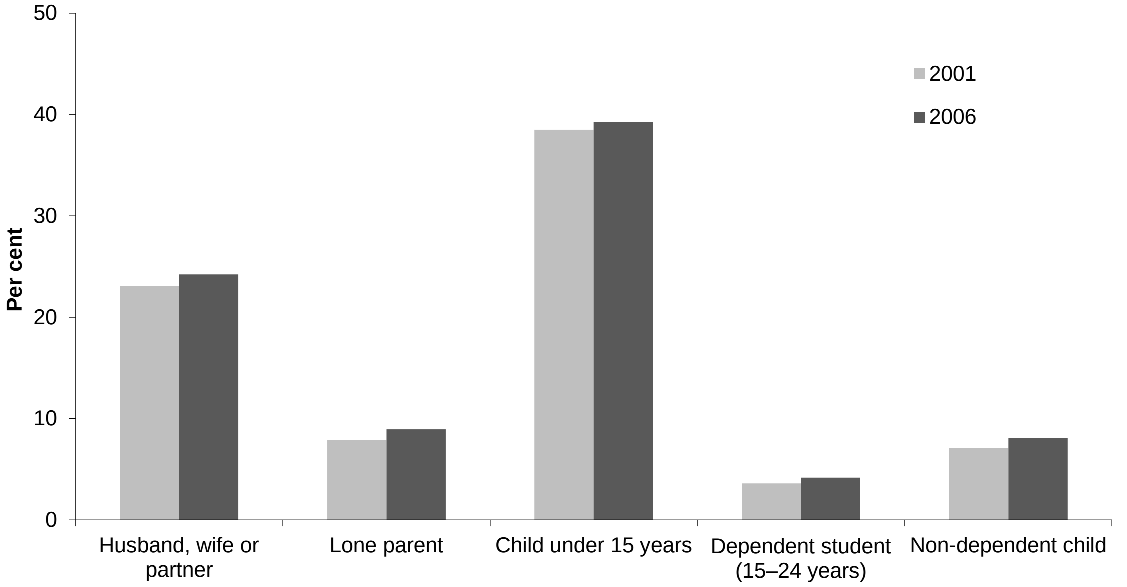
(d) Includes persons not at home on Census night, and those in other not classifiable households.

Source: ABS and AIHW analysis of 2006 Census data.

Table 2.12.3 Indigenous persons in occupied private dwellings, by selected relationships as a proportion of all Indigenous persons, 2001 and 2006

Relationship in household	2001	2006
Husband, wife or partner	23.1	24.2
Lone parent	7.9	8.9
Child under 15 years	38.5	39.2
Dependent student (15–24 years)	3.6	4.2
Non-dependent child	7.1	8.1

Source: ABS and AIHW analysis of 2001 and 2006 Census data.



Source: ABS and AIHW analysis of 2001 and 2006 Census data.

Figure 2.12.3: Indigenous persons in occupied private dwellings, by selected relationships as a proportion of all Indigenous persons, 2001 and 2006

Lone parents

Information on Indigenous lone parents is available from the 2008 NATSISS and is presented in tables 2.12.4, 2.12.5a and 2.12.5b below.

- In 2008, an estimated 51,000 Indigenous persons aged 15 years and over were lone parents (Table 2.12.4).
- Around three-quarters (72%) of Indigenous lone parents were living in one-family households with only the family members present, compared with 92% of non-Indigenous lone parents.

Table 2.12.4: Lone parents, by number of families in household and Indigenous status, 2008

	Indigenous	Non-Indigenous	Rate ratio
	%	%	
One-family household with only family members present[(a)]	71.9	91.8	0.8
One or more family household with non-family members present	4.4	3.7[(b)]	1.2
Two or more family household with only family members present	23.8	4.4	5.4
Total	**100.0**	**100.0**	. .
Total number[(c)]	**50,972**	**870,829**	. .

(a) Includes lone-person households.

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

(c) Includes Group households.

Source: AIHW analysis of 2008 NATSISS & 2007–08 NHS.

Tables 2.12.5a and 2.12.5b present lone parents by selected population characteristics (for Indigenous persons aged 15 years and over). Table 2.12.5a presents the proportion of lone parents in the Indigenous population who have each of the selected characteristics and Table 2.12.5b presents the proportion of Indigenous persons with each of the selected characteristics who are lone parents.

- A higher proportion of Indigenous lone parents (27%) reported fair/poor health status than other Indigenous persons (21%) (Table 2.12.5a).
- A higher proportion of lone parents (69%) reported they could not raise $2,000 within a week than other Indigenous persons (48%) (Table 2.12.5a).
- Lone parents were less likely to be employed (36%) and more likely to not be in the labour force (55%) than other Indigenous persons (55% compared with 35%) (Table 2.12.5a).
- A higher proportion of lone parents were renters (86%) than other Indigenous persons (66%) (Table 2.12.5a).
- Approximately 66% of Indigenous lone parents had experienced stressors in the previous 12 months compared with 56% of other Indigenous persons (Table 2.12.5a).
- A higher proportion of Indigenous persons whose highest year of school completed was Year 11 or below was a lone parent (16%) than were Indigenous persons who completed Year 12 (13%) (Table 2.12.5b).

- Approximately 11% of Indigenous persons who were employed were lone parents whereas 22% of Indigenous persons who were not in the labour force were lone parents (Table 2.12.5b).
- A higher proportion of renters than home owners were lone parents (19% and 7% respectively) (Table 2.12.5b).

Table 2.12.5a: Lone parents, by selected population characteristics: Indigenous persons aged 15 years and over[(a)], 2008

	Lone parent	Other Indigenous persons	Total
		Per cent	
Self-assessed health status			
Excellent/very good/good	73.3	78.6	77.8
Fair/poor	26.7	21.4	22.2
Financial stress			
Could raise $2,000 within a week	30.8	52.5	49.2
Could not raise $2,000 within a week	69.2	47.5	50.8
Location			
Remote	24.0	25.1	24.9
Non-remote	76.0	74.9	75.1
Highest year of school completed			
Year 12	17.0	21.0	20.4
Year 11 or below	83.0	79.0	79.6
Whether has non-school qualification			
Has a non-school qualification	31.6	32.4	32.3
Does not have a non-school qualification	68.4	67.6	67.7
Employment			
Employed	36.0	54.6	51.7
Unemployed	9.3	10.4	10.2
Not in the labour force	54.7	35.0	38.1
Housing			
Owner	13.2	32.5	29.5
Renter	85.7	65.8	68.9
Stressors in last 12 months			
Really bad illness	13.5	12.5	12.6
Other stressors	52.4	43.5	44.9
Total experienced stressors	*65.9*	*56.0*	*57.5*
No stressors	34.1	44.0	42.5
Total	**100.0**	**100.0**	**100.0**
Total number of persons aged 15 years and over	**50,972**	**276,129**	**327,101**

(a) Proportion of Indigenous persons with each of the selected characteristics who are lone parents.

Source: AIHW analysis of 2008 NATSISS.

Table 2.12.5b: Selected population characteristics, by lone parents: Indigenous persons aged 15 years and over[(a)], 2008

	Lone parent	Other Indigenous persons	Total
		Per cent	
Self-assessed health status			
Excellent/very good/good	14.7	85.3	100.0
Fair/poor	18.7	81.3	100.0
Financial stress			
Could raise $2,000 within a week	9.6	90.4	100.0
Could not raise $2,000 within a week	20.9	79.1	100.0
Location			
Remote	15.0	85.0	100.0
Non-remote	15.8	84.2	100.0
Highest year of school completed			
Year 12	13.0	87.0	100.0
Year 11 or below	16.2	83.8	100.0
Whether has non-school qualification			
Has a non-school qualification	15.3	84.7	100.0
Does not have a non-school qualification	15.7	84.3	100.0
Employment			
Employed	10.9	89.1	100.0
Unemployed	14.2	85.8	100.0
Not in the labour force	22.4	77.6	100.0
Housing			
Owner	6.9	93.1	100.0
Renter	19.3	80.7	100.0
Stressors in last 12 months			
Really bad illness	16.7	83.3	100.0
Other stressors	18.2	81.8	100.0
Total experienced stressors	*17.9*	*82.1*	*100.0*
No stressors	12.5	87.5	100.0
Total	**15.6**	**84.4**	**100.0**
Total number of persons aged 15 years and over	**50,972**	**276,129**	**327,101**

(a) Proportion of Indigenous persons with each of the selected characteristics who are lone parents.

Source: AIHW analysis of 2008 NATSISS.

Dependent children

- In 2006, approximately 38,394 families in Indigenous households were one-parent families with dependent children. This was 41.6% of all Indigenous families with dependent children. Approximately 19.9% of other Australian families (non-Indigenous and status not stated) with dependent children were one-parent families (Table 2.12.6).
- Approximately 15% of Indigenous families with dependent children had four or more children compared with 5% of other households. Indigenous one-parent families with dependent children were 2.6 times as likely to have four children and 8.4 times as likely to have seven or more children as other one-parent families (Table 2.12.6).

Table 2.12.6: Number and percentage of households[(a)] in occupied private dwellings, by number of dependent children[(b)] and Indigenous status, 2006

	Number of households					
	One-family households					
Number of dependent children	**Couples with dependent children**	**One-parent families with dependent children**	**Total**	**Two-family households**	**Three-family households**	**All households with dependent children**
			Households with Indigenous person(s)			
1	14,609	15,485	30,094	1,543	33	31,670
2	16,396	11,952	28,348	1,851	100	30,299
3	9,204	6,395	15,599	1,192	155	16,946
4	4,324	2,999	7,323	708	183	8,214
5	1,466	1,068	2,534	366	134	3,034
6	587	324	911	212	101	1,224
7 or more	374	171	545	223	211	979
Total	**46,960**	**38,394**	**85,354**	**6,095**	**917**	**92,366**
Percentage	**50.8**	**41.6**	**92.4**	**6.6**	**1.0**	**100.0**
Rate ratio[(c)]	**0.7**	**2.1**	**0.9**	**2.7**	**15.9**	**1.0**
			Other households			
1	631,632	242,889	874,521	25,377	309	900,207
2	798,694	157,329	956,023	20,910	454	977,387
3	311,046	53,687	364,733	7,570	345	372,648
4	77,606	14,061	91,667	2,501	203	94,371
5	14,574	3,759	18,333	809	86	19,228
6	4,189	764	4,953	280	48	5,281
7 or more	2,041	250	2,291	210	33	2,534
Total	**1,839,782**	**472,739**	**2,312,521**	**57,657**	**1,478**	**2,371,656**
Percentage	**77.6**	**19.9**	**97.5**	**2.4**	**0.1**	**100.0**
			All households			
1	646,241	258,374	904,615	26,920	342	931,877
2	815,090	169,281	984,371	22,761	554	1,007,686
3	320,250	60,082	380,332	8,762	500	389,594
4	81,930	17,060	98,990	3,209	386	102,585
5	16,040	4,827	20,867	1,175	220	22,262
6	4,776	1,088	5,864	492	149	6,505
7 or more	2,415	421	2,836	433	244	3,513
Total	**1,886,742**	**511,133**	**2,397,875**	**63,752**	**2,395**	**2,464,022**
Percentage	**76.6**	**20.7**	**97.3**	**2.6**	**0.1**	**100.0**

(continued)

Table 2.12.6 (continued): Number and percentage of households[(a)] in occupied private dwellings, by number of dependent children[(b)] and Indigenous status, 2006

Percentages and rate ratio						
	One-family households					
Number of dependent children	Couples with dependent children	One-parent families with dependent children	Total	Two-family households	Three-family households	All households with dependent children
			Households with Indigenous person(s)			
1	31.1	40.3	35.3	25.3	3.6	34.3
2	34.9	31.1	33.2	30.4	10.9	32.8
3	19.6	16.7	18.3	19.6	16.9	18.3
4	9.2	7.8	8.6	11.6	20.0	8.9
5	3.1	2.8	3.0	6.0	14.6	3.3
6	1.3	0.8	1.1	3.5	11.0	1.3
7 or more	0.8	0.4	0.6	3.7	23.0	1.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Other households			
1	34.3	51.4	37.8	44.0	20.9	38.0
2	43.4	33.3	41.3	36.3	30.7	41.2
3	16.9	11.4	15.8	13.1	23.3	15.7
4	4.2	3.0	4.0	4.3	13.7	4.0
5	0.8	0.8	0.8	1.4	5.8	0.8
6	0.2	0.2	0.2	0.5	3.2	0.2
7 or more	0.1	0.1	0.1	0.4	2.2	0.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
			Rate ratio[(c)]			
1	0.9	0.8	0.9	0.6	0.2	0.9
2	0.8	0.9	0.8	0.8	0.4	0.8
3	1.2	1.5	1.2	1.5	0.7	1.2
4	2.2	2.6	2.2	2.7	1.5	2.2
5	3.9	3.5	3.7	4.3	2.5	4.1
6	5.5	5.2	5.0	7.2	3.4	6.0
7 or more	7.2	8.4	6.4	10.0	10.3	9.9
Total	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**

(a) Persons enumerated at home.

(b) Under 15 years of age. Includes up to three temporarily absent children.

(c) Rate ratio Indigenous:other.

Source: ABS and AIHW analysis of 2006 Census 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).

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).

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 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.

Population data

The Census questions were designed to elicit population data according to Western social categories. Care should be taken when interpreting information as the standard Census relationship classifications used do not fully represent the complexity of family relationships in Aboriginal and Torres Strait Islander cultures (ABS 2003).

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.

ABS 2003. Population characteristics: Aboriginal and Torres Strait Islander Australians, 2001. ABS cat.no. 4713.0. Canberra: ABS.

ABS 2010. National Aboriginal and Torres Strait Islander Social Survey: User's guide, 2008. ABS cat.no. 4720.0. Canberra: ABS.

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2.13 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 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 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 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. State and territory health departments provide information annually on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the AIHW.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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 AIHW maintains the database. The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and the ABS codes this nationally. The medical practitioner certifying the death, or a coroner, supplies information on the cause of death. 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 funeral director does not always ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010a).

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

Additional revised 2007 and preliminary 2008 mortality data for this indicator was supplied by the ABS from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010a).

Data have been combined for the 5-year period 2004–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

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 underestimate 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.

The 2006-2007 National Homicide Monitoring Program annual report presents findings from an overview of the 18th annual collection of homicide data.

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, which is presented in the following tables and figures.

Issues of community safety

- In 2008, 79% of Indigenous Australians and 49% of non-Indigenous Australians aged 18 years and over reported experiencing a stressor relating to community safety in the previous 12 months (Table 2.13.1).
- The stressor most likely to be experienced related to the death of a family member or close friend, which 40% of Indigenous people and 19% of non-Indigenous people reported. Over the same period, 24% 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 (Table 2.13.1).

Issues of community safety and personal stressors by age

- In the previous 12 months, 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 (Table 2.13.1). Furthermore, for every age group over 18 years Indigenous Australians were more likely to experience every stressor. The biggest disparities were for stressors related to alcohol or drug-related problems, witness to violence, and trouble with the police. The Indigenous rates were 4.2, 4.0 and 5.6 times the non-Indigenous rates for these stressors, respectively.

Table 2.13.1: Issues of community safety, by Indigenous status and age group, persons aged 18 years and over, 2008

	18–24			25–34			35–44			45–54			55+			Total 18 years and over			Total 18 years and over age-standardised$^{(a)}$		
Type of stressors experienced in last 12 months	**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	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
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	8.8	1.9*	. .	. .	. .
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	19.4	2.1*	. .	. .	. .
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	5.7	4.2*	. .	. .	. .
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	2.4	3.2*	. .	. .	. .
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	2.2	4.0*	. .	. .	. .
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	2.6	5.6*	. .	. .	. .
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*	*30.2*	*2**	. .	. .	. .
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 2.13.1 (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+			Total 18 years and over			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**	**Indig**	**Non-Indig**	**Rate ratio**
	%	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**	
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*	*49.1*	*1.6**	. .	. .	. .
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	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**	**. .**	. .	. .	. .

*Difference between rates for Indigenous and non-Indigenous persons are statistically significant 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.

Issues of community safety and personal stressors by sex

- In the previous 12 months, Indigenous females (80%) were more likely to have experienced a stressor than Indigenous males (78%) (Table 2.13.2). The same trend held with the non-Indigenous population, with non-Indigenous females (53%) more likely than non-Indigenous males (46%) to have experienced a stressor.

Table 2.13.2: Issues of community safety, persons aged 18 years and over, by Indigenous status and sex, 2008

	Males			Females			Persons		
	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio
	%	%		%	%		%	%	
Victim of physical or threatened violence in last 12 months[(a)]	20.8	13.4	1.6*	20.4	8.2	2.5*	20.5	10.8	1.9*
Stressors experienced by individual, family members and/or close friends in last 12 months[(b)]									
Mental illness	15.3	7.0	2.2*	18.8	10.5	1.8*	17.1	8.8	1.9*
Death of family member or close friend	38.4	17.8	2.2*	42.2	20.9	2.0*	40.4	19.4	2.1*
Alcohol or drug-related problems	24.4	4.8	5.1*	24.0	6.6	3.6*	24.2	5.7	4.2*
Abuse or violent crime	6.7	1.9	3.5*	8.4	2.8	3.0*	7.6	2.3	3.2*
Witness to violence	8.4	2.1	4.0*	9.5	2.3	4.0*	9.0	2.2	4.0*
Trouble with the police	16.6	2.8	5.9*	12.9	2.5	5.2*	14.7	2.6	5.6*
One or more of the above stressors	*57.2*	*27.3*	*2.1**	*60.8*	*32.9*	*1.8**	*59.1*	*30.2*	*2**
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**	*80.2*	*52.6*	*1.5**	*79.0*	*49.1*	*1.6**
No stressors reported	22.2	54.5	0.4*	19.8	47.4	0.5*	21.0	50.8	0.4*
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 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.

Issues of community safety and personal stressors by state/territory

- In 2008, the state or territory with the highest proportion of Indigenous persons over 18 years of age reporting experiencing stressors in the previous 12 months was Victoria (83%). The Northern Territory had the lowest (72%). For non-Indigenous Australians the Australian Capital Territory had the highest percentage (52%) and New South Wales had the lowest (48%) (Table 2.13.3).

Table 2.13.3: 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 2.13.3 (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 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.

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 greatest in *Major cities* (82%) and lowest in *Very remote* areas (72%) (Table 2.13.4). For non-Indigenous Australians, the proportion was greatest in *Inner regional* areas (51%) and lowest in *Outer regional* areas (47%).

Table 2.13.4: 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)]	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[(b)]	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[(c)]	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[(b)]	2.7	7.4	. .	. .	*9.0*	. .	. .	9.0	2.2	4.1

(continued)

Table 2.13.4 (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
	%	%		%	%		%	%		%	%		%	%		%	%		%	%		%	%	
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(b)	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
Member of family sent to gaol/currently in gaol	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(a)(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 was a small increase from the 24% 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 (Table 2.13.5).

Victim of physical or threatened violence, by sex

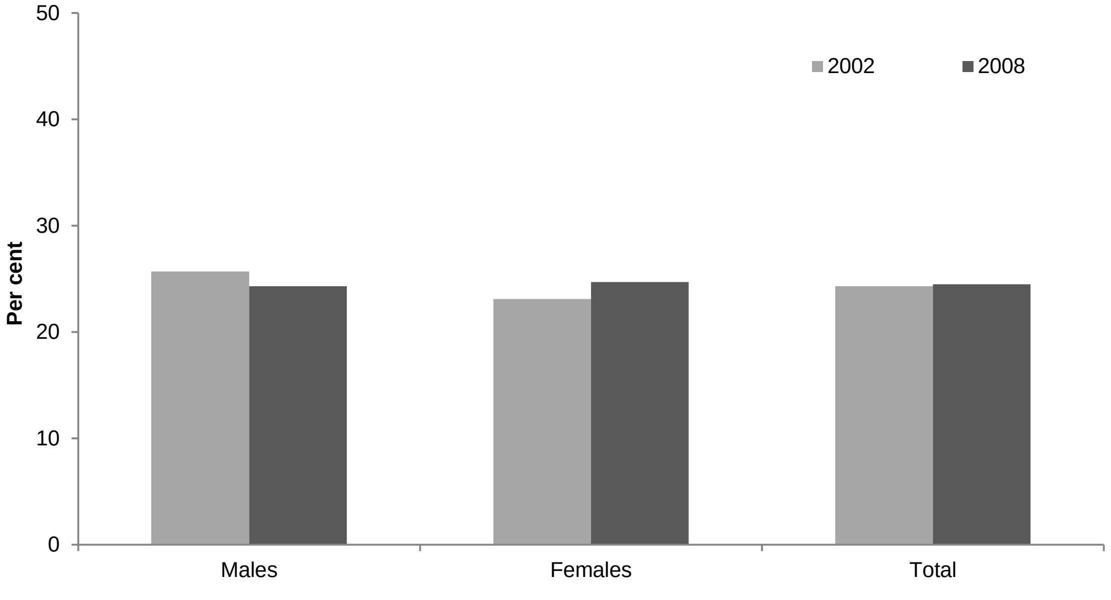
- From 2002 to 2008 the proportion of Indigenous males aged 15 years and over who reported they were a victim of physical or threatened violence in the previous 12 months decreased from 26% to 24%. Over the same period, the proportion of Indigenous females aged 15 years and over who reported they were a victim of physical or threatened violence in the previous 12 months increased from 23% to 25% (Table 2.13.5; Figure 2.13.1).

Table 2.13.5: 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 1994 National Aboriginal and Torres Strait Islander Survey, 2002 NATSISS and 2008 NATSISS.



Note: A change in methodology between 2002 and 2008 may affect comparison of this data.

Source: ABS and AIHW analysis of 1994 National Aboriginal and Torres Strait Islander Survey, 2002 NATSISS and 2008 NATSISS.

Figure 2.13.1: 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

Victim of physical or threatened violence, by remoteness

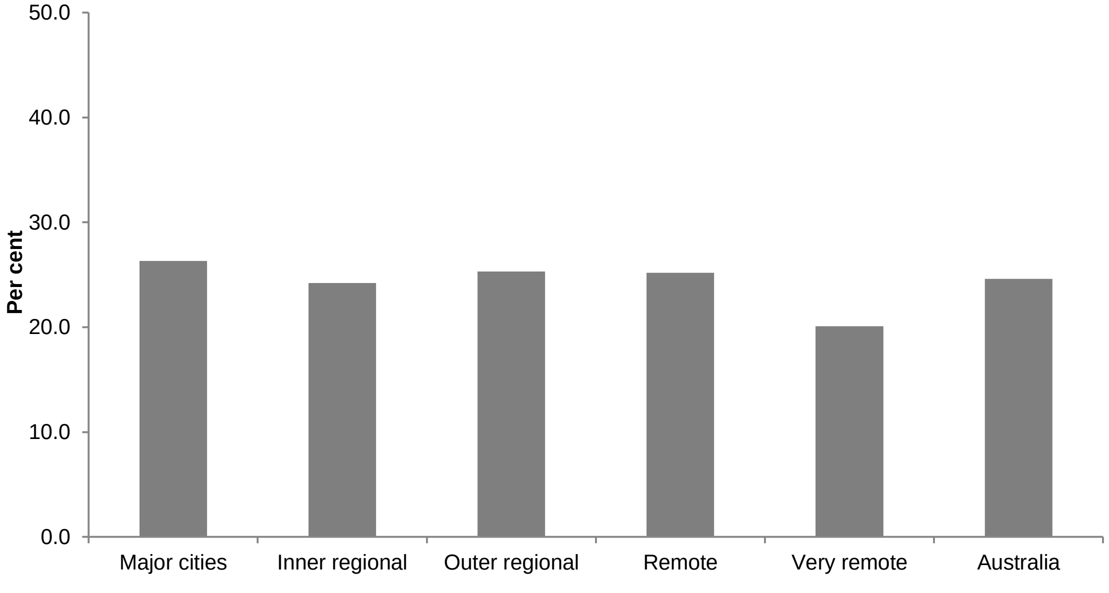
- In, 2008 the proportion of Indigenous Australians aged 15 years and over who reported they were a victim of physical or threatened violence in the previous 12 months varied by remoteness. The largest proportion was in *Major cities* (26%) and the lowest proportion was in *Very remote* areas (20%) (Table 2.13.6; Figure 2.13.2).

Table 2.13.6: 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 total refusals.

Source: 2008 NATSISS.



(a) Excludes total refusals.

Source: 2008 NATSISS.

Figure 2.13.2: 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

Victim of physical or threatened violence, by selected population characteristics

- Indigenous Australians with fair/poor health, a disability or long-term health condition, in the lowest (1st) quintile of household income and who were home owners/purchasers were more likely to have been a victim of physical or threatened violence than those with excellent health, with no disability, in the highest (5th) quintile of household income and renters, respectively (Table 2.13.7).

Table 2.13.7: 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	100.0
Good	26.1	73.9	100.0
Fair/poor	25.0	75.0	100.0
Disability or long-term health condition			
Has disability or long-term health condition	28.5	71.5	100.0
No disability or long-term condition	20.6	79.4	100.0
Household income			
1st quintile (lowest income)	25.0	75.0	100.0
5th quintile (highest income)	25.3	74.7	100.0
Total excluding income not stated	*24.0*	*76.0*	*100.0*
Index of disparity			
1st quintile (most disadvantaged)	24.3	75.7	100.0
5th quintile (least disadvantaged)	18.6	81.4	100.0
Total excluding not stated	*24.7*	*75.3*	*100.0*
Financial stress—unable to raise $2,000 within a week for something important	27.3	72.7	100.0
Location			
Remote	21.9	78.1	100.0
Non-remote	25.4	74.6	100.0
Law and justice			
Used legal services in last 12 months	44.3	55.7	100.0
Arrested by police in last 5 years	49.2	50.8	100.0
Incarcerated in last 5 years	41.8	58.2	100.0
Housing			
Owner/purchaser[(b)]	18.8	81.2	100.0
Renter	27.0	73.0	100.0
Dwelling has major structural problems	29.1	70.9	100.0
Dwelling requires additional bedrooms[(c)]	24.9	75.1	100.0
Family and culture			
Participated in sport/social/community activities in last 3 months	25.0	75.0	100.0
Able to get support in time of crisis from someone outside the household	24.6	75.4	100.0
Person removed from natural family	38.1	61.9	100.0
Relative(s) removed from natural family	31.0	69.0	100.0

(continued)

Table 2.13.7 (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	100.0
Participated in cultural activities in last 12mths	27.6	72.4	100.0
Involved in events, ceremonies or organisations in last 12 months	26.5	73.5	100.0

(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

- In 2008, of the Indigenous Australians aged 18 years and over who reported that they, their family members or close friends were witnesses to 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 2.13.8).
- In 2008, 39% of Indigenous Australians aged 18 years and over with excellent/good health were victims of violence compared with 25% with fair/poor health. 12% with a disability or long-term health condition were witnesses of violence compared with 5.5% who did not have a disability or long-term health condition (Table 2.13.9).
- Indigenous Australians aged 18 years and over who were not witnesses of violence had better health status than those who were witnesses of to violence. They were also more likely to own their own home (Table 2.13.10).

Table 2.13.8: 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	Indigenous age-standardised	Non-Indigenous age-standardised	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	27.6	49.6	0.6
Good	36.4	33.4	33.6	32.3	30.5	1.1
Fair/poor	24.6	34.6	16.4	40.1	19.9	2.0
Disability or long-term health condition(b)						
Has disability or long-term health condition	60.1	71.2	51.7	78.1	55.5	1.4
No disability or long-term condition	39.9	28.8	48.3	21.9	45.5	0.5
Household income						
1st quintile	51.2	54.1	13.1	. .	. .	4.1
5th quintile	5.1	5.1	22.6	. .	. .	0.2
Index of disparity						
1st quintile	50.6	51.9	22.0	. .	. .	2.4
5th quintile	2.6(c)	4.4	15.5	. .	. .	0.3
Financial stress—unable to raise $2,000 within a week for something important(d)	57.2	55.7	. .	. .	. .	. .
Location						
Remote	22.7	25.9	. .	. .	. .	. .
Non-remote	77.3	74.1	. .	. .	. .	

(continued)

Table 2.13.8 (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	Indigenous age-standardised	Non-Indigenous age-standardised	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				
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[(d)]						
Owner	21.6	22.8	44.9			0.5
Renter[(e)]	76.6	75.4	47.7			1.6
Dwelling has structural problems	33.1	36.2	. .	. .	. .	. .
Dwelling requires additional bedrooms[(f)]	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	. .	. .	. .	. .
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[(g)]	68.7	79.6	. .	. .	. .	. .

(continued)

Table 2.13.8 (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**	**Indigenous age-standardised**	**Non-Indigenous age-standardised**	**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**				
Participated in cultural activities in last 12 months[(h)]	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) Non-remote only

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

(d) Information provided by a household spokesperson on behalf of household members.

(e) Includes boarders

(f) Based on Canadian National Occupancy Standard for housing appropriateness.

(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.

Table 2.13.9: 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	Indigenous age-standardised	Non-Indigenous age-standardised	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	6.5	1.9	3.3
Good	8.7	2.6	7.8	2.7	2.8
Fair/poor	12.7	2.4	12.8	3.5	3.7
Disability or long-term health condition[(b)]					
Has disability or long-term health condition	12.0	2.7	11.1	3.6	3.1
No disability or long-term condition	5.5	1.9	4.5	1.7	2.7
Household income					
1st quintile	10.1	1.8	. .	. .	5.5
5th quintile	9.7	2.4	. .	. .	4.0
Index of disparity					
1st quintile	9.2	2.9	. .	. .	3.1
5th quintile	10.3	1.6	. .	. .	6.6
Financial stress—unable to raise $2,000 within a week for something important[(c)]	9.5	. .	. .	. .	. .
Location					
Remote	9.0	. .	. .	. .	. .
Non-remote	9.0	. .	. .	. .	. .
Law and justice					
Used legal services in last 12 months	15.2	. .	. .	. .	. .

(continued)

Table 2.13.9 (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	Indigenous age-standardised	Non-Indigenous age-standardised	Rate Ratio
	Proportion who reported that they, their family members or close friends, were a witness to violence				
Arrested by police in last 5 years	14.0	. .	. .	. .	. .
Incarcerated in last 5 years	13.4[d]	. .	. .	. .	. .
Housing[c]					
Owner	7.0	1.5	. .	. .	4.6
Renter[e]	9.8	3.7	. .	. .	2.6
Dwelling has structural problems	11.5	. .	. .	. .	. .
Dwelling requires additional bedrooms[f]	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[g]	11.3	. .	. .	. .	. .
Participated in cultural activities in last 12 months[h]	11.2	. .	. .	. .	. .

(continued)

Table 2.13.9 (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) Non-remote only.
(c) Information provided by a household spokesperson on behalf of household members.
(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.
(e) Includes boarders.
(f) Based on Canadian National Occupancy Standard for housing appropriateness.
(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.

Table 2.13.10: 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 2.13.10 (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 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 2008, 74% of Indigenous Australians aged 15 years and over reported that neighbourhood or community problems were present in their neighbourhood/community (Table 2.13.11).

- 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 reporting neighbourhood/community problems was lowest among those aged 55 years and over (68%) and highest among those aged 35-44 (78%) (Table 2.13.11).

Table 2.13.11: 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

- The proportion of Indigenous Australians reporting neighbourhood/community problems was slightly higher for females (75%) than for males (73%) (Table 2.13.12).

Table 2.13.12: Neighbourhood/community problems, Indigenous persons aged 15 years and over, by sex, 2008

	Male	Female
	Per cent	
Neighbourhood/community problem present		
Theft[(a)]	42.4	42.6
Problems involving youth	33.6	35.0
Prowlers/loiterers	19.1	19.2
Vandalism/graffiti/damage to property	35.6	35.0
Dangerous or noisy driving	44.7	47.4
Alcohol	42.0	40.6
Illegal drugs	36.8	36.1
Family violence	23.4	26.1
Assault	22.9	22.4
Sexual assault	11.2	12.1
Problems with your neighbours	13.5	17.1
Levels of neighbourhood conflict	13.5	14.6
Level of personal safety day or night	12.8	14.7
Total with neighbourhood/community problems	*72.9*	*75.4*
No neighbourhood/community problems reported	27.1	24.6
Total	**100.0**	**100.0**
Total number	**156,052**	**171,049**

(a) Excludes unknown responses.

Source: AIHW analysis of 2008 NATSISS.

Neighbourhood/community problems by state/territory

- In 2008, Queensland had the lowest proportion of Indigenous persons aged 15 years and over reporting neighbourhood/community problems overall (71%). New South Wales had the highest proportion (77%) (Table 2.13.13).

Table 2.13.13: 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

- A higher proportion of Indigenous people aged 15 years and over in Remote areas (76%) reported most types of neighbourhood/community problems than those in Non-remote areas (73%) (Table 2.13.14).

Table 2.13.14: Neighbourhood/community problems, Indigenous persons aged 15 years and older, by remoteness, 2008

	Remote	Non-remote
	Per cent	
Neighbourhood/community problem present		
Theft	39.4	43.5
Problems involving youth	40.2	33.9
Prowlers/loiterers	19.7	19.7
Vandalism/graffiti/damage to property	36.7	36.3
Dangerous or noisy driving	44.5	48.6
Alcohol	55.4	38.3
Illegal drugs	43.7	35.5
Family violence	37.9	21.5
Assault	37.1	18.8
Sexual assault	16.3	10.6
Problems with your neighbours	16.5	15.6
Levels of neighbourhood conflict	22.1	12.0
Level of personal safety day or night	15.1	13.9
Total with neighbourhood/community problems	*76.2*	*72.5*
No neighbourhood/community problems reported	23.8	27.5
Total[(a)]	**100.0**	**100.0**
Total number	**81,501**	**245,600**

(a) Excludes unknown responses.

Source: AIHW analysis of 2008 NATSISS.

Neighbourhood/community problems by selected health and population characteristics

- Indigenous Australians with a disability or long-term health condition and in the lowest (1st) quintile of household income were more likely to report family violence, assault, sexual assault or personal safety as neighbourhood/community problems and to report being a victim of these problems than those with no disability/long-term condition and those in the highest quintile of household income (Table 2.13.15).

Table 2.13.15: Proportion of Indigenous persons aged 15 years and over reporting they were a victim of 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
Dwelling requires additional bedrooms(a)				
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(b)	**100**	**100**	**100**	**100**

(a) Based on Canadian National Occupancy Standard for housing appropriateness.

(b) Excludes 'not known' or 'not stated' cases.

Source: AIHW analysis of 2008 NATSISS.

Hospitalisations

- For the period July 2006 to June 2008, there were 10,312 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. This represented approximately 2% of total hospitalisations of Indigenous Australians in these states and territories.
- Overall, in the six states and territories combined, Indigenous Australians were hospitalised for assault at around 12 times the rate of other Australians.

Hospitalisations by age and sex

- Hospitalisation rates for assault were highest among those aged 25–34 and 35–44 years in the Indigenous population and among those aged 15–24 and 25–34 years in the other Australian population. Indigenous males aged 35–44 and 45–54 were hospitalised for assault at over 11 times the rate of other males, and Indigenous females aged 25–34, 35–44 and 45-54 years were hospitalised for assault at over 40 times the rate of other females (Table 2.13.16).

Table 2.13.16: Hospitalisations for principal diagnosis of assault, by Indigenous status, sex and age, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(a)(b)(c)(d)]

	Indigenous				Other[(e)]				
	Number	Number per 1,000[(f)]	LCL 95%[(g)]	UCL 95%[(h)]	Number	Number per 1,000[(f)]	LCL 95%[(g)]	UCL 95%[(h)]	Ratio[(i)]
					Males				
0–4	95	1.5	1.2	1.8	216	0.2	0.1	0.2	8.7*
5–14	96	0.8	0.6	0.9	635	0.2	0.2	0.3	3.1*
15–24	1,419	14.0	13.3	14.7	11,518	4.1	4.0	4.2	3.4*
25–34	1,491	21.3	20.2	22.4	8,202	3.0	2.9	3.0	7.2*
35–44	1,269	20.8	19.7	22.0	5,439	1.9	1.8	1.9	11.1*
45–54	491	11.5	10.5	12.5	2,948	1.1	1.0	1.1	10.6*
55–64	100	4.3	3.5	5.2	1,064	0.5	0.5	0.5	9.0*
65+	42	3.1	2.2	4.1	561	0.2	0.2	0.3	13.3*
Total[(j)]	**5,003**	**10.8**	**10.5**	**11.2**	**30,583**	**1.6**	**1.5**	**1.6**	**7.0***
					Females				
0–4	82	1.3	1.1	1.6	157	0.1	0.1	0.2	10.2*
5–14	121	1.0	0.8	1.2	182	0.1	0.1	0.1	13.4*
15–24	1,308	13.5	12.8	14.2	1,516	0.6	0.5	0.6	23.7*
25–34	1,727	24.2	23.0	25.3	1,470	0.5	0.5	0.6	45.1*
35–44	1,475	22.3	21.1	23.4	1,376	0.5	0.4	0.5	47.3*
45–54	512	11.1	10.1	12.1	732	0.3	0.2	0.3	42.0*
55–64	60	2.3	1.7	2.9	245	0.1	0.1	0.1	21.0*
65+	24	1.3	0.8	1.8	308	0.1	0.1	0.1	12.4*
Total[(j)]	**5,309**	**10.9**	**10.6**	**11.2**	**5,986**	**0.3**	**0.3**	**0.3**	**35.5***
					Persons				
0–4	177	1.4	1.2	1.6	373	0.2	0.1	0.2	9.3*
5–14	217	0.9	0.8	1.0	817	0.2	0.2	0.2	5.4*
15–24	2,727	13.7	13.2	14.3	13,034	2.4	2.3	2.4	5.8*
25–34	3,218	22.8	22.0	23.5	9,672	1.8	1.7	1.8	13.0*
35–44	2,744	21.6	20.8	22.4	6,816	1.2	1.1	1.2	18.4*
45–54	1,003	11.3	10.6	12.0	3,680	0.7	0.6	0.7	16.8*
55–64	160	3.3	2.8	3.8	1,309	0.3	0.3	0.3	11.1*
65+	66	2.1	1.6	2.6	869	0.2	0.2	0.2	12.7*
Total[(j)]	**10,312**	**10.9**	**10.6**	**11.1**	**36,570**	**0.9**	**0.9**	**0.9**	**11.6**

(continued)

Table 2.13.16 (continued): Hospitalisations for principal diagnosis of assault, by Indigenous status, sex and age, NSW, Vic, Qld, WA, SA and NT, July 2004 to June 2006[(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. Excludes private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006). 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) Includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(f) Age-specific rate per 1,000 population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous: other.

(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 2.13.17 presents hospitalisations for principal diagnosis of assault for the 2-year period July 2006 to June 2008 for Tasmania, the Australian Capital Territory, New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- Over the period July 2006 to June 2008, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for assault at 12 times the rate of other Australians.
- Indigenous Australians were hospitalised for assault in Victoria at 4 times the rate of other Australians, in New South Wales at 6 times the rate, in Queensland at 7 times the rate, in the Northern Territory at 15 times the rate, in South Australia at 17 times the rate, and in Western Australia at 21 times the rate.

Table 2.13.17: Hospitalisations for principal diagnosis of assault, by Indigenous status and jurisdiction, July 2006 to June 2008(a)(b)(c)(d)(e)

	Indigenous				Other(f)				
	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)**
NSW	1,595	5.4	5.1	5.7	12,121	0.9	0.9	0.9	5.9*
Vic	248	3.9	3.4	4.4	9,285	0.9	0.9	0.9	4.3*
Qld	2,139	7.5	7.1	7.8	8,211	1.0	1.0	1.0	7.3*
WA	2,525	18.4	17.6	19.2	3,519	0.9	0.8	0.9	21.4*
SA	897	16.8	15.7	18.0	2,951	1.0	1.0	1.0	16.9*
NT	2,908	22.9	22.0	23.7	483	1.5	1.4	1.6	15.3*
NSW, Vic, Qld, WA, SA & NT(k)	**10,312**	**10.9**	**10.6**	**11.1**	**36,570**	**0.9**	**0.9**	**0.9**	**11.6***
Tas	49	1.3	0.9	1.7	885	1.0	1.0	1.1	1.2
ACT	29	4.3	2.1	6.5	544	0.7	0.7	0.8	5.8*

* 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. Excludes private hospitals in the Northern Territory, the Australian Capital Territory and Tasmania.

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006). 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, and the Northern Territory have been calculated using the direct method, age-standardised by 5 year age group 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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 with a primary diagnosis of assault in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 2.13.18, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for these conditions than other Australians. The ratio of hospitalisations of Indigenous people compared to other Australians was higher and the difference was statistically significant for all ASGC areas (Table 2.13.18).
- Rates of hospitalisations people for assault were highest for Indigenous people living in *Remote* areas, at 26 per 1,000. The rate was highest for other Australians who lived in *Very remote* areas, at 2.2 per 1,000. The lowest rates were observed in *Major cities* for both Indigenous people (4.7 per 1,000) and other Australians (0.9 per 1,000) (Table 2.13.18).
- Indigenous people were hospitalised for assault at a rate of 15 times that of other Australians in Remote areas of Australia. In Inner regional areas, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of 5.1 times that of other Australians. Nationally, the rate was 12 times (Table 2.13.18).

Table 2.13.18: Hospitalisations with a principle diagnosis of assault, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other[(g)]				
	Number	**No. per 1,000[(h)]**	**LCL 95%[(i)]**	**UCL 95%[(j)]**	**Number**	**No. per 1,000[(h)]**	**LCL 95%[(i)]**	**UCL 95%[(j)]**	**Ratio[(k)]**
Major cities	1,445	4.7	4.4	4.9	25,432	0.9	0.9	0.9	5.2*
Inner regional	992	5.4	5.0	5.8	6,918	1.1	1.0	1.1	5.1*
Outer regional	1,978	10.3	9.8	10.8	3,759	1.2	1.2	1.3	8.4*
Remote[(l)]	2,342	26.2	25.0	27.3	872	1.8	1.6	1.9	14.9*
Very remote	3,538	22.8	21.4	24.1	365	2.2	2.1	2.2	10.5*
Missing	36	. .	. .	. .	211	. .	. .	. .	. .
Total[(m)]	**10,331**	**11.2**	**11.0**	**11.5**	**37,557**	**1.0**	**1.0**	**1.0**	**11.5***

* 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.

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006).

(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 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) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria

(m) Total includes hospitalisations where ASGC is missing.

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.

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 2001–02 to 2007–08—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 (2007–09) but not as part of the time series analyses.

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for assault over the 7-year period 2001–02 to 2007–08 are presented in Table 2.13.19 and Figure 2.13.3.

- Over the period 2001–02 to 2007–08, there were decreases in the hospitalisation rates for assault among Indigenous males and females. The fitted trend implies an average yearly increase in the rate of around 0.2 per 1,000 which is equivalent to a 7.1% decrease over the period. The increase was only statistically significant when males were considered alone.
- Over the same period there were insignificant increases in the hospitalisation rate for assault for other Australians.
- There were decreases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians for assault over the period 1998–99 to 2007–08 (20% and 9%), which reflects both a relative and absolute reduction in the gap between rates for Indigenous and other Australian hospitalisations from assault.

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 2.13.19: Age-standardised hospitalisation rates, rate ratios and rate differences for assault, Qld, WA, SA and NT, 2001–02 to 2007–08

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(a)]	Per cent change over period[(b)]
Indigenous separations									
Males	1,960	1,835	1,764	1,803	1,868	1,881	1,994	11	3.3
Females	2,180	2,132	2,127	2,181	2,255	2,363	2,232	27*	7.3
Persons	4,140	3,967	3,891	3,984	4,123	4,244	4,226	37	5.4
Other Australian separations									
Males	5,176	9,992	4,891	5,255	5,720	6,145	6,511	–102	–11.8
Females	1,164	2,204	1,118	1,080	1,221	1,208	1,301	–53	–27.2
Persons	6,340	12,198	6,009	6,335	6,941	7,353	7,812	–155	–14.7
Indigenous rate (separations per 1,000)									
Males	15.7	14.4	13.3	13.3	13.5	13.2	13.8	–0.3*	–10.7
Females	15.7	15.2	14.7	15.1	15.2	15.5	14.4	–0.1	–3.8
Persons	15.7	14.7	14.0	14.2	14.3	14.4	14.1	–0.2*	–7.1
Other Australian[(c)] rate (separations per 1,000)									
Males	1.5	1.4	1.3	1.4	1.5	1.6	1.6	0.04*	16.2
Females	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	3.2
Persons	0.9	0.9	0.8	0.9	0.9	1.0	1.0	0.02*	14.3
Rate ratio[(d)]									
Males	10.7	10.3	9.9	9.4	8.9	8.3	8.4	–0.4*	–24.0
Females	47.2	48.9	47.3	50.9	46.0	48.5	42.7	–0.6	–7.0
Persons	17.3	17.2	16.8	16.4	15.4	14.9	14.0	–0.6*	–19.6
Rate difference[(e)]									
Males	14.2	13.0	12.0	11.9	12.0	11.6	12.1	–0.3*	–13.5
Females	15.4	14.9	14.4	14.8	14.9	15.2	14.1	–0.1	–4.0
Persons	14.7	13.9	13.2	13.4	13.4	13.4	13.0	–0.2*	–8.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001-02 to 2007–08.

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

(b) Per cent change between 2001–02 and 2007–08 based on the average annual change over the period.

(c) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

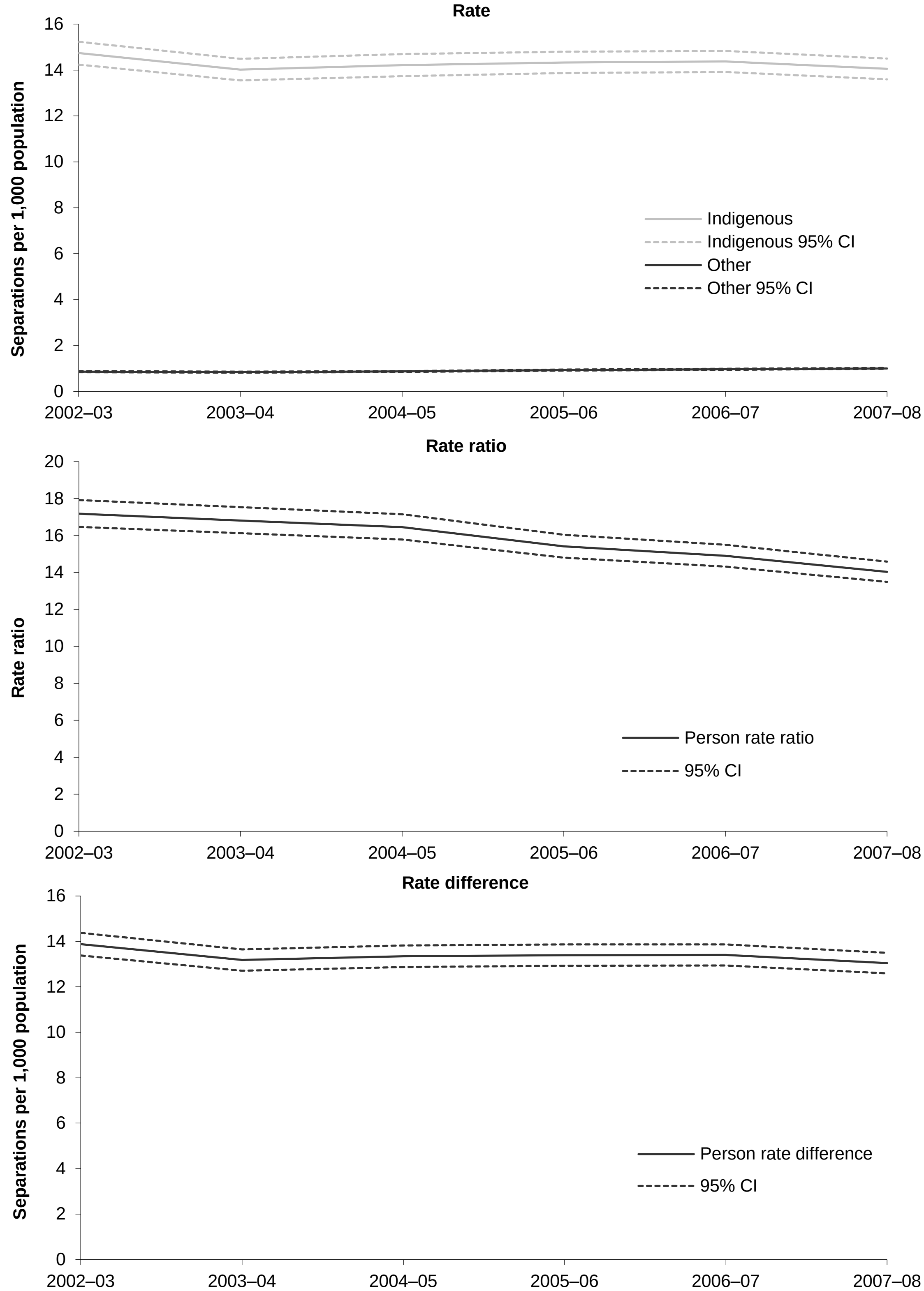
(d) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

(e) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other Australians.

Notes

1. Rates have been directly age-standardised using the 2006 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 in analysis.

Source: AIHW analysis of National Hospital Morbidity database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 2.13.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from assault, Qld, WA, SA and NT, 2001–02 to 2007–08

Mortality

Table 2.13.20 and 2.13.21 present deaths from assault in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory over the 5-year period 2004–2008.

- Over the period 2004–2008, there were 139 deaths of Indigenous people from assault (homicide) in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (Table 2.13.20). This represented approximately 1.3% of total deaths of Aboriginal and Torres Strait Islander peoples in these states and territories.
- Indigenous Australians in the five states and territories combined died from assault at 8.6 times the rate of non-Indigenous Australians.

Mortality by age and sex

- Mortality rates for assault were highest among those age, 25–34 and 35–44 years in both the Indigenous and non-Indigenous populations (Table 2.13.20; Figure 2.13.4). Indigenous males in these age groups died from assault at between 10 and 11 times the rate of non-Indigenous Australians of the same age, and Indigenous females in these age groups died from assault at between 15 and 17 times the rate of non-Indigenous females of the same age (Table 2.13.20).

Table 2.13.20: Deaths from assault (homicide), by Indigenous status, sex and age, NSW, Qld, WA, SA and NT, 2004–2008[(a)(b)(c)(d)(e)(f)(g)(h)(i)]

	Indigenous		Non-Indigenous		
	Number	Age-specific rate. per 100,000[(k)]	Number	Age-specific rate. per 100,000[(k)]	Ratio[(n)]
			Males		
0–4	n.p.	n.p.	25	1.1	n.p.
5–14	n.p.	n.p.	7	0.1	n.p.
15–24	13	5.7	51	1.0	5.6
25–34	22	13.6	66	1.3	10.3
35–44	22	15.8	79	1.5	10.6
45–54	10	10.4	60	1.2	8.6
55–64	n.p.	n.p.	51	1.3	n.p.
65+	n.p.	n.p.	26	0.6	n.p.
Total[(j)(m)]	**78**	**6.8**	**365**	**1.0**	**8.0**
			Females		
0–4	n.p.	n.p.	9	0.4	n.p.
5–14	n.p.	n.p.	9	0.2	n.p.
15–24	8	3.7	29	0.6	6.1
25–34	24	14.4	41	0.8	17.4
35–44	19	12.6	44	0.8	15.2
45–54	6	5.8	28	0.6	10.4
55–64	—	—	15	0.4	n.a.
65+	—	—	26	0.5	n.a.
Total[(j)(m)]	**61**	**5.3**	**201**	**0.6**	**9.9**
			Persons		
0–4	6	2.1	34	0.8	2.7
5–14	n.p.	n.p.	16	0.2	n.p.
15–24	21	4.7	80	0.8	5.8
25–34	46	14.0	107	1.1	13
35–44	41	14.1	123	1.2	12.1
45–54	16	8.0	88	0.9	9.1
55–64	n.p.	n.p.	66	0.8	n.p.
65+	n.p.	n.p.	52	0.6	n.p.
Total[(j)(m)]	**139**	**6.0**	**566**	**0.8**	**8.6**

(continued)

Table 2.13.20 (continued): Deaths from assault (homicide), by Indigenous status, sex and age, NSW, Qld, WA, SA and NT, 2004–2008[(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 jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

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

(c) These data exclude a total of 22 deaths where Indigenous status was not stated.

(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 all-causes mortality rate.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See *Causes of death, Australia, 2008* (ABS 2010a) Technical Note 2: Revisions Process for further information.

(g) 2008 data have been subject to a process improvement which has increased the quality of these data. See *Causes of death, Australia, 2008* (ABS 2010a) Technical Note 1: 2008 COD Collection - Process Improvement for further information.

(h) Causes of death data for 2008 are preliminary and subject to a revisions process. See *Causes of death, Australia, 2008* (ABS 2010a) Technical Note 2: Revisions Process for further information.

(i) Data cells with small values have been randomly assigned to protect the confidentiality of individuals. As a result, some totals will not equal the sum of their components. It is important to note that cells with a zero value have not been affected by confidentialisation.

(j) Rates per 100,000 population. Total rates have been directly age-standardised using the 2001 Australian standard population.

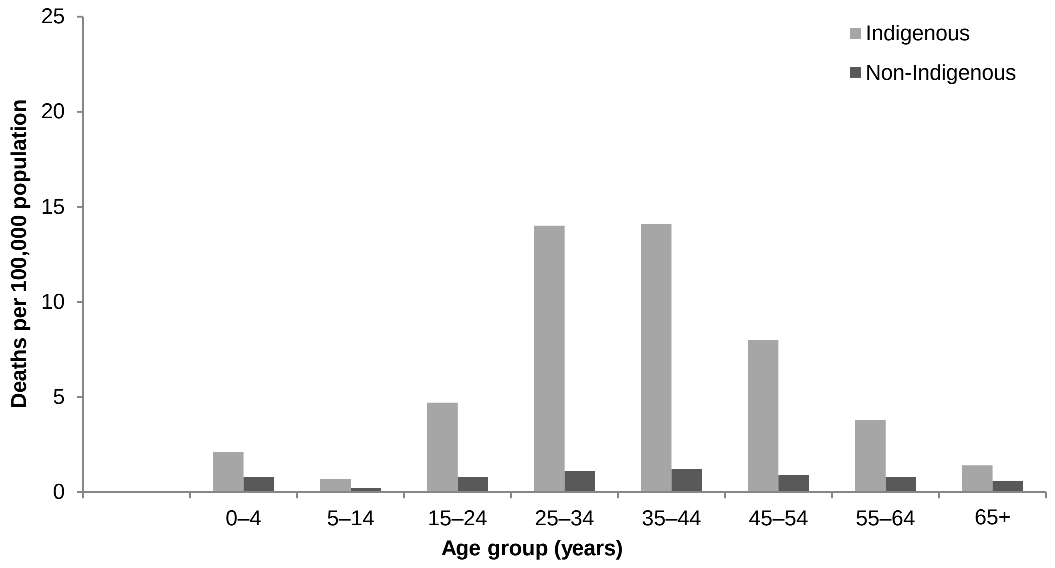
(k) Average annual number of deaths per 100,000 population (ERP as at June 2006).

(l) Rate ratio is the average annual Indigenous mortality rate: average annual non-Indigenous mortality rate.

(m) There were zero records with age 'not stated'.

Note: The completeness of identification of Indigenous deaths can vary by age.

Source: AIHW analysis of National Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database

Figure 2.13.4: Age-specific mortality rates for assault (homicide), by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008

Mortality by state/territory

- During 2004–2008, in Western Australia and Northern Territory, Indigenous Australians died from assault at a rate of 12 and 17 per 100,000 respectively, while in Queensland, Indigenous Australians died from assault at a rate of 2.9 per 100,000 (Table 2.13.21).

Table 2.13.21: Deaths from assault (homicide), by Indigenous status, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)

	Indigenous			Non-Indigenous		
	Number	**Crude rate**(h)	**No. per 100,000**(i)	**Number**	**Crude rate**(h)	**No. per 100,000**(i)
NSW	**28**	**3.7**	**4.1**	**283**	**0.8**	**0.8**
Qld	21	**2.9**	**2.9**	114	**0.6**	**0.6**
WA	34	**9.6**	**11.6**	88	**0.9**	**0.9**
SA	5	**3.6**	**4.6**	69	**0.9**	**0.9**
NT	51	**15.9**	**16.7**	12	**1.6**	**1.4**
Total	**139**	**6.0**	**6.8**	**566**	**0.8**	**0.8**

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

(b) These data exclude a total of 22 deaths where Indigenous status was not stated.

(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.

(d) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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) Causes of death data for 2007 have been revised and are subject to further revisions. See *Causes of death, Australia, 2008* (ABS 2010a) Technical Note 2: Revisions Process for further information.

(g) 2008 data have been subject to a process improvement which has increased the quality of these data. *Causes of death, Australia, 2008* (ABS 2010a) Technical Note 1: 2008 COD Collection - Process Improvement for further information.

(h) Average annual number of deaths per 100,000 population (ERP as at June 2006).

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

Source: ABS and 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 done for two time periods—1991–1996 and 1997–2006. 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 period 1991–1993 to 1994–1996 and 1997–1999 to 2004–2008 are presented in Table 2.13.22 and Figure 2.13.5. Mortality rates, rate ratios and rate differences between Indigenous and other Australians for assault over the period 1998 to 2008 are presented in Table 2.13.23 and Figure 2.13.6.

- Over the period 1991–1993 to 1994–1996, there were non-significant declines in recorded mortality for assault for Indigenous Australians in Western Australia, South Australia and the Northern Territory combined. Over the same period there were non-significant increases in mortality rates for assault for other Australians (Table 2.13.22).
- Over the period 1997–1999 to 2004–2008, there were non-significant decreases in the mortality rates from assault for Indigenous Australians and significant declines in mortality rates from assault for other Australians over this period (Table 2.13.22).

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 2.13.22: 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 2004–2008

	Deaths		No. per 100,000[(a)]			
	Indigenous	Other[(b)]	Indigenous	Other[(b)]	Rate ratio[(c)]	Rate difference[(d)]
1991–1996						
1991–1993	78	147	25	1.5	16.2	23.5
1994–1996	66	171	18.6	1.7	10.9	16.9
Difference in rates[(e)]	. .	. .	–6.4	0.2	. .	. .
1997–2008						
1997–1999	39	156	9.7	1.5	6.3	8.2
2000–2003	101	171	18.6	1.2	15.2	17.4
2004–2008	111	300	8.1	0.8	10.3	7.3
Annual change[(f)]	. .	. .	–0.3	–0.1*	0.5	–0.2
Per cent change over period[(g)]	. .	. .	–30.5	–70.3*	85.2	–23

* Represents statistically significant differences at the $p < 0.05$ level over the periods 1991–1993 to 1994–1996 and 1997–1999 to 2004–2008.

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

(b) Includes deaths of non-Indigenous people and those for whom Indigenous status was not stated.

(c) Mortality rate for Indigenous Australians divided by the mortality rate for other Australians.

(d) Mortality rate for Indigenous Australians minus the mortality rate for other Australians.

(e) Mortality rate for 1994–1996 minus mortality rate for 1991–1993.

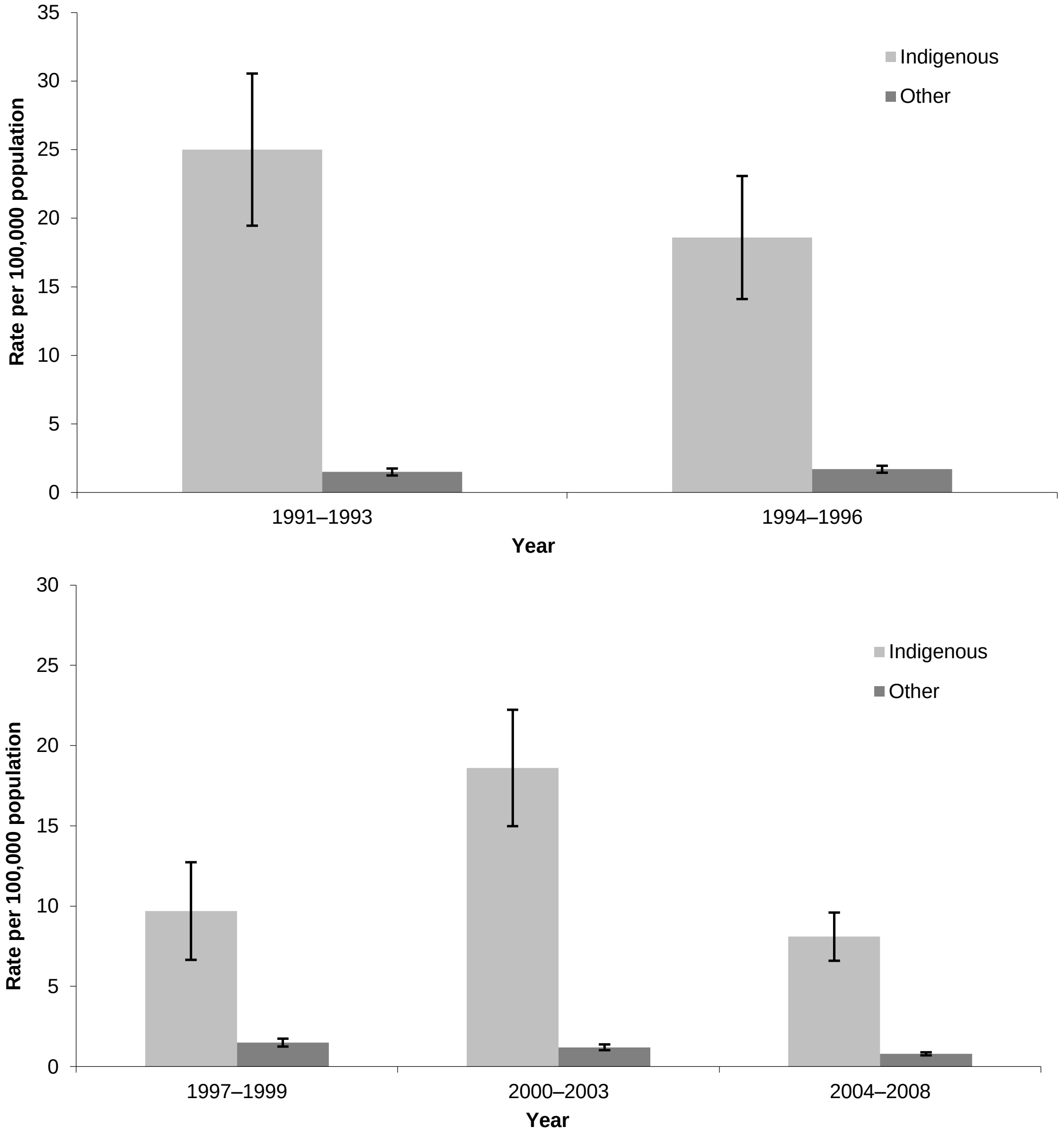
(f) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(g) Per cent change between 1997 and 2008 based on the average annual change over the period.

Notes

1. Data are presented in 3-year and 4-year groupings because of the small number of Indigenous deaths from assault each year.
2. The completeness of identification of Indigenous deaths can vary by age.
3. Deaths and rates presented in this table may differ from those presented in the 2006 edition of this report for comparable years because of a change from using year of occurrence of death to year of registration of death for mortality analyses.
4. Preliminary 2007 and 2008 ABS mortality.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database

Figure 2.13.5: Age-standardised mortality rates from assault (homicide), by Indigenous status, 1991–1993 to 1994–1996 and 1997–1999 to 2004–2008

Additional trends analysis has been presented for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined from 1998 to 2008 for Indigenous and non-Indigenous Australians in Table 2.13.23 and Figure 2.13.6. 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 to 2008, there were non-significant declines in recorded mortality rates in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined for Indigenous and non-Indigenous Australians (Table 2.13.23).
- There was a non-significant increase in the mortality rate ratio between Indigenous and non-Indigenous Australians over the period 2001 to 2008, and a non-significant decrease in the mortality rate difference over the same period (Table 2.13.23).

Table 2.13.23: Age-standardised mortality rates, rate ratios and rate differences for deaths from assault (homicide), NSW, Qld, WA, SA and NT, 1998–2008

	2001–2002	2003–2004	2005–2006	2007-08[(a)]	Annual change[(b)]	% change[(c)]
Indigenous deaths per 100,000[(d)]						
Males	11.4	9.6	8.7	8.3	–0.5*	–31.3*
Females	8.7	4.2	5.1	6.8	–0.2	–19.3
Persons	10.0	6.9	6.8	7.5	–0.4	–26.6
Non-Indigenous deaths per 100,000[(e)]						
Males	1.7	1.5	1.9	1.1	–0.1	–28.8
Females	0.9	0.8	1.1	0.6	0.0	–23.3
Persons	1.3	1.2	1.4	0.8	–0.1	–35.0
Rate ratio[(f)]						
Males	6.8	7.1	8.9	7.7	0.2	23.2
Females	9.5	6.8	9.5	11.3	0.4	29.8
Persons	7.7	7.0	9.0	8.9	0.3	25.5
Rate difference[(g)]						
Males	9.7	8.3	7.8	7.2	–0.4*	–28.9*
Females	7.8	3.6	4.6	6.2	–0.2	–17.1
Persons	8.7	5.9	6.1	6.7	–0.3	–23.3

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–1999 to 2004–2008.

(a) Preliminary 2007 and 2008 ABS mortality data.

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

(c) Per cent change between 1998 and 2008 based on the average annual change over the period.

(d) Rates have been directly age-standardised using the 2001 Australian standard population.

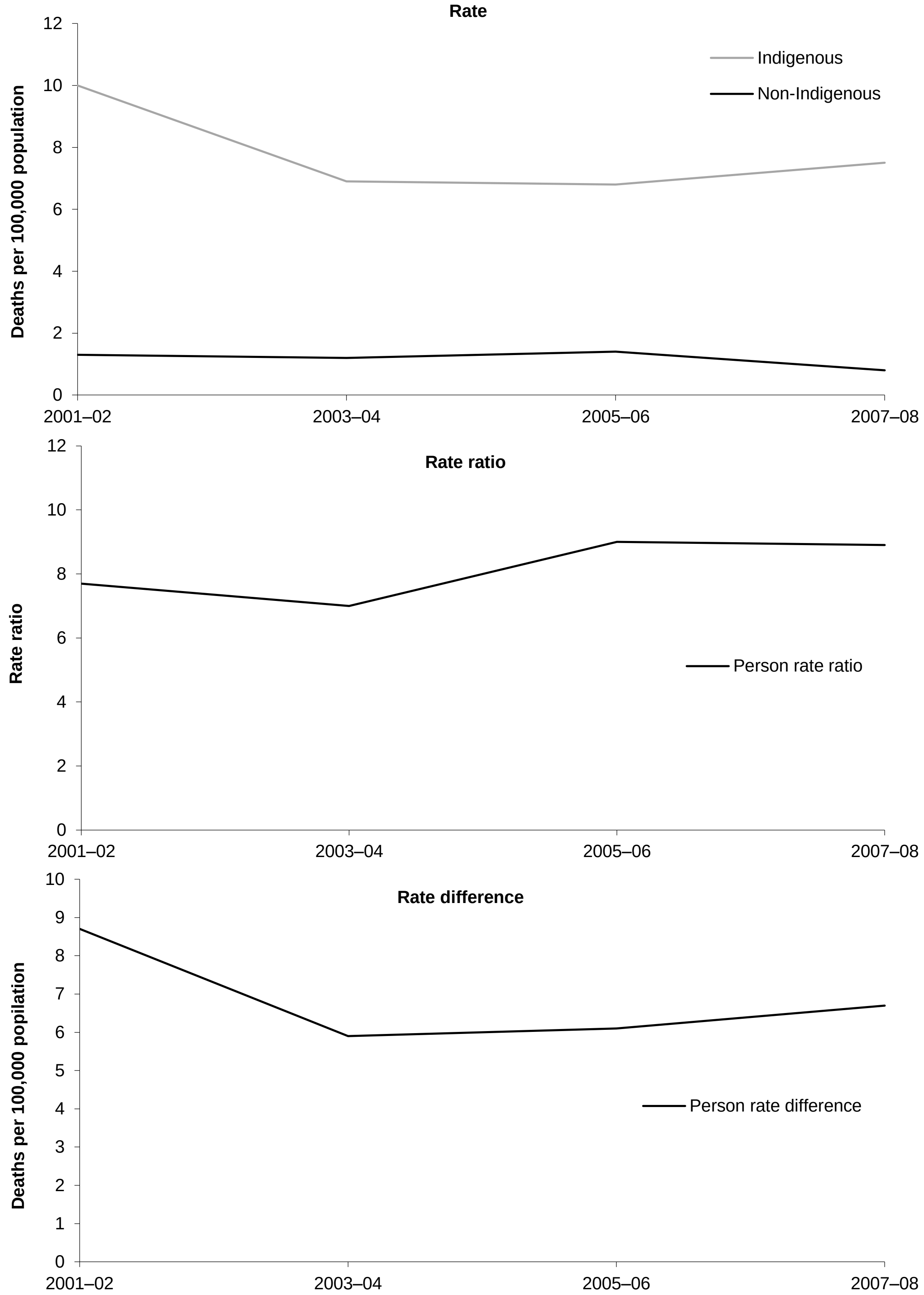
(e) Excludes deaths of those for whom Indigenous status was not stated.

(f) Mortality rate for Indigenous Australians divided by the mortality rate for non-Indigenous Australians.

(g) Mortality rate for Indigenous Australians minus the mortality rate for non-Indigenous Australians.

Note: Data are presented in 2-year groupings because of the small number of Indigenous deaths from assault each year.

Source: ABS and AIHW analysis of ABS Mortality Database.



Source: ABS and AIHW analysis of ABS Mortality Database

Figure 2.13.6: Mortality rates, rate ratios and rate differences for deaths from assault (homicide) between Indigenous and non-Indigenous Australians, NSW, Qld, WA, SA and NT, 1998–1999 to 2007–2008

Victims of homicide

The National Homicide Monitoring Program collects data on all homicides recorded in Australia. Data for the periods 1997–98 to 2001–02 and 2002–03 to 2006–07 are presented in Table 2.13.24.

- Over the period 2002–03 to 2006–07, there were 247 Indigenous victims of homicide recorded, which was higher than the number recorded for the period 1997–98 to 2001–02 (201).
- Indigenous victims represented 13% of total victims of homicide over the period 2002–03 to 2006–07 compared with 12% over the period 1997–98 to 2001–02.
- For approximately 41% of homicides in the period 2002–03 to 2006–07 in which the victim was Indigenous, the homicide involved a male offender and a male victim, and for 33% the homicide involved a male offender and a female victim.
- For approximately 85% of homicides in the period 2002–03 to 2006–07 where the victim was Indigenous, both the offender and the victim were not working. This compared with 40% of homicides where the victim was non-Indigenous.
- Domestic altercation was the most common circumstance surrounding homicides in the period 2002–03 to 2006–07 in which the victim was Indigenous (39%). Alcohol-related arguments surrounded 23% of homicides where the victim was Indigenous. The most common circumstance surrounding homicides in which the victim was non-Indigenous was other arguments (other than domestic or alcohol-related) (42%).
- During the period 2002–03 to 2006–07 approximately 66% of homicides in which the victim was Indigenous the homicide involved intimate partners or other family members, and for 25% the homicide involved friends and acquaintances. The corresponding proportions for homicides involving non-Indigenous victims were 44% and 31% respectively.

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Table 2.13.24: Victims of homicide for all jurisdictions where data are available, by Indigenous status, with selected data on circumstances surrounding the homicide, 1997–98 to 2001–02 and 2002–03 to 2006–07

	1997–98 to 2001–02[a]						2002–03 to 2006–07[a]					
Physical or threatened violence in previous 12 months, by remoteness, 2008	**Indigenous victims**		**Non-Indigenous victims**		**Total victims[b]**		**Indigenous victims**		**Non-Indigenous victims**		**Total victims[b]**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Sex[c]												
Male offender/male victim	87	39	688	53	775	51	75	41	674	55	749	53
Male offender/female victim	85	38	415	32	500	33	61	33	355	29	416	30
Female offender/male victim	38	17	143	11	181	12	39	21	135	11	174	12
Female offender/female victim	12	5	59	5	71	5	9	5	57	5	66	5
Total	**222**	**100**	**1,305**	**100**	**1,527**	**100**	**184**	**100**	**1,221**	**100**	**1,405**	**100**
Employment status[c]												
Offender & victim both working	6	3	164	16	170	14	4	3	202	23	206	20
Neither working	158	82	474	45	632	51	111	85	352	40	463	46
Offender working only	15	8	179	17	194	16	7	5	153	17	160	16
victim working only	13	7	234	22	247	20	9	7	172	20	181	18
Total	**192**	**100**	**1,051**	**100**	**1,243**	**100**	**131**	**100**	**879**	**100**	**1,010**	**100**
Circumstance												
Domestic altercation	81	40	382	26	463	28	96	39	430	27	526	28
Alcohol-related argument	55	27	112	8	167	10	58	23	158	10	216	12
Other argument	42	21	719	49	761	46	50	20	673	42	723	39
No apparent motive/unknown	23	11	258	18	281	17	43	17	340	21	383	21
Total	**201**	**100**	**1,471**	**100**	**1,672**	**100**	**247**	**100**	**1,601**	**100**	**1,848**	**100**

(continued)

Table 2.13.24 (continued): Victims of homicide for all jurisdictions where data are available, by Indigenous status, with selected data on circumstances surrounding the homicide, 1997–98 to 2001–02 and 2002–03 to 2006–07

	1997–98 to 2001-02[(a)]						2002–03 to 2006–07[(a)]					
Physical or threatened violence in previous 12 months, by remoteness, 2008	**Indigenous victims**		**Non-Indigenous victims**		**Total victims[(b)]**		**Indigenous victims**		**Non-Indigenous victims**		**Total victims[(b)]**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Victim–offender relationship[(d)]												
Intimate partners and other family	116	60	521	41	637	43	153	66	640	44	793	47
Friends & acquaintances	59	31	414	32	473	32	57	25	455	31	512	30
Strangers	6	3	255	20	261	18	17	7	238	16	255	15
Other relationship	11	6	86	7	97	7	2	1	108	7	110	7
Unknown	1	1	6	0	7	0	3	1	18	1	21	1
Total	**193**	**100**	**1,282**	**100**	**1,475**	**100**	**232**	**100**	**1,459**	**100**	**1,691**	**100**
Total[(b)]	**201**	**12**	**1,471**	**88**	**1,672**	**100**	**247**	**13**	**1,601**	**87**	**1,848**	**100**

(a) Where an offender has been identified.

(b) Excludes victims where racial appearance, sex, employment status, circumstances or victim–offender relationship data were unknown.

(c) Where more than one offender, victim counted twice across categories if multiple offenders were of different sex or different employment status.

(d) Refers only to relationship between victim and first offender, where identified.

Source: Australian Institute of Criminology, National Homicide Monitoring Program, 1997–2007 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 2010b).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: Users' guide, 2008* (ABS 2010b).

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.

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery, affect the number and pattern of hospitalisations.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. Based on an analysis of a sample of data conducted in 2010, an estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08 (AIHW 2010b). In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data in all states and territories. Results from this assessment indicate that all hospitals in New South Wales, Victoria, Queensland, Western Australia and South Australia and public hospitals in the Northern Territory have adequate Indigenous identification (80% or higher overall levels of Indigenous identification in public hospitals only) in their separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010b):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included.
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.
- Bias may have been introduced due to the sampling method of hospitals used in the study. Hospitals with high proportions of Indigenous separations were used in the study to ensure sufficient numbers of Indigenous people were included in the study. Proportions of Indigenous separations should therefore not be taken to represent the NHMD overall.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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 2009a).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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 2009b). As a result, the observed differences between Indigenous and non-Indigenous mortality are under-estimates 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 & 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 2009a).

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

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2.14 Contact with criminal justice system

The prevalence of Aboriginal and Torres Strait Islander peoples 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 Australian Bureau of Statistics (ABS) National Prison Census, National Policy Custody Survey, the Australian Institute of Criminology (AIC) National Deaths in Custody Program annual report, Australian Institute of Health and Welfare (AIHW) Juvenile Justice National Minimum Data Set, the ABS National Aboriginal and Torres Strait Islander Social Survey and the AIC Drug Use Monitoring in Australia survey.

National Aboriginal and Torres Strait Islander Social Survey

The 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 2013.

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 Prison 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 custody. 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.

National Police Custody Survey

The latest National Police Custody Survey conducted in 2007 collected information on the number of people who passed through police custody (as opposed to custody in the prison system) in all jurisdictions. Survey findings are reported on: how many people go into and out of police cells over the course of one month; why people are placed in police custody; the types of offences associated with police custody; the length of time that people are in police custody; the proportions of incidents in which Indigenous people are involved; rates of

Indigenous and non-Indigenous custody per population; and whether these patterns change over time.

The Indigenous status of the victim or perpetrator or both is based on police identification.

There are some inconsistencies in the method of data collection between jurisdictions and thus care should be taken in comparing data between states and territories.

Deaths in custody in Australia: National Deaths in Custody Program annual report

As a requirement of the Deaths in Custody Royal Commission, the 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.

Juvenile Justice National Minimum Data Set

The AIHW holds the Juvenile Justice National Minimum Data Set and this contains data on young people under juvenile justice supervision in the community and in detention.

The AIHW collects these data, which include both community-based and detention-based supervision, from the departments in each state and territory with responsibility for juvenile justice. Data are available by financial year from 2000–01.

The standard ABS question on Indigenous status is included in this National Minimum Data Set. Aboriginal and Torres Strait Islander young people were over-represented in juvenile justice supervision, especially in detention. Although only about 5% of young Australians are Indigenous, almost 40% of those under supervision on an average day were Indigenous. The over-representation was higher in detention, where over half of those in detention and almost 60% of unsentenced detainees were Indigenous. An Indigenous person aged 10–17 years is around 16 times as likely to be under supervision on an average day as a non-Indigenous young people aged 10–17 years.

The Health of Australia’s Prisoners

In 2009, the AIHW conducted the inaugural National Prisoner Health Census. This census collected information from prisoners throughout Australia during a one week period. 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 2009. These data are published in the ABS publication *Prisoners in Australia 2009* (ABS 2009).

- As at 30 June 2009, there were 7,385 Indigenous prisoners (7,372 aged 18 years and over) recorded in the National Prison Census (Table 2.14.1).
- After adjusting for differences in age structure, the age-standardised rate of imprisonment for Indigenous prisoners was 1,891 per 100,000 adult population compared with 136 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 2.14.2).
- Indigenous Australians were imprisoned at a crude rate of 2,310 per 100,000 (Table 2.14.2).

People in prison custody by age and sex

- The median age of Indigenous prisoners was 31 years compared with 35 years for non-Indigenous prisoners (Table 2.14.1).
- 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 (6,783 per 100,000 compared with 602 per 100,000). The non-Indigenous proportions of prisoners are similar, 93% are male, 7% are female, however the crude rates are lower 247.0 and 17.9 per 100,000 respectively (Table 2.14.1).

Table 2.14.1: People in prison custody, by Indigenous status, sex and age group, as at 30 June 2009

Age group (years)	Males			Females			Persons		
	Number	Per cent	Rate[(a)]	Number	Per cent	Rate[(a)]	Number	Per cent	Rate[(a)]
				Indigenous					
Under 18	13	0.2	201.9	0	0.0	0.0	13	0.2	103.5
18	109	1.6	1,713.6	7	1.2	116.8	116	1.6	938.8
19	229	3.4	3,719.9	19	3.2	331.2	248	3.4	2,085.4
20–24	1,460	21.5	5,796.2	97	16.1	401.1	1,557	21.1	3,153.6
25–29	1,436	21.2	6,974.6	139	23.1	680.3	1,575	21.3	3,839.5
30–34	1,199	17.7	6,885.3	124	20.7	694.5	1,323	17.9	3,751.3
35–39	1,038	15.3	5,897.1	108	17.9	569.6	1,146	15.5	3,134.3
40–44	639	9.4	4,194.0	62	10.3	370.2	701	9.5	2,191.9
45–49	373	5.5	2,815.1	32	5.3	219.0	405	5.5	1,453.7
50–54	181	2.7	1,678.6	7	1.2	60.1	188	2.5	838.4
55–59	55	0.8	680.5	4	0.7	44.9	59	0.8	347.2
60–64	33	0.5	594.1	3	0.3	47.6	36	0.5	303.7
65 and over	18	0.3	234.1	0	0.0	0.0	18	0.3	100.8
Total (crude)	**6,783**	**100.0**	**4,230.3**	**602**	**100.0**	**359.1**	**7,385**	**100.0**	**2,251.5**
Mean age	32.1	. .	. .	32.3	. .	. .	32.1	. .	. .
Median age	30.6	. .	. .	31.7	. .	. .	30.7	. .	. .
				Non-Indigenous					
Under 18	24	0.1	16.4	0	0.0	0.0	24	0.1	8.4
18	143	0.7	95.5	7	0.5	4.9	150	0.7	51.5
19	344	1.7	224.4	19	1.3	13.1	363	1.7	121.9
20–24	2,897	14.4	372.0	163	10.9	22.0	3,060	14.2	201.1
25–29	3,602	18.0	465.4	274	18.4	36.4	3,876	18.0	253.9
30–34	3,355	16.7	461.2	260	17.4	35.9	3,615	16.8	248.9
35–39	3,141	15.7	401.5	251	16.8	31.8	3,392	15.7	215.7
40–44	2,295	11.4	308.9	190	12.7	25.4	2,485	11.5	166.5
45–49	1,587	7.9	208.2	151	10.1	19.5	1,738	8.1	113.1
50–54	1,093	5.4	156.5	93	6.2	13.1	1,186	5.5	84.2
55–59	662	3.3	104.0	42	2.8	6.5	704	3.3	54.9
60–64	455	2.3	79.3	28	1.9	4.9	483	2.2	42.1
65 and over	465	2.3	35.5	13	0.9	0.8	478	2.2	16.6
Total (crude)	**20,063**	**100.0**	**247.0**	**1,491**	**100.0**	**17.9**	**21,554**	**100.0**	**130.9**
Mean age	36.4	. .	. .	36.7	. .	. .	36.4	. .	. .
Median age	34.5	. .	. .	35.5	. .	. .	34.5	. .	. .

(a) Rates per 100,000 adult population.

Source: ABS 2009.

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 20 and 16 times as likely to be in prison as non-Indigenous Australians in these jurisdictions respectively (Table 2.14.2).

Table 2.14.2: People in prison custody, by Indigenous status, sex and state/territory, 30 June 2009

	Indigenous					Non-Indigenous					
	Number					Number					
	Males	Females	Persons(a)	Crude rate(b)	Age-standardised rate(c)	Males	Females	Persons(a)	Crude rate(b)	Age-standardised rate(c)	Age-standardised rate ratio(d)
NSW(e)	2,138	236	2,374	2,591.1	2,153.1	7,789	587	8,376	156.3	163.9	13.1
Vic	221	20	241	1,158.8	968.4	3,847	262	4,109	98.7	100.8	9.6
Qld	1,460	116	1,576	1,732.9	1,427.2	3,791	300	4,091	124.5	128.5	11.1
WA	1,633	157	1,790	4,075.4	3,328.7	2,445	184	2,629	159.1	163.0	20.4
SA	420	29	449	2,596.6	2,072.4	1,419	92	1,511	121.2	133.4	15.5
Tas	61	5	66	577.5	470.7	431	38	469	126.1	146.1	3.2
ACT(f)	23	3	26	965.5	759.6	157	20	177	65.8	63.2	12.0
NT	827	37	864	2,104.2	1,699.6	184	10	192	160.6	152.5	11.1
Aust	**6,783**	**603**	**7,386**	**2,309.8**	**1,890.7**	**20,063**	**1,493**	**21,554**	**130.9**	**135.6**	**13.9**

(a) Includes sex not stated.
(b) Number per 100,000 adult population.
(c) Number per 100,000 adult population directly age-standardised to 2001 Australian standard population.
(d) The ratio of Indigenous to non-Indigenous imprisonment is calculated by dividing the Indigenous age-standardised rate by the non-Indigenous age-standardised rate.
(e) Numbers and rates for New South Wales exclude ACT prisoners held in New South Wales.
(f) Rates for Australian Capital Territory include ACT prisoners held in New South Wales as well as ACT prisoners held in the Australian Capital Territory.

Source: ABS 2009.

People in prison custody by legal status and most serious offence/charge

- As at 30 June 2009, approximately 76% of Indigenous and 50% of non-Indigenous people in prison custody were subsequently sentenced to prison (Table 2.14.3).
- Around 32% (2,365 persons) of all Indigenous people in prison custody were charged with acts intended to cause injury as the most serious offence. This offence accounted for 15% (3,203 persons) of non-Indigenous people in prison custody (Table 2.14.3).
- Unlawful entry was recorded as the most serious offence for 14% of Indigenous people in prison custody and 10% of non-Indigenous people in prison custody. Offences against justice procedures, government security and operations were the most serious offence for 11% of Indigenous prisoners and 8% of non-Indigenous prisoners.
- 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 2.14.1a).
- 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 2.14.1b).

Table 2.14.3: People in prison custody, by Indigenous status, legal status and most serious offence/charge, 30 June 2009

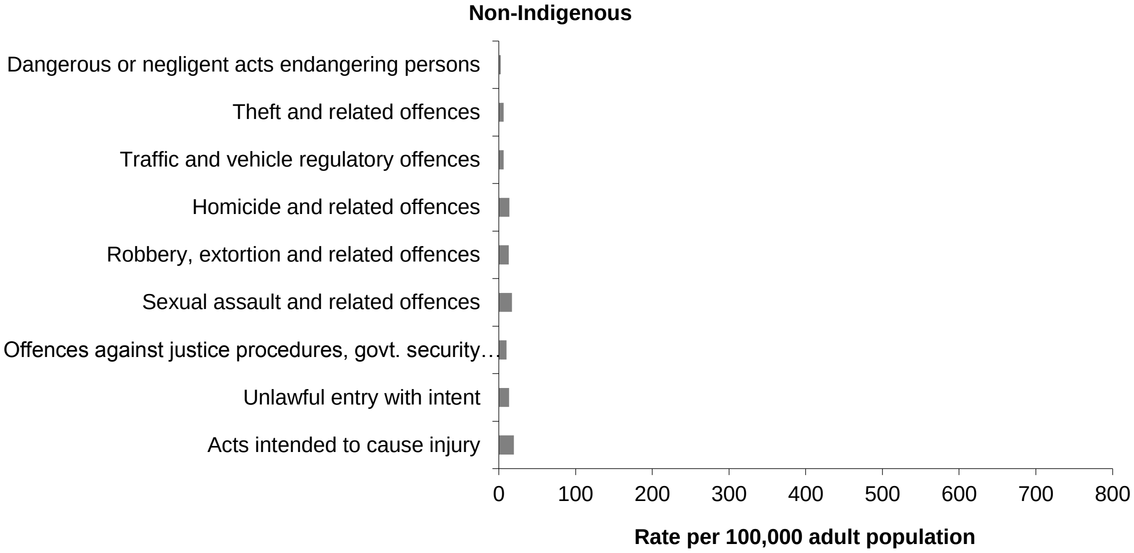
	Indigenous		Non-Indigenous	
	Number	**prior %**	**Number**	**prior %**
Sentenced	5,811	76.3	16,986	50.4
Unsentenced	1,573	67.5	4,570	48.1
Acts intended to cause injury	2,365	76.3	3,203	52.1
Unlawful entry with intent	1,010	76.6	2,183	76.0
Offences against justice procedures, government, security and operations	845	85.4	1,643	76.9
Sexual assault and related offences	747	62.7	2,837	27.1
Robbery, extortion and related offences	650	69.4	2,104	60.3
Homicide and related offences	441	61.7	2,256	34.7
Traffic and vehicle regulatory offences	408	83.8	997	63.8
Theft and related offences	280	76.1	993	66.1
Dangerous or negligent acts endangering persons	183	81.4	392	53.1
Illicit drug offences	138	59.4	2,987	34.0
Property damage and environmental pollution	83	62.7	283	54.4
Public order offences	73	76.7	138	55.1
Abduction, harassment and other offences against the person	52	65.4	229	52.0
Fraud, deception and related offences	44	62.8	807	33.1
Prohibited and regulated weapons and explosives offences	38	66.7	233	54.5
Miscellaneous offences	24	84.0	248	25.4
Unknown	3	100.0	23	82.6
Total	**7,384**	**74.4**	**21,556**	**49.9**

Source: ABS 2009.

Note: Rates (number per 100,000 adult population) have not been age-standardised.

Source: AIHW analysis of ABS 2009.

Figure 2.14.1a: Most serious offence/charge, crude rates, Indigenous adults, 30 June 2009



Note: Rates (number per 100,000 adult population) have not been age-standardised.

Source: AIHW analysis of ABS 2009.

Figure 2.14.1b: Most serious offence/charge, crude rates, non-Indigenous adults, 30 June 2009

People in prison custody by sentence length

- As at 30 June 2009, 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 2.14.4).
- The mean (64 months) and median (42 months) sentence lengths for non-Indigenous sentenced prisoners was longer than those for Indigenous sentenced prisoners (43 months and 24 months, respectively) (ABS 2009).
- The mean (5.6 months) and median (3.2 months) time on remand for non-Indigenous unsentenced prisoners was longer than for Indigenous unsentenced prisoners (4.0 months and 2.3 months, respectively) (ABS 2009).

Table 2.14.4: Number of Indigenous sentenced prisoners, by sentence length[a] and most serious offence, 30 June 2009

Most serious offence	Periodic detention	<3 months	3 to <6 months	6 to <12 months	1 to <2 years	2 to <5 years	5 to <10 years	10 to <15 years	15 to <20 years	20+ years	Life	Other	Total	Total (per cent)	Mean[b] (months)	Median[b] (months)
Homicide and related offences	0	0	0	0	0	18	91	44	40	36	119	10	358	6.2	146.8	120.1
Acts intended to cause injury	30	64	139	216	531	497	149	28	10	3	0	5	1,672	28.8	28.7	18.0
Sexual assault and related offences	0	3	4	8	21	131	245	114	31	17	6	17	597	10.3	93.7	84.0
Dangerous or negligent acts endangering persons	0	3	8	38	64	35	8	0	0	0	0	0	156	2.7	21.8	15.0
Abduction and related offences	0	0	0	0	3	11	10	5	0	0	0	0	29	0.5	67.9	55.4
Robbery, extortion and related offences	4	0	0	0	24	192	187	43	18	7	0	4	479	8.3	74.5	60.1
Unlawful entry with intent	5	12	18	55	229	341	146	20	8	0	0	0	834	14.4	39.8	29.4
Theft and related offences	3	20	27	28	79	49	20	0	0	0	0	0	226	3.9	23.5	14.5
Deception and related offences	4	3	0	3	13	8	0	0	0	0	0	0	31	0.6	22.6	18.0
Illicit drug offences	4	3	6	4	8	51	23	0	0	0	0	0	99	1.7	43.9	36.7
Weapons and explosives offences	0	3	0	5	7	5	3	0	0	0	0	0	23	0.4	20.7	16.5
Property damage and environmental pollution	0	4	7	9	15	17	7	3	0	0	0	0	62	1.1	28.4	18.0
Public order offences	0	0	6	11	29	10	3	0	0	0	0	0	59	1.0	23.8	17.0
Road traffic and motor vehicle regulatory offences	18	41	74	80	145	32	3	0	0	0	0	0	393	6.7	12.0	11.0
Offences against justice procedures, govt security and operations	6	64	113	199	268	95	11	0	0	0	3	3	762	13.1	14.9	12.0
Miscellaneous offences	0	0	0	0	3	3	0	3	0	0	0	5	14	0.3	52.2	28.6
Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	5.7	4.0
Total	**74**	**220**	**402**	**656**	**1,439**	**1,495**	**906**	**260**	**107**	**63**	**128**	**44**	**5,794**	**100.0**	**42.9**	**24.0**

(a) Aggregate sentence length.

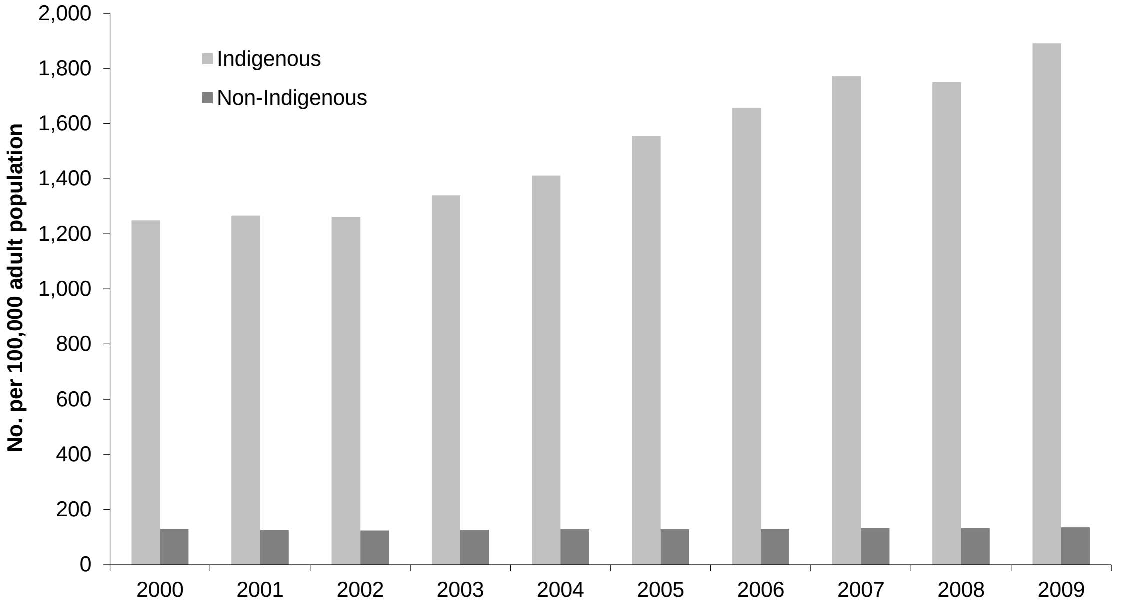
(b) Mean is average number of months; median is the number at which half the sample lies above and half the sample lies below.

Source: ABS 2009.

Time series analyses

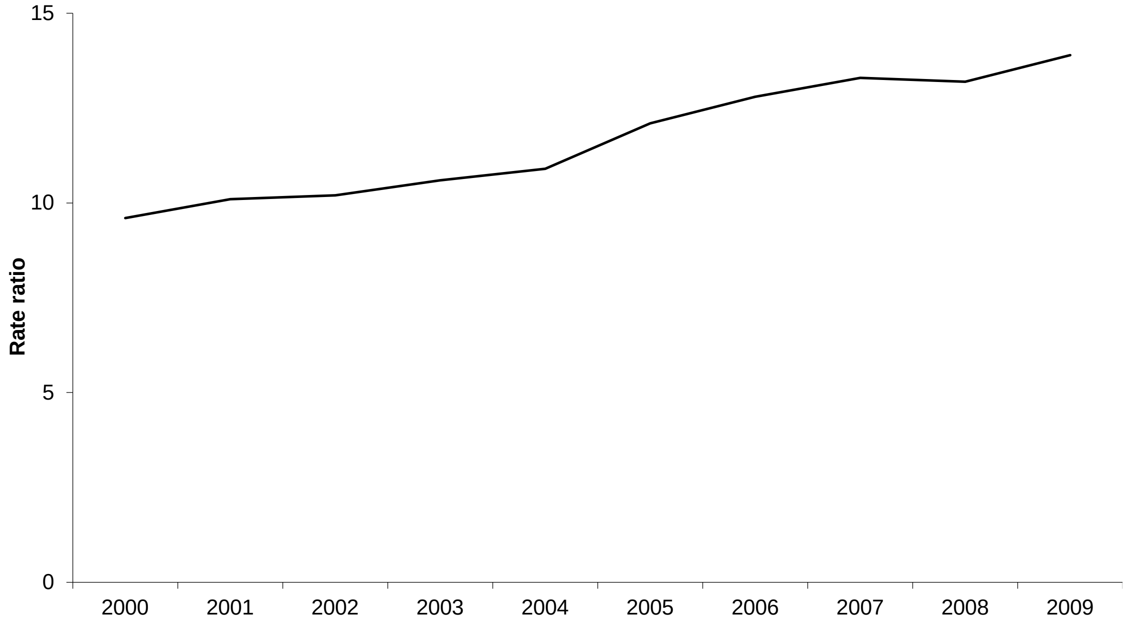
Data on the imprisonment rates of Indigenous and non-Indigenous people aged 18 years and over are presented below for the period 2000–2009.

- During the period of 2000–2009 age-standardised Indigenous imprisonment rates increased steadily from 1,248 to 1,891 per 100,000. This was compared to age-standardised imprisonment rates of non-Indigenous Australians which ranged from 123 per 100,000 in 2002 to 136 per 100,000 in 2009 over the same period (Figure 2.14.2; Table 2.14.5).
- The rate ratio of age-standardised imprisonment rates ranged from 9.6 in 2000 to 14 in 2009 (Figure 2.14.3; Table 2.14.5).



Source: AIHW analysis of ABS 2009 data.

Figure 2.14.2: Age-standardised imprisonment rates, by Indigenous status, 2000–2009



Source: AIHW analysis of ABS 2009 data.

Figure 2.14.3: Age-standardised imprisonment rate ratio, Indigenous to non-Indigenous Australians, 2000–2009

Table 2.14.5: Age-standardised imprisonment rates[(a)] and rate ratio, by Indigenous status, 2000–2009

	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

(a) Rate per 100,000 adult population.

Source: ABS 2009.

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 2007 there were nine Indigenous deaths in police custody and 65 non-Indigenous deaths in police custody. In 2008 there were 13 Indigenous deaths in police custody and 73 non-Indigenous deaths in police custody (Tables 2.24.6a and 2.14.6b).
- In 2007, 56% of all Indigenous deaths in custody were within prison and 44% within police custody. This was compared to 62% of non-Indigenous deaths in custody that were within prison and 39% within police custody (Table 2.14.6a). In 2008 Indigenous deaths in custody within prison increased to 69% and police custody deaths decreasing to 31%; and the proportions of non-Indigenous deaths remaining stable at 62% in prison and decreasing to 38% in police custody (Table 2.14.6b).
- In 2007, 89% of Indigenous deaths in custody were males, compared to 2008 where 100% of all Indigenous deaths in custody were males. Non-Indigenous deaths did not show this same change, 95% in both 2007 and 2008 (Tables 2.24.6a and 2.14.6b).
- In 2007, the largest proportion of deaths in custody for Indigenous Australians was in Queensland (33%) while in 2008 the largest proportion was in Western Australia (54%) (Tables 2.24.6a and 2.14.6b).
- Two thirds (67%) of Indigenous deaths in custody were due to natural causes in 2007, rising to 70% in 2008. The proportions of deaths due to natural causes were lower for non-Indigenous prisoners 48% in 2007 declining to 40% in 2008 (Tables 2.24.6a and 2.14.6b).

Table 2.14.6a: Deaths in custody (police and prison), by Indigenous status and selected characteristics, 2007

	Indigenous		Non-Indigenous		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Custodial authority						
Police	4	44.4	25	38.5	29	39.2
Prison	5	55.6	40	61.5	45	60.8
Juvenile justice/welfare	0	0.0	0	0.0	0	0.0
Total custodial authority	*9*	*100.0*	*65*	*100.0*	*74*	*100.0*
Legal status						
Sentenced	5	55.6	25	38.5	30	40.5
Unsentenced	1	11.1	18	27.7	19	25.7
Other[(a)]	3	33.3	22	33.9	25	33.8
Total legal status	*9*	*100.0*	*65*	*100.0*	*74*	*100.0*
Sex						
Males	8	88.9	62	95.4	70	94.6
Females	1	11.1	3	4.6	4	5.4
Total sex	*9*	*100.0*	*65*	*100.0*	*74*	*100.0*
Age						
Less than 25	1	11.1	6	9.2	7	9.5
25–39	2	22.2	24	36.9	26	35.1
40–54	4	44.4	18	27.7	22	29.7
55+	2	22.2	17	26.2	19	25.7
Total age	*9*	*100.0*	*65*	*100.0*	*74*	*100.0*
State/territory						
NSW	2	22.2	21	32.3	23	31.1
Vic	0	0.0	16	24.6	16	21.6
Qld	3	33.3	9	13.9	12	16.2
WA	2	22.2	6	9.2	8	10.8
SA	2	22.2	8	12.3	10	13.5
Tas	0	0.0	3	4.6	3	4.1
ACT	0	0.0	0	0.0	0	0.0
NT	0	0.0	2	3.1	2	2.7
Total state/territory	*9*	*100.0*	*65*	*100.0*	*74*	*100.0*
Manner of death[(b)]						
Self-inflicted	2	22.2	17	26.2	19	25.7
Not intentionally self-inflicted	0	0	3	4.6	3	4.1
Natural causes	6	66.7	31	47.7	37	50.0
Justifiable homicide	0	0.0	4	6.2	4	5.4
Unlawful homicide	0	0.0	0	0.0	0	0.0
Accident	1	11.1	6	9.2	7	9.5

(continued)

Table 2.14.6a (continued): Deaths in custody (police and prison), by Indigenous status and selected characteristics, 2007

	Indigenous		Non-Indigenous		Total	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Other	0	0.0	0	0.0	0	0.0
Total manner of death	*9*	*100.0*	*65*	*100.0*	*74*	*100.0*
Most serious offence[(c)]						
Violent	2	22.2	31	48.4	33	45.2
Theft-related	4	44.4	8	12.5	12	16.4
Good order	0	0.0	6	9.4	6	8.2
Drug-related	0	0.0	5	7.8	5	6.9
Traffic	2	22.2	3	4.7	5	6.9
Other	1	11.1	11	17.2	12	16.4
Total most serious offence	*9*	*100.0*	*64*	*100.0*	*73*	*100.0*
Total number	**9**	. .	**65**	. .	**74**	. .

(a) Includes situations where the deceased had not been physically apprehended (for example, sieges, motor vehicle pursuits).

(b) Four non-Indigenous cases have been excluded because of missing information.

(c) One non-Indigenous cases have been excluded because of missing information.

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.

Source: AIC National Deaths in Custody Program (2007 dataset).

Table 2.14.6b: Deaths in custody (police and prison), by Indigenous status and selected characteristics, 2008

	Indigenous		Non-Indigenous		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Custodial authority						
Police	4	30.8	28	38.4	32	37.2
Prison	9	69.2	45	61.6	54	62.8
Juvenile justice/welfare	0	0	0	0	0	0
Total custodial authority	*13*	*100.0*	*73*	*100.0*	*86*	*100.0*
Legal status[(b)]						
Sentenced	8	66.7	31	42.5	39	45.9
Unsentenced	2	16.7	16	21.9	18	21.2
Other[(a)]	2	16.7	26	35.6	28	32.9
Total legal status[(b)]	*12*	*100.0*	*73*	*100.0*	*85*	*100.0*
Sex						
Males	13	100	69	94.5	82	95.4
Females	0	0	4	5.5	4	4.7
Total sex	*13*	*100.0*	*73*	*100.0*	*86*	*100.0*
Age						
Less than 25	2	15.4	6	8.2	8	9.3
25–39	4	30.8	25	34.3	29	33.7
40–54	5	38.5	21	28.8	26	30.2
55+	2	15.4	21	28.8	23	26.7
Total age	*13*	*100.0*	*73*	*100.0*	*86*	*100.0*
State/territory						
NSW	1	7.7	21	28.8	22	25.6
Vic	0	0	17	23.3	17	19.8
Qld	2	15.4	12	16.4	14	16.3
WA	7	53.9	13	17.8	20	23.3
SA	0	0	7	9.6	7	8.1
Tas	0	0	0	0	0	0
ACT	0	0	1	1.4	1	1.1
NT	3	23.1	2	2.7	5	5.8
Total state/territory	*13*	*100.0*	*73*	*100.0*	*86*	*100.0*
Manner of death[(b)]						
Self-inflicted	1	7.7	24	32.9	25	29.1
Not Intentionally self-inflicted	0	0	1	1.4	1	1.2
Natural causes	9	69.2	29	39.7	38	44.2
Justifiable homicide	0	0	5	6.9	5	5.8
Unlawful homicide	0	0	0	0	0	0
Negligent homicide	1	7.7	0	0	1	1.2

(Continued)

Table 2.14.6b (continued): Deaths in custody (police and prison), by Indigenous status and selected characteristics, 2008

	Indigenous		Non-Indigenous		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Accident	1	7.7	12	16.4	13	15.1
Other	1	7.7	2	2.7	3	3.5
Total manner of death	*13*	*100.0*	*73*	*100.0*	*86*	*100.0*
Most serious offence[(c)]						
Violent	5	38.5	36	51.4	41	49.4
Theft-related	1	7.7	10	14.3	11	13.3
Good order	1	7.7	5	7.1	6	7.2
Drug-related	1	7.7	3	4.3	4	4.8
Traffic	2	15.4	9	12.9	11	13.3
Missing	2	15.4	5	7.1	7	8.4
Other	1	7.7	2	2.9	3	3.6
Total most serious offence	*13*	*100.0*	*70*	*100.0*	*83*	*100.0*
Total number	**13**	. .	**73**	. .	**86**	. .

(a) Includes situations where the deceased had not been physically apprehended (for example, sieges, motor vehicle pursuits).

(b) One Indigenous case has been excluded due to missing information about legal status.

(c) Two non-Indigenous cases have been excluded because of missing data.

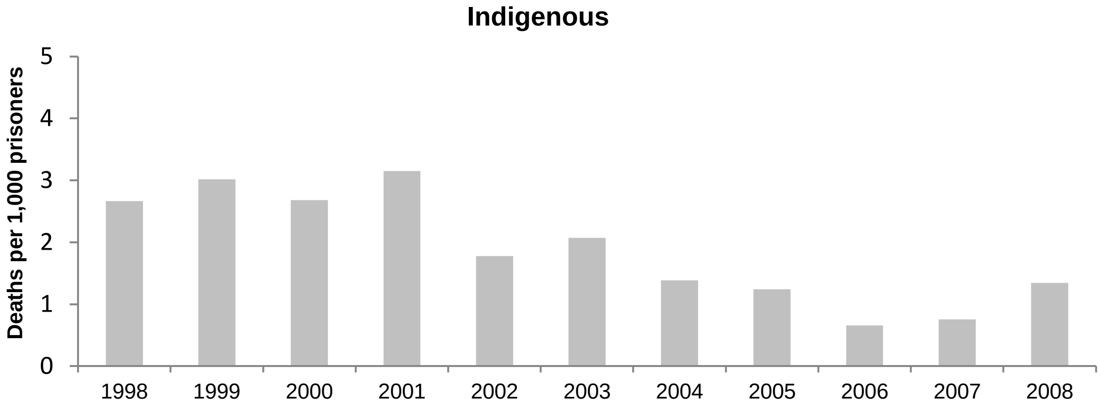
Note: Numbers and percentages breakdowns may not reflect overall column total due to missing information and data that was not available.

Source: AIC National Deaths in Custody Program [2008 dataset].

Time series analyses

Figures 2.14.5a and 2.14.5b and Table 2.14.8 present the crude death rates for Indigenous and other Australians in prison custody over the period 1998 to 2008.

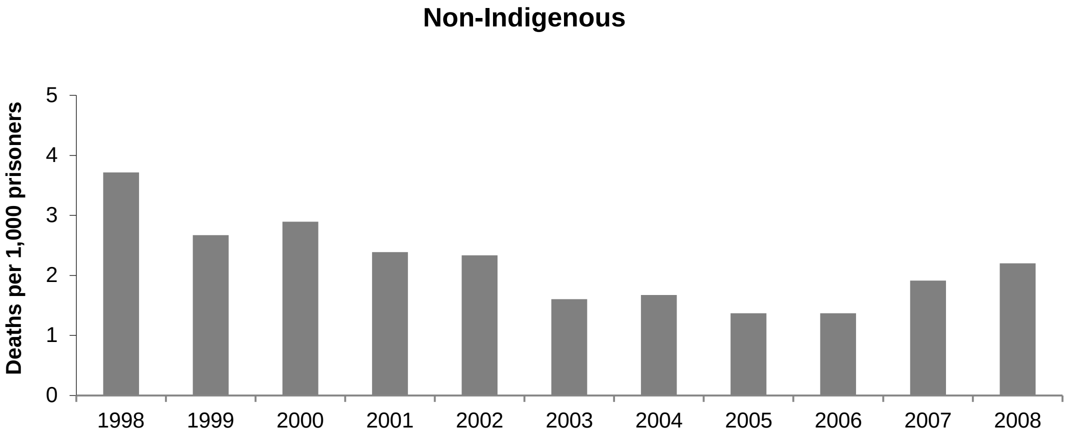
- Over the period 1998 to 2008 there were between 3.15 and 0.66 Indigenous deaths in custody per 1,000 Indigenous prisoners, (between 14 and four Indigenous deaths in custody) (Figure 2.14.4a). In 2008 there were 1.34 Indigenous deaths in custody per 1,000 Indigenous prisoners (nine deaths), (Table 2.14.7).
- Over the same period, there were between 3.71 and 1.37 non-Indigenous deaths per 1,000 non-Indigenous prisoners, (between 59 and 27 deaths) (Figure 2.14.4b). In 2008 there were 2.20 non-Indigenous deaths per 1,000 non-Indigenous prisoners, (45 deaths) (Table 2.14.7).



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 2.14.4a: Crude rates of deaths in prison custody, Indigenous Australians, 1998 to 2008



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 2.14.4b: Crude rates of deaths in prison custody, Other Australians, 1998 to 2008

Table 2.14.7: Crude rates of deaths per 1,000 prisoners in prison custody, 1998 to 2008

	Indigenous	Non-Indigenous
1998	2.67	3.71
1999	3.02	2.67
2000	2.68	2.90
2001	3.15	2.39
2002	1.78	2.33
2003	2.07	1.60
2004	1.39	1.67
2005	1.24	1.37
2006	0.66	1.37
2007	0.75	1.91
2008	1.34	2.20

Source: AIC National Deaths in Custody Program 1998 to 2008 data sets.

Contact with police

Information on police contact by Indigenous persons is available from the 2008 NATSISS.

- In 2008, approximately 48% of Indigenous males aged 15 years and over had been formally charged by the police, 22% had been arrested by the police in the previous 5 years and 37% had been incarcerated in the previous 5 years (Table 2.14.8b).

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 2.14.8b).
- 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 2.14.8b).
- In 2008, the highest proportion of Indigenous people aged 15 years and over who had been formally charged were in the Northern Territory (68%) (Table 2.14.8a).
- Indigenous Australians with a disability or long-term health condition were more likely to be formally charged, arrested or incarcerated than Indigenous people without a disability.
- 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 2.14.8b).
- 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 2.14.8a; Figure 2.14.5).
- According to the 2008 NATSISS, 20% 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 2.14.8a: 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
Household income			
1st quintile	52.2	60.5	64.7
5th quintile	8.2	6.1	5.7

(continued)

Table 2.14.8a (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	
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
Victim of physical or threatened violence in last 12 months			
Yes	24.0	34.5	30.0
No	76.0	65.5	70.0
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

(continued)

Table 2.14.8a (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	
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	100.0	100.0	100.0
Total	**100.0**	**100.0**	**100.0**
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 2.14.8b: 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							
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 2.14.8b (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)

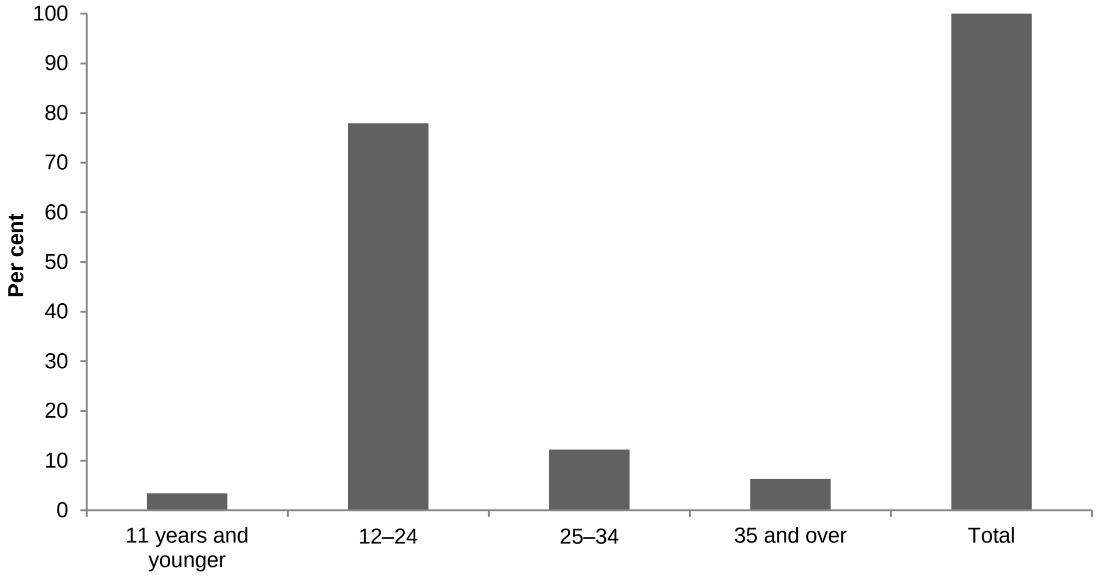
Table 2.14.8b (continued): Contact with the police, by selected population characteristics, Indigenous persons aged 15 years and over, 2008

	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	n.a.	n.a.	38.9	61.1	36.3	63.7	100.0
Total number	**109,685**	**109,685**	**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.



Source: AIHW analysis of 2002 NATSISS.

Figure 2.14.5: Age at which first formally charged by police, Indigenous Australians aged 15 years and over, 2008

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 2008 survey are presented in Table 2.14.9.

- In all but one of the selected police stations shown in Table 2.14.9 there was a higher proportion of Indigenous detainees testing positive to drugs than non-Indigenous detainees.
- Between 65% 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 49% and 78% 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. Of the surveyed police stations in Australia during 2008, between 8% and 100% of Indigenous detainees and between 14% and 46% of non-Indigenous detainees tested positive for multiple drugs.

Table 2.14.9: Detainees at selected police stations, by drug use and Indigenous status, 2008

	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	44.0	25.6	20.6	15.0	26.4	22.5	12.5	21.8	10.1	13.5	n.p.	36.1
Cannabis	74.0	45.7	61.8	37.3	68.9	44.3	65.8	51.7	61.5	70.3	n.p.	40.1
Cocaine	n.p.	n.p.	n.p.	3.3	n.p.	1.2	n.p.	n.p.	n.p.	n.p.	n.p.	6.1
Heroin	n.p.	n.p.	n.p.	7.4	n.p.	10.7	n.p.	n.p.	n.p.	n.p.	n.p.	47.6
Methamphetamine	18.0	27.0	n.p.	8.5	16.2	18.0	28.3	35.8	n.p.	n.p.	n.p.	20.4
Multiple drugs	48.0	30.8	23.5	18.3	29.7	24.7	30.3	38.1	8.3	13.5	n.p.	46.3
Total tested positive to a drug[(a)]	*86.0*	*65.9*	*67.7*	*48.5*	*77.7*	*63.3*	*75.7*	*72.5*	*65.1*	*78.4*	*100.0*	*67.4*
Did not test positive to a drug	14.0	34.2	32.4	51.5	22.3	36.7	24.3	27.6	34.9	21.6	0.0	32.7
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**
Total number	**50**	**328**	**34**	**367**	**148**	**1,205**	**152**	**294**	**109**	**37**	**n.p.**	**147**

(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 2008.

Young people on remand

Data on young people on remand come from the AIHW Juvenile Justice National Minimum Data Set. Data on juvenile justice were first collected in 2000–01 and the latest available data are for 2007–08. Previously, information was provided on young people under juvenile justice supervision. However, due to changes to the Juvenile Justice National Minimum Data Set, information is instead provided on young people on remand.

The term 'remand' is used here to indicate young people who have been remanded in custody by a court. It excludes those young people who have been detained by police and supervised by juvenile justice agencies, as well as young people who are on remand while also serving a sentence of detention (AIHW, 2009).

Young people on remand by selected characteristics

- On an average day, 320 young people were on remand during 2007—08; 182 of these young people were Indigenous (Table 2.14.10a).
- 33 Indigenous young people on remand on an average day were aged 10—13 years, 148 were aged 14—17 years, and 2 were aged 18 years and over.
- Queensland (66) and Western Australia (64) had the highest number of Indigenous young people on remand on an average day.

Table 2.14.10a: Number of young people on remand on an average day, by age and Indigenous status, states and territories, 2007–08

Age	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust. excl. NSW
				Indigenous					
10–13	n.a.	1	16	11	2	1	2	—	33
14-17	n.a.	5	50	53	10	6	3	21	148
18+	n.a.	1	—	—	1	—	—	—	2
Total	**n.a.**	**6**	**66**	**64**	**13**	**7**	**5**	**21**	**182**
				Non-Indigenous					
10–13	n.a.	3	3	1	3	1	1	—	13
14–17	n.a.	25	39	20	15	9	6	2	116
18+	n.a.	3	—	—	1	—	—	—	5
Total	**n.a.**	**32**	**42**	**22**	**19**	**10**	**7**	**2**	**134**
				All young people					
10–13	n.a.	4	19	12	5	2	3	1	46
14–17	n.a.	33	89	73	25	15	9	22	266
18+	n.a.	4	—	—	3	—	—	—	7
Total	**n.a.**	**41**	**108**	**85**	**32**	**17**	**12**	**23**	**320**

Notes

1. New South Wales not included, as data were not available for 2007–08.
2. 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.
3. Total includes young people with unknown Indigenous status.

Source: AIHW analysis of Juvenile Justice National Minimum Data Set.

Table 2.14.10b: Rates of young people on remand on an average day, by age and Indigenous status, states and territories, 2007–08[(a)(b)]

Age	NSW[(c)]	Vic	Qld	WA	SA	Tas	ACT[(d)]	NT	Aust. excl. NSW[(c)]
				Indigenous no. per 100,000					
10–13	n.a.	30.5	106.0	160.6	72.3	53.2	n.a.	—	91.8
14-17	n.a.	149.9	345.8	800.0	365.6	306.8	n.a.	368.7	420.0
Total 10-17	**n.a.**	**90.7**	**223.3**	**474.9**	**218.1**	**182.5**	**n.a.**	**185.3**	**254.3**
				Non-Indigenous no. per 100,000					
10–13	n.a.	1.1	1.4	0.9	3.9	4.0	n.a.	—	1.8
14–17	n.a.	9.1	17.3	17.7	18.5	34.8	n.a.	26.5	15.5
Total 10-17	**n.a.**	**5.2**	**9.5**	**9.5**	**11.3**	**19.6**	**n.a.**	**13.1**	**8.8**
				All young people[(e)] no. per 100,000					
10–13	n.a.	1.5	8.1	10.4	6.2	7.4	17.6	7.5	6.1
14–17	n.a.	11.8	37.1	61.0	29.8	53.9	49.8	166.2	34.0
Total 10-17	**n.a.**	**6.8**	**22.8**	**36.1**	**18.2**	**31.0**	**34.2**	**86.4**	**20.3**

(a) Rates for Indigenous 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) New South Wales not included, as data were not available for 2007–08.

(d) Australian Capital Territory single year of age population data not available for rate calculations.

(e) 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.

Source: AIHW analysis of Juvenile Justice National Minimum Data Set.

Completed periods of remand

- Indigenous young people completed more periods of remand during the year than non-Indigenous young people (Table 2.14.11).
- Indigenous young people spent a median length of 14 days in remand, compared to 9 days for non-Indigenous young people.

Table 2.14.11: Completed periods of remand by Indigenous status, states and territories, 2007–08

Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust. Excl. NSW
				Median length (days)					
Indigenous	n.a.	16	20	14	6	36	9	19	14
Non-Indigenous	n.a.	11	12	8	7	16	6	28	9
Total	**n.a.**	**13**	**16**	**12**	**6**	**18**	**6**	**21**	**11**
				Number of completed periods of remand					
Indigenous	n.a.	84	653	847	282	53	75	132	2,127
Non-Indigenous	n.a.	450	453	354	362	117	194	10	1,940
Total	**n.a.**	**476**	**1,108**	**1,201**	**646**	**170**	**277**	**142**	**4,121**
				Number of young people					
Indigenous	n.a.	55	376	489	148	37	31	88	1,224
Non-Indigenous	n.a.	289	268	204	214	78	107	7	1,167
Total	**n.a.**	**368**	**646**	**693**	**364**	**115**	**141**	**95**	**2,422**

Notes

1. Total includes young people with unknown Indigenous status.
2. The duration of periods of remand separated by a transfer to another remand or detention centre were summed.

Source: AIHW analysis of Juvenile Justice National Minimum Data Set.

- Young Indigenous people completed more multiple periods of remand during the year than non-Indigenous young people (Table 2.14.12).
- Just over 40% of Indigenous young people completed 2 or more periods of remand during the year, compared to 35% of non-Indigenous young people.

Table 2.14.12: Number of completed periods of remand by Indigenous status, Australia (excluding NSW), 2007-08

Number of remand periods	Indigenous	Non-Indigenous	Total
1	712	755	1,488
2	279	221	505
3	139	99	239
4	55	52	109
5+	39	40	81
Total	**1,224**	**1,167**	**2,422**

Notes

1. New South Wales not included, as data not available for 2007–08.
2. Total includes young people with unknown Indigenous status.

Source: AIHW analysis of Juvenile Justice National Minimum Data Set.

Additional information

Health status of prisoners

In the general population there are large differences between the health of the Indigenous population and the non-Indigenous population across a range of health status measures. There are inadequate data to determine the applicability of this statement to the incarcerated population, but there have been two recent prisoner health surveys where Indigenous status was recorded, enabling some health comparisons to be made. These are the 2009 NSW 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 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).

Further information is available from the AIHW's *The health of Australia's prisoners, 2009* (AIHW 2010). Data for 2009 are presented in Table 2.14.13 and 2.14.14.

- A higher proportion of Indigenous (38%) than non-Indigenous (26%) prison entrants consulted a medical professional for their own health in prison during the previous 12 months. However, the proportion of prison entrants who had consulted a medical professional for their own health in the community was 62% of Indigenous and 76% of non-Indigenous entrants. This therefore suggests that medical professionals are consulted less in prison than in the community (Table 2.14.13).

- During the previous 12 months, a similar percentage of Indigenous (4%) and non-Indigenous (5%) prison entrants needed to but did not consult with a medical professional while in prison (Table 2.14.13).

Table 2.14.13: 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, 2009

	Indigenous	Non-Indigenous
	Per cent	
Consulted a medical professional for their own health in the community	62	76
Consulted a medical professional for their own health in prison	38	26
Needed to consult with a medical professional in the community but did not	42	43
Needed to consult with a medical professional while in prison but did not	4	5

(a) Consultations within the previous 12 months.

(b) 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 (82%) than non-Indigenous entrants (65%). Therefore, it may be expected that a higher proportion of Indigenous than non-Indigenous prison entrants may have been in prison during the previous 12 months to be able to access these health services.

Source: The health of Australia's prisoners, 2009 (AIHW 2010).

- In 2009, 25% of prisons received visits from an Aboriginal Community Controlled Health Organisation or an Aboriginal Medical Service at least once a month (AIHW 2010).
- A lower proportion of Indigenous (26%) than non-Indigenous (41%) 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 (65%) than non-Indigenous prison entrants (47%) reported a risk of alcohol-related harm, and a similar proportion reported they engaged in illicit drug use during the previous 12 months (72% and 71% respectively).
- The rates of diagnosed health conditions for Indigenous and non-Indigenous prison entrants were similar for asthma (30% and 29% respectively), cardiovascular disease (both 5%) and diabetes (5% and 3% respectively) (Table 2.14.15)
- In 2009, the same proportion (22%) of Indigenous and non-Indigenous prisoners in custody used the prison clinic during census week (AIHW 2010).
- A similar proportion (1%) of Indigenous and non-Indigenous prisoners in custody who attended a clinic during the census week 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 one 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 2.14.14: Diagnosed health conditions, by Indigenous status and age, prison entrants aged 18 years and over, 2009

	Indigenous	Non-Indigenous
	Per cent	
Have you ever been told by a doctor, nurse, psychiatrist or psychologist that they have a mental health disorder (including alcohol and drug abuse)	26	41
Have you ever been told by a doctor or nurse that they have asthma	30	29
Have you ever been told by a doctor or nurse that they have cardiovascular disease	5	5
Have you ever been told by a doctor or nurse that they have arthritis	4	8
Have you ever been told by a doctor or nurse that they have diabetes	5	3
Attended clinic during census week due to communicable disease(a)(b)(c)(d)	1	1
Risk of alcohol-related harm (self-report)	65	47
Report they have engaged in illicit drug use in the last 12 months	72	71

(a) Attending clinic data is for prisoners in custody only, 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 one 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.

Note: The National Prisoner Health Census is a self-reported survey there could be a possibility of under reporting to these questions.

Source: The health of Australia’s prisoners, 2009.

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 *National Aboriginal and Torres Strait Islander Social Survey, 2008: Users' guide* (ABS 2010).

Criminal justice data

Although the NATSISS provides information on contact by Indigenous people with the police and incarceration, comparative data are not available for non-Indigenous people from the ABS surveys, such as the General Social Survey.

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.

National Police Custody Survey

The Indigenous status of the victim or perpetrator or both is based on police identification, and therefore will underestimate the level of custody involving Indigenous persons. There are also some inconsistencies in the method of data collection between the jurisdictions (electronic versus manual) and there is no guarantee that the reporting is complete. However, the comparisons between the prison custody figures and the police custody figures are useful to have and should be reported.

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 (see above).

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 underestimate the number of Indigenous persons being detained through 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.

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.

The coverage of data in this national minimum data set is 'complete for the period 2003–04 to 2005–06, with data for 2000–01 to 2002–03 missing only from the Australian Capital Territory. In all other instances, it is believed that 100% of young people within scope of the collection were included in the data' (AIHW 2006).

The Aboriginal and Torres Strait Islander population is younger than the rest of the Australian population. The proportion of Indigenous Australians who are aged 10–17 years (19%) is almost twice that of the non-Indigenous population (11%). Further, the proportion of Indigenous people differs across jurisdictions, with the Indigenous population forming a particularly high proportion (about 30%) of the total Northern Territory population (AIHW 2007). Therefore, for this measure, comparisons will take account of age differences and present some data at the state/territory level.

'Differences in data collection methods, data recording systems within jurisdictions and an unwillingness of some young people to respond to questions around Indigenous status all impact on the quality of Indigenous data. As in the whole of the community services sector, there is a commitment to improving Indigenous status data in juvenile justice. Over the last few years there has been a general decline in the number of young people with an 'unknown/not recorded' Indigenous status in most jurisdictions' (AIHW 2007).Around 3% of young people who were under supervision during 2007–08 and 8% of all young people since 2000–01 have an unknown Indigenous status. For all other variables, the amount of missing data is less than 0.1%.

The Health of Australia's Prisoners

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 one 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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2.15 Child protection

Aboriginal and Torres Strait Islander children in substantiations, on care and protection orders and in out-of-home care

Data sources

Data for this measure come from three national child protection data collections:

- child protection notifications, investigations and substantiations
- children on care and protection orders
- children in out-of-home care.

The Australian Institute of Health and Welfare collects these data each year from the relevant departments in each state and territory. Most of the data presented here cover the 2008–09 financial year and have been published in the AIHW report *Child protection Australia 2008–09* (AIHW 2010). Some data on trends in child protection are also included.

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 practices used to identify and record the Indigenous status of children vary across states and territories, with some jurisdictions recording large numbers of unknowns. No state or territory can validate the data on Aboriginal and Torres Strait Islander children by other means and the quality of the data is therefore unknown.

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 underestimate 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.

Reported rates for Aboriginal and Torres Strait Islander children in the child protection system for 2008–09 cannot be compared directly with those from previous years in earlier AIHW *Child protection Australia* publications. In previous years, rates were calculated using ABS Indigenous population data from the 1996 and 2001 Census; the latter projections are based on the data from the 2006 Census. For time series analyses presented in this measure, rates have been reported as they were in the corresponding referenced publications.

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 2008–09, 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 2.15.1).

Table 2.15.1: Children in substantiated notifications, by age, Indigenous status and state/territory, 2008–09

Age group (years)	NSW)	Vic)	Qld)	WA	SA	Tas[(a)]	ACT	NT
				Number				
Indigenous children								
<1[(b)]	563	154	366	98	106	12	14	108
1–4	1064	199	469	159	184	31	34	213
5–9	988	178	489	151	154	27	22	149
10–14	923	118	351	121	124	20	23	126
15–17	233	35	78	19	30	8	5	22
Unknown	—	—	—	—	4	—	—	—
Total	**3,771**	**684**	**1,753**	**548**	**602**	**98**	**98**	**618**
Other children[(c)]								
< 1	1,348	772	619	93	204	121	53	14
1–4	2,568	1,307	1,181	218	412	254	123	23
5–9	2,632	1,418	1,420	268	341	290	146	40
10–14	2,864	1,529	1,325	275	283	265	147	57
15–17	857	416	321	61	69	45	46	13
Unknown	12	3	9	—	5	2	—	—
Total	**10,281**	**5,445**	**4,875**	**915**	**1,314**	**977**	**515**	**147**

(a) The high number of children in substantiation with an unknown Indigenous status in Tasmania makes the counts for both Indigenous children and other children unreliable.

(b) '<1 year' may include unborn children.

(c) 'Other children' includes those children whose Indigenous status is unknown.

Notes

1. Finalised investigations, and thus substantiations, refer only to cases which were notified during the year, not the total number of investigations finalised by 31 August 2007.
2. The counts of Indigenous children are likely to be an underestimate of the actual number of Indigenous children in the child protection system.
3. Includes children aged 0–17 years.

Source: AIHW 2010.

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 2008–09, in all jurisdictions except Tasmania (for which rates have been suppressed due to the high number of children with unknown Indigenous status) the substantiation rate for Indigenous children was higher than the rate for other children. Across Australia, Indigenous children were more than seven times as likely as non-Indigenous children to be the subject of a substantiated notification (Table 2.15.2; Figure 2.15.1).

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.

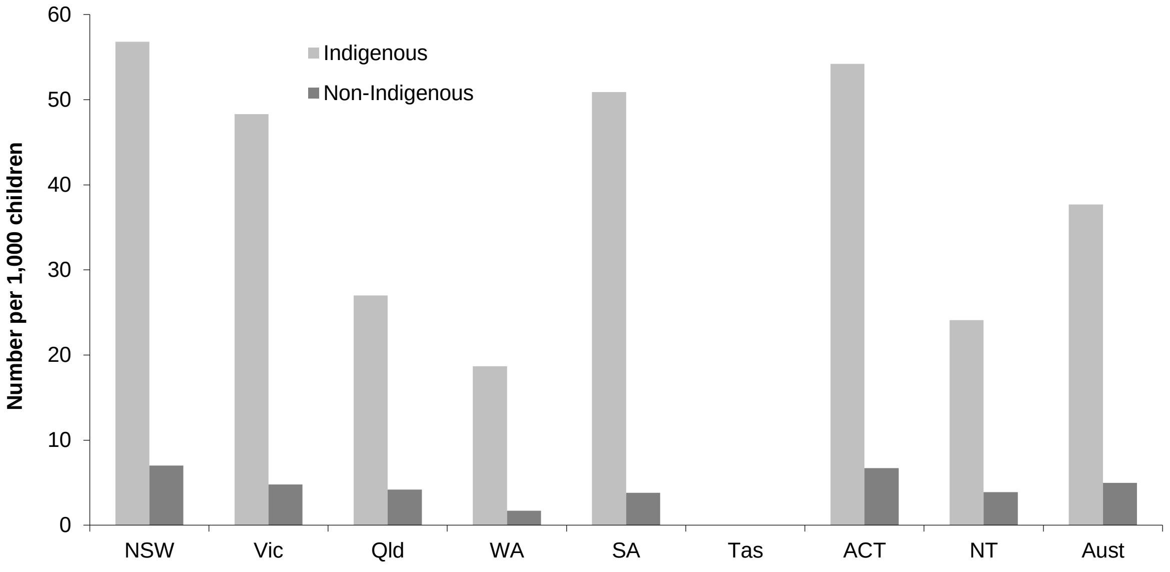
Table 2.15.2: Children aged 0–16 years who were the subjects of substantiated notifications: number and rates per 1,000 children, by Indigenous status and state/territory, 2008–09

	Number of children					Rate per 1,000 children			
State/ territory	**Indigenous**	**Non-Indigenous**	**Unknown no.**	**Unknown %**	**All children**	**Indigenous**	**Non-Indigenous**	**All children**	**Rate ratio Indigenous/ non-Indigenous**
NSW	3,749	10,186	22	0.2	13,957	56.8	7.0	9.1	8.2
Vic	684	5,441	4	0.1	6,129	48.3	4.8	5.4	10.0
Qld	1,747	3,902	947	14.4	6,596	27.0	4.2	6.6	6.5
WA	545	808	101	6.9	1,454	18.7	1.7	2.9	10.7
SA	598	1,221	82	4.3	1,901	50.9	3.8	5.7	13.4
Tas	98	178	798	74.3	1,074	n.a.	n.a.	9.7	n.a.
ACT	97	481	27	4.5	605	54.2	6.7	8.2	8.1
NT	617	132	13	1.7	762	24.1	3.9	12.9	6.1
Aust.	**8,135**	**22,349**	**1,994**	**6.1**	**32,478**	**37.7**	**5.0**	**6.9**	**7.5**

Notes

1. Population estimates are based on the 2006 Census, refer to Appendix table A1.26 in the *Child protection Australia* 2008–09 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. The rate for Indigenous and non-Indigenous children and rate ratio has not been reported for Tasmania due to the high proportion of children for whom Indigenous status was unknown. Tasmania has been excluded from the Australian total rates and rate ratio.
4. Percentage of unknown is the percentage of 'All children' in state/territory.

Source: AIHW 2010.



Source: AIHW 2010.

Figure 2.15.1: Children aged 0–16 years who were the subjects of substantiated notifications: rates per 1,000 children, by Indigenous status and state/territory, 2008–09

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.

- The overall pattern of substantiated abuse and neglect for Aboriginal and Torres Strait Islander children was similar to that of other children.
- For Indigenous children across Australia, the most common type of abuse was either neglect or emotional abuse. In Victoria, South Australia, 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, the most common type of abuse for non-Indigenous children was neglect and in the Northern Territory it was physical abuse (Table 2.15.3).

Table 2.15.3: 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, 2008–09 (per cent)

Type of abuse or neglect	NSW	Vic	Qld	WA	SA	Tas[(a)]	ACT	NT
				Indigenous children				
Physical abuse	18.9	38.5	29.1	17.9	6.6	6.1	10.2	23.3
Sexual abuse	10.2	2.8	4.9	14.2	1.7	3.1	7.1	9.7
Emotional abuse	34.6	48.0	28.2	18.6	56.0	64.3	45.9	23.6
Neglect	36.3	10.8	37.8	49.3	35.7	26.5	36.7	43.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
				Other children				
Physical abuse	19.9	39.1	24.3	22.2	13.2	14.0	18.3	36.7
Sexual abuse	18.2	7.8	7.9	24.0	6.5	6.0	3.7	11.6
Emotional abuse	34.8	45.3	41.4	17.4	49.8	46.1	39.0	32.0
Neglect	27.1	7.8	26.4	36.4	30.5	33.9	39.0	19.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) The counts for both ‘Indigenous children’ and ‘other children’ should be interpreted with care due to the high number of children with an ‘unknown’ Indigenous status at substantiation in Tasmania.

Notes

1. 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 one associated with the first substantiation decision during the year.
2. Finalised investigations, and thus substantiations, refer only to cases which were notified during the year, not the total number of investigations finalised by 31 August 2009.
3. ‘Other children’ includes those children whose Indigenous status is unknown.
4. Percentages in tables may not add to 100 due to rounding.

Source: AIHW 2010.

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 2004–05 to 2008–09.

- Over the period 2004-05 to 2008-09 substantiated notifications in New South Wales increased from 27 per 1,000 children aged 0-16 years, to 57 per 1,000. Victoria showed the largest decrease in rates of substantiated notifications over the same period from 63 per 1,000 children to 48 per 1,000.
- The highest rates of substantiated notifications received during 2008-09 were within New South Wales (57 per 1,000 children), while the lowest rates were in Tasmania (13 per 1,000 children). These rates however, reflect the Indigenous population numbers in these states (Table 2.15.4).

Table 2.15.4: 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, states and territories, 2004–05 to 2008–09 (per 1,000 children)

Year	NSW	Vic	Qld	WA	SA	Tas(a)(b)	ACT(a)	NT
2004–05	27.1	63.0	20.4	12.2	43.2	4.8	56.0	13.7
2005–06	44.2	67.7	23.0	10.9	32.3	4.4	56.8	15.2
2006–07	53.5	56.6(c)	29.2	15.0	39.0	4.0(d)	41.3(e)	16.8
2007–08	53.0	55.0	27.1	17.7	48.4	5.0	47.9	23.7
2008–09	56.8	48.3	27.1	18.7	50.9	12.7	54.2	24.1

(a) Rates from Tasmania and the Australian Capital Territory should be interpreted with care due to the small numbers. Any fluctuation in the numbers of children has a large impact on the rates.

(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) 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.

(d) 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.

(e) 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,

Note: Population estimates have been updated in 2009 and this may affect rate comparison over time.

Source: AIHW 2010.

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 2009, 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 2.15.5).

Table 2.15.5: Children on care and protection orders, by age, Indigenous status and state/territory, at 30 June 2009

Age group (years)	NSW[(a)]	Vic	Qld	WA	SA	Tas	ACT	NT
				Number				
Indigenous children								
<1	132	34	115	64	16	5	6	12
1–4	965	217	690	410	134	31	29	117
5–9	1,256	225	879	497	174	54	32	127
10–14	1,160	233	713	377	171	39	35	126
15–17	466	116	323	117	78	22	28	46
Unknown	—	—	—	—	—	—	—	—
Total	**3,979**	**825**	**2,720**	**1,465**	**573**	**151**	**130**	**428**
Other children[(b)]								
<1	327	146	147	61	61	27	11	5
1–4	2,053	1,135	1,122	435	373	193	102	23
5–9	2,793	1,449	1,462	584	500	243	144	39
10–14	2,966	1,503	1,561	541	498	268	124	56
15–17	1,372	1,042	930	251	356	109	99	26
Unknown	1	—	—	—	—	—	—	—
Total	**9,512**	**5,275**	**5,222**	**1,872**	**1,788**	**840**	**480**	**149**
				Per cent[(c)(d)]				
Indigenous children								
< 1	3.3	4.1	4.2	4.4	2.8	3.3	4.6	2.8
1–4	24.3	26.3	25.4	28.0	23.4	20.5	22.3	27.3
5–9	31.6	27.3	32.3	33.9	30.4	35.8	24.6	29.7
10–14	29.2	28.2	26.2	25.7	29.8	25.8	26.9	29.4
15–17	11.7	14.1	11.9	8.0	13.6	14.6	21.5	10.7
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Other children[(b)]								
< 1	3.4	2.8	2.8	3.3	3.4	3.2	2.3	3.4
1–4	21.6	21.5	21.5	23.2	20.9	23.0	21.3	15.4
5–9	29.4	27.5	28.0	31.2	28.0	28.9	30.0	26.2
10–14	31.2	28.5	29.9	28.9	27.9	31.9	25.8	37.6
15–17	14.4	19.8	17.8	13.4	19.9	13.0	20.6	17.4
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 supervisory orders

(b) 'Other children' includes those children whose Indigenous status is unknown.

(c) Percentages exclude children of unknown age.

(d) Percentages in tables may not add to 100 because of rounding.

Source: AIHW analysis of National Child Protection Data Collection.

Care and protection orders by state/territory

- As at June 2009, the rates of Aboriginal and Torres Strait Islander children on care and protection orders varied considerably across jurisdictions, ranging from 15.8 per 1,000 in the Northern Territory to 68.2 per 1,000 in the Australian Capital Territory (Table 2.15.6; Figure 2.15.2).
- In all jurisdictions, the rate of Indigenous children on care and protection orders was higher than the rate for non-Indigenous children, ranging from 2 to 13 times as high across jurisdictions. Across Australia, the rate of Indigenous children on orders was more than 8 times that of non-Indigenous children.

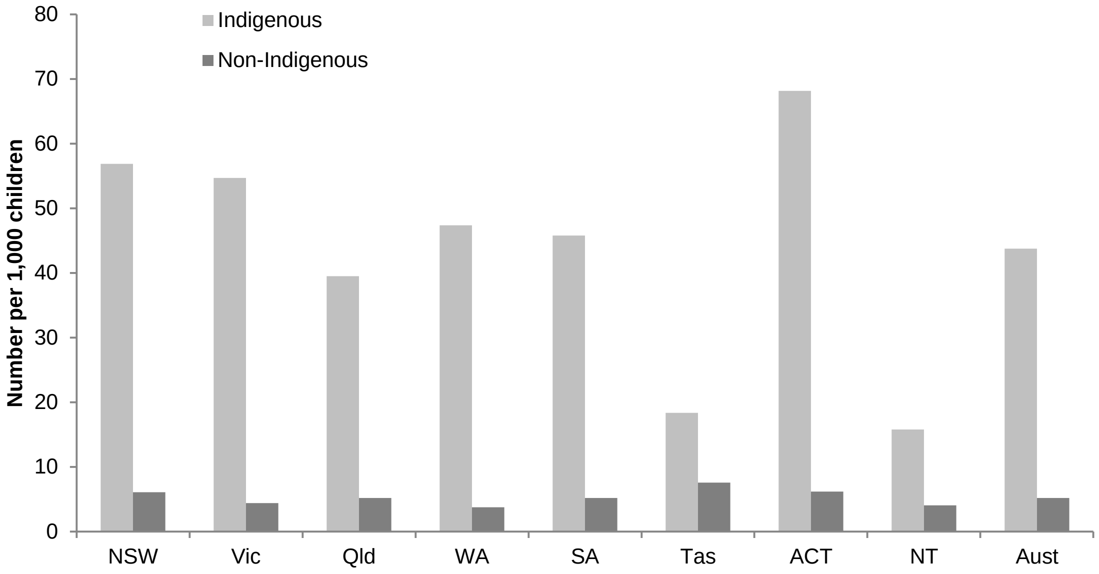
Table 2.15.6: Children on care and protection orders: number and rate (number per 1,000 children aged 0–17 years), by Indigenous status and state/territory, at 30 June 2009

	Number of children					Rate per 1,000 children			
			Unknown						
State / territory	Indig.	Non-Indig.	Number	Per cent	All children	Indig.	Non-Indig.	All children	Rate ratio Indig./ non-Indig.
NSW	3,979	9,509	3	—	13,491	56.9	6.1	8.3	9.3
Vic	825	5,261	14	0.2	6,100	54.7	4.4	5.0	12.5
Qld	2,720	5,172	50	0.6	7,942	39.5	5.2	7.4	7.6
WA	1,465	1,872	—	—	3,337	47.4	3.8	6.3	12.6
SA	573	1,777	11	0.5	2,361	45.8	5.2	6.7	8.8
Tas	151	838	2	0.2	991	18.4	7.6	8.4	2.4
ACT	130	477	3	0.5	610	68.2	6.2	7.8	10.9
NT	428	146	3	0.5	577	15.8	4.1	9.2	3.8
Aust	**10,271**	**25,052**	**86**	**0.2**	**35,409**	**43.8**	**5.2**	**7.0**	**8.4**

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 A1.26 in the 2008-09 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.

Source: AIHW 2010.



Source: AIHW analysis of National Child Protection Data collections.

Figure 2.15.2: Children on care and protection orders: rate (number per 1,000 children aged 0–17 years), by Indigenous status and state/territory, at 30 June 2009

Types of care and protection orders

There were more orders issued during 2008–09 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 2008–09 for Indigenous and other children are presented in Table 2.15.7.

- As at 30 June 2009 most Indigenous children on care and protection orders were on guardianship and custody orders or arrangements (72.3%). 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 supervisory orders than non-Indigenous children. In the Australian Capital Territory, Indigenous children were relatively less likely to be on guardianship and custody orders or arrangements than other children and more likely to be on interim and temporary orders.

Table 2.15.7: Children on care and protection orders, by type of order, by state/territory and Indigenous status, 30 June 2009

Type of order	NSW[(a)]	Vic	Qld	WA	SA	Tas[(b)]	ACT	NT[(c)]	Total
Indigenous children					**Number**				
Guardianship or custody orders/arrangements	2,555	593	2,021	1,154	512	125	85	376	7,421
Third-party parental responsibility	814	—	177	46	9	n.a.	4	n.a.	1,050
Supervisory orders	n.a.	208	114	52	—	1	6	—	381
Interim and temporary orders	582	24	408	213	29	25	30	24	1,335
Administrative arrangements	28	—	n.a.	—	23	—	5	28	84
Total	**3,979**	**825**	**2,720**	**1,465**	**573**	**151**	**130**	**428**	**10,271**
					Per cent				
Guardianship or custody orders/arrangements	64.2	71.9	74.3	. .	89.4	82.8	65.4	87.9	72.3
Third-party parental responsibility	20.5	—	6.5	. .	1.6	n.a.	3.1	. .	10.2
Supervisory orders	. .	25.2	4.2	. .	—	0.7	4.6	—	3.7
Interim and temporary orders	14.6	2.9	15.0	. .	5.1	16.6	23.1	5.6	13.0
Administrative arrangements	0.7	—	. .	. .	4.0	—	3.8	6.5	0.8
Total	**100.0**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Other children					**Number**				
Guardianship or custody orders/arrangements	6,521	3,781	3,801	1,461	1,602	659	350	130	18,305
Third-party parental responsibility	1,661	—	486	58	29	n.a.	13	n.a.	2,247
Supervisory orders	n.a.	1,341	355	92	7	25	36	—	1,856
Interim and temporary orders	1,221	153	580	261	90	150	63	11	2,529
Administrative arrangements	109	—	n.a.	—	60	6	18	8	201
Total	**9,512**	**5,275**	**5,222**	**1,872**	**1,788**	**840**	**480**	**149**	**25,138**
					Per cent				
Guardianship or custody orders/arrangements	68.6	71.7	72.8	. .	89.6	78.5	72.9	87.2	72.7
Third-party parental responsibility	17.5	—	9.3	. .	1.6	n.a.	2.7	. .	9.3
Supervisory orders	. .	25.4	6.8	. .	0.4	2.6	7.5	—	6.3
Interim and temporary orders	12.8	2.9	11.1	. .	5.0	17.7	13.1	6.1	10.9
Administrative arrangements	1.1	—	. .	. .	3.4	0.6	3.8	6.2	0.8
Total	**100.0**	**100.0**	**100.0**	**. .**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(continued)

Table 2.15.7 (continued): Children on care and protection orders, by type of order, by state/territory and Indigenous status, 30 June 2009

(a) New South Wales disaggregated data are not available for 2008-09 for 'Supervisory orders'.

(b) Tasmania is not able to separately identify children under "Third-party parental responsibility' arrangements. These children are included under the 'Guardianship or custody orders/arrangements' category.

(c) Northern Territory data on 'Third-party parental responsibility' arrangements are not available.

Notes:

1. Other children includes those children whose indigenous status is unknown.
2. Percentages in tables may not add to 100 due to rounding.

Source: AIHW 2010.

Length of time on care and protection orders

- In 2008–09, in New South Wales, the Australian Capital Territory and the Northern Territory, Indigenous children were most likely to be on care and protection orders for less than 1 month. In South Australia, Indigenous children were most likely to be on care and protection orders for 1month to less than 3 months. In Victoria, Tasmania and Queensland Indigenous children were most likely to be on care and protection orders for 1year to less than 2 years. In Western Australia Indigenous children were most likely to be on care and protection orders for 2 years to less than 4 years(Table 2.15.8).
- A similar pattern was evident for other children on care and protection orders in 2008–09.

Table 2.15.8: Children discharged from care and protection orders, by length of time on an order, for selected states and territories, 2008–09

	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 +	Total
					Number				
Indigenous children									
New South Wales[(a)]	124	66	36	40	66	83	54	64	**533**
Victoria	—	4	37	53	76	47	28	7	**252**
Queensland	144	76	42	52	152	121	49	46	**682**
Western Australia	36	6	3	12	31	44	19	21	**172**
South Australia	11	55	25	4	18	25	1	16	**155**
Tasmania[(b)]	1	7	1	—	7	6	2	5	**29**
ACT[(b)]	10	7	4	2	1	9	3	3	**39**
Northern Territory	111	30	22	16	21	10	8	2	**220**
Other children[(c)]									
New South Wales[(a)]	515	160	101	101	197	173	127	207	**1,581**
Victoria	—	28	178	263	458	382	157	58	**1,525**
Queensland	298	122	105	137	397	302	124	101	**1,586**
Western Australia	78	11	32	43	54	97	30	30	**375**
South Australia	51	75	37	13	84	54	26	44	**384**
Tasmania[(b)]	40	43	19	12	68	32	15	16	**245**
ACT[(b)]	39	19	17	6	4	25	18	8	**136**
Northern Territory	40	10	6	7	30	16	1	3	**113**
					Per cent				
Indigenous children									
New South Wales[(a)]	23.3	12.4	6.8	7.5	12.4	15.6	10.1	12.0	**100.0**
Victoria	—	1.6	14.7	21.0	30.2	18.7	11.1	2.8	**100.0**
Queensland	21.1	11.1	6.2	7.6	22.3	17.7	7.2	6.7	**100.0**
Western Australia	20.9	3.5	1.7	7.0	18.0	25.6	11.0	12.2	**100.0**
South Australia	7.1	35.5	16.1	2.6	11.6	16.1	0.6	10.3	**100.0**
Tasmania[(b)]	3.4	24.1	3.4	—	24.1	20.7	6.9	17.2	**100.0**
Australian Capital Territory[(b)]	25.6	17.9	10.3	5.1	2.6	23.1	7.7	7.7	**100.0**
Northern Territory	50.5	13.6	10.0	7.3	9.5	4.5	3.6	0.9	**100.0**

(continued)

Table 2.15.8 (continued): Children discharged from care and protection orders, by length of time on an order, for selected states and territories, 2008–09

	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]	32.6	10.1	6.4	6.4	12.5	10.9	8.0	13.1	**100.0**
Victoria	0.1	1.8	11.7	17.2	30.0	25.0	10.3	3.8	**100.0**
Queensland	18.8	7.7	6.6	8.6	25.0	19.0	7.8	6.4	**100.0**
Western Australia	20.8	2.9	8.5	11.5	14.4	25.9	8.0	8.0	**100.0**
South Australia	13.3	19.5	9.6	3.4	21.9	14.1	6.8	11.5	**100.0**
Tasmania[b]	16.3	17.6	7.8	4.9	27.8	13.1	6.1	6.5	**100.0**
Australian Capital Territory[b]	28.7	14.0	12.5	4.4	2.9	18.4	13.2	5.9	**100.0**
Northern Territory	35.4	8.8	5.3	6.2	26.5	14.2	0.9	2.7	**100.0**

(a) New South Wales data do not include supervisory orders.

(b) Percentages for Tasmania and the Australian Capital Territory should be interpreted with care because of the small numbers. Any fluctuation in the number of children has a large impact on the percentages.

(c) Other children' includes those children whose Indigenous status is 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.

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 1998-2009 in Table 2.15.9 and Figure 2.15.3.

Table 2.15.9: Number of children on care and protection orders: children aged 0–17 years, by Indigenous status and state/territory, at 30 June 1998 to 30 June 2009

State/territory	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
						Indigenous						
NSW[(a)]	1,195	1,562	1,826	2,070	1,992	2,265	n.a.	2,113	2,409	2,880	3,380	3,979
Vic[(b)]	294	n.a.	448	512	510	534	574	682	740	623	977	825
Qld[(c)]	852	880	856	803	880	953	1,146	1,342	1,667	1,915	2,216	2,720
WA[(d)]	215	298	327	355	468	509	583	660	798	1,091	1,279	1,465
SA	160	158	215	221	233	261	275	322	378	440	540	573
Tas	34	34	31	27	23	59	83	94	125	164	139	151
ACT[(e)]	46	36	40	32	32	48	53	70	100	113	117	130
NT	72	93	118	126	126	174	230	281	303	300	363	428
Australia	**2,868**	**n.a.**	**3,861**	**4,146**	**4,264**	**4,803**	**n.a.**	**5,564**	**6,520**	**7,526**	**9,011**	**10,271**
						Other[(f)]						
NSW[(a)]	4,792	5,386	5,835	6,035	6,237	6,710	n.a.	6,507	6,804	7,759	8,706	9,512
Vic[(b)]	3,921	n.a.	4,304	4,270	4,465	4,504	4,677	4,976	5,244	5,556	6,899	5,275
Qld[(c)]	2,581	2,729	2,756	2,770	2,885	3,154	3,804	4,515	4,779	4,476	4,824	5,222
WA[(d)]	584	721	778	831	916	961	1,056	1,123	1,248	1,538	1,815	1,872
SA	942	866	995	1,039	1,053	1,117	1,180	1,231	1,293	1,441	1,657	1,788
Tas	486	406	439	426	440	541	551	622	708	733	775	840
ACT[(e)]	209	200	192	187	229	240	300	394	458	461	435	480
NT	66	84	102	79	68	100	115	133	134	151	157	149
Australia	**13,581**	**n.a.**	**15,401**	**15,637**	**16,293**	**17,327**	**n.a.**	**19,501**	**20,668**	**22,115**	**25,268**	**25,138**

(continued)

Table 2.15.9 (continued): Number of children on care and protection orders: children aged 0–17 years, by Indigenous status and state/territory, at 30 June 1998 to 30 June 2009

(a) New South Wales data do not include supervisory orders. New South Wales was unable to provide data for 2003–04 because of the ongoing implementation of the new data system.

(b) 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.

(c) 2007 data for Queensland published in *Child protection Australia* were interim and were revised in 2008.

(d) 2007 data include 24 children who were placed on Enduring Parental Responsibility orders.

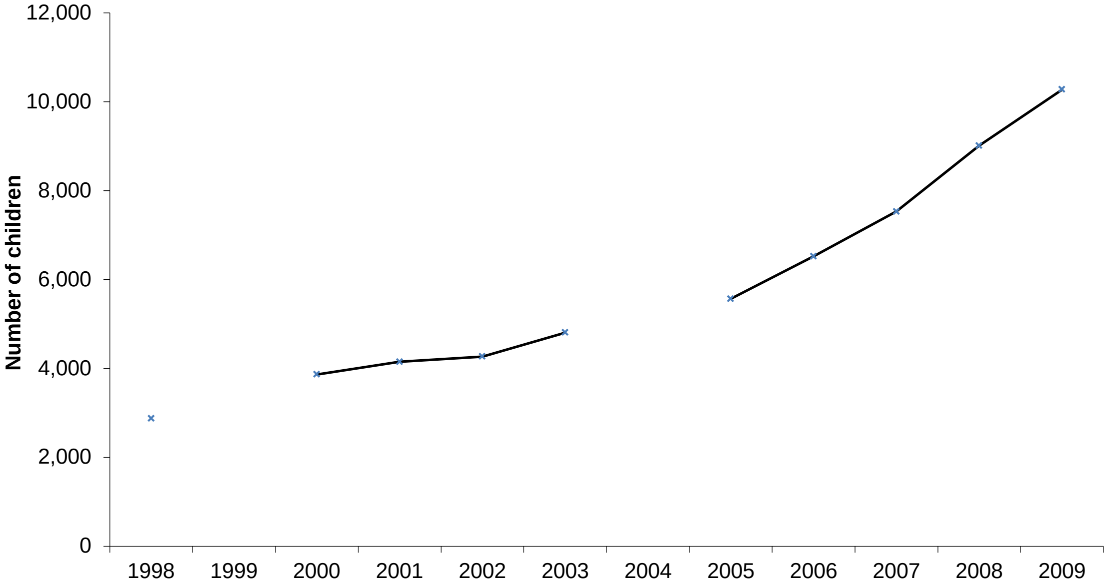
(e) Additional systems have been put in place to tackle the Indigenous status recording issues, including quarterly monitoring.

(f) Other children includes those children whose Indigenous status is unknown. Children of unknown Indigenous status were not collected at a national level during these collection years. Interpretation of these trend data should therefore be treated with caution.

Notes:

1. During 2001–02, practices were introduced to improve the identification of Indigenous status that resulted in an increase in the number of Indigenous clients.
2. 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.

Source: AIHW 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010.



Source: AIHW analysis of National Child Protection Data collections

Figure 2.15.3: Indigenous children aged 0–17 years on care and protection orders as at 30 June 1998 to 20 June 2009

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 2009, there were 10,512 Aboriginal and Torres Strait Islander children aged 0–17 years in out-of-home care. The rate was 44.8 per 1,000, ranging from 13.2 in the Northern Territory to 71.3 in New South Wales (Table 2.15.10).
- 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 9.2 times that for non-Indigenous children.

Table 2.15.10: 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 2009

	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 Indig./ non-Indig.
NSW	4,991	10,207	13	0.1	15,211	71.3	6.6	9.4	10.9
Vic	743	4,452	97	1.8	5,283	48.7	3.7	4.3	13.2
Qld	2,481	4,547	65	0.9	7,093	36.0	4.6	6.7	7.9
WA	1,197	1,485	—	—	2,682	38.8	3.0	5.1	13.0
SA(a)	521	1,495	—	—	2,016	41.7	4.4	5.7	9.5
Tas(b)	130	676	2	0.2	808	15.8	6.1	6.8	2.6
ACT	100	391	3	0.6	494	52.4	5.1	6.3	10.3
NT	358	121	3	0.6	482	13.2	3.4	7.7	3.9
Australia	**10,521**	**23,374**	**183**	**0.5**	**34,069**	**44.8**	**4.9**	**6.7**	**9.2**

(a) South Australia can only provide the number of children in out-of-home care when the Department is making a financial contribution to the care of a child.

(b) Tasmania is not able to include children in care where a financial payment has been offered but has been declined by the carer. However, the number of carers declining payment is likely to be very low.

Note:

1. Population estimates are based on the 2006 census, refer to Appendix table A1.26 in the 2008-09 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 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.

Source: AIHW 2010.

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 2009, 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 (28%) and the Northern Territory (48%). In New South Wales, 84% of Indigenous children were placed with relative/kin, other Indigenous caregivers or in Indigenous residential care (Table 2.15.11).

Table 2.15.11: Aboriginal and Torres Strait Islander children in out-of-home care: Indigenous status and relationship of carer, by state/territory, at 30 June 2009

Relationship	NSW	Vic[(a)]	Qld	WA[(a)]	SA[(b)]	Tas[(c)]	ACT	NT[(d)]
				Number				
Indigenous relative/kin	2,759	181	590	607	204	13	40	116
Other Indigenous caregiver	843	75	566	169	112	3	9	52
Other relative/kin	544	162	265	96	61	20	6	—
Indigenous residential care	23	13	24	26	18	—	3	—
Total placed with relative/kin, other Indigenous caregivers or Indigenous residential care	*4,169*	*431*	*1,445*	*898*	*395*	*36*	*58*	*168*
Other caregiver	741	233	925	221	87	89	29	186
Other residential care	53	60	111	73	35	5	13	—
Total not placed with relative/kin, other Indigenous caregivers or Indigenous residential care	*794*	*293*	*1,036*	*294*	*122*	*94*	*42*	*186*
Total	**4,963**	**724**	**2,481**	**1,192**	**517**	**130**	**100**	**354**
				Per cent				
Indigenous relative/kin	55.6	25.0	23.8	50.9	39.5	10.0	40.0	32.8
Other Indigenous caregiver	17.0	10.4	22.8	14.2	21.7	2.3	9.0	14.7
Other relative/kin	11.0	22.4	10.7	8.1	11.8	15.4	6.0	—
Indigenous residential care	0.5	1.8	1.0	2.2	3.5	—	3.0	—
Total placed with relative/kin, other Indigenous caregivers or Indigenous residential care	*84.0*	*59.5*	*58.2*	*75.3*	*76.4*	*27.7*	*58.0*	*47.5*
Other caregiver	14.9	32.2	37.3	18.5	16.8	68.5	29.0	52.5
Other residential care	1.1	8.3	4.5	6.1	6.8	3.8	13.0	—
Total not placed with relative/kin, other Indigenous caregivers or Indigenous residential care	*16.0*	*40.5*	*41.8*	*24.7*	*23.6*	*72.3*	*42.0*	*52.5*
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) A small number of children are placed with externally arranged foster carers who are also their relatives and have been recorded in the foster care category.

(b) South Australia can only provide the number of children in out-of-home care where the Department is making a financial contribution to the care of a child.

(c) Tasmania is not able to adhere to the AIHW definition of OOHC for 2008-09 to include children in care where a financial payment has been offered but has been declined by the carer. However, the number of carers declining a financial payment is likely to be very low.

(d) In the Northern Territory, children placed with family members have all been included in the 'Indigenous relative/kin' category.

Notes:

1. This table does not include Indigenous children who were living independently or whose living arrangements were unknown.
2. Percentages in tables may not add to 100 due to rounding.
3. Children in family group homes are reported as in residential care.

Source: AIHW 2010.

Data quality issues

Child protection data

Reported rates for Aboriginal and Torres Strait Islander children in the child protection system for 2008-09 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 projections 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, the states and territories cannot be compared with each other, and national totals should not be used. 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 a number of factors that affect practices in relation to the intensity of follow-up of notifications. 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 2008–09 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 2009. If a child is on more than one order at 30 June, 2009, 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 2010).

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.

The practices used to identify and record the Indigenous status of children vary across states and territories, with some jurisdictions recording large numbers of unknowns. No state or territory can validate the data on Aboriginal and Torres Strait Islander children by other means and the quality of the data is therefore unknown. In this collection, children are counted as Indigenous if they are identified as such in the state and territory collections. For information regarding the 2008-09 financial year 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 underestimate of the actual number of Aboriginal and Torres Strait Islander children in the child protection system.

During 1998–99 a new method for counting Indigenous status was implemented in New South Wales, which improved the accuracy of this information. The apparent increase in the rate of Indigenous clients was a reflection of the improved recording of Indigenous status, rather than an increase in the number of Indigenous clients. Western Australia also introduced new practices to improve the identification of Indigenous clients in 2001–02.

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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2.16 Transport

The use of transport, including walking, access to motor vehicles and perceived difficulty with transport among Aboriginal and Torres Strait Islander peoples

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 2006 Australian Bureau of Statistics (ABS) Census of Population and Housing.

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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

National Aboriginal and Torres Strait Islander Social Survey

The 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.

Census of Population and Housing

The ABS conducts the Census of Population and Housing at 5-yearly intervals, with 2006 being the most recent, and it 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 under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but the Australian and New Zealand Standard Classification of Occupations replaced this for the 2006 Census.

Data analyses

Motor vehicle access

The Census collects details on the number of registered motor vehicles garaged at the household.

- In 2006, Indigenous households had a higher ratio of people aged 17 years and over to vehicles (1.59), compared to non-Indigenous households (1.19) (Table 1.16.1).
- From 2001 to 2006, the ratio of persons aged 17 years and over in a household to vehicles increased for Indigenous and non-Indigenous households.

Motor vehicle access by state/territory and remoteness

- In 2006, the ratio of persons to vehicles for Indigenous households was highest in the Northern Territory (3.5) and lowest in Tasmania (1.1).
- The ratio of persons of driving age to vehicles in Indigenous households was higher in *Very remote* areas (4.3) than in *Major cities* (1.4).
- The Northern Territory had the lowest proportion of Indigenous households with at least one vehicle (50%) and Tasmania had the highest (86%).
- Approximately 75% of Indigenous households in non-remote areas reported having at least one vehicle compared with 52% of Indigenous households in remote areas in 2006. In contrast, in non-Indigenous households, access to motor vehicles was similar in both non-remote and remote areas (87% and 90% respectively).
- Indigenous households in *Remote* and *Very remote* areas were most likely to report having no vehicle (Table 2.16.2, 2.16.3, Figure 2.16.1). In contrast, non-Indigenous households in Major Cities were most likely to report having no vehicle.
- Other households in *Remote* areas were most likely to have access to a vehicle (95%) while Indigenous households were most likely to have access to a vehicle when located in *Major cities.*

Table 2.16.1: Households with at least one vehicle, by Indigenous status and state/territory, 2006

	Ratio of persons 17 years and over in occupied private dwellings to vehicle[(a)]			Proportion of households[(b)] with at least one vehicle		
	Indigenous[(c)]	Other[(d)]	Total	Indigenous[(c)]	Other[(d)]	Total
State/territory						
NSW[(e)]	1.55	1.29	1.29	71.8	84.8	84.5
Vic	1.35	1.18	1.18	75.3	87.4	87.3
Qld	1.56	1.14	1.15	74.5	89.2	88.7
WA	1.57	1.07	1.08	70.0	90.2	89.7
SA	1.55	1.15	1.15	71.5	87.4	87.2
Tas	1.13	1.10	1.10	85.7	87.7	87.6
ACT	1.19	1.16	1.16	82.9	90.7	90.6
NT	3.50	1.10	1.37	49.8	89.1	81.2
Australia[(f)]	1.59	1.19	1.19	71.9	87.2	86.9
Remoteness area						
Major Cities	1.43	1.25	1.25	75.4	86.2	86.0
Inner Regional	1.39	1.08	1.09	77.1	89.5	89.1
Outer Regional	1.49	1.03	1.05	73.0	89.9	89.0
Total non-remote	*1.43*	*1.19*	*1.19*	*75.3*	*87.2*	*87.0*
Remote	2.02	0.96	1.04	62.1	90.3	87.2
Very Remote	4.34	0.98	1.51	44.1	87.6	73.6
Total remote	*3.01*	*0.97*	*1.15*	*52.4*	*89.7*	*83.2*
Australia[(f)]	1.59	1.19	1.19	71.9	87.2	86.9
Total number of households	**166,671**	**6,977,425**	**7,144,096**	**166,671**	**6,977,425**	**7,144,096**

(a) Excludes motorbikes.

(b) Defined as all households (excluding visitor households), in an occupied private dwelling, being Australian usual residents.

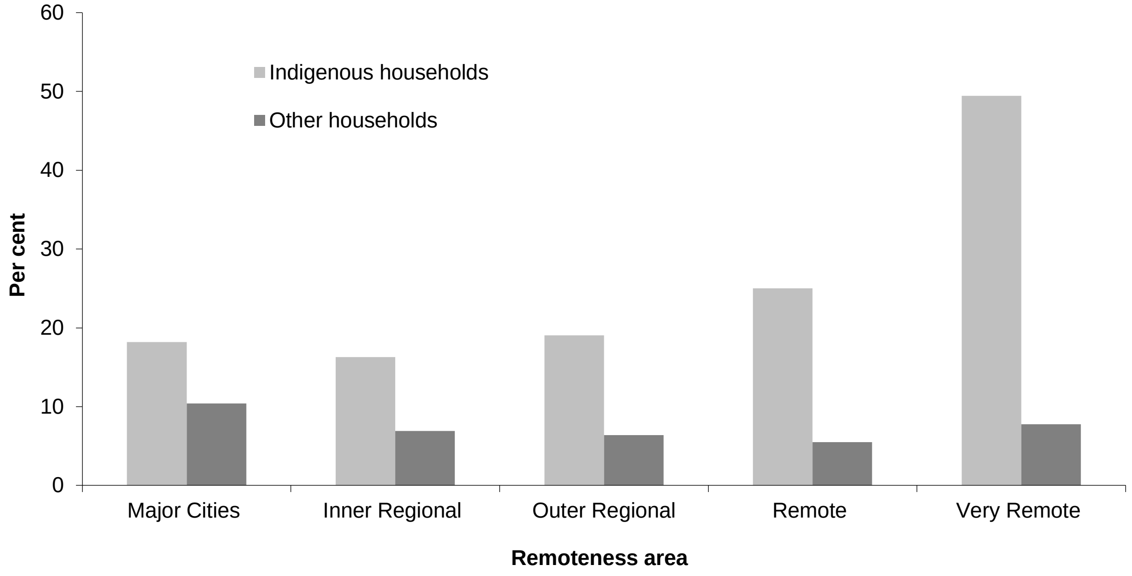
(c) An Indigenous household is defined where a family within the household contains one or more persons of Aboriginal or Torres Strait Islander origin or where a lone person is of Aboriginal or Torres Strait Islander origin.

(d) Includes households where Indigenous status was not stated.

(e) Includes Territory of Jervis Bay.

(f) Includes Territories of Christmas Island and Cocos Islands.

Source: ABS and AIHW analysis of 2006 Census data.



Notes

1. Includes dwellings in offshore and migratory community districts.
2. Excludes 'Visitors only' and 'Other not classifiable' households.

Source: ABS 2006 Census.

Figure 2.16.1: Proportions of households without access to motor vehicles, by Indigenous status and remoteness, 2006

Table 2.16.2: Proportion of households without access to motor vehicles, by Indigenous status and remoteness, 2006

	Indigenous households	Other households
Major cities	18.2	10.4
Inner regional	16.3	6.9
Outer regional	19.0	6.4
Remote	25.0	5.5
Very Remote	49.4	7.8

Notes

1. Includes dwellings in Offshore and Migratory Community Districts.
2. Excludes 'Visitors only' and 'Other not classifiable' households.

Source: ABS 2006 Census.

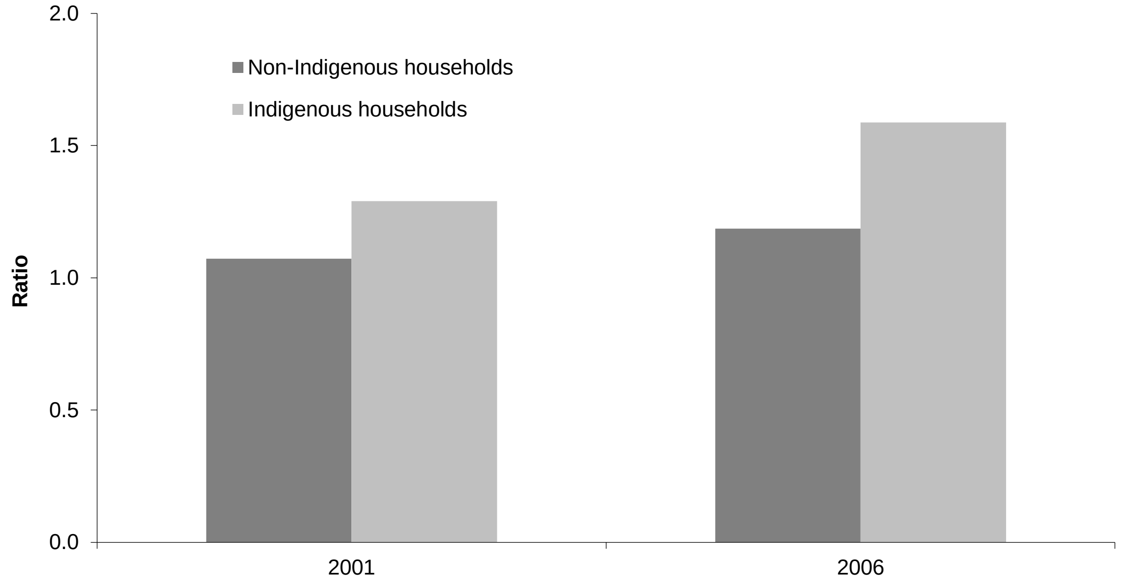
Table 2.16.3: Proportion of households without access to motor vehicles, by Indigenous status and remoteness, 2008

	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	100
Inner regional	46.5	10.7	53.5	89.3	100	100
Outer regional	51.7	9.8	48.3	90.2	100	100
Total non-remote	*50.2*	*15.3*	*49.8*	*84.7*	*100*	*100*
Remote	46.5	. .	53.5	. .	100	. .
Very Remote	39.4	. .	60.6	. .	100	. .
Total remote	*42.8*	*. .*	*57.2*	*. .*	*100*	*. .*
Total	**48.9**	**. .**	**51.1**	**. .**	**100**	**. .**

Source: ABS analysis of 2008 NATSISS and 2006 GSS.

Motor vehicle access over time

- Access to vehicles has decreased over time, with the ratio of persons to vehicles in both Indigenous and non-Indigenous households being higher in 2006 than in 2001 (Figure 2.16.2, Table 2.16.4). The difference between the Indigenous and non-Indigenous rates has also increased over the same period.



Source: ABS 2001 and 2006 Census data, customised tables.

Figure 2.16.2: Ratio of persons aged 17 years and over in occupied private dwellings to vehicles, by Indigenous status, 2001 and 2006

Table 2.16.4: Ratio of persons aged 17 years and over in occupied private dwellings to vehicles, by Indigenous status, 2001 and 2006

	Non-Indigenous households	Indigenous households
2001	1.07	1.29
2006	1.19	1.59

Source: ABS 2001 and 2006 Census data, customised tables.

Transport access by age

- In 2008, around 78% of Indigenous people aged 18 years and over had access to a motor vehicle to drive compared with 86% of non-Indigenous people (Table 2.16.5).
- Indigenous people aged 18-24 years and were least likely to have access to a motor vehicle (70%) out of all age groups, followed by Indigenous people 55 years and over (73%) (Table 2.16.5).

Table 2.16.5: Access to motor vehicles for persons aged 18 years and over, by Indigenous status and age, 2008

		Access to motor vehicle		
Age group		**Proportion**	**Number**	**Total number of persons**
18-24	Indigenous	70.1*	47,349	67,616
	Non-Indigenous	78.1*	1,506,641	1,928,228
	Ratio	0.9	. .	. .
25–34	Indigenous	79.7*	55,575	69,931
	Non-Indigenous	89.0*	2,480,039	2,786,493
	Ratio	0.9	. .	. .
35–44	Indigenous	84.7*	53,958	63,851
	Non-Indigenous	92.7*	2,740,810	2,955,214
	Ratio	1.0	. .	. .
45–54	Indigenous	82.6*	38,404	46,912
	Non-Indigenous	91.6*	2,542,392	2,775,686
	Ratio	0.9	. .	. .
55 years and over	Indigenous	73.3*	30,839	42,627
	Non-Indigenous	81.1*	3,848,043	4,747,324
	Ratio	0.9	. .	. .
Total	**Indigenous**	**78.1***	**226,125**	**290,937**
	Non-Indigenous	**86.3***	**13,117,925**	**15,192,945**
	Ratio	**0.9**	. .	. .

*Difference between rates for Indigenous and non-Indigenous persons are statistically significant for these categories.

Sources: 2008 NATSISS and 2006 GSS.

Transport access, difficulty and use

The 2008 NATSISS collected data on access to motor vehicles, 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.

- In 2008, around 78% of Indigenous people aged 18 years and over had access to a motor vehicle to drive compared with 86% of non-Indigenous people (Table 2.16.6a).
- 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 2.16.6b).
- 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 2.16.6d).
- 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 2.16.6e).
- 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 2.16.6c).

Transport difficulty and use by age

- Indigenous Australians aged 18–24 years were more likely to have used public transport in the previous 2 weeks (32%) than those in older age groups (Table 2.16.6d).

Table 2.16.6a: 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	. .	. .	. .	. .	. .	. .	. .

(continued)

Table 2.16.6a (continued): 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)]**
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	. .	. .	. .	. .	. .	. .	. .
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 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 2.16.6b: 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
	Non-Indig.	77.3*	18.6	4.0*	100
	Ratio	0.9	1.1	3.1	. .
25–34 years	Indig.	73.3*	14.7	11.7*	100
	Non-Indig.	84.3*	12.3	3.4*	100
	Ratio	0.9	1.2	3.5	. .
35–44 years	Indig.	76.8*	12.5*	10.4*	100
	Non-Indig.	88.9*	8.7*	2.4*	100
	Ratio	0.9	1.4	4.3	. .
45–54 years	Indig.	79.3*	11.2	8.7*	100
	Non-Indig.	86.4*	9.1	4.5*	100
	Ratio	0.9	1.2	1.9	. .
55 years +	Indig.	77.7*	11.1	9.9*	100
	Non-Indig.	82.8*	11.2	5.7*	100
	Ratio	0.9	1	1.8	. .
Total	**Indig.**	**74.4***	**14.3***	**10.8***	**100**
	Non-Indig.	**84.2***	**11.5***	**4.2***	**100**
	Ratio	**0.9**	**1.2**	**2.6**	**. .**

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant for these categories.

(a) Includes persons who are housebound and/or never went out.

Sources: 2008 NATSISS and 2006 GSS.

Table 2.16.6c: Use of public, by Indigenous status and age group, persons aged 18 years and over, 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 2.16.6d: Use of transport in last 2 weeks, by Indigenous status and age group, persons aged 18 years and over, 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 2.16.6e: Modes of transport, by Indigenous status and age group, persons aged 18 years and over, 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 nfd.

(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.

Transport access, difficulty and use by sex

- A higher proportion of Indigenous males than Indigenous females reported having access to a motor vehicle (81% compared with 75%) (Table 2.16.7).
- A higher proportion of Indigenous females reported using public transport in the previous 2 weeks than Indigenous males (23% compared with 28%) (Table 2.16.7).

Table 2.16.7: Transport, by Indigenous status and sex, persons aged 18 years and older, 2008

	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 2.16.7 (continued): Transport, by Indigenous status and sex, persons aged 18 years and older, 2008

	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**	**100.0**		**100.0**	**100.0**	

(continued)

Table 2.16.7 (continued): Transport, by Indigenous status and sex, persons aged 18 years and older, 2008

	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**	**100.0**	**. .**	**100.0**	**100.0**	**. .**

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant 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 nfd.
(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 nfd.

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 2.16.8a-e).
- In all states and territories, except for Tasmania, Indigenous Australians were less likely to have access to motor vehicles (Table 2.16.8a-e).
- 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 2.16.8a-e).
- 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 2.16.8a-e).

Table 2.16.8a: 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
	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
	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
	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
	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
	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
	Non-Indig.	. .	. .	86.4	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	1.0	. .	. .	. .	. .	. .	. .	. .

(continued)

Table 2.16.8a (continued): 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	3.0(c)	86.0	2.9(c)	88.8	78.8	5.5(c)	4.6(c)	11.2	100
	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
	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
	Non-Indig.	. .	. .	86.3	. .	. .	. .	. .	. .	. .	. .
	Ratio	. .	. .	0.9*	. .	. .	. .	. .	. .	. .	. .

* Difference between rates for Indigenous and non-Indigenous persons are statistically significant 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 2.16.8b: 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 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 2.16.8c: Transport, by Indigenous status and state/territory, persons aged 18 years and over, 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 for these categories.

(a) Comprises cost, health reasons, being treated badly/discrimination, concerns about personal safety and other reasons nfd.

(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 2.16.8d: Transport, by Indigenous status and state/territory, persons aged 18 years and over, 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 2.16.8e: Transport, by Indigenous status and state/territory, persons aged 18 years and over, 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 nfd.

(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 2.16.9).
- 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 2.16.9).
- 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 2.16.9).
- A higher proportion of Indigenous Australians aged 18 years and over who could not get to places when needed lived in remote areas (18%) rather than non-remote areas (8%) (Table 2.16.10; Figure 2.16.3).

Table 2.16.9: 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**	**. .**	**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 2.16.9 (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.

Source: 2008 NATSISS and 2006 GSS.

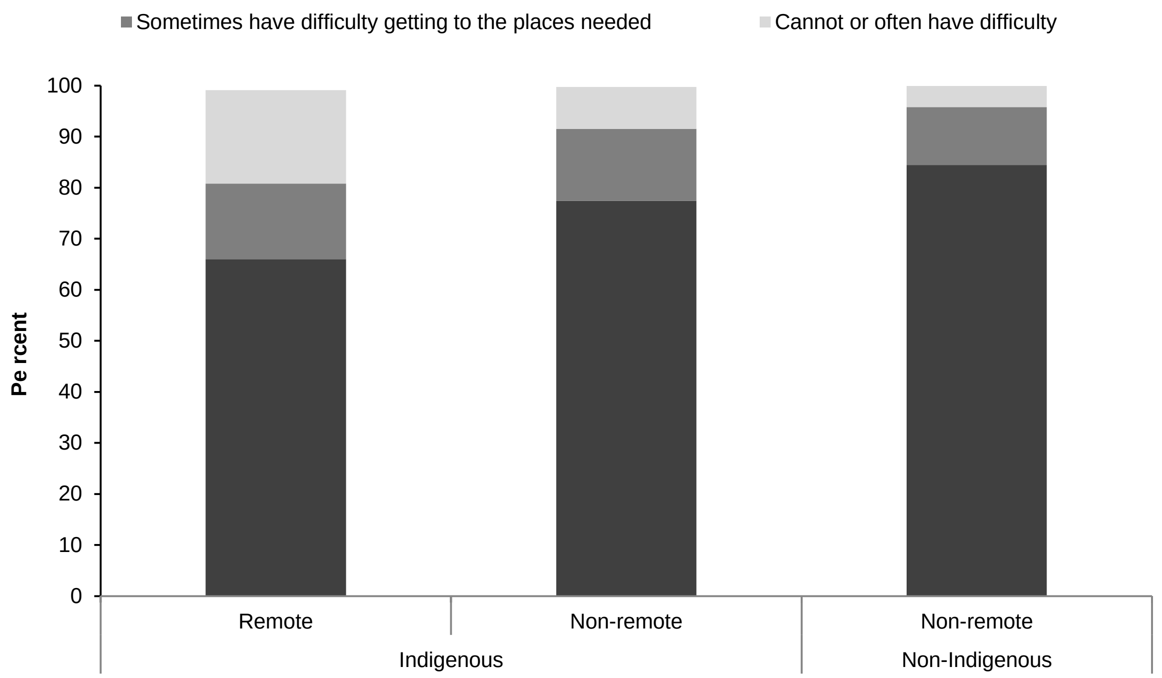
Table 2.16.10: Difficulty with transport, by Indigenous status and remoteness, persons aged 18 years and over, 2008

	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.

Source: 2008 NATSISS and 2006 GSS.



Note: 'Other' includes sometimes has difficulty getting to places needed and never go out/housebound.

Source: ABS and AIHW analysis of 2008 NATSISS and 2006 GSS.

Figure 2.16.3: Difficulty with transport, by Indigenous status and remoteness, persons aged 18 years and over, 2008

Transport difficulty by selected health and population characteristics

- 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 2.16.11a).
- 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 2.16.11a).

Table 2.16.11a: Perceived level of difficulty with transport, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

	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					Per cent					
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 2.16.11a (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 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 2.16.11b: Perceived level of difficulty with transport, by selected health and population characteristics and Indigenous status, persons aged 18 years and over, 2008

	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.
					Per cent					
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 2.16.11b (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 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.

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Table 2.16.12: Perceived level of difficulty with transport, by selected transport characteristics and Indigenous status, persons aged 18 years and over, 2008

	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.
	Per cent									
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 2.16.12 (continued): Perceived level of difficulty with transport, by selected transport characteristics and Indigenous status, persons aged 18 years and over, 2008

	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.**
					Per cent					
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 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 nfd.

(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.

The data on vehicles per household and per person 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 at all (Table 2.16.12).

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.

- 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).

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* 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 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).

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).

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 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

References

ABS 1996. Occasional paper: Population issues, Indigenous Australians. ABS cat. no. 4708.0. Canberra: ABS.

ABS 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.

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2.17 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 2004–05 National Aboriginal and Torres Strait Islander Health Survey and the 2008 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. It is planned to repeat the NATSIHS at six-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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

Access to traditional lands

- In 2008, approximately 29% of Indigenous Australians aged 15 years and over reported they did not recognise 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 2.17.1).

Access to traditional lands by age group

- In 2008, the proportion of Indigenous Australians aged 15 years and over who reported they did not recognise their homelands was highest among those aged 15–34 years (35%) and lowest among those aged 35-44 years (19%) (Table 2.17.1).
- 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 2.17.1).

Table 2.17.1: Access to homelands/traditional country, by age group, Indigenous Australians, 2008

	Does not recognise homelands/ traditional country	Recognises homelands/traditional country			
		Lives on homelands/ traditional country	Allowed to visit homelands/ traditional country	Not allowed to visit	Total
			Per cent		
15–34 years	34.9	25.1	39.4	0.5	100.0
35–44 years	19.4	29.1	51.0	0.5	100.0
45–55 years	22.9	23.0	52.8	1.2	100.0
55 years and over	23.6	24.6	51.3	0.5	100.0
Australia	**28.7**	**25.5**	**45.2**	**0.6**	**100.0**
Number	**92,718**	**82,607**	**146,017**	**2,051**	**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 did not recognise their homelands varied by jurisdiction, being highest in New South Wales *Major Cities* (43%) and lowest in the Northern Territory *Remote* and *Very remote* areas (9%) (Table 2.17.2).
- 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 Balance of Australia *Remote* and *Very remote* areas (23%).

Table 2.17.2: Access to homelands/traditional country, by state/territory, Indigenous Australians aged 15 years and over, 2008

State/ territory	Does not recognise homelands/ traditional country	Recognises homelands/traditional country: Lives on homelands/ traditional country	Recognises homelands/traditional country: Allowed to visit homelands/ traditional country	Recognises homelands/traditional country: Not allowed to visit	Total
			Per cent		
NSW Major cities	43.3	13.7	42.6	0.3	100.0
NSW Inner regional	32.9	39.4	26.8	0.9	100.0
NSW Outer regional	25.1	44.4	30.1	0.3	100.0
Vic Total	33.0	16.9	49.5	0.6	100.0
Qld Major cities	25.1	2.9	71.4	0.6	100.0
Qld Inner regional	39.7	9.5	50.8	0.0	100.0
Qld Outer regional	33.4	16.4	49.4	0.8	100.0
Qld Remote/Very remote	14.0	40.7	44.3	1.1	100.0
WA Non-remote	31.1	21.8	45.8	1.3	100.0
WA Remote/Very remote	15.2	42.2	42.2	0.5	100.0
NT Remote/Very remote	8.8	47.5	43.2	0.5	100.0
Balance of Australia - Non-remote	33.0	13.1	53.1	0.8	100.0
Balance of Australia - Remote/Very remote	30.2	46.9	22.9	0.0	100.0
Australia	**28.7**	**25.5**	**45.2**	**0.6**	**100.0**
Number	**92,718**	**82,607**	**146,017**	**2,051**	**323,393**

Note: Proportions and numbers exclude not stated responses

Source: AIHW Analysis of 2008 NATSISS.

Access to traditional lands by remoteness

- In 2008, the proportion of Indigenous Australians aged 15 years and over who reported they did not recognise their homelands was highest in *Major cities* (37%) and lowest in *Very remote* areas (approximately 6%) (Table 2.17.3a; Figure 2.17.1).
- Around 56% of Indigenous Australians reported they lived on their homeland in non-remote areas and 44% in remote areas (Table 2.17.3a).
- The proportion of Indigenous people who were allowed to visit their homelands/traditional country but did not live there was highest in *Major cities* (40%) (Table 2.17.3a).
- Around 8% of Indigenous people in *Very remote* and 29% in *Major cities* were not allowed to visit their traditional country (Table 2.17.3a).

Table 2.17.3a: Access to homelands/traditional country, by remoteness, Indigenous Australians aged 15 years and over, 2008

	Does not recognise homelands/ traditional country	Recognises homelands/traditional country: Lives on homelands/ traditional country[(a)]	Recognises homelands/traditional country: Allowed to visit homelands/ traditional country[(b)]	Recognises homelands/traditional country: Not allowed to visit[(b)]	Total
	Per cent				
Major cities	37.3	12.1	39.9	28.6(c)	32.2
Inner regional	26.6	21.5	16.4	22.9(d)	20.6
Outer regional	23.9	22.6	20.9	25.9(c)	22.3
Total non-remote	*87.8*	*56.2*	*77.2*	*77.4(c)*	*75.1*
Remote	6.4	11.9	9.4	14.1(c)	9.1
Very remote	5.8	31.9	13.4	8.4(c)	15.8
Total remote	*12.2*	*43.8*	*22.8*	*22.6(c)*	*24.9*
Australia	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) Asked of persons who recognised their homelands (234,383).

(b) Asked of persons who recognised their homelands, but were not living there (151,776).

(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.

Source: AIHW Analysis of 2008 NATSISS.

Table 2.17.3b: Access to homelands/traditional country, by remoteness, Indigenous Australians aged 15 years and over, 2008

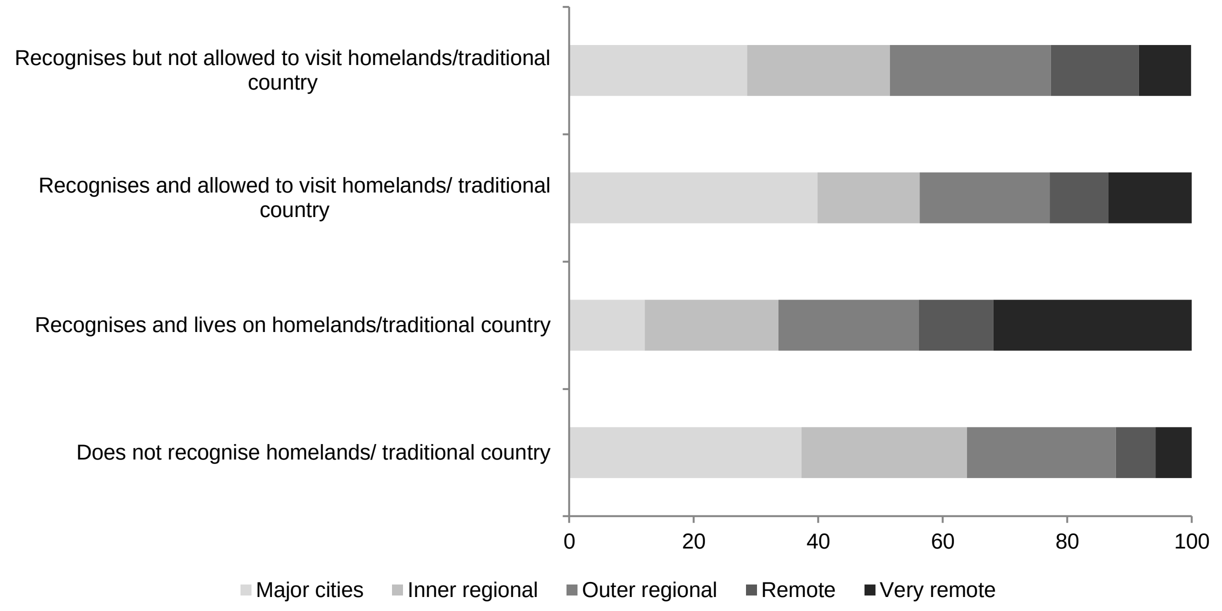
	Major cities	Inner regional	Outer regional	Total non-remote	Remote	Very remote	Total remote	Australia
	Per cent							
Recognises homelands								
Lives on homelands(a)	9.5	26.3	25.6	18.9	32.9	51.0	44.4	25.3
Does not live on homelands								
Allowed to visit homelands	55.4	35.4	41.9	45.9	45.8	38.0	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.



Source: AIHW analysis of 2008 NATSISS.

Figure 2.17.1: Proportion of Indigenous people who recognise or do not recognise homelands/traditional country, by remoteness, 2008

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 2.17.4).
- 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 2.17.4).

Table 2.17.4: 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, 81% of Indigenous Australians aged 15 years and over who did not recognise their homelands reported excellent/very good/good health status, compared with 42% of Indigenous Australians who recognised their homelands but were not allowed to visit. Around 76% of Indigenous Australians who recognised their homelands and were allowed to visit them reported excellent/very good/good health status (Table 2.17.5a).
- Approximately 19% of Indigenous Australians who lived on their homelands reported medium/high-risk alcohol consumption compared with 9.5% of Indigenous Australians who recognised their homelands but were not allowed to visit.
- Around 38% of Indigenous Australians who lived on their homelands reported they did not consume alcohol in the 12 months before the survey compared with 47% of Indigenous Australians who recognised their homelands but were not allowed to visit.
- A higher proportion of Indigenous Australians who recognised their homelands but were not allowed to visit were current smokers (56%), compared with 43% who did not recognise their homelands (Table 2.17.5a).

Table 2.17.5a: 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**

Source: AIHW Analysis of 2008 NATSISS.

Table 2.17.5b: 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**

(a) Excludes not stated and unknown responses.

Source: AIHW analysis of 2008 NATSISS.

Access to traditional lands by community cohesion

- In 2008, around 5% of Indigenous Australians who recognised their homelands but were not allowed to visit did not have support in a time of crisis, compared with around 12% of those who recognised their homelands but were allowed to visit (Table 2.17.6a).
- 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 2.17.6a).

Table 2.17.6a: 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 2.17.6b: 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 2.17.7).
- 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 2.17.7).

Table 2.17.7: 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 2.17.8).
- 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 2.17.9)

Table 2.17.8: 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 2.17.9: 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 2.17.10a).
- Of those who spent less than a week visiting their homelands, 78% reported excellent/very good/good and 22% reported fair/poor health (Table 2.17.10a).
- 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 2.17.10b; Table 2.17.11b).
- 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 2.17.11a).

Table 2.17.10a: 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 2.17.10b: 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 2.17.11a: 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 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 2.17.11b: 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 2.17.12).

Table 2.17.12: 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 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* 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).

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 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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2.18 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 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 6 years with the next survey planned for 2013.

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

Smoking status

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 2.18.1).

- Indigenous Australians were more than twice as likely to be current daily smokers as non-Indigenous Australians (Table 2.18.1).

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 2.18.1).
- The highest proportion of current daily smokers were among Indigenous persons aged 25-34 years (53%) (Table 2.18.1).
- 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 2.18.1 and Table 2.1.8.2).
- 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 2.18.2).

Table 2.18.1: 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 2.18.1 (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 2.18.1 (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 2.18.1 (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 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 2.18.2: Rate ratios (Indigenous: non-Indigenous), current daily smokers, by age group, 2008

	15-17	18-24	25-34	35-44	45-54	55+	Total (15+)	Total (18+)
Males	2.2	2.7	1.9	2.1	2.1	2.8	2.3	2.4
Females	5.0	2.7	2.7	2.4	2.3	2.8	2.7	2.7
Persons	3.2	2.7	2.2	2.2	2.2	2.8	2.5	2.6

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 2.18.3a). 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 2.18.3b).
- 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 2.18.3a) 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 2.18.3b).
- 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 2.18.3a). 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 2.18.3b).
- Indigenous Australians were between 2 and 2.5 times as likely to be current daily smokers when compared to non-Indigenous Australians in all states and territories (Table 2.18.4a; Table 2.18.4b).

Table 2.18.3a: 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 2.18.3b: 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 2.18.4a: Current daily smokers, by state/territory and Indigenous status, persons aged 18 years and over, 2008

Current daily smokers	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
	%	%	%	%	%	%	%	%	%
Indigenous	49.8	48.3	45.6	44.1	48.9	47.2	36.4	50.9	47.7
Non-Indigenous	18.6	17.0	21.1	16.8	19.2	22.3	16.2	22.8	18.6
Rate ratio(a)	2.7	2.8	2.2	2.6	2.5	2.1	2.2	2.2	2.6

(a) The rate ratio is calculated by dividing the rate for Indigenous persons by the corresponding rate for non-Indigenous persons.

Source: ABS and AIHW analysis of 2008 NATSISS and 2007–08 NHS.

Table 2.18.4b: Current daily smokers, by state/territory and Indigenous status, persons aged 15 years and over, 2008

Current daily smokers	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
	%	%	%	%	%	%	%	%	%
Indigenous	46.5	46.2	42.2	41.3	45.5	42.7	34.9	48.6	44.6
Non-Indigenous	17.8	16.6	20.5	16.1	18.7	21.4	15.7	22.2	18.0
Rate ratio(a)	2.6	2.8	2.1	2.6	2.4	2.0	2.2	2.2	2.5

(a) The rate ratio is calculated by dividing the rate for Indigenous persons by the corresponding rate for non-Indigenous persons.

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 2.18.5a). 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 2.18.5b).
- 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 2.18.5a). 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 2.18.5b).

Table 2.18. 5a: 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**	**92,691.0**
	Non-Indigenous	17.2	2.0	*19.2*	28.7	52.2	**100.0**	**10,411,032.0**
	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**	**58,208.0**
	Non-Indigenous	19.6	1.8	*21.3*	32.8	45.9	**100.0**	**3,424,218.0**
	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**	**64,889.0**
	Non-Indigenous	24.8	1.3(b)	*26.1*	32.0	41.9	**100.0**	**1,526,888.0**
	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**	**215,788.0**
	Non-Indigenous	18.5	1.9	*20.3*	29.9	49.8	**100.0**	**15,362,137.0**
	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**	**27,031.0**
	Non-Indigenous	27.4	3.7(b)	*31.1*	30.7	38.2	**100.0**	**191,691.0**
	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**	**48,118.0**
	Non-Indigenous	. .	. .		. .	. .	**. .**	**. .**
	Rate ratio(c)	. .	. .		. .	. .	**. .**	**. .**
Australia	Indigenous	47.7*	2.2	*49.8**	21.4*	28.8*	**100.0**	**290,937.0**
	Non-Indigenous	18.6	1.9	*20.5*	29.9	49.6	**100.0**	**15,553,828.0**
	Rate ratio(c)	2.6	1.2	*2.4*	0.7	0.6	**1.0**	**. .**

(continued)

Table 2.18. 5a (continued): Smoker status, by remoteness area and Indigenous status, persons aged 18 years and over, 2008

* Represents results with statistically significant differences 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 2.18. 5b: 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[(c)]	*41.6**	22.2	36.3*	**100.0**	**105,217.0**
	Non-Indigenous	16.7	1.9	*18.6*	27.5	54.0	**100.0**	**10,941,587.0**
	Rate ratio[(b)]	2.4	0.9	*2.2*	0.8	0.7	**1.0**	**. .**
Inner regional	Indigenous	44.1*	1.3[(c)]	*45.4**	19.5	35.1*	**100.0**	**67,416.0**
	Non-Indigenous	18.8	1.7	*20.5*	31.0	48.5	**100.0**	**3,637,010.0**
	Rate ratio[(b)]	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**	**72,967.0**
	Non-Indigenous	23.8	1.3[(c)]	*25.1*	30.7	44.2	**100.0**	**1,600,168.0**
	Rate ratio[(b)]	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**	**245,600.0**
	Non-Indigenous	17.9	1.8	*19.7*	28.6	51.8	**100.0**	**16,178,766.0**
	Rate ratio[(b)]	2.4	1.0	*2.3*	0.7	0.7	**1.0**	**. .**
Remote	Indigenous	47.0*	2.9[(c)]	*49.9**	17.4	32.8	**100.0**	**29,839.0**
	Non-Indigenous	26.8	3.7[(c)]	*30.5*	30.1	39.4	**100.0**	**195,436.0**
	Rate ratio[(b)]	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**	**51,662.0**
	Non-Indigenous	. .	. .	*. .*	. .	. .	**. .**	**. .**
	Rate ratio[(b)]	. .	. .	*. .*	. .	. .	**. .**	**. .**
Australia	Indigenous	44.6*	2.2	*46.8**	19.7*	33.5	**100.0**	**327,101.0**
	Non-Indigenous	18.0	1.8	*19.8*	28.6	51.6	**100.0**	**16,374,202.0**
	Rate ratio[(b)]	2.5	1.2	*2.4*	0.7	0.6	**1.0**	**. .**

(continued)

Table 2.18. 5b (continued): Smoker status, by remoteness area and Indigenous status, persons aged 18 years and over, 2008

* Represents results with statistically significant differences 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) The rate ratio is calculated by dividing the rate for Indigenous persons by the corresponding rate for non-Indigenous persons.

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

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 2.18.6).
- 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 2.18.7).
- 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 2.18.8).
- Results from the 2002 and 2008 NATSISS surveys show that the proportion of Indigenous persons aged 15 years and over who were smokers declined from 51% to 47% (Table 2.18.8), this decline was statistical significant.
- 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 2.18.8).

Table 2.18.6: 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 2.18.7: 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)**
	%	**%**		**%**	**%**		**%**	**%**	
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.

(d) Difference between 2008 Indigenous rate and 2007-08 non-Indigenous rate is statistically significant.

(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.

(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 2.18.8: 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.

(c) Difference between 2002 and 2008 is statistically significant.

(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 NATSIS.

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 2.18.9a).
- 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 2.18.9a).
- 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 2.18.9a).
- 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 2.18.9b)
- 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 2.18.9c, Table 2.18.9d).

Table 2.18.9a: **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 2.18.9b: **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 2.18.9c: 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 2.18.9d: 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 2.18.10).

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 2.18.10).
- 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 2.18.10).

Table 2.18.10: Smoker status, by Indigenous status, sex and age group, 2004–05

	18-24		25-34		35-44		45-54		55+		Total		Total (age-standardised)(a)		
Smoker status	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio**
								Per cent							
								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 2.18.10 (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 state/territory

- In 2004–05, the proportion of Indigenous persons aged 18 years and over who were current smokers ranged from 44% in the Australian Capital Territory to 56% in South Australia and the Northern Territory (Table 2.18.11).
- The proportion of Indigenous ex-smokers in 2004–05 ranged from 14% in the Northern Territory to 25% in ACT (Table 2.18.11).
- The proportion of Indigenous adults who reported that they had never smoked was similar across most states and territories (Table 2.18.11).

Table 2.18.11: Smoker status, by state/territory, Indigenous persons aged 18 years and over, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
					Per cent				
Current smoker	53	52	51	48	56	51	44	56	52
Daily	51	50	50	44	53	50	41	54	50
Other	2(a)	2(a)	1(a)	4(a)	3(a)	1(a)	3(b)	2	2
Ex-smoker	20	24	20	22	17	22	25	14	20
Never smoked	27	24	29	30	27	27	31	30	28
Total(c)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Total number	**75,000**	**16,500**	**70,600**	**36,500**	**14,500**	**9,500**	**2,300**	**33,400**	**258,300**

(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 smoker status not known.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Smoking status by remoteness

Table 2.18.12 presents the smoking status of Indigenous and non-Indigenous adults by remoteness area for 2004–05.

- The proportion of Indigenous adults who reported they were current smokers was similar across all remoteness areas (Table 2.18.12).
- The rate ratio of Indigenous to non-Indigenous current smokers was higher in *Major cities* (2.1) than in *Remote* areas of Australia (1.4). This is because, although the proportion of Indigenous adults who smoked was similar, the proportion of non-Indigenous Australians who reported they were current smokers was higher in Remote areas (34%) than in Major Cities (22%) (Table 2.18.12).

Table 2.18.12: Smoker status, by remoteness area and Indigenous status, persons aged 18 years and over, 2004–05

	Major cities			Inner regional			Outer regional			Remote			Very remote(a)			Australia		
Smoker status	**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**
	%	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**		**%**	**%**	
Current smoker	46	22	2.1*	47	26	1.8*	50	27	1.9*	47	34	1.4*	51	n.a.	—	48	23	2.1*
Daily	45	20	2.3*	46	24	1.9*	48	25	1.9*	45	32	1.4*	48	n.a.	—	46	21	2.2*
Other	2(b)	2	0.9	1(c)	2	0.6	2(c)	2	1.0	2(c)	2(c)	1.4	3(c)	n.a.	—	2	2	1.0
Ex-smoker	27	30	0.9	25	31	0.8*	22	31	0.7*	25	27	0.9	18	n.a.	—	24	30	0.8*
Never smoked	26	49	0.5*	28	44	0.6*	29	42	0.7*	28	40	0.7*	31	n.a.	—	28	47	0.6*
Total(d)	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**100**	**. .**	**100**	**n.a.**	**. .**	**100**	**100**	**. .**

* Represents statistically significant differences in the Indigenous/ non-Indigenous comparisons.

(a) The National Health Survey did not collect data in Very Remote Australia.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Estimate is subject to sampling variability too high for most practical purposes.

(d) Includes smoker status not known.

Note: Data are directly age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Smoking status over time

- The proportion of Indigenous adults who reported they were current smokers was similar in 2001 and 2004–05 (51% and 48%) (Table 2.18.13).
- The rate ratios of Indigenous to non-Indigenous smokers, ex-smokers and non-smokers were also similar in 2001 and 2004–05 (Table 2.18.13).
- Data on the smoking status of Indigenous Australians were collected in the 1995 National Health Survey, but they are available for non-remote areas only. The proportion of Indigenous adults in non-remote areas who reported they were current daily smokers was similar in 1995, 2001 and 2004–05 (50%, 48% and 49% respectively) (ABS 2006).

Table 2.18.13: Smoker status, by Indigenous status, persons aged 18 years and over, 2001 and 2004–05

	2001			2004–05		
	Indigenous	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**
			Per cent			
Current smoker	51	24	2.1*	48	23	2.1*
Daily	49	22	2.2*	46	21	2.2*
Other	2[(a)]	2	1.2	2	2	1.0
Ex-smoker	21	26	0.8*	24	30	0.8*
Never smoked	28	50	0.6*	28	47	0.6*
Not known	—	—	—	—	—	—
Total	**100**	**100**	. .	**100**	**100**	. .

* Represents statistically significant differences in the Indigenous/non-Indigenous comparisons.

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

Note: Data are directly age-standardised.

Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement), 2004–05 NATSIHS and 2004–05 NHS.

Smoking status by selected population and health characteristics

- 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 2.18.14).
- 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 2.18.14).
- 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 2.18.14).
- 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 2.18.14).
- 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 2.18.14).

Table 2.18.14: 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 2.18.14 (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 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 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).

Smoking data

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.

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).

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.

ABS & AIHW (Australian Institute of Health and Welfare) 2005.Recent developments in the collection of Indigenous health and welfare statistics 2005. ABS cat.no. 4704.0, AIHW Cat. no. IHW 14. Canberra: ABS and AIHW.

List of tables

2.19 Tobacco smoking during pregnancy

The proportion of Indigenous mothers who smoked during pregnancy

Data sources

Data for this measure mainly come from the AIHW National Perinatal Data Collection.

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 2013.

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 Perinatal Data Collection

Data for this measure come from the Australian Institute of Health and Welfare (AIHW) National Perinatal Epidemiology and Statistics Unit National Perinatal Data Collection (NPDC).

Data on birthweight is collected as part of the Perinatal National Minimum Data Set. 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. Some of these data are provided in electronic format annually to the AIHW National Perinatal Epidemiology and Statistics Unit. Perinatal notification forms are completed in Australia for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more.

All jurisdictions collect the Indigenous status of the mother of the baby. However, this data element does not provide the Indigenous status of the baby. Therefore, Indigenous births will be underestimated as babies born to Indigenous fathers and non-Indigenous mothers are not included in the data collection. Over the period 2005–2007 there were approximately 11,100 ABS registered births to Indigenous fathers only, which represented 31% of registered Indigenous births (ABS 2006, 2007, 2008).

Earlier years data are not available for Tasmania, as the 'not stated' category for Indigenous status was unable to be distinguished from the 'non-Indigenous' until 2005.

Data on mothers for whom Indigenous status was 'not stated' have been excluded from analysis. In 2007, there were 282 births with a 'not stated' Indigenous status (0.1%) in the NPDC.

The World Health Organization (WHO) defines low birthweight as less than 2,500 grams.

Table 2.19.1: Current smoking questions and data domains on perinatal forms, by state and territory

	NSW	Vic	Qld(a)	WA	SA	Tas(a)	ACT	NT
Question 1	Did the mother smoke at all during pregnancy?	n.a.	Did the mother smoke at all during this pregnancy?	Smoking during pregnancy	Tobacco smoking status at first visit	During this pregnancy has the mother smoked tobacco	Did mother smoke during pregnancy?	Smoking at first antenatal visit
Data domain	Yes/no	—	Yes/no	Yes/no	Smoker Quit in pregnancy before first visit Non-smoker Unknown smoking status	Yes/no	Yes/no	Yes/no /unknown
Question 2	If yes, how many cigarettes each day on average in the second half of pregnancy?	—	If yes, how many cigarettes were smoked each day on average after 20 weeks gestation?	—	Average number of tobacco cigarettes smoked per day in second half of pregnancy	If yes, amount of tobacco smoked	Average number of cigarettes per day during the second half of pregnancy	Smoking at 36 weeks
Data domain	None ≤ 10 per day > 10 per day Unknown	—	None ≤ 10 per day > 10 per day Unknown	—	None No. per day = ……….. < 1 (occasional) Unknown no.	< 10 cigarettes per day > 10 cigarettes per day	NN (numeric field)	Yes/no /unknown

(a) For Tasmania and Queensland, questions on smoking have been collected since 1 January 2005 and 1 July 2005 respectively.

Note: For Victoria, data on smoking in pregnancy are not currently collected as part of the perinatal collection. Victoria currently uses other mechanisms to monitor smoking in pregnancy.

Source: AIHW: Laws et al 2006.

Given the different questions currently asked in the seven jurisdictions (see Table 2.19.1), comparisons between states and territories should be interpreted with caution (AIHW: Leeds et al. 2007).

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

Data analyses

Proportions have been directly age-standardised to account for differences in the age structure of the Indigenous and non-Indigenous female populations who give birth.

Smoking during pregnancy

- Approximately 3.5% of mothers in New South Wales, Queensland, Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory identified as Aboriginal or Torres Strait Islander in 2007. Approximately 5,273 Indigenous mothers in these jurisdictions reported they smoked during pregnancy, 4,682 reported they did not and for 234 Indigenous mothers smoking status was not known.
- When the effect of age was controlled for, Aboriginal and Torres Strait Islander mothers in the seven jurisdictions smoked during pregnancy at around three times the rate of non-Indigenous mothers in these jurisdictions (52% compared with 15%) (Laws & Sullivan 2009).

Smoking during pregnancy by state/territory

The number and proportion of mothers who smoked during pregnancy are presented by Indigenous status and state/territory for 2007 in Table 2.19.2 and Figure 2.19.1.

- Aboriginal and Torres Strait Islander mothers in New South Wales and Western Australia smoked during pregnancy at around four times the rate of non-Indigenous mothers. In Queensland, South Australia, the Australian Capital Territory and the Northern Territory they smoked at around three times the rate.

Table 2.19.2: Tobacco smoking status of mothers during pregnancy, by Indigenous status, NSW, Qld, WA, SA, Tas, ACT and NT, 2007(a)(b)

Smoking status	NSW	Qld	WA	SA(c)	Tas	ACT	NT(d)	Total
				Number				
Indigenous								
Smoked	1,446	1,676	938	369	131	46	667	5,273
Did not smoke	1,432	1,478	814	198	99	41	620	4,682
Not stated	9	16	n.p.	11	n.p.	n.p.	197	234
Total	**2,887**	**3,170**	**1,752**	**578**	**231**	**87**	**1,484**	**10,189**
Non-Indigenous								
Smoked	10,586	10,008	3,947	3,669	1,607	646	358	30,821
Did not smoke	80,529	45,779	23,931	14,957	4,321	4,678	1,809	176,004
Not stated	391	231	n.p.	263	57	n.p.	102	1,044
Total	**91,506**	**56,018**	**27,878**	**18,889**	**5,985**	**5,324**	**2,269**	**207,869**
				Proportion(e)				
Indigenous								
Smoked	48.4	51.6	54.0	62.1	51.0	44.8	43.9	50.5
Did not smoke	51.2	47.8	46.0	35.9	48.3	55.2	43.3	47.4
Total(f)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Non-Indigenous								
Smoked	12.0	17.2	14.0	19.3	24.5	13.6	15.5	14.8
Did not smoke	87.5	82.3	86.0	79.3	74.5	86.4	80.0	84.7
Total(f)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
				Ratio(g)				
Smoked	4.0	3.0	3.8	3.2	2.1	3.3	2.8	3.4
Did not smoke	0.6	0.6	0.5	0.5	0.6	0.6	0.5	0.6

(a) Excludes births where the mother's Indigenous status was not stated.

(b) State-level data are based on place where birth occurred, not place of usual residence. Cross-border issues need to be considered here; for example, a high proportion of births in ACT hospitals are for mothers resident in New South Wales.

(c) For SA, 'Smoked' includes women who quit before the first antenatal visit.

(d) For NT, smoking status was recorded at the first antenatal visit.

(e) Proportions are directly age-standardised using the Australian female population aged 15–44 years who gave birth in 2007.

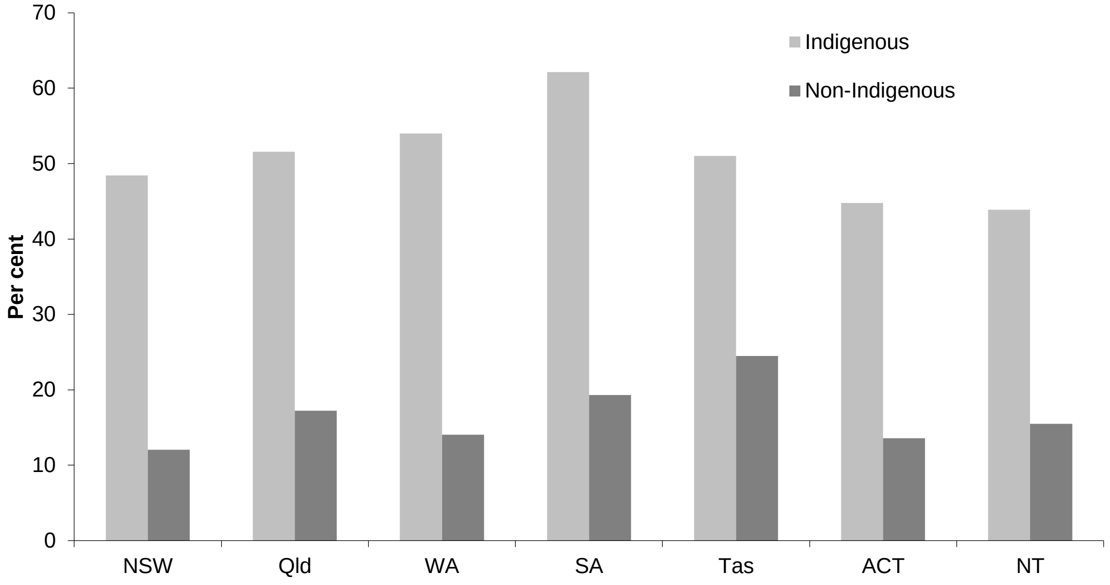
(f) Includes mothers for whom smoking status was not stated.

(g) Rate ratio is the rate for Indigenous mothers divided by the rate for non-Indigenous mothers.

Notes:

1. Data not available for Victoria.
2. Because of differences in definitions and methods used for data collection, care must be taken when comparing across jurisdictions. The mother's tobacco smoking status during pregnancy is self-reported.

Source: AIHW analysis of National Perinatal Statistics Unit (NPSU) National Perinatal Data Collection.



Source: AIHW analysis of National Perinatal Statistics Unit (NPSU) National Perinatal Data Collection.

Figure 2.19.1: Proportion of mothers who smoked during pregnancy, by Indigenous status and selected states/territories, 2007

Smoking during pregnancy by maternal characteristics

- For all remoteness categories in 2007, the proportion of Indigenous mothers who smoked during pregnancy was greater than the proportion of non-Indigenous mothers who smoked during pregnancy (Table 2.19.3). The proportion of Indigenous mothers who smoked during pregnancy ranged from 49% in *Major cities* to 56% in *Outer regional* areas. The proportions for non-Indigenous mothers ranged from 13% in *Major cities* to 21% in *Outer regional* areas.
- Indigenous mothers in *Major cities* were almost four times as likely as non-Indigenous mothers to smoke during pregnancy. In *Inner regional*, *Outer regional*, *Remote* and *Very remote* areas Indigenous mothers were around three times as likely to smoke during pregnancy as non-Indigenous mothers (Table 2.19.3).
- The rate of smoking by Indigenous mothers tended to decrease with age. Those aged less than 20 years were most likely to smoke during pregnancy (54%), followed by those aged 20-24 (53%). The lowest percentage was for those aged 40 years and over (48%) (Table 2.19.3). For non-Indigenous mothers there was a more obvious difference in smoking rates by age group with 38% of those under 20 years smoking compared with 11% of those aged 40 years and over.
- Indigenous mothers aged 30 years and over were around five times as likely as their non-Indigenous counterparts to smoke during pregnancy. Those aged 25–29 years were around three times as likely, and those aged 20–24 years were twice as likely to do so as their non-Indigenous counterparts (Table 2.19.3).

Table 2.19.3: Smoking during pregnancy by Indigenous status and maternal characteristics, NSW, Qld, WA, SA, Tas, ACT and NT, 2007

	Indigenous proportion (per cent)		Non-Indigenous proportion (per cent)		Rate ratio[(a)]
	Smoked	Did not smoke	Smoked	Did not smoke	Smoked
Remoteness[(b)]					
Major cities	49.3	50.7	12.6	87.4	3.9
Inner regional	54.2	45.8	20.3	79.7	2.7
Outer regional	56.0	44.0	20.6	79.4	2.7
Remote	52.6	47.4	18.7	81.3	2.8
Very remote	54.9	45.1	16.3	83.7	3.4
Total[(c)]	**50.5**	**47.4**	**14.8**	**84.7**	**3.4**
Age of mother					
<20	53.6	44.0	37.9	61.4	1.4
20-24	52.9	44.8	27.0	72.5	2.0
25-29	50.9	46.3	14.9	84.6	3.4
30-34	49.5	48.5	9.8	89.7	5.0
35-39	49.6	49.2	9.6	89.9	5.2
40+	47.9	49.6	10.5	89.1	4.6
Total	**51.8**	**46.0**	**14.8**	**84.7**	**3.5**
Total ASR[(b)]	**50.5**	**47.4**	**14.8**	**84.7**	**3.4**

(a) Rate ratio: proportion for Indigenous divided by proportion for non-Indigenous.

(b) Age standardised data based on directly age standardised proportions using the population of women aged 15–44 years who gave birth in all states as the standard

(c) Total includes non-resident mothers.

Note: Excludes Victoria.

Source: AIHW analysis of National Perinatal Statistics Unit (NPSU) National Perinatal Data Collection.

Smoking during pregnancy by baby outcomes

- In 2007, 16% 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 (Table 2.19.4). Babies born to Indigenous mothers had higher rates of low birthweight overall compared with babies born to non-Indigenous mothers. These findings suggest that smoking is only one of the many factors influencing low birthweight.
- A higher proportion of babies born to Indigenous mothers who smoked during pregnancy were born pre-term than babies born to Indigenous mothers who did not smoke during pregnancy (15% compared with 11%).
- A similar proportion of babies born to Indigenous mothers who smoked during pregnancy and babies born to Indigenous mothers who did not smoke during pregnancy had an Apgar score of less than 7 at 5 minutes after birth (2.3% and 2.3%).
- The perinatal death rate for babies born to Indigenous mothers who smoked during pregnancy was 21 per 1,000 births. This was higher than the rate of 18 per 1,000 births for babies born to Indigenous mothers who did not smoke during pregnancy.

Table 2.19.4: Smoking during pregnancy by Indigenous status and baby outcomes, NSW, Qld, WA, SA, Tas, ACT and NT, 2007

	Indigenous no.		Indigenous proportion		Non-Indigenous no.		Non-Indigenous proportion		Ratio
	Smoked	Did not smoke	Smoked	Did not smoke	Smoked	Did not smoke	Smoked	Did not smoke	Smoked
Pre-term birth	821	527	15.4	11.1	3,253	12,936	10.4	7.2	1.5*
Low birthweight(a)	844	386	16.0	8.2	3 ,087	8,858	10.0	5.0	1.6*
Apgar score(a)									
0–3	34	33	0.6	0.7	125	459	0.4	0.3	1.6*
4–6	92	76	1.7	1.6	364	1,707	1.2	1.0	1.5*
7+	5,125	4,567	97.2	97.5	30,403	175,312	98.1	98.6	1.0
Perinatal deaths per 1,000 births	111	83	20.8	17.5	363	1,437	11.6	8.0	1.8*

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

(a) Live births only.

Note: Excludes Victoria.

Source: AIHW analysis of National Perinatal Statistics Unit (NPSU) National Perinatal Data Collection.

Smoking during pregnancy by average number of cigarettes smoked per day

Data on the average number of cigarettes smoked per day during the second half of pregnancy is available from New South Wales, Queensland, South Australia, Tasmania and the Australian Capital Territory for 2007 and is presented in Table 2.19.5.

- Of Indigenous mothers who reported smoking during pregnancy in the five jurisdictions combined, almost half (43%) smoked an average of more than 10 cigarettes per day.
- In Tasmania, 55% of Indigenous mothers who smoked during pregnancy smoked an average of more than 10 cigarettes per day. In New South Wales, 47% smoked an average of more than 10 cigarettes per day.

Table 2.19.5: Indigenous mothers who smoked during pregnancy, by average number of cigarettes per day during second half of pregnancy, by state/territory, 2007

Average number of cigarettes smoked per day	NSW	Qld	SA[(a)]	Tas[(b)]	ACT	Total[(c)]
			Number			
None	45	91	37	n.p.	n.p.	173
10 or less	634	774	226	59	20	1,713
More than 10	684	744	82	72	11	1,593
Not stated	83	67	24	n.p.	15	189
Total	**1,446**	**1,676**	**369**	**131**	**46**	**3,668**
			Proportion			
None	3.1	5.4	10.0	—	—	4.7
10 or less	43.8	46.2	61.2	45.0	43.5	46.7
More than 10	47.3	44.4	22.2	55.0	23.9	43.4
Not stated	5.7	4.0	6.5	—	32.6	5.2
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(a) For South Australia, 'Smoked' includes women who quit before the first antenatal visit.

(b) For Tasmania, smoking data includes all of pregnancy, not just the second half of pregnancy.

(c) Total includes New South Wales, Queensland, South Australia, Tasmania and the Australian Capital Territory.

Note: Because of differences in definitions and methods used for data collection, care must be taken when comparing across jurisdictions. The mother's tobacco smoking status during pregnancy is self-reported.

Source: AIHW analysis of NPSU National Perinatal Data Collection.

Tobacco use during pregnancy

Data on tobacco use during pregnancy by the mothers of Indigenous children are available from the 2008 NATSISS. These are presented in Table 2.19.6.

- In 2008, 58% of the mothers of Indigenous children did not smoke or chew tobacco during pregnancy. Approximately 3% used more tobacco during pregnancy, 15% used about the same and 24% used less (Table 2.19.6).

Table 2.19.6: Tobacco use by child's mother during pregnancy [(a)], Indigenous children aged 0-3 years, 2008

	No.	Per cent
Did smoke/chew tobacco during pregnancy:		
used more during pregnancy	1,160	2.7
used about the same during pregnancy	6,567	15.4
used less during pregnancy	10,264	24.0
Did not smoke/chew tobacco during pregnancy	24,781	57.9
Total(b)	**42,771**	**100.0**
Not collected	11,109	20.6
Total number	**53,880**	. .

(a) Children aged 0-3 years.

(b) Excludes not stated/not collected.

Source: AIHW analyses of 2008 NATSISS.

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.

The state/territory of birth is provided for all births. Tabulated data in this report are based on births in each state and territory in 2007 meeting the criteria for inclusion in the NPDC. Each state and territory has its own form and/or electronic system for collecting perinatal data. Unless otherwise stated, the data in this report relate to the state or territory of occurrence of births in 2007 rather than to the state or territory of usual residence of the mother. The Australian Capital Territory data contain a relatively high proportion of New South Wales residents who gave birth in the Australian Capital Territory. There are a small number of Aboriginal and Torres Strait Islander mothers who give birth in the Australian Capital Territory, and the proportion fluctuates from year to year, making this jurisdiction less comparable to other jurisdictions. In 2007, 24.1% of Aboriginal or Torres Strait Islander women who gave birth in the Australian Capital Territory were not Australian Capital Territory residents. When interpreting the data it is important to note that these births to non-residents may include a disproportionate number of high risk and multi-fetal pregnancies associated with poorer perinatal outcomes. Therefore, percentages or rates such as those for preterm birth and perinatal deaths may be inflated for births that occur in the Australian Capital Territory. Because of this and the small numbers involved, care should be taken in interpreting data from the Australian Capital Territory (Laws et al. 2007).

The Perinatal NMDS does not include neonatal or perinatal death data items of information on cause of death. However, this information is collected as part of the NPDC. The data are incomplete. In some jurisdictions, neonatal deaths for babies transferred to another hospital or readmitted to hospital and those dying at home may not be included. Neonatal deaths for the Northern Territory are considered to be incomplete for 2007 as data do not include deaths occurring outside of the Northern Territory. Due to small number of deaths, interpretation can be limited as to whether differences in mortality rates are due to statistical fluctuations or differential ascertainment.

Indigenous status question

A standard data item for Indigenous status is specified in the Perinatal National Minimum Data Set. However, not all states and territories use this standard wording for the Indigenous status question on their forms. This affects the quality and comparability of the data collected (ABS & AIHW 2003).

Under-identification

All states and territories have a data item to record Indigenous status on their perinatal form, although there are some differences among the jurisdictions. This separately identifies mothers as those of Aboriginal and Torres Strait Islander origin, and non-Indigenous mothers. No information is collected about the father's or baby's Indigenous status.

Since 2005, all jurisdictions collect information on Indigenous status of the mothers in accordance with the NMDS. All jurisdictions are working towards improving the ascertainment of Indigenous status in their perinatal collection. 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 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 the Indigenous status data. 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. The 'not stated' category for birthweight was found to be small nationally in the evaluation of the Perinatal National Minimum Data Set (Laws & Sullivan 2009). Therefore, the exclusion of 'not stated for birthweight will not have a significant impact on these data.

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.

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).

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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2.20 Risky and high-risk alcohol consumption

The proportion of Aboriginal and Torres Strait Islander peoples who consume alcohol at risky or high-risk levels

Data sources

Data for this measure come from the National Aboriginal and Torres Strait Islander Health Survey, the National Hospital Morbidity Database, the National Mortality Database, the 2008 NATSISS and the Bettering the Evaluation and Care of Health 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 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 2013.

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.

Bettering the Evaluation and Care of Health survey

Information about encounters in general practice is available from the Bettering the Evaluation and Care of Health (BEACH) survey, which the Australian Institute of Health and Welfare (AIHW) Australian General Practice Statistics and Classification Unit conducts. 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. A more detailed explanation of the BEACH methods can be found in *General practice activity in Australia 2008–09,* (Britt et al. 2009).

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). Further detailed analyses of this issue are covered in *General practice in Australia, heath priorities and policies 1998–2008,* (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.'

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.3% of total GP encounters in the survey.

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. State and territory health departments provide information annually on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the AIHW.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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 AIHW maintains the database. The Registrars of Births, Deaths and Marriages provide information on the characteristics and causes of death of the deceased and the Australian Bureau of Statistics (ABS) codes this nationally. The medical practitioner certifying the death, or a coroner, supplies information on the cause of death. 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 funeral director does not always ask the Indigenous status question of relatives and friends of the deceased. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2010).

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

Additional revised 2007 and preliminary 2008 mortality data for this indicator was supplied by the ABS from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010a).

Data have been combined for the 5-year period 2004–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

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.

Self-reported alcohol consumption and risk levels

The 2004–05 NATSIHS collected information on alcohol consumption and risk level of Aboriginal and Torres Strait Islander peoples.

- 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.

- Overall, approximately 17% of Indigenous adults reported drinking at long-term risky/high-risk levels. Of those who consumed alcohol in the week before the survey, around one-third (34%) reported drinking at long-term risky/high-risk levels.
- Approximately 55% 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.
- 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. Overall, Indigenous and non-Indigenous Australians were equally as likely to drink at long-term risky/high-risk levels in the week before the survey (15% and 14% respectively); however, of those who drank, Indigenous adults were around 1.5 times as likely as non-Indigenous adults to drink at long-term risky/high-risk levels. Indigenous adults were twice as likely as non-Indigenous Australians to have abstained from alcohol consumption in the previous 12 months.

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 2.20.1).
- 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, although the levels are close for the age group 18–24 years.
- 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 2.20.1: 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.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Rate ratio**
	Per cent														
Abstainers[(b)]	16*	12*	18*	12*	22*	12*	31*	15*	46*	22*	24*	15*	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*	39*	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*	8*	17	8	2.1*
Long-term risk[(f)]															
Low	33*	47*	36*	51*	34*	52*	31*	50*	21*	47*	32*	49*	30	49	0.6*
Risky or high-risk	16	14	17*	13*	20*	15*	17	16	10	12	17*	14*	15	14	1.1
Total long-term risk[(g)]	*50**	*61**	*53**	*64**	*54**	*66**	*48**	*66**	*32**	*58**	*49**	*63**	*46*	*63*	*0.7**
Total[(h)(i)]	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**. .**
Total number ('000)	**56.7**	**1,857.1**	**69.8**	**2,761.4**	**59.1**	**2,899.6**	**39.6**	**2,705.6**	**33.2**	**4,529.7**	**258.3**	**14,753.3**	**258.3**	**14,753.3**	**. .**

(continued)

Table 2.20.1 (continued): Alcohol risk levels[(a)], by Indigenous status and age, persons aged 18 years and over, 2004–05

* Represents results with statistically significant differences 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 2.20.2).
- 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 2.20.2: 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.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Ratio
	%	%	%	%	%	%		%	%	
Abstainers(b)	17*	11*	30*	20*	22*	10	2.1*	35	20	1.8*
Short-term risk(c)										
Drank at risky/high-risk levels in last 12 months(d)	64*	48*	46*	30*	56	48	1.2*	40	31	1.3*
Drank at risky/high-risk levels at least once a week(e)	24*	12*	15*	4*	21	12	1.8*	14	5	3.0*
Long-term risk(f)										
Low	38*	56*	27*	43*	36	50	0.7*	24	43	0.6*
Risky or high-risk	20*	15*	14	12	18	15	1.2*	13	12	1.1
Total long-term risk(g)	*58**	*71**	*41**	*55**	*55*	*71*	*0.8**	*38*	*55*	*0.7**
Total(h)(i)	**100**	**100**	**100**	**100**	**100**	**100**	**. .**	**100**	**100**	**. .**
Total number	**120,479**	**7,257,683**	**137,818**	**7,495,573**	**120,479**	**7,257,683**	**. .**	**137,818**	**7,495,573**	**. .**

* Represents results with statistically significant differences 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 2.20.3a).
- 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 2.20.3b).

Table 2.20.3a: 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 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 2.20.3b: 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								
Abstainers(c)	23*	17*	19	16	28*	13*	30*	14*	34*	13*	14	11	11(g)	11	51	n.a.
Short-term risk(d)																
Drank at risky/high-risk levels in last 12 months(e)	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(f)	17*	7*	17*	7*	16*	9*	18*	8*	22*	10*	13	10	15*(g)	6*	15	n.a.
Long-term risk(h)																
Drank at risky/high-risk levels in last week	17	13	17(h)	12	18	14	16	15	16	16	13	12	9(g)	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 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) 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.

(e) Persons who consumed alcohol at specified risky/high-risk levels in the short-term on at least one occasion in the previous 12 months.

(f) Persons who consumed alcohol at specified risky/high-risk levels in the short-term at least once a week in the previous 12 months.

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

(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%) (Table 2.20.4). 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 2.20.4: 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 2.20.5).
- 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 2.20.6).
- 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 2.20.6).

Table 2.20.5: 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 2.20.6: 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.

Hospitalisations

Table 2.20.7 presents hospitalisations of Indigenous and other 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 2006 to June 2008.

- There were 7,354 hospitalisations of Indigenous Australians in the six jurisdictions combined with a principal diagnosis related to alcohol use. This represented approximately 1.4% of all hospitalisations of Indigenous Australians in these jurisdictions.
- Indigenous males were hospitalised for diagnoses related to alcohol use at five times the rate of other males, and Indigenous females were hospitalised for alcohol-related conditions at three times the rate of other females.
- Over three-quarters (82%) 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 (6,015 hospitalisations). The most common type of mental and behavioural disorder due to alcohol use was acute intoxication, for which Indigenous Australians were hospitalised at seven times the rate of other Australians. Indigenous Australians were hospitalised at 8 times the rate of other Australians for mental and behavioural disorders due to withdrawal state and 17 times the rate of other Australians for psychotic disorder.
- Indigenous Australians were hospitalised for alcoholic liver disease at five times the rate of other Australians and for accidental poisoning by alcohol at two times the rate of other Australians.

Table 2.20.7: Hospitalisations for principal diagnoses related to alcohol use, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008(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.**	**Other(f)**	**Indig.**	**Other(f)**	**Ratio(g)**	**Indig.**	**Other(f)**	**Indig.**	**Other(f)**	**Ratio(g)**	**Indig.**	**Other(f)**	**Indig.**	**Other(f)**	**Ratio(g)**
Mental & behavioural disorders due to alcohol use (F10)															
Acute intoxication (F10.0)	1,738	12,157	4.6	0.6	7.5*	1,213	7,388	2.8	0.4	7.3*	2,951	19,545	3.6	0.5	7.4*
Dependence syndrome (F10.2)	962	23,030	2.6	1.1	2.3*	491	19,955	1.2	1.0	1.3*	1,453	42,985	1.9	1.1	1.8*
Withdrawal state (F10.3, F10.4)	872	5,049	2.4	0.3	9.4*	226	2,030	0.5	0.1	5.3*	1,098	7,079	1.4	0.2	8.1*
Psychotic disorder (F10.5)	129	385	0.3	—	16.2*	45	105	0.1	—	19.5*	174	490	0.2	—	16.6*
Harmful use (F10.1)	164	1,457	0.4	0.1	5.8*	89	1,049	0.2	0.1	3.8*	253	2,506	0.3	0.1	4.9*
Other(h) (F10.6– F10.9)	59	853	0.2	—	4.9*	27	210	0.1	—	7.5*	86	1,063	0.1	—	5.3*
Total F10 categories	*3,924*	*42,931*	*10.6*	*2.1*	*4.9**	*2,091*	*30,737*	*4.9*	*1.5*	*3.2**	*6,015*	*73,668*	*7.6*	*1.8*	*4.2**
Alcoholic liver disease (K70)	460	3,864	1.4	0.2	7.5*	324	1,166	0.9	0.1	15.9*	784	10,088	1.1	0.2	4.7*
Intentional self-poisoning by alcohol (X65)	132	3,550	0.3	0.2	1.7*	233	5,312	0.5	0.3	1.9*	365	8,862	0.4	0.2	1.9*
Accidental poisoning by alcohol (X45)	69	1,002	0.2	0.1	3.1*	35	954	0.1	—	1.7*	104	1,956	0.1	—	2.4*
Poisoning by alcohol undetermined intent (Y15)	45	867	0.1	—	2.1*	41	973	0.1	—	1.8*	86	1,840	0.1	—	2.0*
Total	**4,630**	**52,214**	**12.5**	**2.6**	**4.8***	**2,724**	**39,142**	**6.5**	**1.9**	**3.3***	**7,354**	**96,414**	**9.4**	**2.4**	**3.9***

(continued)

Table 2.20.7 (continued): Hospitalisations for principal diagnoses related to alcohol use, NSW, Vic, Qld, WA, SA and NT, July 2004 to June 2006[(a)(b)(c)(d)]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

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

(b) Categories are based on ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) Includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio Indigenous:other.

(h) Includes amnesic syndrome, residual or late onset psychotic disorder, other and unspecified mental and behavioural disorders due to alcohol use.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for hospitalisations with a primary diagnosis related to alcohol abuse in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by Australian Standard Geographical Classification (ASGC) in Table 2.20.8, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for these conditions than other Australians. The ratio of hospitalisations of Indigenous people compared to other 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 16 per 1,000. The rate was highest for other Australians who lived in *Major cities*, at 2.5 per 1,000. The lowest rates were observed in *Very remote* areas for Indigenous people (7.4 per 1,000) and *Inner regional, Outer regional and Remote* areas for other Australians (all 1.8 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 8.7 times that of other 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 other Australians. Nationally, the rate was 4.2 times.

Table 2.20.8: Hospitalisations with a principal diagnosis related to alcohol abuse, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other[(g)]				
	Number	**No. per 1,000[(h)]**	**LCL 95%[(i)]**	**UCL 95%[(j)]**	**Number**	**No. per 1,000[(h)]**	**LCL 95%[(i)]**	**UCL 95%[(j)]**	**Ratio[(k)]**
Major cities	2,115	8.9	8.5	9.3	71,051	2.5	2.5	2.6	3.5*
Inner regional	1,351	8.8	8.3	9.3	12,995	1.8	1.7	1.8	5.0*
Outer regional[(l)]	1,700	10.5	10.0	11.1	6,422	1.8	1.8	1.9	5.7*
Remote	1,179	15.6	14.7	16.6	911	1.8	1.7	1.9	8.7*
Very remote	946	7.4	6.6	8.2	305	2.0	1.9	2.0	3.7*
Missing	144	. .	. .	. .	1,015	. .	. .	. .	. .
Total[(m)]	**7,435**	**9.8**	**9.6**	**10.1**	**92,699**	**2.3**	**2.3**	**2.3**	**4.2***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

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.

Mortality

Table 2.20.9 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 2004–2008.

- In New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, there were 395 deaths of Indigenous Australians related to alcohol use (Table 2.20.9). This represented approximately 3.6% of total deaths of Indigenous Australians in these states and territories.
- Of all deaths related to alcohol use among Indigenous people, the majority were for alcoholic liver disease (274 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 9 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, and from alcoholic liver disease and poisoning by alcohol at 6 times the rate.

Table 2.20.9: Deaths related to alcohol use, NSW, Qld, WA, SA and NT, 2004–2008(a)(b)(c)(d)(e)(f)(g)

	Males					Females					Persons				
	Number		No. per 100,000(h)			Number		No. per 100,000(h)			Number		No. per 100,000(h)		
Principal diagnosis	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio(i)**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio(i)**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio(i)**
Alcoholic liver disease (K70)	175	1,794	24.8	4.8	5.2	99	555	13.3	1.4	9.2	274	2,349	18.9	3.1	6.1
Mental & behavioural disorders due to alcohol use (F10)	63	667	11.4	1.9	6.1	32	174	4.4	0.4	10.1	95	841	7.5	1.1	6.8
Poisoning by alcohol (X45, X65, Y15)	18	119	1.9	0.3	5.9	8	47	0.9	0.1	7	26	166	1.4	0.2	6.1
Total	**256**	**2,580**	**38.1**	**7**	**5.4**	**139**	**776**	**18.6**	**2**	**9.3**	**395**	**3,356**	**27.8**	**4.4**	**6.3**

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

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

(b) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These five jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

(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.

(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 2007 have been revised and are subject to further revisions. See Causes of death, Australia, 2008 (ABS 2010) Technical Note 2: Revisions Process for further information.

(f) 2008 data have been subject to a process improvement which has increased the quality of these data. See Causes of death, Australia, 2008 (ABS 2010) Technical Note 1: 2008 COD Collection - Process Improvement for further information.

(g) Excludes 59 deaths for which Indigenous status was not stated.

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

(i) Rate ratio Indigenous: non-Indigenous.

Note: Different causes of death may have different levels of completeness of identification of Indigenous deaths that differ from the all-cause under-identification (coverage) estimates.

Source: ABS and AIHW analysis of ABS Mortality Database

Alcohol consumption during pregnancy

Information about alcohol consumption during pregnancy is available from the 2008 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 2.20.10).
- The proportion of these 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 these 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 2.20.10).

Table 2.20.10: 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.

General practitioner encounters

Information about GP encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey.

- In the five years of BEACH reporting between April 2004–March 2005 to April 2008–March 2009 there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 9,305 problems were managed. Of these, 0.8% (74) were problems related to alcohol abuse (Table 1.16.23).
- After adjusting for differences in the age distribution of Indigenous patients, alcohol abuse was managed at GP encounters with Indigenous patients at around three times the management rate at encounters with other patients.

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).

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. Based on an analysis of a sample of data conducted in 2010, an estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08 (AIHW 2010). In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data in all states and territories. Results from this assessment indicate that all hospitals in New South Wales, Victoria, Queensland, Western Australia and South Australia and public hospitals in the Northern Territory have adequate Indigenous identification (80% or higher overall levels of Indigenous identification in public hospitals only) in their separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also 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.
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.
- Bias may have been introduced due to the sampling method of hospitals used in the study. Hospitals with high proportions of Indigenous separations were used in the study to ensure sufficient numbers of Indigenous people were included. Proportions of Indigenous separations should therefore not be taken to represent the NHMD overall.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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 2009c).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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 under-estimates 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 & 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%, and 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).

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.

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. 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 under-counts the number of Indigenous Australians visiting general practitioners, but the extent of this under-count is not measurable.

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. 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 2010b).

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

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

2.21 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 2004–05 National Aboriginal and Torres Strait Islander Health Survey, the 2008 National Aboriginal and Torres Strait Islander Social Survey, the 2004 National Drug Strategy Household 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 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics 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 6 years with the next survey planned for 2013.

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. State and territory health departments provide information annually on the characteristics, diagnoses and care of admitted patients in public and private hospitals to the Australian Institute of Health and Welfare.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

Drug Use Monitoring in Australia (DUMA) survey

DUMA is an annual survey which has been conducted by the Australian Institute of Criminology (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 2.21.1).
- In 2008, 43% of Indigenous persons aged 15 years and over reported illicit substance use at least once in their lifetime (Table 2.21.2).

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 2.21.1).
- 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 2.21.2).

Table 2.21.1: 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 2.21.2: 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.

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 2.21.3).

Table 2.21.3: Illicit drug or substance use, by remoteness, Indigenous persons aged 15 years and over, 2008

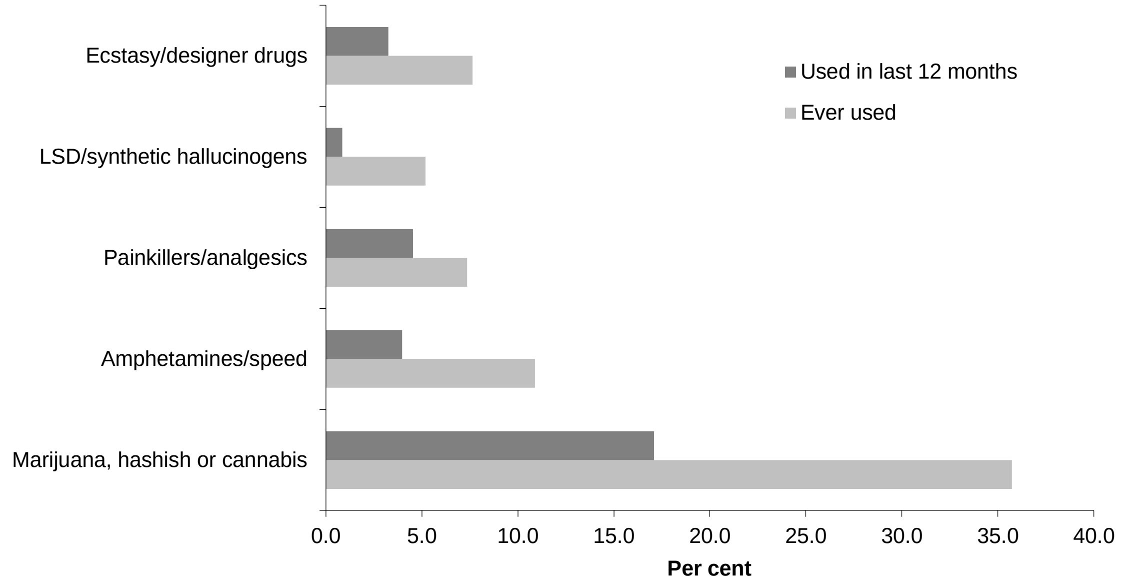
	Remote		Non-Remote		Persons	
	Number	**Per cent**	**Number**	**Per cent**	**Number**	**Per cent**
Has ever used substances						
Marijuana, hashish or cannabis resin	19,283	26.1	87,002	39.2	106,285	35.9
Amphetamines or speed	2,317	3.1	30,051	13.5	32,368	10.9
Ecstasy or designer drugs	1,916	2.6	20,788	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%) (Figure 2.21.1; Table 2.21.4).



Source: AIHW analysis of 2008 NATSISS.

Figure 2.21.1: Illicit substance use, Indigenous persons aged 15 years and over, 2008

Table 2.21.4: 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 from 40% to 43% between 2002 and 2008 (Table 2.21.5).
- 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 (5.4%) was similar to that reported in 2002 (4.9%).

Table 2.21.5: 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

- 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 2.21.6a).
- 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 2.21.6a).

Table 2.21.6a: Substance use status, by selected health and population characteristics, 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 2.21.6a (continued): Substance use status, by selected health and population characteristics, 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 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 2.21.6b: Substance use status, by selected health and population characteristics, persons aged 15 years and over[(a)(b)], 2008

	Never used illicit substances	Ever used substances[(a)(h)]	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 2.21.6b (continued): Substance use status, by selected health and population characteristics, persons aged 15 years and over[(a)(b)], 2008

	Never used illicit substances	Ever used substances[(a)(h)]	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 2.21.7).

Table 2.21.7: 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.

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 2008 survey are presented in Table 2.21.8.

- In all but one of the selected police stations shown in Table 2.14.8 there was a higher proportion of Indigenous detainees testing positive to drugs than non-Indigenous detainees.
- Between 65% 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 49% and 78% 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 8% and 100% of Indigenous detainees and between 14% and 46% of non-Indigenous detainees tested positive for multiple drugs.

Table 2.21.8: Detainees at selected police stations, by drug use and Indigenous status, 2008

	Adelaide + Elizabeth (SA)		**Bankstown + Parramatta (NSW)**		**Brisbane + Southport (Qld)**		**East Perth (WA)**		**Darwin (NT)**		**Footscray/ Sunshine (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	44.0	25.6	20.6	15.0	26.4	22.5	12.5	21.8	10.1	n.p.	n.p.	36.1
Cannabis	74.0	45.7	61.8	37.3	68.9	44.3	65.8	51.7	61.5	70.3	n.p.	40.1
Cocaine	n.p.	n.p.	n.p.	3.3	n.p.	1.2	n.p.	n.p.	n.p.	n.p.	n.p.	6.1
Heroin	n.p.	n.p.	n.p.	7.4	n.p.	10.7	n.p.	n.p.	n.p.	n.p.	n.p.	47.6
Methamphetamine	18.0	27.0	n.p.	8.5	16.2	18.0	28.3	35.8	n.p.	n.p.	n.p.	20.4
Multiple drugs	48.0	30.8	23.5	18.3	29.7	24.7	30.3	38.1	8.3	n.p.	n.p.	46.3
Tested positive to a drug[(a)]	*86.0*	*65.9*	*67.7*	*48.5*	*77.7*	*63.3*	*75.7*	*72.5*	*65.1*	*78.4*	*100.0*	*67.4*
Did not test positive to a drug	14.0	34.2	32.4	51.5	22.3	36.7	24.3	27.6	34.9	21.6	0.0	32.7
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**
Total number	**50**	**328**	**34**	**367**	**148**	**1,205**	**152**	**294**	**109**	**37**	**n.p.**	**147**

(a) Proportion who tested positive to a least one drug. Sum of components will add to more than the total testing positive, as detainees can test positive to more than one type of drug.

Source: AIC 2008 DUMA survey.

Hospitalisations

Table 2.21.9 presents hospitalisations with principal diagnoses related to drug use for the period July 2006 to June 2008 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- During the period July 2006 to June 2008, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined there were 4,333 hospitalisations of Indigenous Australians relating to substance use (Table 2.21.9). This represented 0.8% of total hospitalisations of Indigenous Australians in these jurisdictions.
- Indigenous Australians were hospitalised for conditions relating to substance use at around twice the rate of other 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%, 14% and 11% respectively of all hospitalisations of Indigenous Australians relating to substance use over the period June 2006 to July 2008. Indigenous Australians were hospitalised for these three types of poisoning at twice the rate of other Australians.
- Mental and behavioural disorders due to use of cannabis and use of multiple drug and psychoactive substances were responsible for 15% and 12% 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 other Australians respectively.
- Indigenous Australians were hospitalised for mental and behavioural disorders from use of volatile solvents at around 39 times the rate of other Australians.

Table 2.21.11 presents hospitalisations for external causes related to drug use for the period July 2006 to June 2008 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 1.6 times the rate of other Australians (Table 2.21.10).

Table 2.21.9: Hospitalisations with principal diagnoses related to drug use in NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[a][b][c][d]

	Number		Per cent		Indigenous			Other[e]			
	Indigenous	Other[e]	Indigenous	Other[e]	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]
Poisoning											
Antiepileptic, sedative-hypnotic and anti-Parkinson's drugs (T42)	616	16,805	14.2	22.3	0.7	0.6	0.7	0.4	0.4	0.4	1.6*
Psychotropic drugs, includes antidepressants (T43)	595	13,472	13.7	17.9	0.6	0.5	0.7	0.3	0.3	0.3	1.6*
Antibiotics and hormones (T36–T39)	466	11,406	10.8	15.1	0.5	0.4	0.5	0.3	0.3	0.4	1.7*
Narcotics, including opium, heroin, methadone and cocaine (T40)	239	6,213	5.5	8.2	0.3	0.2	0.3	0.2	0.2	0.2	1.7*
Toxic effect of organic solvents (T52)	62	430	1.4	0.6	—	—	0.1	—	—	—	3.6*
Mental/behavioural disorders											
From use of cannabinoids (F12)	656	5,093	15.1	6.8	0.6	0.6	0.7	0.1	0.1	0.1	4.7*
From use of multiple drug and psychoactive substances (F19)	516	5,814	11.9	7.7	0.5	0.5	0.5	0.1	0.1	0.2	3.3*
From use of other stimulants (F15)	418	5,418	9.6	7.2	0.4	0.4	0.5	0.1	0.1	0.1	3.0*
From use of opioids (F11)	383	7,097	8.8	9.4	0.4	0.1	0.1	0.2	0.2	0.2	2.2*
From use of volatile solvents (F18)	137	103	3.2	0.1	0.1	0.4	0.4	—	—	—	39.4*
From use of sedatives (F13)	78	2,223	1.8	2.9	0.1	0.1	0.1	0.1	0.1	0.1	1.6*
From use of cocaine (F14)	11	322	0.3	0.4	—	—	—	—	—	—	1.8
Other											
Neonatal withdrawal symptoms from maternal use of drugs of addiction (P96.1)	130	853	3.0	1.1	0.1	0.1	0.1	—	—	—	3.0*
Acute hepatitis C (B17.1)	21	182	0.5	0.2	—	—	—	—	—	—	5.2*
Maternal care for suspected damage to foetus by drugs (035.5)	5	20	0.1	—	—	—	—	—	—	—	8.2*
Total	**4,333**	**75,451**	**100.0**	**100.0**	**4.3**	**4.2**	**4.4**	**1.9**	**1.9**	**1.9**	**2.2***

Table 2.21.9 (continued): Hospitalisations with principal diagnoses related to drug use in NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008(a)(b)(c)(d)

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

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

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006).

(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) Includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous:other.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 2.21.10: Hospitalisations for external causes relating to drug use in NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008(a)(b)(c)(d)

	Number		Indigenous			Other(e)			
	Indigenous	Other(e)	No. per 1,000(f)	95% LCL(g)	95% UCL(h)	No. per 1000(f)	95% LCL(g)	95% UCL(h)	Rate Ratio(i)
Accidental poisoning									
Antidepressants and barbiturates (X41)	301	7,050	0.3	0.3	0.3	0.2	0.2	0.2	1.7*
Unspecified (includes glues and paints) (X49)	198	6,070	0.2	0.2	0.2	0.2	0.2	0.2	1.2*
Narcotics (includes cannabis, cocaine, heroin, opium and methadone) and hallucinogens (X42)	138	3,663	0.2	0.1	0.2	0.1	0.1	0.1	1.9*
Organic solvents, including petroleum derivatives (X46)	40	300	0.7	0.6	0.8	0.4	0.4	0.4	1.6*
Total	**677**	**17,083**	**1.4**	**1.3**	**1.5**	**0.9**	**0.8**	**0.9**	**1.6***

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

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

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006).

(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) Includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio Indigenous:other.

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 2007 to June 2009 are presented by Australian Standard Geographical Classification (ASGC) in Table 2.21.11a.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for these conditions than other Australians. There was statistically significant difference between the hospitalisations ratios for Indigenous and other Australians in all ASGC areas.
- Rates of hospitalisations per 1,000 people were highest for Indigenous people living in *Major cities*, at 5.8 per 1,000. The rate was also highest for other Australians who lived in *Major cities*, at 2.0 per 1,000. The lowest rates were observed in *Very remote* areas for both Indigenous Australians (2.0 per 1,000) and other Australians (1.5 per 1,000).
- Indigenous people were hospitalised for drug-use-related conditions at a rate of 2.9 times that of other Australians in *Major cities*. In *Very remote* areas, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of 1.3 times that of other Australians. Nationally, the rate ratio was 2.2.

Table 2.21.11a: Hospitalisations with a principal diagnosis related to drug use, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009(a)(b)(c)(d)(e)(f)

	Indigenous				Other(g)				
	Number	No. per 1,000(h)	LCL 95%(i)	UCL 95%(j)	Number	No. per 1,000(h)	LCL 95%(i)	UCL 95%(j)	Rate ratio(k)
Major cities	1,838	5.8	5.5	6.1	56,346	2.0	2.0	2.0	2.9*
Inner regional	988	5.2	4.9	5.6	13,336	2.0	2.0	2.0	2.6*
Outer regional(l)	798	3.8	3.5	4.1	5,814	1.8	1.8	1.9	2.1*
Remote	394	4.2	3.7	4.7	859	1.7	1.6	1.9	2.4*
Very remote	326	2.0	1.6	2.4	246	1.5	1.4	1.5	1.3*
Missing	51	. .	. .	. .	759	. .	. .	. .	. .
Total(m)	**4,395**	**4.5**	**4.4**	**4.6**	**77,360**	**2.0**	**2.0**	**2.0**	**2.2***

* 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.

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria

(m) Total includes hospitalisations where ASGC is missing.

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.

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 2.21.11b, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for these conditions than other Australians. There was a statistically significant difference between the ratio of hospitalisations of Indigenous Australians and the ratio of hospitalisations of other Australians in all published ASGC areas.
- Rates of hospitalisations per 1,000 head of population were highest for Indigenous people living in *Remote* areas, at 12 per 1,000. The rate was highest for other Australians who lived in *Very remote* areas, at 4.0 per 1,000. The lowest rates were observed in *Major cities* for both Indigenous people (6.2 per 1,000) and other Australians (less than 0.05 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 217 times that of other Australians in *Major cities* of Australia. In *Very remote* areas, where the lowest rate ratio was observed, Indigenous Australians were hospitalised at a rate of 1.8 times that of other Australians. Nationally, the rate was 82 times.

Table 2.21.11b: Hospitalisations for external causes related to drug use, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[a][b][c][d][e][f]

	Indigenous				Other[g]				
	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Ratio[k]
Major cities	1,042	6.2	5.7	6.7	784	—	—	—	. .
Inner regional	923	8.7	8.0	9.4	711	0.1	0.1	0.1	90.6*
Outer regional[l]	1,032	8.7	8.0	9.3	842	0.2	0.2	0.3	35.4*
Remote	712	12.1	11.0	13.2	698	1.4	1.3	1.5	8.5*
Very remote	722	7.3	6.2	8.4	592	4.0	3.9	4.1	1.8*
Missing	120	. .	. .	. .	268	. .	. .	. .	. .
Total[m]	**4,551**	**8.2**	**7.9**	**8.5**	**3,895**	**0.1**	**0.1**	**0.1**	**82.1***

* 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.

(b) Categories are based on the ICD-10-AM 5th edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Outer regional includes remote Victoria

(m) Total includes hospitalisations where ASGC is missing.

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.

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 is presented in Table 2.21.12 and Table 2.21.13. Rates by state/territory are presented in Table 2.2.12 and rates by Australian Standard Geographical Classification (ASGC) are presented in Table 2.21.13.

- Use of illicit drugs or substances during pregnancy by the mothers of Indigenous children aged 0-3 years was highest in Victoria (9.3%) and Western Australian (8.5%) (Table 2.21.12).
- 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 2.21.13).

Table 2.21.12: 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 2.21.13: 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.

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 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

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 Drug Strategy Household Survey (NDSHS)

The NDSHS collects information relating to drug use in Australia. The sample size for the 2007 survey was over 23,000 persons aged 12 years and over.

The NDSHS does not have an enhanced Indigenous sample. Therefore, only a small number of Indigenous respondents are picked up in this survey. In 2007, approximately 372 Indigenous respondents were included. The sample size for Indigenous Australians is very small and therefore the estimates should be interpreted with caution (ABS & AIHW 2005). This small Indigenous sample size also limits the reliability of time series analyses.

NDSHS data are reportable at the national level only. Data are not available for remoteness areas, regional areas and state and territory levels.

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.

Hospital separations data

Separations

Differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery can affect the number and pattern of hospitalisations.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. Based on an analysis of a sample of data conducted in 2010, an estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08 (AIHW 2010). In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data in all states and territories. Results from this assessment indicate that all hospitals in New South Wales, Victoria, Queensland, Western Australia and South Australia and public hospitals in the Northern Territory have adequate Indigenous identification (80% or higher overall levels of Indigenous identification in public hospitals only) in their separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also 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.
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.
- Bias may have been introduced due to the sampling method of hospitals used in the study. Hospitals with high proportions of Indigenous separations were used in the study to ensure sufficient numbers of Indigenous people were included in the study. Proportions of Indigenous separations should therefore not be taken to represent the NHMD overall.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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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2.22 Level of 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 2013.

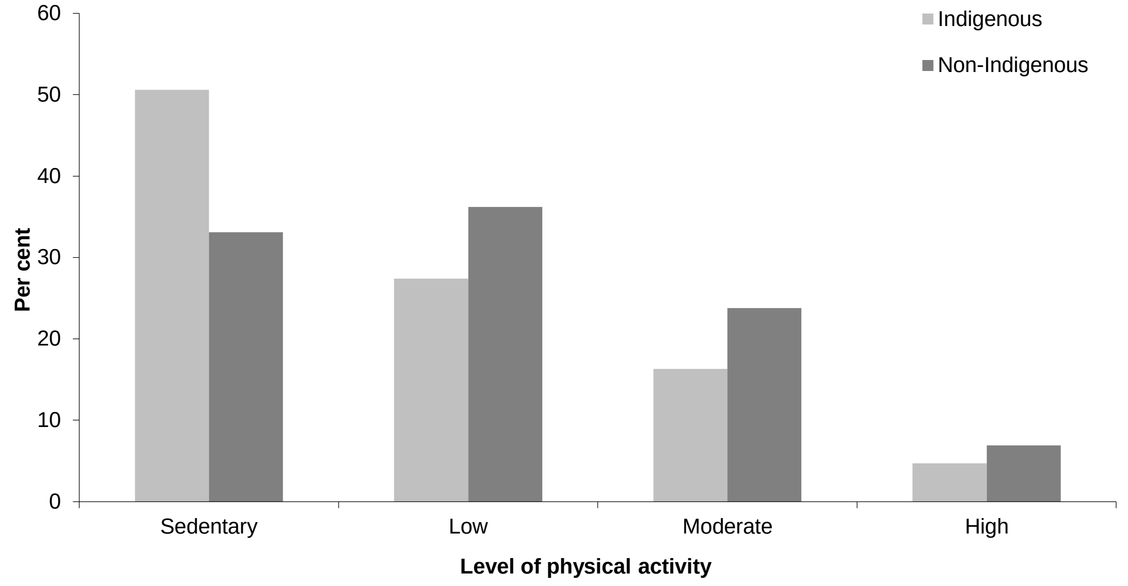
The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected 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 (Figure 2.22.1).



Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Figure 2.22.1: Level of physical activity, by Indigenous status, persons aged 15 years and over, non-remote areas, 2004–05

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 2.22.1).
- 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 2.22.1: 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**	**. .**

* Represents statistically significant differences 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 2.22.2a).
- 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 2.22.2b).

Table 2.22.2a: 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 2.22.2b: 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 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 2.22.3). 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 2.22.4).

Table 2.22.3: 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 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 2.22.4: 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.

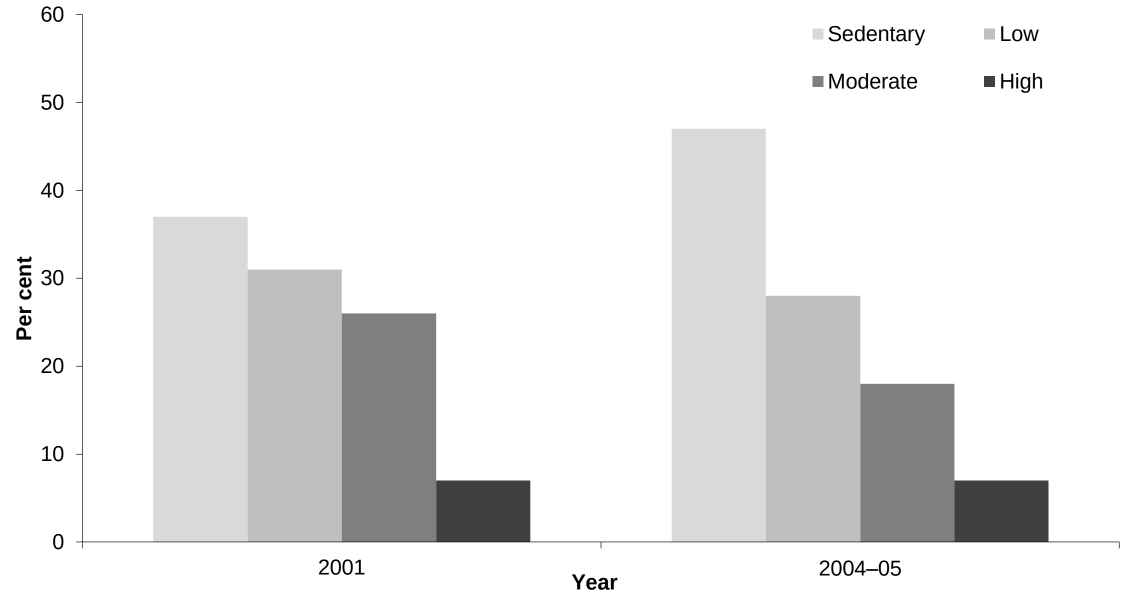
(b) Includes physical activity level not stated.

Note: Data are age-standardised.

Source: AIHW analysis of 2004–05 NATSIHS.

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%) (Figure 2.22.2).
- 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 2.22.5).



Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement) and 2004–05 NATSIHS.

Figure 2.22.2: Level of physical activity, Indigenous persons aged 15 years and over, non-remote areas, crude proportions, 2001 and 2004–05

Table 2.22.5: 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 2.22.6, 2.22.7 and 2.22.8 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 2.22.6).
- During 2008, Western Australia had the highest percentage of Indigenous children aged 4-14 years who were active every day for at least 60 minutes (80%) and Victoria had the lowest (67%) (Table 2.22.7).
- 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 2.22.8).

Table 2.22.6: 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 2.22.7: Number of days last week when child was physically active for at least 60 minutes, by state/territory, Indigenous persons aged 4-14 years, 2008

	NSW	Vic	Qld	WA	SA	Tas/ACT	NT	Aust
				Per cent				
0-2 days	13.1	13.1	6.4[(a)]	7.3	7.3	6.9[(a)]	6.3	9.0
3-4 days	9.5	9.8	6.8[(a)]	7.3	9.1	11.4	7.6	8.3
5 to 6 days	9.6	10.3	8.8	5.5[(a)]	8.0[(a)]	5.5[(a)]	8.1	8.4
Everyday	67.8	66.8	78.1	80.0	75.6	76.2	78.0	74.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Not known	0.3[(b)]	0.0	0.0	0.2[(b)]	0.3[(b)]	0.0	0.8[(b)]	0.2[(b)]
Total number	**42,186**	**9,007**	**39,752**	**18,813**	**7,572**	**5,906**	**16,133**	**139,369**

(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 too high for most practical purposes.

Source: 2008 NATSISS.

Table 2.22.8: Level of physical activity, 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.

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.

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2.23 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 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 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

The questions on dietary behaviour in the NATSIHS are complex because 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. 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 vegetable items collected in non-remote areas.

In remote areas, the questions on vegetable and fruit intake were amended to whether 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, or for certain states and territories that have output restrictions for non-remote data items from the NATSIHS (South Australia, Tasmania, the Australian Capital Territory and the Northern Territory).

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

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 2.23.1. 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 2.23.1: Fruit and vegetable servings from the Australian Guide to Healthy Eating suggested for children and adolescents, 2011

	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: Australian Guide to Healthy Eating

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.
- 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 2.23.2).
- Around 22% of Indigenous people aged 15 years and over reported they sometimes added salt after cooking and a further 44% reported they usually added salt after cooking (Table 2.23.3).
- Approximately 71% of Indigenous people aged 12 years and over reported they usually drank whole (full-cream) milk and 17% reported drinking low or reduced fat milk (Table 2.23.3).

- After adjusting for differences in age structure, Indigenous Australians aged 15 years and over were twice as likely to report no usual daily fruit intake, no usual daily vegetable intake and whole milk as the usual type of milk consumed as non-Indigenous Australians (Table 2.23.3).

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 2.23.3).
- 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 2.23.3).
- The proportion of Indigenous people who reported usually adding salt after cooking increased with age (Table 2.23.3).

Table 2.23.2: Age standardised proportion[(a)] of persons aged 12 years and over reporting no usual daily vegetable consumption and no usual daily fruit consumption, Australia 2004–05

	Indigenous	Non-Indigenous	Ratio
		Per cent	
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 2.23.3: 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-stand.		Total age-standardised		
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio
									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	0.8	1.7	0.8	2.0
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	19.8	21.6	20.4	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	19.7	17.0	20.2	0.8
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	27.1	32.1	26.9	1.2
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	18.8	17.0	18.3	0.9
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	9.0	7.6	8.6	0.9
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	4.8	3.1	4.7	0.7
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100.0**	**100.0**	**. .**
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	6.6	11.0	6.9	1.6
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	39.3	45.3	40.0	1.1
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	27.6	23.9	27.3	0.9
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	16.0	11.8	15.6	0.8
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	6.1	5.0	5.9	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	2.6	2.1	2.4	0.8
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	1.8	1.0	1.8	0.5
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	6.6	**100.0**	**100.0**	**. .**

(continued)

Table 2.23.3 (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-stand.**		**Total age-standardised**		
	Indig.	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Ratio**
									Per cent								
Usual type of milk																	
Whole	88	69	81	55	76	49	73	48	68	37	58	35	76	45	71	45	1.6
Low/reduced fat	8	22	11	25	12	28	17	29	16	38	24	35	14	31	17	31	0.5
Skim	1(b)	4	4	11	6	13	7	13	6	13	11	17	5	13	7	13	0.5
Soy	n.p.	n.p.	—(b)	3	2(a)	4	n.p.	4	2(b)	5	2(a)	5	1	4	1	4	0.3
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	1	0.7
Total drinks milk	*98*	*98*	*97*	*95*	*96*	*96*	*98*	*95*	*96*	*94*	*95*	*94*	*97*	*95*	*96*	*95*	*1*
Does not drink milk	2	2	3	5	3	4	2(a)	5	4	6	5(a)	6	3	5	4	5	0.7
Total(d)	**100**	**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 2.23.4).
- Indigenous females aged 15 years and over 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 2.23.5).
- There was little difference in the proportion of Indigenous males and females reporting eating vegetables daily or adding salt after cooking.

Table 2.23.4: 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 2.23.5: 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.	Non-Indig.	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio
	%	%	%	%		%	%	%	%		%	%	%	%	
Usual daily intake of vegetables															
Does not eat vegetables	2	1	2	1	2.2	1	1	1	1	1.9	2	1	2	1	2.1
1 serve or less	25	23	25	24	1.0	21	16	19	17	1.1	23	20	22	20	1.1
2–4 serves	64	64	65	64	1.0	67	67	67	67	1.0	65	66	66	65	1.0
5 serves or more	9	12	9	12	0.7	11	16	12	15	0.8	10	14	11	14	0.8
Total	**100**	**100**	**100**	**100**	**1.0**	**100**	**100**	**100**	**100**	**1.0**	**100**	**100**	**100**	**100**	**1.0**
Usual daily intake of fruit															
Does not eat fruit	14	9	14	9	1.5	11	5	9	5	1.9	12	7	11	7	1.6
1 serve or less	47	44	47	44	1.1	46	35	44	36	1.2	47	39	46	40	1.1
2–4 serves	36	44	36	43	0.9	41	55	43	54	0.8	38	50	40	49	0.8
5 serves or more	3	4	3	4	0.8	3	5	3	5	0.7	3	4	3	4	0.7
Total	**100**	**100**	**100**	**100**	**1.0**	**100**	**100**	**100**	**100**	**1.0**	**100**	**100**	**100**	**100**	**1.0**

(continued)

Table 2.23.5 (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.	Non-Indig.	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio	Indig.	Non-Indig.	Indig.	Non-Indig.	Ratio
	%	%	%	%		%	%	%	%		%	%	%	%	
Usual type of milk															
Low/reduced fat	13	29	15	28	0.5	16	34	18	34	0.5	15	32	16	31	0.5
Skim	4	10	6	10	0.6	7	17	8	17	0.5	6	14	7	13	0.5
Whole	77	51	74	52	1.4	71	37	68	37	1.8	74	44	71	45	1.6
Soy	1	4	1	4	0.4	1	5	2	5	0.3	1	5	2	4	0.3
None of the above[(a)]	1	1	1	1	1.4	0	1	0	1	0.3	1	1	1	1	0.7
Total drinks milk	*97*	*94*	*97*	*95*	*1.0*	*96*	*95*	*96*	*95*	*1.0*	*97*	*95*	*96*	*95*	*1.0*
Does not drink milk	3	6	3	5	0.6	4	5	4	5	0.8	3	5	4	5	0.7
Total[(b)]	**100**	**100**	**100**	**100**	**1.0**	**100**	**100**	**100**	**100**	**1.0**	**100**	**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 and non-Indigenous Australians are presented in Tables 2.23.6a and 2.23.6b below. 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 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 2.23.6a).
- 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%) and Tasmania/the Australian Capital Territory (37%).
- Non-Indigenous Australians were more likely to report eating five serves or more of vegetables than Indigenous Australians in New South Wales, Queensland and Western Australia. Rates were similar for Indigenous and non-Indigenous Australians in Victoria (Table 2.23.6b).
- Non-Indigenous Australians were more likely to report eating five serves of fruit or more than Indigenous Australians in three of the four jurisdictions for which data are presented (New South Wales, Victoria and Queensland) (Table 2.23.6b).
- 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 2.23.6a: 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 2.23.6b: 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 2.23.6b (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, 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 2.23.7).
- 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 2.23.7).

Table 2.23.7: 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.

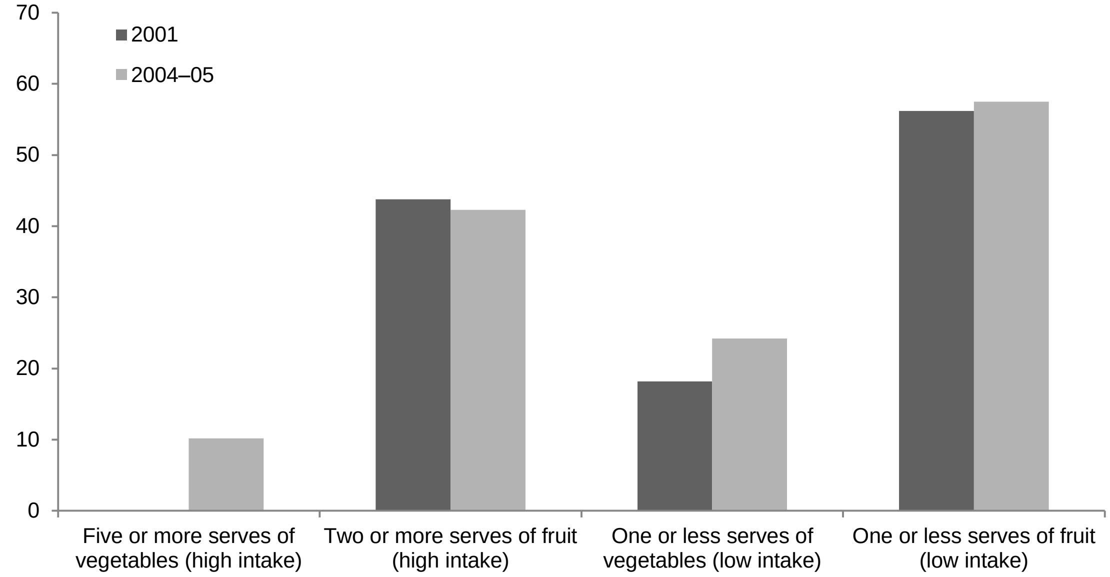
Time series analyses

- In 2004–05, approximately 24% of Indigenous Australians aged 12 years and over 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 2.23.8; Figure 2.23.1).

Table 2.23.8: 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.



Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement) and 2004–05 NATSIHS.

Figure 2.23.1: 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

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 2.23.9).
- 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 and did not have a non-school qualification were much more likely to report no usual daily fruit and/or vegetable intake than those whose highest year of school completed was Year 12 and 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 2.23.9: 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 suffering from cancer were more likely to consume vegetables and fruit on a daily basis than Indigenous Australians without cancer. In comparison, Indigenous Australians without diabetes were more likely to consume vegetables and fruit on a daily basis than Indigenous Australians with diabetes (Table 2.23.10).
- Indigenous Australians 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 in the overweight/obese weight ranges were more likely to have a daily intake of vegetables and fruit than those not within the overweight / obese weight ranges.
- 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 to 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 (19% compared with 10%) and no usual daily vegetable intake (6% compared with 5%) than Indigenous persons who were ex-smokers or who had never smoked.

Table 2.23.10: 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 2.23.11).
- 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 2.23.11: 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

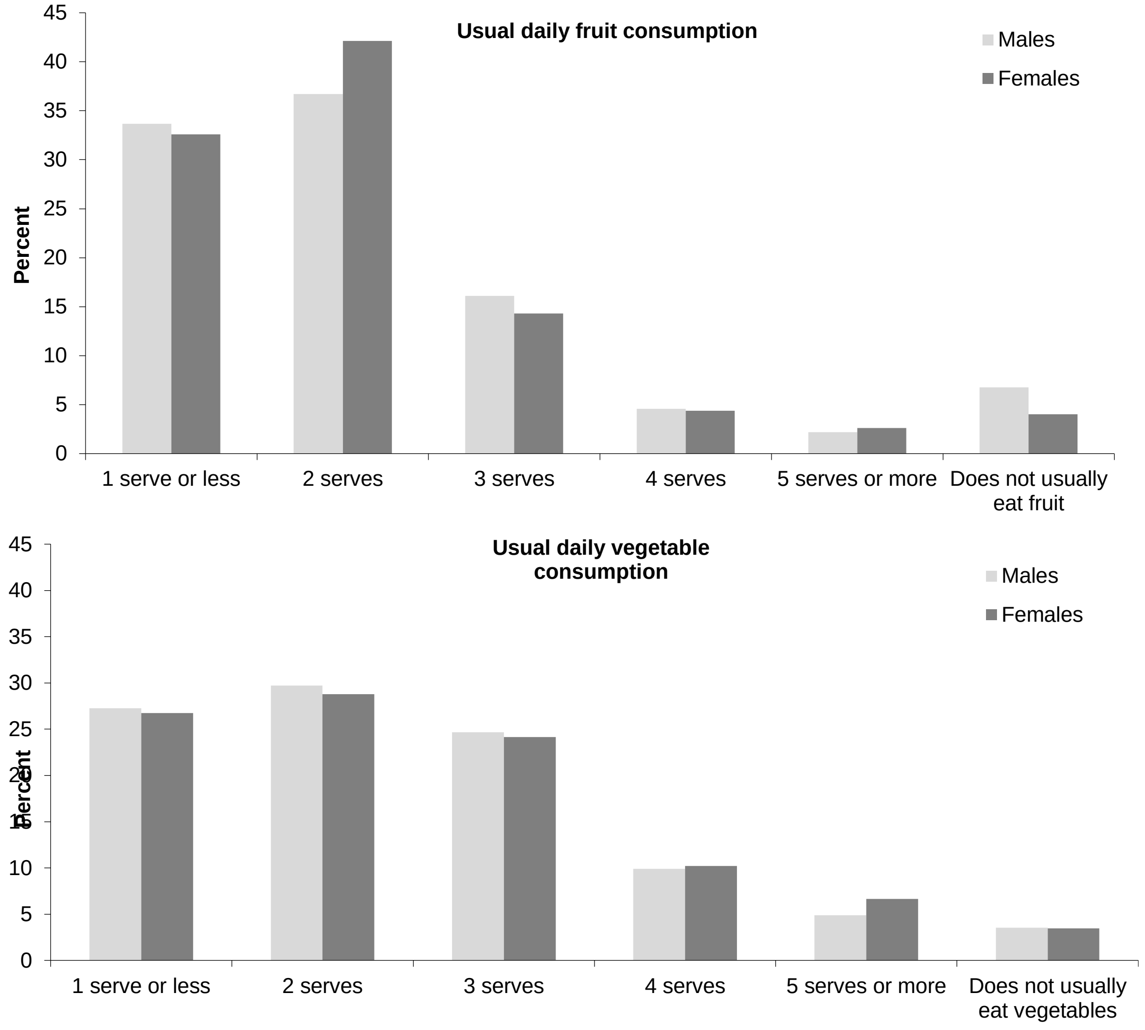
- In 2008, approximately 5% of Indigenous children aged 4 to 14 years did not usually eat fruit and 4% did not usually eat vegetables (Table 2.23.12; Figure 2.23.2). Approximately 33% had one serve or less of fruit per day and approximately 27% had one serve or less of vegetables per day.

Table 2.23.12: 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.



Source: AIHW analysis of 2008 NATSISS.

Figure 2.23.2: Usual daily fruit and vegetable consumption for Indigenous children aged 4 to 14 years, by number of serves of fruit and vegetables usually consumed daily, by sex, non-remote areas, 2008

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 high daily intake of fruit (65%) and vegetables (7.1%) and Western Australia had the lowest (58% and 3.8%, respectively) (Table 2.23.13; Figure 2.23.3).

Table 2.23.13: Number of serves of fruit and vegetables consumed daily, Indigenous children aged 4 to 14 years, by state/territory[(a)], non-remote areas, 2008

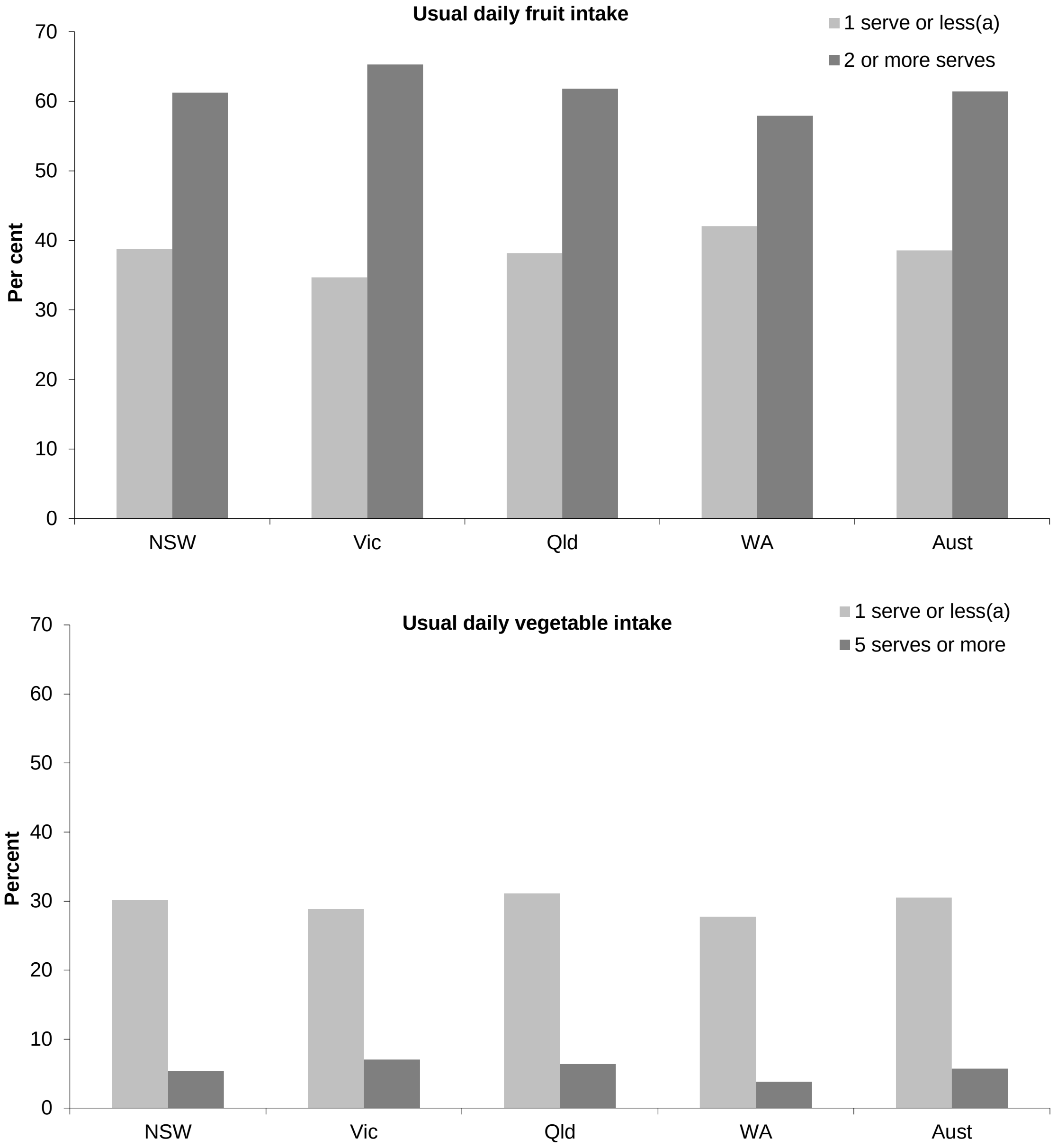
	NSW	Vic	Qld	WA	Australia
			Per cent		
Number of serves of fruit child usually eats in a day					
1 serve or less (low intake)[(b)]	38.7	34.7	38.2	42.1	38.6
2 or more serves (high intake)	61.3	65.3	61.8	57.9	61.4
Total number[(c)]	**40,109**	**8,997**	**30,337**	**10,672**	**105,429**
Number of serves 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.



Note: Data not available for South Australia, Tasmania, the Australian Capital Territory and the Northern Territory due to survey output restrictions.

(a) Includes persons who reported they do not usually consume fruit or vegetables.

Source: AIHW analysis of 2008 NATSISS

Figure 2.23.3: Usual daily fruit and vegetable consumption for Indigenous children aged 4 to 14 years, by number of serves of fruit and vegetables usually consumed daily, by state/territory, non-remote areas, 2008

Additional information

Research on traditional and non-traditional diets of Aboriginal and Torres Strait Islander peoples

Available research suggests that traditional Aboriginal and Torres Strait Islander hunter-gatherers consumed a varied diet in which animal foods were a major component. Their diet was not high in fat because the wild animal meat consumed was extremely lean. A wide variety of uncultivated plant foods were eaten, which were generally high in fibre and contained carbohydrates that digested slowly. Traditional foods generally had a low energy density and high level of nutrients. The low-energy intake of the diet and the labour intensity of procuring food would have protected Indigenous people against obesity and associated health conditions such as diabetes (O'Dea 1991).

Today, many Indigenous people consume a diet high in fat, sugar and energy-dense foods. 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 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).

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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2.24 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) and 2008 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2011–12. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

Definitions of breastfeeding terms

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 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

Breastfeeding status

- In 2008, approximately 77% of Indigenous infants aged 0–3 years had ever been breastfed (Table 2.14.1; Figure 2.24.1) 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 2.24.1).
- In 2004–05, approximately 79% of Indigenous infants aged 0–3 years had ever been breastfed compared with 88% of non-Indigenous infants (Table 2.24.2).
- Approximately 13% of Indigenous infants were currently being breastfed compared with 16% of non-Indigenous infants (Table 2.24.2).
- A similar proportion of Indigenous and non-Indigenous infants had been breastfed for 12 months or more (13% and 14%, respectively) (Table 2.24.2).
- The maximum duration of breastfeeding among fully breastfed children was 130 weeks for Indigenous children compared with 156 weeks for non-Indigenous children (Table 2.24.2).

Breastfeeding status by state/territory

- In South Australia lower proportion of Indigenous infants had ever been breastfed (70%) than in any other jurisdiction (Table 2.24.1; Figure 2.24.1).
- 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 2.24.1).
- In Queensland, a significantly lower proportion of Indigenous infants had ever been breastfed (79%) compared with non-Indigenous infants (89%) (Table 2.24.2).

Table 2.24.1: Breastfeeding status, by state/territory, Indigenous persons, 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

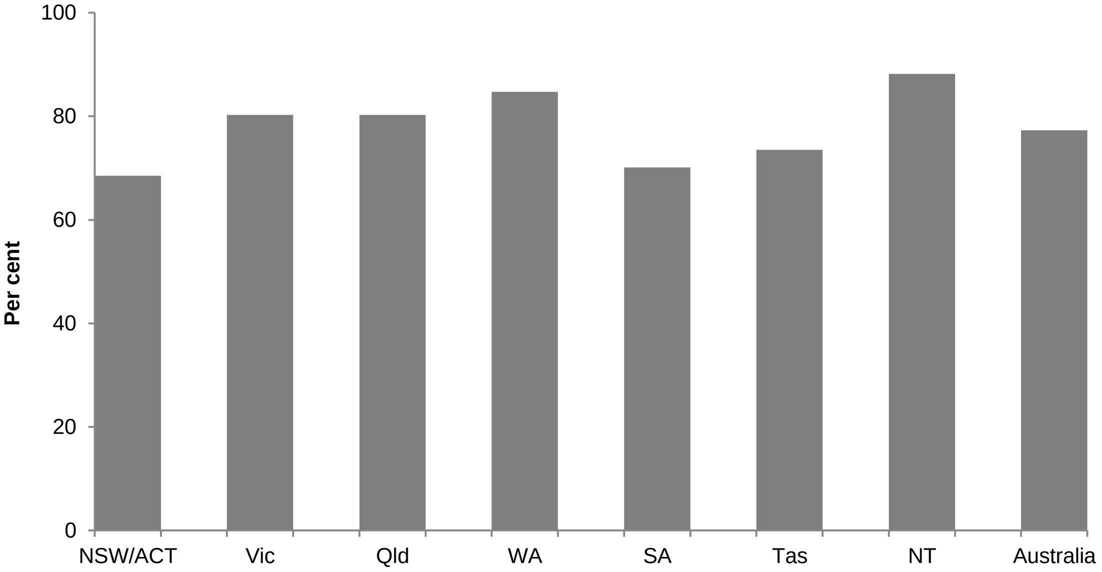
(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(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.



*Source:*2008 NATSISS

Figure 2.24.1: Total breastfed, by state/territory, Indigenous persons, infants aged 0–3 years, 2008

Table 2.24.2: 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(f)	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

(continued)

Table 2.24.2 (continued): Breastfeeding status, by state/territory and Indigenous status, infants aged 0–3 years in non-remote areas, 2004–05

* Represents results with statistically significant differences 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.

Breastfeeding status by remoteness

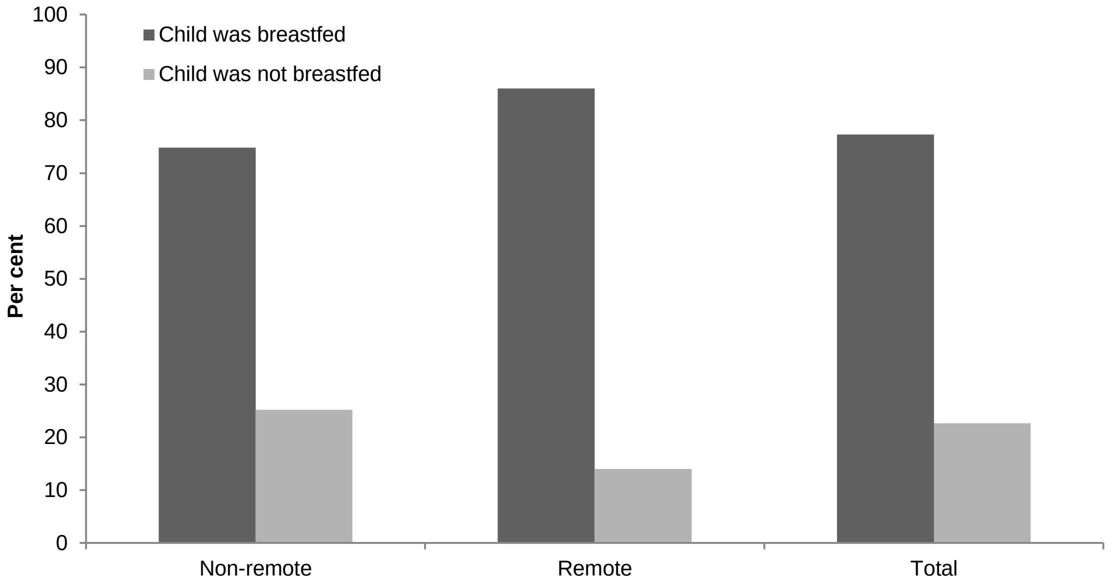
- In 2008, around 27% of Indigenous infants aged 0–3 years were currently being breastfed, 73% had previously been breastfed but not currently, and 23% had never been breastfed (Table 2.24.3).
- Breastfeeding status varied by remoteness, with a higher proportion of Indigenous infants in remote areas currently being breastfed than those in non-remote areas (Figure 2.24.2). 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 ages 0–6 months, 6–12 months and 1–3 years, a higher proportion of Indigenous infants in remote areas were breastfeeding than those in non-remote areas.

Table 2.24.3: 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.



Source: 2008 NATSISS.

Figure 2.24.2: Whether child was ever breastfed, by remoteness, Indigenous children aged 0–3 years, 2008

Breastfeeding status when first taken home from hospital

- In 2004-2005, 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 2.24.4).
- The proportion ranged from 89% in the Australian Capital Territory to 98% in the Northern Territory.

Table 2.24.4: 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, 2004-2005

	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.

Additional information

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 2.24.5).

Table 2.24.5: 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.

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 2.24.6).
- 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 2.24.6).
- 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 2.24.7).
- 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 2.24.8).

Table 2.24.6: 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**	**Ratio**
	%	**%**	
1–<3 months	18	10	1.8*
3–<6 months	34	40	0.9*
6–<9months	28	34	0.8*
9+months	8	6	1.3
Total given solid food[(a)]	*91*	*90*	*1.0*
Solid food not given regularly	8	10	0.8
Total[(b)]	**100**	**100**	. .
Total persons	**34,964**	**933,013**	. .

* Represents results with statistically significant differences 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.

Table 2.24.7: 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 2.24.8: Age at which first given solid food regularly, Aboriginal and Torres Strait Islander infants aged 0-3 years and remoteness, 2008

	Remote		Non-Remote		Persons	
	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.

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 2.24.9) Approximately 16% of Indigenous infants were no longer breastfed because of other problems with breastfeeding (for example, cracked nipples).

Table 2.24.9: 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.

Breastfeeding by selected population and risk factors

- In 2008, 17% of Indigenous infants aged 0–3 years in the lowest (1st) income quintile were never breastfed, compared with 2.5% in the highest income quintile. Around 14% in the lowest (1st) socioeconomic (SEIFA) quintile were never breastfed, compared with only 0.5% of Indigenous infants in the highest quintile (Table 2.24.10a).
- The proportion of Indigenous infants ever breastfed was similar regardless of whether the house was owned or rented (45% compared with 44%) (Table 2.24.10a).
- Approximately 73% of Indigenous infants who were never breastfed were living in a household with at least one regular smokers compared with 63% of Indigenous infants who were breastfed (Table 2.24.10b).

Table 2.24.10a: 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***	**Never breastfed**	**Total**
				Per cent			
Household income							
1st quintile (lowest)	18.4	6.0	4.7	12.0	41.5	17.3	100.0
5th quintile (highest)	20.3	6.2	14.0	8.2	48.8	2.5	100.0
SEIFA (Socio-economic index for areas)[c]							
1st quintile (lowest)	18.0	5.2	6.3	12.9	43.2	14.2	100.0
5th quintile (highest)	21.0	8.5	2.6	16.0	51.4	0.5	100.0
Housing							
Owner	22.0	7.1	6.3	9.3	45.2	10.1	100.0
Renter	18.3	5.6	6.7	12.3	43.5	13.6	100.0
Regular smoker in households							
Yes	18.6	5.0	7.0	11.9	42.9	14.6	100.0
No	21.0	7.9	5.9	10.5	45.9	8.8	100.0
All infants aged 0–3 years	**19.1**	**5.9**	**6.6**	**11.7**	**43.8**	**12.9**	**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.

Source: 2008 NATSISS.

Table 2.24.10b: 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.

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).

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 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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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.

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2.25 Unsafe sexual practices

Proportion of Aboriginal and Torres Strait Islander peoples engaging in unsafe sexual practices

Data sources

Data are available from the National Perinatal Data Collection and the National Notifiable Diseases Surveillance System held at the Department of Health and Ageing.

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 Western Australia, South Australia, Tasmania and the Northern Territory were assessed to have adequate identification for chlamydia, syphilis, gonorrhoea and hepatitis C. Queensland and Victoria had insufficient Indigenous identification for chlamydia, but adequate identification for syphilis, gonorrhoea and hepatitis C; New South Wales only had adequate identification for hepatitis C and the Australian Capital Territory did not have adequate identification for any of the STIs. Only Queensland and the Northern Territory had adequate identification for donovanosis.

Current period data (2006–2008) for this indicator was extracted by the NNDSS in April 2010.

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 notifications only (excluding Queensland, as hepatitis C data are reported in a separate category).

All categories of syphilis (including infectious, latent and unknown duration) have been included in the analysis in this indicator.

Detailed accounts of the methods of data collection and methods used by the National Notifiable Disease Surveillance System (NNDSS) within the Department of health and Ageing can be found here
< http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-nndss-nndssintro.htm >.

National Perinatal Data Collection

Data for this measure come from the Australian Institute of Health and Welfare (AIHW) National Perinatal Epidemiology and Statistics Unit National Perinatal Data Collection (NPDC).

Data on birthweight is collected as part of the Perinatal National Minimum Data Set. 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. Some of these data are provided in electronic format annually to the AIHW National Perinatal Epidemiology and Statistics Unit. Perinatal notification forms are completed in Australia for all births of 20 weeks or more gestation, or a birthweight of 400 grams or more.

All jurisdictions collect the Indigenous status of the mother of the baby. However, this data element does not provide the Indigenous status of the baby. Therefore, Indigenous births will be underestimated as babies born to Indigenous fathers and non-Indigenous mothers are not included in the data collection. Over the period 2005–2007 there were approximately 11,100 ABS registered births to Indigenous fathers only, which represented 31% of registered Indigenous births (ABS 2006, 2007, 2008).

Earlier years data are not available for Tasmania, as the 'not stated' category for Indigenous status was unable to be distinguished from the 'non-Indigenous' until 2005.

Data on mothers for whom Indigenous status was 'not stated' have been excluded from analysis. In 2007, there were 282 births with a 'not stated' Indigenous status (0.1%) in the NPDC.

The World Health Organization (WHO) defines low birthweight as less than 2,500 grams.

Analyses

Notifications for chlamydia, syphilis, gonorrhoea and donovanosis

Notifications of sexually transmissible infections are an indicator of unsafe sexual practices. It does not measure all cases, just those involving sexually transmissible infections.

Notification data for chlamydia, syphilis, gonorrhoea and donovanosis are presented below.

Chlamydia

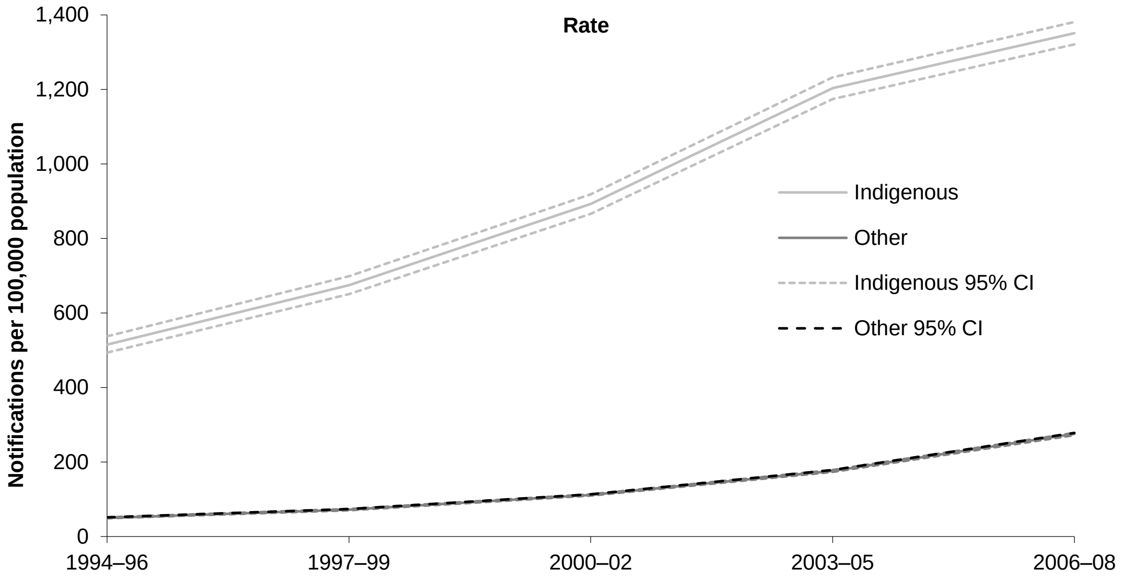
For the period 2006–2008, there were 42,762 notifications of chlamydia in Western Australia, South Australia, Tasmania and the Northern Territory, 20% of which were notifications of Aboriginal and Torres Strait Islander peoples. The proportion of notifications that occurred among Indigenous people ranged from 2% in Tasmania to 61% in the Northern Territory (see Indicator 1.11 Table 1.11.3).

Time series

- In Western Australia, South Australia and the Northern Territory combined there were significant increases in notification rates for chlamydia among Indigenous Australians during the period 1994–1996 to 2006–2008. The fitted trend line shows an average yearly increase in the age-standardised rate of around 73 per 100,000, which is equivalent to a 199% increase in the age-standardised rate over the period (Table 2.25.1 and Figure 2.25.1). 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 (608% increase for males and 474% increase for females) (Table 2.25.1).
- Notification rate ratios between Indigenous and other Australians for chlamydia also showed a significant increase over the 12-year period (Figure 2.25.1). The fitted trend line

showed an average yearly increase in the ratio of around 55 which is equivalent to a 165% increase in the rate ratio over the period.

- Although rate ratios showed an increase over the period, the difference in notification rates between Indigenous and other Australians declined significantly for both males and females.



Source: AIHW analysis of NNDSS data.

Figure 2.25.1: Age-standardised notification rates for chlamydia, WA, SA and NT, 1994–1996 to 2006–2008

Table 2.25.1: Crude and age-standardised notification rates, rate ratios and rate differences for chlamydia, WA, SA and NT, 1994–1996 to 2006–2008[(a)]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[(b)]	Per cent change over period[(c)]
Indigenous notifications							
Males	823	1,219	1,703	2,508	3,174	199.7*	339.7*
Females	1,668	2,200	3,153	4,427	5,166	307.4*	258.0*
Persons	2,493	3,419	4,857	6,997	8,431	515.1*	289.3*
Other Australian notifications[(d)]							
Males	1,913	3,099	4,801	7,740	12,773	878.7*	643.1*
Females	3,303	4,372	6,671	10,794	17,835	1,182.9*	501.4*
Persons	5,256	7,482	11,536	18,573	30,663	2,063.5*	549.6*
Indigenous crude rate per 100,000							
Males	429.9	592.7	772.0	1,069.6	1,281.2	72.6*	236.6*
Females	861.1	1,060.3	1,417.6	1,870.4	2,063.8	107.2*	174.3*
Persons	647.3	827.5	1,096.4	1,485.0	1,692.8	91.6*	198.2*
Indigenous age-standardised rate per 100,000[(e)]							
Males	365.9	508.5	657.4	905.8	1,058.3	59.4*	227.3*
Females	665.2	842.7	1,127.2	1,483.9	1,621.4	85.1*	179.2*
Persons	515.2	674.6	892.1	1,203.0	1,350.4	73.3*	199.2*
Other Australian age-standardised rate per 100,000[(d)(e)]							
Males	35.5	58.0	91.0	143.9	223.9	15.4*	608.4*
Females	64.3	86.4	131.9	208.9	329.2	21.7*	473.7*
Persons	49.8	71.8	111.4	175.6	275.1	18.5*	519.1*
Rate difference[(f)]							
Males	330.4	450.5	566.4	761.9	834.4	–0.5*	–61.7*
Females	600.9	756.4	995.3	1,275.1	1,292.2	–0.5*	–60.9*
Persons	465.3	602.8	780.7	1,027.4	1,075.4	–0.4*	–60.5*
Rate ratio[(g)]							
Males	10.3	8.8	7.2	6.3	4.7	44.0*	186.4*
Females	10.4	9.8	8.6	7.1	4.9	63.4*	147.6*
Persons	10.3	9.4	8.0	6.9	4.9	54.8*	164.9*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(h) Rates were calculated using the sum of notifications divided by the sum of the populations for the relevant years

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

(j) Percentage change between 1994–1996 and 2006–2008 were based on the annual rate of change over the period.

(k) ‘Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(l) Directly age-standardised using the Australian 2001 standard population using age 5 year age groups up to 75+

(m) Notification rate for Indigenous Australians minus the notification rate for other Australians.

(n) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

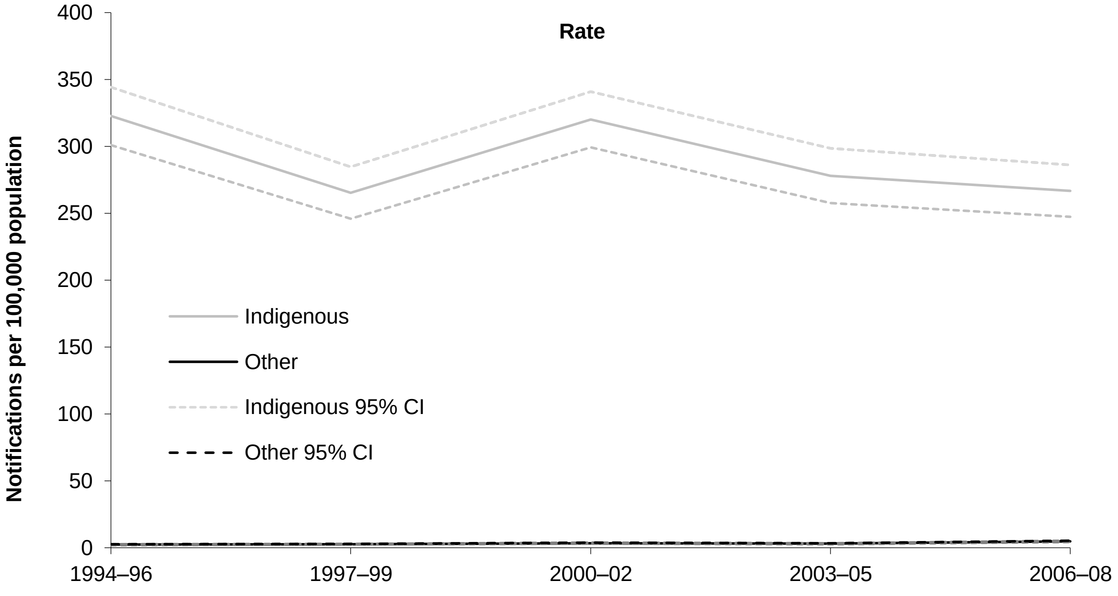
Source: AIHW analysis of NNDSS data.

Syphilis

For the period 2006–2008, there were 5,268 notifications of syphilis in Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, 29% of which were notifications of Aboriginal and Torres Strait Islander peoples. The proportion of notifications that occurred among Indigenous people was largest in the Northern Territory (89%) (see Indicator 1.11 Table 1.11.3).

Time series

- Over the period 1994–1996 to 2006–2008 in Western Australia, South Australia and the Northern Territory combined, there were significant decreases in the annual change of notification rates for syphilis among Indigenous Australians (from around 10 to 8 notifications per 100,000 over the time period). The fitted trend line shows an average yearly decline in the age-standardised rate of around 3 per 100,000, which is equivalent to a 14% reduction in the rate over the period (Table 2.25.2).
- There were significant increases in notification rates for syphilis among other Australians males during the same period. The fitted trend line showed an average yearly increase in the rate of around 0.4 per 100,000 which was equivalent to a 186% increase in the rate over the period (Table 2.25.2).
- There was a significant decline in notification rate ratios between Indigenous and other Australians for syphilis over the 12-year period. The fitted trend showed an average yearly decline in the rate ratio of around 4, which was equivalent to a 60% reduction in the rate ratio over the period. These declines were statistically significant for both males and females.



Source: AIHW analysis of NNDSS data.

Figure 2.25.2: Age-standardised notification rates for syphilis, WA, SA and NT, 1994–1996 to 2006–2008

Table 2.25.2:Crude and age-standardised notification rates, rate differences and rate ratios for syphilis[(a)], WA, SA and NT, 1994–1996 to 2006–2008[(b)]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[(c)]	Per cent change over period[(d)]
Indigenous notifications							
Males	669	542	685	552	527	–9.1	–19.1
Females	647	506	657	552	560	–4.3	–9.2
Persons	1,318	1,049	1,342	1,109	1,106	–12.1	–12.9
Other Australian notifications[(e)]							
Males	136	195	250	239	440	21.7*	223.7*
Females	99	79	114	102	111	1.6	22.2
Persons	237	275	371	341	551	23.1*	136.7*
Indigenous crude rate per 100,000							
Males	349.5	263.5	310.5	235.4	212.7	–10.1*	–40.3*
Females	334.0	243.9	295.4	233.2	223.7	–7.7*	–32.3*
Persons	342.2	253.9	302.9	235.4	222.1	–8.6*	–35.3*
Indigenous age-standardised rate per 100,000[(f)]							
Males	342.3	300.3	349.4	299.4	278.4	–4.3	–17.5
Females	304.6	235.9	294.0	260.3	253.8	–2.6	–11.8
Persons	322.6	265.2	320.0	278.0	266.7	–3.3	–14.3
Other Australian age-standardised rate per 100,000[(e)(f)]							
Males	2.7	3.7	4.7	4.4	7.7	0.4*	186.3*
Females	2.0	1.5	2.2	1.9	2.0	0.0	9.9
Persons	2.3	2.7	3.5	3.1	4.9	0.2*	110.1*
Rate difference[(g)]							
Males	339.6	296.5	344.7	295.1	270.7	–6.5	–19.1
Females	302.6	234.4	291.8	258.4	251.8	–2.4	–12.0
Persons	320.3	262.6	316.5	274.9	261.8	–5.9	-15.2
Rate ratio[(h)]							
Males	128.1	80.2	74.6	68.6	36.2	–4.6*	–71.2*
Females	153.7	154.2	134.3	135.2	127.2	–2.6*	–21.8*
Persons	137.5	99.7	91.5	88.5	54.7	–3.5*	–60.0*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(a) Data includes all nominations of syphilis, including cases of more than 2 years or unknown duration.

(b) Rates were calculated using the sum of notifications divided by the sum of the populations for the relevant years.

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

(d) Percentage change between 1994–1996 and 2006–2008 was 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) Directly age-standardised using the Australian 2001 standard population using age 5 year age groups up to 75+.

(g) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

(h) Notification rate for Indigenous Australians minus the notification rate for other Australians.

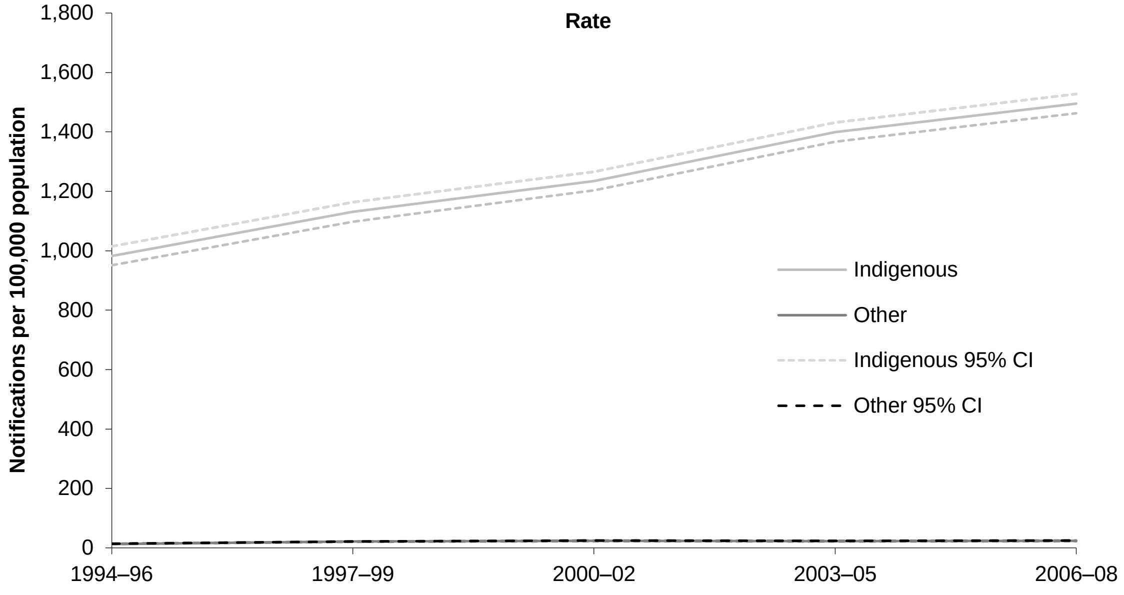
Source: AIHW analysis of NNDSS data.

Gonorrhoea

For the period 2006–2008, there were 19,446 notifications of gonorrhoea in Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, 55% of which were notifications of Aboriginal and Torres Strait Islander peoples. The proportion of notifications that occurred among Indigenous people was largest in the Northern Territory (88%) followed by Western Australia (74%) (see Indicator 1.11 Table 1.11.3).

Time series

- In Western Australia, South Australia and the Northern Territory combined, there were significant increases in notification rates for gonorrhoea among Indigenous Australians during the period 1994–1996 to 2006–2008. The fitted trend line shows an average yearly increase in the age-standardised rate of around 43 per 100,000 which is equivalent to a 61% increase in the rate over the period (Table 2.25.3). There were significant increases in notification rates for both Indigenous males and females.
- There were also increases in notification rates for gonorrhoea among other Australians during the same period. Rates showed a significant increase for males (99% increase over the period) but not for females.
- Notification rate ratios between Indigenous and other Australians for gonorrhoea showed no significant changes for males or females over the 12-year period (Figure 2.25.3).
- 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 42 per 100,000 (61% increase). These increases were statistically significant for both males and females.



Source: AIHW analysis of NNDSS data.

Figure 2.25.3: Age-standardised notification rates for gonorrhoea, WA, SA and NT, 1994–1996 to 2006–2008

Table 2.25.3: Crude and age-standardised notification rates, rate differences and rate ratios for gonorrhoea, WA, SA and NT, 1994–1996 to 2006–2008[(a)]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[(b)]	Percentage change over period[(c)]
Indigenous notifications							
Males	2,595	2,645	3,066	3,730	4,261	147.2*	79.4*
Females	1,850	2,881	3,416	4,163	4,505	219.7*	166.3*
Persons	4,457	5,529	6,482	7,968	8,881	376.2*	118.2*
Other Australian notifications[(d)]							
Males	968	1,373	1,608	1,767	1,969	79.9*	115.5*
Females	397	821	809	613	649	9.9	34.8
Persons	1,377	2,208	2,459	2,389	2,645	90.6*	92.1*
Indigenous crude rate per 100,000							
Males	1,355.6	1,286.1	1,389.9	1,590.7	1,720.0	34.5*	35.6*
Females	955.0	1,388.5	1,535.8	1,758.8	1,799.7	68.7*	100.6*
Persons	1,157.2	1,338.3	1,463.2	1,691.1	1,783.2	53.5*	64.7*
Indigenous age-standardised rate per 100,000[(e)]							
Males	1,200.3	1,137.6	1,223.2	1,368.3	1,493.0	27.2*	31.7*
Females	771.9	1,132.1	1,251.5	1,411.6	1,466.1	55.6*	100.8*
Persons	982.7	1,130.8	1,234.7	1,399.4	1,494.8	43.1*	61.4*
Other Australian age-standardised rate per 100,000[(d)(e)]							
Males	18.5	26.0	30.3	32.7	34.6	1.3*	98.7*
Females	7.7	16.1	15.8	11.9	12.0	0.1	26.7
Persons	13.2	21.1	23.5	22.5	23.7	0.7*	78.6*
Rate ratio[(g)]							
Males	65.0	43.8	40.4	41.8	43.1	–1.5	–32.9
Females	99.9	70.5	79.2	118.8	122.0	3.1	43.2
Persons	74.2	53.5	52.6	62.3	63.0	–0.5	–8.6
Rate difference[(f)]							
Males	1,181.8	1,111.6	1,192.9	1,335.5	1,458.4	25.9*	30.7*
Females	764.2	1,116.0	1,235.7	1,399.8	1,454.1	55.4*	101.6*
Persons	969.5	1,109.7	1,211.2	1,377.0	1,471.1	42.3*	61.1*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(a) Rates were calculated using the sum of notifications divided by the sum of the populations for the relevant years.

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

(c) Percentage change between 1994–1996 and 2006–2008 was 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 75+.

(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.

Source: AIHW analysis of NNDSS data.

Donovanosis

For the period 2006–2008, there were five notifications of donovanosis in Australia, four of which were notifications of Aboriginal and Torres Strait Islander peoples. All of these recorded notifications took place in Queensland and the Northern Territory. Rates have not been calculated for these states and territories because of the small numbers of notifications.

Teenage pregnancies

Teenage pregnancy is one indicator of unsafe sexual practices. It does not measure all cases, just those involving pregnancies in the under 20 year age group. Note that not all unsafe sexual practices result in teenage pregnancy and not all teenage pregnancies are unplanned. So this measure overestimates unplanned pregnancies and underestimates all cases of unsafe sexual practices.

Information on births to teenage mothers is available from the National Perinatal Data Collection.

- For the period 2005-2007, there were 6,396 women aged less than 20 years who gave birth and identified as Aboriginal or Torres Strait Islander peoples. This represented 22% of all Indigenous mothers who gave birth at a rate of 46.9 per 1,000 women. In comparison, only 3.6% of all non-Indigenous mothers were aged less than 20 years at a rate of 9.2 per 1,000 women (Table 2.25.4; Table 2.25.5).
- The majority of teenage mothers were aged 17–19 years for both Indigenous and non-Indigenous mothers. However, 20% of Indigenous teenage mothers were aged less than 17 years, compared with 10% of non-Indigenous mothers (Table 2.25.4).
- Indigenous women less than 14 years of age gave birth at 17 times the rate of non-Indigenous women of this age range (Table 2.25.4).
- The rate of Indigenous women aged less than 20 years who gave birth varied across jurisdictions. Western Australia had the highest rate (68 per 1,000 women) and Tasmania had the lowest (21) (Table 2.25.5).
- Indigenous women aged less than 20 years gave birth at approximately seven times the rate of non-Indigenous women in Western Australia, approximately five times the rate in New South Wales, Victoria and South Australia and approximately four times the rate in the Northern Territory and Queensland (Table 2.25.5).
- From 2005-2007, *Very Remote* areas had the highest proportion of Indigenous mothers who were teenagers (25%) and *Major Cities* had the lowest (18%). For non-Indigenous mothers, *Outer Regional* areas had the highest proportion of teenage mothers (5.6%) and *Major Cities* had the lowest (2.9%) (Table 2.25.6).
- For those jurisdictions where data on smoking during pregnancy were available, approximately 53% of Indigenous teenage mothers reported smoking during pregnancy in 2005, 44% reported they did not smoke during pregnancy and 3.4% did not state their smoking status (Table 2.25.6).
- In the period 2005-2007, approximately 13% of Indigenous teenage mothers had births that were pre-term and 13% gave birth to low birthweight babies. Around 10% of non-Indigenous teenage mothers had pre-term births and 8% gave birth to low birthweight babies (Table 2.25.7).

- Around 2.6% of Indigenous teenage mothers gave birth to a baby with an Apgar score of less than 7 at 5 minutes, compared with 2.0% of non-Indigenous teenage mothers (Table 2.25.7).
- The perinatal mortality rate in the period 2005-2007 was slightly higher for babies born to non-Indigenous than Indigenous teenage mothers (20 per 1,000 and 18 per 1,000, respectively) (Table 2.25.7).

Table 2.25.4: Women aged less than 20 years who gave birth, by Indigenous status, 2005-2007

Age (years)	Indigenous	Non-Indigenous	
	Number		
<14	25	30	
14	110	124	
15	377	638	
16	795	2,210	
17	1,258	5,043	
18	1,686	8,289	
19	2,145	12,909	
Total < 20 years	**6,396**	**29,243**	
	Per cent		
<14	0.4	0.1	
14	1.7	0.4	
15	5.9	2.2	
16	12.4	7.6	
17	19.7	17.2	
18	26.4	28.3	
19	33.5	44.1	
Total < 20 years	**100.0**	**100.0**	
	Number per 1,000 women		
	Indigenous	**Non-Indigenous**	**Rate ratio**
<14	0.7	0.04	17.3
14	5.9	0.3	19.0
15	21.0	1.6	13.1
16	46.8	5.6	8.4
17	79.5	12.7	6.3
18	113.5	20.8	5.4
19	148.4	31.9	4.7
Total < 20 years[(a)]	**46.9**	**9.2**	**5.1**

(a) Total rates for women aged 12 to 19 years of age.

Source: AIHW analysis of NPSU National Perinatal Data Collection.

Table 2.25.5: Women aged less than 20 years who gave birth, by Indigenous status and state/territory[(a)(b)], 2005–2007

	Number		Per cent		Rate (no. per 1,000 women aged 12 to < 20 years)		
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Ratio**
NSW	1,647	8,860	19.9	3.3	40.3	8.6	4.7
Vic	269	5,105	16.7	2.6	29.9	6.4	4.7
Qld	1,711	7,729	18.8	4.8	44.8	12.2	3.7
WA	1,228	3,314	23.8	4.2	67.5	10.3	6.6
SA	355	2,377	21.0	4.4	45.8	10.1	4.5
Tas	108	1,191	16.2	6.8	20.7	16.0	1.3
ACT	28	316	12.4	2.4	n.a.	n.a.	n.a.
NT	1,045	319	25.1	4.8	65.4	15.2	4.3
Aust[(c)]	**6,396**	**29,243**	**20.7**	**3.6**	**46.9**	**9.2**	**5.1**

(a) Based on state/territory of usual residence.

(b) Excludes missing, non-Australian resident and not stated Australia residents.

(c) Includes missing, non-Australian resident, not stated and not stated Australia residents.

Note: Excludes not stated Indigenous status.

Source: AIHW analysis of NPESU National Perinatal Data Collection.

Table 2.25.6: Women aged less than 20 years who gave birth, by Indigenous status and selected maternal characteristics, 2005-2007

	Number		Per cent	
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Remoteness[(a)]				
Major cities	1,465	16,350	18.4	2.9
Inner regional	1,170	8,060	19.9	5.4
Outer regional	1,648	4,062	20.1	5.6
Remote	718	566	21.2	4.8
Very remote	1,390	173	25.4	4.3
Total[(b)]	**6,396**	**29,243**	**20.7**	**3.6**
Smoked during pregnancy[(c)]				
Smoked	3,050	8,794	52.9	38.9
Did not smoke	2,520	13,672	43.7	60.5
Not stated	194	133	3.4	0.6
Parity[(d)]				
None	4,708	24,605	73.6	84.1
One	1,392	4,169	21.8	14.3
Two	267	403	4.2	1.4
Three or more	27	39	0.4	0.1
Total mothers < 20 years	**6,396**	**29,243**	**. .**	**. .**

Note: Excludes not stated Indigenous status.

(a) Excludes missing, non-Australian resident and not stated Australia residents.

(b) Includes missing, non-Australian resident and not stated Australia residents.

(c) Excludes Victoria for all years and Queensland for 6 months of 2005.

(d) Parity refers to number of previous pregnancies resulting in live births or stillbirths, excluding the current pregnancy.

Source: AIHW analysis of NPESU National Perinatal Data Collection.

Table 2.25.7: Women aged less than 20 years who gave birth, by Indigenous status and selected birth outcomes, 2005-2007

	Number		Per cent	
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Pre-term births	847	2,824	13.1	9.6
Low birthweight[(a)]	829	2,267	13.0	7.8
Apgar score at 5 minutes[(a)]				
0–6	164	568	2.6	2.0
7–10	6,179	28,427	97.1	97.9
	Number		**Rate (no. per 1,000 births)**	
	Indigenous	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Perinatal deaths	117	591	18.2	20.0

(a) For live births.

Note: Excludes not stated Indigenous status.

Source: AIHW analysis of NPESU National Perinatal Data Collection.

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.

Under-identification

The incompleteness of Indigenous identification means the number of notifications recorded as Indigenous is likely to be an underestimate of Aboriginal and Torres Strait Islander notifications rates. In 2007-08, Indigenous status was not reported in 54% cases of chlamydia, 25% cases of syphilis, 29% of cases of gonorrhoea and 13% of cases of hepatitis C (newly acquired).

The completeness of Indigenous identification in notifiable disease registries varies between the states and territories. 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 2007-08.

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).

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.

The state/territory of birth is provided for all births. Tabulated data in this report are based on births in each state and territory in 2007 meeting the criteria for inclusion in the NPDC. Each state and territory has its own form and/or electronic system for collecting perinatal data. Unless otherwise stated, the data in this report relate to the state or territory of occurrence of births in 2007 rather than to the state or territory of usual residence of the mother. The Australian Capital Territory data contain a relatively high proportion of New South Wales residents who gave birth in the Australian Capital Territory. There are a small number of Aboriginal and Torres Strait Islander mothers who give birth in the Australian Capital Territory, and the proportion fluctuates from year to year, making this jurisdiction less comparable to other jurisdictions. In 2007, 24.1% of Aboriginal or Torres Strait Islander women who gave birth in the Australian Capital Territory were not Australian Capital Territory residents. When interpreting the data it is important to note that these births to non-residents may include a disproportionate number of high risk and multi-fetal pregnancies associated with poorer perinatal outcomes. Therefore, percentages or rates such as those for preterm birth and perinatal deaths may be inflated for births that occur in the Australian Capital Territory. Because of this and the small numbers involved, care should be taken in interpreting data from the Australian Capital Territory (Laws et al. 2007).

The Perinatal NMDS does not include neonatal or perinatal death data items of information on cause of death. However, this information is collected as part of the NPDC. The data are incomplete. In some jurisdictions, neonatal deaths for babies transferred to another hospital or readmitted to hospital and those dying at home may not be included. Neonatal deaths for the Northern Territory are considered to be incomplete for 2007 as data do not include deaths occurring outside of the Northern Territory. Due to small number of deaths, interpretation can be limited as to whether differences in mortality rates are due to statistical fluctuations or differential ascertainment.

Indigenous status question

A standard data item for Indigenous status is specified in the Perinatal National Minimum Data Set. However, not all states and territories use this standard wording for the Indigenous status question on their forms. This affects the quality and comparability of the data collected (ABS & AIHW 2003).

Under-identification

All states and territories have a data item to record Indigenous status on their perinatal form, although there are some differences among the jurisdictions. This separately identifies mothers as those of Aboriginal and Torres Strait Islander origin, and non-Indigenous mothers. No information is collected about the father's or baby's Indigenous status.

Since 2005, all jurisdictions collect information on Indigenous status of the mothers in accordance with the NMDS. All jurisdictions are working towards improving the ascertainment of Indigenous status in their perinatal collection. 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 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 the Indigenous status data. 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. The 'not stated' category for birthweight was found to be small nationally in the evaluation of the Perinatal National Minimum Data Set (Laws & Sullivan 2009). Therefore, the exclusion of 'not stated for birthweight will not have a significant impact on these data.

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.

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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2.26 Prevalence of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2011–12. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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.

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 2.26.1).
- 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 2.26.1; Figure 2.26.1).

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 2.26.1).

Table 2.26.1: 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 and over**		**Non age-standardised**		**Age-standardised(a)**		
BMI groupings	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-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*	1.0*	2.4*	1.0*	2.4
Acceptable weight	47.9*	61.5*	36.7	39.4	32.1	29.3	26.7	29.0	24.2*	35.0*	35.0*	37.0*	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*	43.0*	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*	19.0*	30.4*	19.1*	1.6
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**	**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**	**6,870.5**	**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	4.2	5.2	4.3	1.2
Acceptable weight	51.0*	62.4*	38.4*	56.8*	30.0*	54.1*	29.2*	47.6*	24.0*	43.1*	35.9*	51.0*	32.4*	51.3*	0.6
Overweight	20.0	19.4	22.0	24.5	25.3	26.1	26.4	30.2	30.0	33.2	24.0*	27.9*	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*	16.8*	36.8*	16.7*	2.2
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**	**. .**
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**	**6,707.6**	**109.9**	**6,707.6**	**. .**

(continued)

Table 2.26.1 (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 and over		Non age-standardised		Age-standardised		
BMI groupings	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-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*	2.6*	3.8*	2.6*	1.5
Acceptable weight	49.4*	61.9*	37.6*	47.9*	31.0*	41.6*	28.0*	38.1*	24.1*	39.0*	35.5*	43.9*	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*	35.5*	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*	17.9*	33.6*	17.9*	1.9
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**	**. .**
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**	**13,578.1**	**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*	*8.0*	*15.9*	*7.9*	*. .*

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

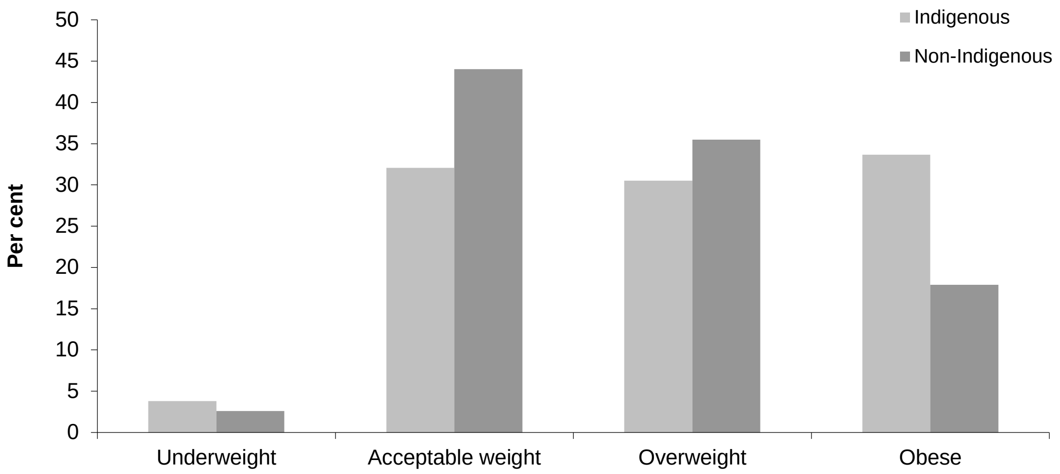
(a) Directly age-standardised proportions to the Australian 2001 standard population.

(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.



Note: Age standardised and excludes those with a BMI not known or not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Figure 2.26.1: Proportion of adults underweight, acceptable weight, overweight and obese, by Indigenous status, 2004–05

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 2.26.2).
- 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 2.26.2: 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

	Under-weight	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 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

(continued)

Table 2.26.2 (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

	Under-weight	**Acceptable weight**	**Overweight**	**Obese**	***Overweight or Obese***	**Total**
			Per cent			
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
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 persons aged 18+ years	**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 2.26.3).
- For non-Indigenous Australians, 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 unpublished data).

Table 2.26.3: 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). Indigenous Australians have a naturally lighter build than European Australians, with relatively long legs, short bodies, narrow chests, and narrow hips and shoulders, which are factors associated with a tendency for central obesity (O'Dea 2008).

There is a small body of research to suggest that Indigenous people are at particular risk of weight gain when eating a non-traditional diet because of their naturally light body build and metabolism geared towards making them efficient hunter-gatherers.

Available research suggests that traditional Indigenous hunter-gatherers consumed a varied diet in which animal foods were a major component. Their diet was not high in fat because the wild animal meat consumed was extremely lean. A wide variety of uncultivated plant foods were eaten, which were generally high in fibre and contained carbohydrates that were digested slowly. Traditional foods generally had a low energy density and high level of nutrients. The low-energy intake of the diet and the labour intensity of procuring food would have protected Indigenous people against obesity and associated health conditions such as diabetes (O'Dea 1991).

Today, many Indigenous people consume a diet high in fat, sugar and energy-dense foods which has lead to high rates of overweight and obesity. 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 2006).

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 2006). 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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Health System performance (Tier 3)

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

State/territory perinatal collections

Data for this measure come from the state/territory-based perinatal collections ('midwives collections').

Each state and territory has a perinatal collection based on birth notification forms completed by midwives, and other staff, using information obtained from mothers and other hospital records. All jurisdictions record some aspects of most antenatal care, but the data collected vary by jurisdiction.

The Northern Territory, Queensland and South Australia collect data on the number of antenatal visits attended during pregnancy and the type of health-care professional consulted. New South Wales and the Northern Territory record the duration of pregnancy at the first antenatal session. Data on the use of antenatal care services were not available for the Australian Capital Territory, Victoria, Western Australia or Tasmania.

The World Health Organization (WHO) defines low birth weight as less than 2,500 grams.

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 peoples. 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. For the reporting period ending June 2009, 72 HfL services submitted data to the AIHW.

Analyses

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 2007 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 2007 was poor and was not reliable enough to publish.

Use of antenatal care services

- In 2007, in New South Wales, Queensland, South Australia and the Northern Territory, approximately 97% of Indigenous mothers, and 98% of non-Indigenous mothers, attended at least one antenatal care session.

Use of antenatal care services by state/territory

- In 2007, in New South Wales, Queensland, South Australia and the Northern Territory, the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy was similar to non-Indigenous mothers (Table 3.01.1). This rate ranged from 905 per 1,000 in South Australia to 983 per 1,000 in Queensland.
- In the two jurisdictions where data are collected on the duration of pregnancy (New South Wales and the Northern Territory), Indigenous mothers were 2.3 to 5.4 times as likely as non-Indigenous mothers to be in their third trimester of pregnancy at their first antenatal session and less likely to be in their first trimester (0.8 and 0.6, respectively).
- In Queensland, South Australia and the Northern Territory, Indigenous mothers were less likely to have attended five or more antenatal sessions during pregnancy than non-Indigenous mothers (all 0.8 times as likely).

Table 3.01.1: Use of antenatal services by mothers, by Indigenous status, NSW, Qld, SA and NT, 2007[(a)(b)(c)]

		NSW			Qld			SA			NT		
		Number	Number per 1,000[(d)]	Rate ratio[(e)]	Number	Number per 1,000[(d)]	Rate ratio[(e)]	Number	Number per 1,000[(d)]	Rate ratio[(e)]	Number	Number per 1,000[(d)]	Rate ratio[(e)]
Total attended at least one antenatal session													
	Indigenous	2,782	963.3	1.0	3,115	982.6	1.0	523	904.8	1.0	1,444	971.1	1.0
	Non-Indigenous	90,210	985.7		55,874	997.4		17,711	937.7		2,245	991.6	
No. sessions attended[(f)]													
1	Indigenous	n.a.	n.a.	n.a.	150	47.3	7.2*	21	36.3	18.2*	61	41.0	9.3*
	Non-Indigenous	n.a.	n.a.		368	6.6		38	2.0		10	4.4	
2–4	Indigenous	n.a.	n.a.	n.a.	539	170.0	3.1*	100	173.0	8.7*	240	161.4	3.2*
	Non-Indigenous	n.a.	n.a.		3,119	55.7		377	20.0		114	50.4	
5 or more	Indigenous	n.a.	n.a.	n.a.	2,427	765.6	0.8*	402	695.5	0.8*	1,111	747.1	0.8*
	Non-Indigenous	n.a.	n.a.		52,386	935.2		17,296	915.7		2,116	934.6	
Duration of pregnancy at first antenatal visit[(g)]													
First trimester (<13 weeks)	Indigenous	1,748	605.3	0.8*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	632	425.0	0.6*
	Non-Indigenous	66,218	723.5		n.a.	n.a.		n.a.	n.a.		1,651	729.2	
Second trimester (13–20 weeks)	Indigenous	548	189.8	1.0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	351	236.0	1.2*
	Non-Indigenous	17,114	187.0		n.a.	n.a.		n.a.	n.a.		463	204.5	
Third trimester (20 or more weeks)	Indigenous	461	159.6	2.3*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	461	310.0	5.4*
	Non-Indigenous	6,343	69.3		n.a.	n.a.		n.a.	n.a.		131	57.9	

(continued)

Table 3.01.1 (continued): Use of antenatal services by mothers, by Indigenous status, NSW, Qld, SA, and NT, 2007 (a)(b)(c)

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

(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. Cross-border issues need to be considered here; e.g. a high proportion of births in ACT hospitals are for NSW mothers.
(c) Data not available from the Australian Capital Territory, Victoria, Western Australia and Tasmania.
(d) Number per 1,000 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.
(e) Rate ratio—Indigenous rate divided by the non-Indigenous rate.
(f) Data for Qld, SA and NT only. Data not collected in NSW.
(g) Data for NSW and NT only. Data not collected in Qld or SA.

Source: AIHW analysis of state/territory perinatal collections.

Use of antenatal care services by remoteness

- In 2007, there was little difference in the proportion of Indigenous mothers who attended at least one antenatal care session by remoteness (around 96% in *Major cities*, 97% in *Inner regional and Outer regional* areas and 96–97% in *Remote and Very remote* areas) (Table 3.01.2).
- Over 50% of Indigenous mothers in *Major cities, Inner regional and Outer regional* areas had their first antenatal visit during the first trimester of pregnancy while 46% in *Remote* and 40% in *Very remote* areas did so.
- Women in *Remote* and *Very remote* areas were more likely to have their first antenatal check during second trimester (23%) and third trimester (28%) than women in non-remote locations. Smaller proportions of non-Indigenous mothers in *Remote and Very remote* areas had their first antenatal visit during the second and third trimesters (14% and 5.1%, respectively).
- Indigenous mothers in *Very remote* areas were most likely to attend five or more antenatal sessions (82%), although Indigenous mothers in *Remote* areas were least likely to attend five or more antenatal sessions (71%).
- Indigenous mothers living in *Outer regional* areas were most likely to attend their first antenatal session in their first trimester (54%) and Indigenous mothers living in *Very remote* areas were least likely to attend their first antenatal session in their first trimester (40%).

Table 3.01.2: Use of antenatal services by mothers, by remoteness and Indigenous status, NSW, Qld, SA and NT combined, 2007 [(a)(b)(c)]

	Major Cities		**Inner Regional**		**Outer Regional**		***Sub-total Non-remote***		**Remote**		**Very Remote**		***Sub-total remote***		**Total**	
	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								
Total attended at least one antenatal session	96.0	98.2	97.4	99.0	97.3	98.9	*97.0*	*98.5*	96.7	96.4	95.9	96.2	*96.5*	*96.3*	96.8	98.4
Number of sessions attended[(d)]																
0	2.3*	0.2*	1.2*	0.2*	1.1*	0.1*	*1.4**	*0.2**	1.0*	n.p.	1.8	2.1	*1.2**	*0.4**	1.3*	0.2*
1	3.3*	0.5*	3.9*	0.7*	5.5*	0.6*	*4.7**	*0.5**	4.2*	n.p.	2.4	n.p.	*3.7**	*0.4**	4.4*	0.5*
2–4	16.5*	4.4*	16.5*	5.9*	16.9*	4.5*	*16.7**	*4.7**	19.0*	3.6*	11.8*	2.1*	*17.1**	*3.3**	16.8*	4.7*
5+	76.7*	93.2*	77.9*	92.4*	74.8*	93.5*	*75.8**	*93.1**	71.2*	91.0*	81.6	90.5	*74.0**	*90.9**	75.3*	93.0*
No sessions not stated	1.1	1.7	n.p.	0.8	1.8	1.3	*1.4*	*1.5*	4.6	5.2	2.4	3.9	*4.0*	*5.0*	2.2*	1.6*
Duration of pregnancy at first antenatal visit[(e)]																
First trimester (<13 weeks)	57.5*	69.6*	62.6*	78.1*	53.9*	76.2*	57.7*	72.2*	46.3*	81.3*	39.7*	69.4*	*44.9**	*79.2**	54.4*	72.4*
Second trimester (13 to <20 weeks)	22.2	20.9	16.7	14.4	20.4*	15.9*	19.7	18.9	22.3*	12.5*	25.6	23.8	*23.0**	*14.6**	20.5*	18.7*
Third trimester (20 or more weeks)	15.2*	7.4*	17.0*	5.7*	22.0*	6.3*	18.5*	6.9*	28.0*	4.8*	29.9*	6.8*	*28.4**	*5.1**	21.1*	6.9*
Gestation not stated	0.6	0.4	0.5	0.9	2.3*	0.9*	1.2*	0.6*	2.5*	1.1*	2.6	0.0	*2.5**	*0.9**	1.6*	0.6*
Total women who gave birth[(f)]	**1,790**	**107,390**	**1,662**	**37,612**	**2,952**	**19,663**	***6,404***	***164,665***	**1,202**	**1,892**	**460**	**417**	***1,662***	***2,309***	**8,123**	**168,689**

(continued)

Table 3.01.2(continued): Use of antenatal services by mothers, by remoteness and Indigenous status, NSW, Qld, SA and NT combined, 2007 [(a)(b)(c)]

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

(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. Cross-border issues need to be considered here; e.g. a high proportion of births in ACT hospitals are for NSW mothers.

(c) Data not available from the Australian Capital Territory, Victoria, Western Australia and Tasmania.

(d) Data for Qld, SA and NT only. Data not collected in NSW.

(e) Data for NSW and NT only. Data not collected in Qld or SA.

(f) Total 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

Source: AIHW analysis of state/territory perinatal collections.

Use of antenatal care services by age

- Across all age groups in 2007, the percentage of Indigenous mothers who attended at least one antenatal care session during pregnancy was similar to non-Indigenous mothers (between 97% and 98%) for New South Wales, Queensland, South Australia and the Northern Territory combined (Table 3.01.3).
- The largest difference between the number of Indigenous and non-Indigenous mothers attending at least one antenatal session was observed for mothers aged 40 years and over. In this age group 93% of Indigenous mothers attended one session compared with 98% of non-Indigenous mothers
- For New South Wales and Northern Territory combined, Indigenous mothers were more likely than non-Indigenous mothers to have attended their first antenatal session during their second or third trimester of pregnancy. For all age groups, Indigenous mothers were also more likely to attend their first antenatal session during their third trimester compared with non-Indigenous mothers.
- Indigenous mothers were most likely to attend their first antenatal visit during their third trimester of pregnancy when they were aged 40 years or older (28%) and if they were less than 20 years of age (25%). Indigenous mothers were least likely to attend their first antenatal visit during their third trimester of pregnancy when they were aged 30–34 years old (17%).

Table 3.01.3: Use of antenatal services by mothers, by age of mother and Indigenous status, NSW, Qld, SA and NT combined, 2007[(a)(b)(c)]

	<20		20–24		25–29		30–34		35–39		40+		Total	
	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	96.9	98.0	97.1	98.4	97.1	98.3	96.2	98.5	96.4	98.7	92.6	98.3	96.8	98.4
Number of sessions attended[(d)]														
0	1.5*	0.5*	1.0*	0.3*	1.4*	0.2*	1.3*	0.1*	1.3*	0.1*	n.p.	n.p.	1.3*	0.2*
1	3.6*	1.4*	4.3*	0.9*	4.7*	0.5*	4.8*	0.4*	5.3*	0.3*	n.p.	0.4*	4.4*	0.5*
2–4	19.0*	9.5*	17.5*	6.6*	16.3*	4.5*	14.1*	3.7*	15.5*	3.7*	12.5*	4.1*	16.8*	4.7*
5+	73.3*	87.6*	74.9*	91.3*	76.1*	93.2*	77.2*	93.9*	75.9*	94.3*	73.4	93.0	75.3*	93.0*
No sessions not stated	2.6*	1.0*	2.3*	1.0*	1.5	1.6	2.6	1.9	2.0	1.6	n.p.	2.3	2.2*	1.6*
Duration of pregnancy at first antenatal visit[(e)]														
First trimester (<13 weeks)	47.4*	61.0*	54.8*	69.4*	56.3*	72.6*	58.5*	73.7*	57.4*	73.9*	55.8	71.1	54.4*	72.4*
Second trimester (13 to <20 weeks)	24.0*	19.3*	20.5	18.5	19.2	18.2	19.8	19.0	18.5	18.6	11.6	20.5	20.5*	18.7*
Third trimester (20 or more weeks)	25.0*	16.4*	21.2*	9.5*	20.8*	7.1*	16.5*	5.6*	18.8*	5.7*	27.9*	6.5*	21.1*	6.9*
Gestation not stated	2.1*	0.7*	1.5*	0.6*	1.2*	0.5*	1.8*	0.6*	n.p.	0.7	0.0	0.8	1.6*	0.6*
Total women who gave birth[(f)]	**1,597**	**6,350**	**2,620**	**24,754**	**1,931**	**46,311**	**1,247**	**54,490**	**632**	**30,826**	**95**	**5,944**	**8,123**	**168,689**

(continued)

Table 3.01.3 (continued): Use of antenatal services by mothers, by age of mother and Indigenous status, NSW, Qld, SA and NT combined 2007[(a)(b)(c)]

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

(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. Cross-border issues need to be considered here; e.g. a high proportion of births in ACT hospitals are for NSW mothers.

(c) Data not available from the Australian Capital Territory, Victoria, Western Australia and Tasmania.

(d) Data for Qld, SA and NT only. Data not collected in NSW.

(e) Data for NSW and NT only. Data not collected in Qld or SA.

(f) Total 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.

Source: AIHW analysis of state/territory perinatal collections.

Use of antenatal care services by smoking status

- In 2007, in New South Wales, Queensland, South Australia and the Northern Territory combined, 51% of Indigenous mothers who attended at least one antenatal session smoked, compared to 15% of non-Indigenous mothers who attended one antenatal session (Table 3.01.4).
- In Queensland, South Australia and the Northern Territory combined, the proportion of Indigenous mothers who smoked and attended 1 (62%), 2–4 (59%) or 5 or more (50%) antenatal sessions was higher than the proportion of non-Indigenous mothers who smoked and attended 1 (46%), 2–4 (35%) or 5 or more (17%) antenatal sessions (Table 3.01.4).
- In New South Wales and the Northern Territory combined, a slightly lower proportion of Indigenous mothers who smoked attended their first antenatal session in the first trimester of pregnancy (45%) than Indigenous mothers who attended their first antenatal session in their second or third trimester of pregnancy (50–52%) (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 combined, 2007[(a)(b)(c)]

	Smoked			Did not smoke			Total[(d)]	
	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous
	%	%		%	%		No.	No.
Attended at least one antenatal session	51.1	14.5	3.5*	46.5	85.1	0.5*	7,872	167,192
Attended no antenatal sessions	59.2	29.1	2.0*	28.9	68.4	0.4*	218	1,088
Number of sessions attended[(e)]								
0	50.4	42.3	1.2	28.9	48.1	0.6*	121	156
1	62.1	46.4	1.3*	28.0	50.2	0.6*	232	416
2–4	59.0	34.8	1.7*	33.8	62.7	0.5*	879	3,610
5+	49.8	17.2	2.9*	47.8	82.3	0.6*	3,941	71,802
Duration of pregnancy at first antenatal visit[(f)]								
First trimester (<13 weeks)	45.3	10.7	4.2*	52.9	89.2	0.6*	2,382	67,878
Second trimester (13 to <20 weeks)	50.2	11.3	4.4*	44.7	88.5	0.5*	894	17,575
Third trimester (20 or more weeks)	52.0	21.0	2.5*	37.0	78.6	0.5*	968	6,492

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

(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. Cross-border issues need to be considered here; e.g. a high proportion of births in ACT hospitals are for NSW mothers.

(c) Data not available from the Australian Capital Territory, Victoria, Western Australia and Tasmania.

(d) Includes smoking status not stated.

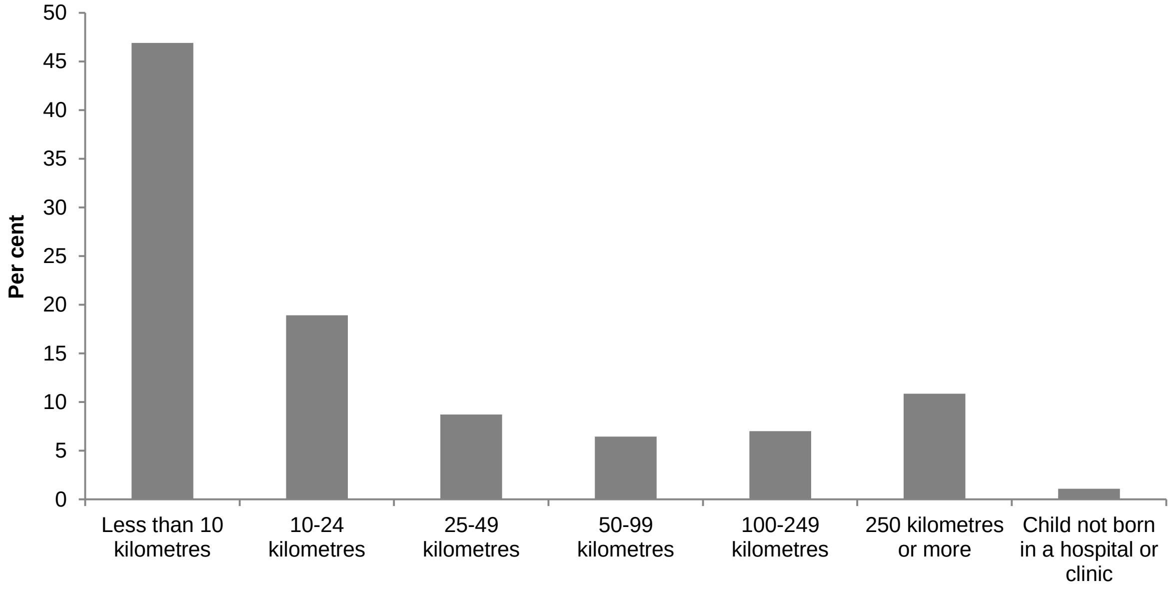
(e) Data for Qld, SA and NT. Data not collected in NSW.

(f) Data for NSW and NT. Data not collected in Qld or SA.

Source: AIHW analysis of state/territory perinatal collections.

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 (Figure 3.01.1).
- 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 the Indigenous children was not born in a hospital or clinic.



Source: AIHW analysis of 2008 NATSISS.

Figure 3.01.1: Distance to hospital or clinic where child was born, Indigenous children aged 0–3 years, 2008

Use of antenatal care services and birth outcomes

Tables 3.01.5, 3.01.6 and 3.01.7 present information on babies with specific birth outcomes by the number of antenatal sessions the mother attended and duration of pregnancy at first visit. Table 3.01.4 presents information on birthweight, Table 3.01.5 presents information on pre-term (less than 37 weeks gestation) and non-pre-term births and Tables 3.01.6 presents information on perinatal deaths.

In 2007, in New South Wales, Queensland, South Australia and the Northern Territory combined, the proportion of live births that were of low birthweight to Indigenous mothers was:

- much higher among mothers who attended no antenatal sessions than among mothers who attended at least one antenatal session (25% compared with 12%). (Table 3.01.5);
- higher among mothers who attended no antenatal sessions or one antenatal session (36% and 27%, respectively) than among mothers who attended five or more antenatal sessions (9.4%) (Table 3.01.5).
- In New South Wales and the Northern Territory combined, a lower proportion of live births who were of low birthweight to Indigenous mothers were born to mothers who attended their first antenatal session in the first trimester of pregnancy (9.9%) than mothers who attended their first antenatal session in their second or third trimester of pregnancy (12–14%) (Table 3.01.5).
- Similar patterns to those described above were evident for pre-term births to Indigenous mothers (Table 3.01.6).
- The proportion of babies that died in the perinatal period born to Indigenous mothers (the perinatal period commences at 20 completed weeks, or 140 days, of gestation and ends 28 completed days after birth) was much higher for mothers who attended no antenatal sessions compared with mothers who attended five or more antenatal sessions (13% compared with 0.8%) (Table 3.01.7).

Table 3.01.5: Low birthweight babies by use of antenatal services by mothers and Indigenous status, NSW, Qld, SA and NT combined, 2007[(a)(b)(c)]

	Low birthweight			Non-low birthweight			Total live births	
	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous
	%	%		%	%		No.	No.
Attended at least one antenatal session	11.7	5.8	2.0*	88.5	94.2	0.9*	7,850	167,449
Attended no antenatal sessions	24.8	12.7	1.9*	47.7	87.0	0.5*	158	1,045
Number of sessions attended[(d)]								
0	35.9	31.3	1.2	64.1	68.8	0.93	64	128
1	26.9	30.2	0.9	73.5	69.8	1.05	223	377
2–4	22.9	20.0	1.1	78.3	80.1	0.98	860	3,474
5+	9.4	5.5	1.7*	90.8	94.6	0.96*	3,969	72,744
Duration of pregnancy at first antenatal visit[(e)]								
First trimester (<13 weeks)	9.9	5.2	1.9*	90.2	94.8	0.95*	2,382	68,414
Second trimester (13 to <20 weeks)	12.4	5.5	2.2*	88.4	94.5	0.94	898	17,674
Third trimester (20 or more weeks)	13.5	6.3	2.1*	87.4	93.7	0.93	905	6,488

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

(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. Cross-border issues need to be considered here; e.g. a high proportion of births in ACT hospitals are for NSW mothers.

(c) Data not available from the Australian Capital Territory, Victoria, Western Australia and Tasmania.

(d) Data for Qld, SA and NT only. Data not collected in NSW.

(e) Data for NSW and NT only. Data not collected in Qld or SA.

Source: AIHW analysis of state/territory perinatal collections.

Table 3.01.6: Pre-term babies by use of antenatal services by mothers, and Indigenous status, NSW, Qld, SA and NT combined, 2007[(a)(b)(c)]

	Pre-term			Non-pre-term			Total births	
	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous
	Per cent			Per cent			Number	
Attended at least one antenatal session	25.5	8.7	2.9*	74.5	91.3	0.8*	7,963	168,644
Attended no antenatal sessions	36.3	16.4	2.2*	63.7	83.3	0.8*	168	1,084
Number of sessions attended[(d)]								
0	37.1	32.1	1.2	62.9	67.9	0.9	70	140
1	34.9	30.7	1.1	65.1	69.3	0.9	232	423
2–4	34.6	24.4	1.4*	65.3	75.6	0.9*	887	3,656
5+	32.2	9.8	3.3*	67.8	90.2	0.8*	3,994	72,982
Duration of pregnancy at first antenatal visit[(e)]								
First trimester (<13 weeks)	30.4	9.1	3.3*	69.6	90.9	0.8*	2,414	68,945
Second trimester (13 to <20 weeks)	40.9	9.2	4.4*	59.1	90.8	0.7*	915	17,811
Third trimester (20 or more weeks)	49.1	9.8	5.0*	50.8	90.2	0.6*	925	6,548

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

(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. Cross-border issues need to be considered here; e.g. a high proportion of births in ACT hospitals are for NSW mothers.

(c) Data not available from the Australian Capital Territory, Victoria, Western Australia and Tasmania.

(d) Data for Qld, SA and NT only. Data not collected in NSW.

(e) Data for NSW and NT only. Data not collected in Qld or SA.

Source: AIHW analysis of state/territory perinatal collections.

Table 3.01.7: Perinatal deaths, by use of antenatal services by mothers and Indigenous status, NSW, Qld, SA and NT combined, 2007[(a)(b)(c)]

	Perinatal deaths[(d)]			Non-perinatal deaths			Total births	
	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous
	Per cent			Per cent			Number	
Attended at least one antenatal session	1.8	0.8	2.1*	98.1	99.1	1.0	7,963	168,644
Attended no antenatal sessions	8.9	4.7	1.9*	90.5	95.1	1.0	168	1,084
Number of sessions attended[(e)]								
0	12.9	10.0	1.3	87.1	90.0	1.0	70	140
1	6.5	13.7	0.5*	93.5	86.3	1.1	232	423
2–4	3.9	6.9	0.6*	96.1	93.1	1.0	887	3,656
5+	0.8	0.5	1.5*	99.2	99.5	1.0	3,994	72,982
Duration of pregnancy at first antenatal visit[(f)]								
First trimester (<13 weeks)	1.4	0.8	1.8*	98.3	99.0	1.0	2,414	68,945
Second trimester (13 to <20 weeks)	2.5	0.9	2.9*	97.3	99.0	1.0	915	17,811
Third trimester (20 or more weeks)	2.3	1.0	2.2*	97.5	98.7	1.0	925	6,548

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

(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. Cross-border issues need to be considered here; e.g. a high proportion of births in ACT hospitals are for NSW mothers.

(c) Data not available from the Australian Capital Territory, Victoria, Western Australia and Tasmania.

(d) Perinatal deaths data for NT only includes stillbirths.

(e) Data for Qld, SA and NT only. Data not collected in NSW.

(f) Data for NSW and NT only. Data not collected in Qld or SA.

Source: AIHW analysis of state/territory perinatal collections.

Time series analyses

Data on the antenatal care used by Indigenous mothers are available for 1998–2007 for New South Wales, South Australia and Queensland, and 2000–2007 for the Northern Territory.

- Over the period 1998–2007, 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 that the annual increase in the rate of mothers attending antenatal sessions was around 3.3 per 1,000 births, which is equivalent to a 3.1% 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 (1.6% increase) (Table 3.01.8; Figure 3.01.2).
- In New South Wales, over the period 1998–2007, 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 3.3 per 1,000 which is equivalent to a 3.1% increase in the rate over the period. Over the same period, there was also a slight decrease in the rate at which non-Indigenous mothers attended at least one antenatal care session during pregnancy (0.2% decrease) (Table 3.01.8; Figure 3.01.3).
- In Queensland, over the period 1998–2007, 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.
- In South Australia, over the period 1998–2007, 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 22 per 1,000, which is equivalent to a 28% 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 (15% increase).
- In the Northern Territory, data were provided for 2000–2007. 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.
- In New South Wales, Queensland and South Australia combined the proportion of Indigenous mothers who attended at least one antenatal care session increased from approximately 936 per 1,000 in 1998 to 963 in 2007. Non-Indigenous mothers who attended at least one antenatal care session increased from 967 per 1,000 in 1998 to 981 per 1,000 in 2007 (Table 3.01.9).

Table 3.01.8: Mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld, SA, ACT and NT, 1998–2007[a][b]

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Annual change[c]	Per cent change[d]
						Number						
NSW[e]												
Indigenous	1,909	1,947	1,968	1,980	2,008	2,073	2,191	2,415	2,502	2,757	87.6*	41.3*
Non-Indigenous	81,536	83,103	83,543	81,560	81,683	82,441	81,490	86,128	87,133	89,675	696.6*	7.7*
Qld												
Indigenous	2,657	2,783	2,735	2,636	2,644	2,808	2,696	2,986	2,897	3,115	39.5*	13.4*
Non-Indigenous	44,559	44,998	45,443	45,977	45,451	46,485	47,107	51,081	52,661	55,874	1,139.9*	23.0*
SA[f]												
Indigenous	289	325	307	296	333	355	385	405	462	523	23.3*	72.6*
Non-Indigenous	14,418	15,160	14,588	14,920	14,974	15,329	15,444	15,723	16,754	17,711	293.3*	18.3*
NSW, Qld and SA combined												
Indigenous	4,855	5,055	5,010	4,912	4,985	5,236	5,272	5,806	5,861	6,395	. .	. .
Non-Indigenous	140,513	143,261	143,574	142,457	142,108	144,255	144,041	152,932	156,548	163,260	. .	. .
NT[g][h]												
Indigenous	n.p.	n.p.	1,282	1,426	n.p.	1,389	1,316	1,384	1,468	1,444	. .	. .
Non-Indigenous	n.p.	n.p.	2,173	2,212	n.p.	2,219	2,103	2,266	2,220	2,245	. .	. .
						Number per 1,000[i]						
NSW[e]												
Indigenous	934.4	945.6	934.9	938.4	931.8	959.3	949.3	976.2	958.3	954.6	3.3*	3.1*
Non-Indigenous	984.9	990.5	990.9	991.9	991.5	995.3	994.4	994.9	988.2	979.9	-0.2	-0.2

(continued)

Table 3.01.8 (continued): Mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld, SA, ACT and NT, 1998–2007[(a)(b)]

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Annual change[(c)]	Per cent change[(d)]
						Number						
Qld												
Indigenous	972.9	976.8	976.4	978.8	971.7	981.8	974.3	973.0	986.4	982.6	0.8	0.7
Non-Indigenous	996.6	995.7	994.1	995.0	996.9	996.6	996.3	996.4	998.0	997.4	0.2*	0.2*
SA[(f)]												
Indigenous	694.7	727.1	688.3	741.9	748.3	758.5	795.5	831.6	843.1	904.8	21.8*	28.2*
Non-Indigenous	800.8	852.4	851.5	876.2	882.1	899.4	922.5	903.2	932.4	937.7	13.4*	15.0*
NSW, Qld and SA combined												
Indigenous	935.5	944.0	936.1	944.3	936.9	953.9	948.4	962.9	961.5	963.7	3.3*	3.1*
Non-Indigenous	965.7	975.4	975.7	979.4	980.4	984.5	986.8	985.1	985.1	981.0	1.7*	1.6*
NT[(g)(h)]												
Indigenous	n.p.	n.p.	968.3	960.3	n.p.	996.4	988.0	999.3	999.3	971.1	-3.9	-3.6
Non-Indigenous	n.p.	n.p.	973.1	984.4	n.p.	998.2	999.0	1,000.0	1,000.0	991.6	-1.2	-1.1
Rate ratio[(j)]												
NSW[(e)]	0.9	1.0	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	0.0	3.3
Qld	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.5
SA[(f)]	0.9	0.9	0.8	0.8	0.8	0.8	0.9	0.9	0.9	1.0	0.0	11.6
NSW, Qld and SA combined	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**0.0**	**1.5**
NT[(f)]	n.p.	n.p.	1.0	1.0	n.p.	1.0	1.0	1.0	1.0	1.0	0.0	-2.5

(continued)

Table 3.01.8 (continued): Mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld, SA, ACT and NT, 1998–2007[(a)(b)]

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–2007

(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 the Australian Capital Territory, Victoria, Western Australia and Tasmania.

(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, the pre-2007 definition is used.

(f) SA data excludes women where number of antenatal care sessions attended is unknown.

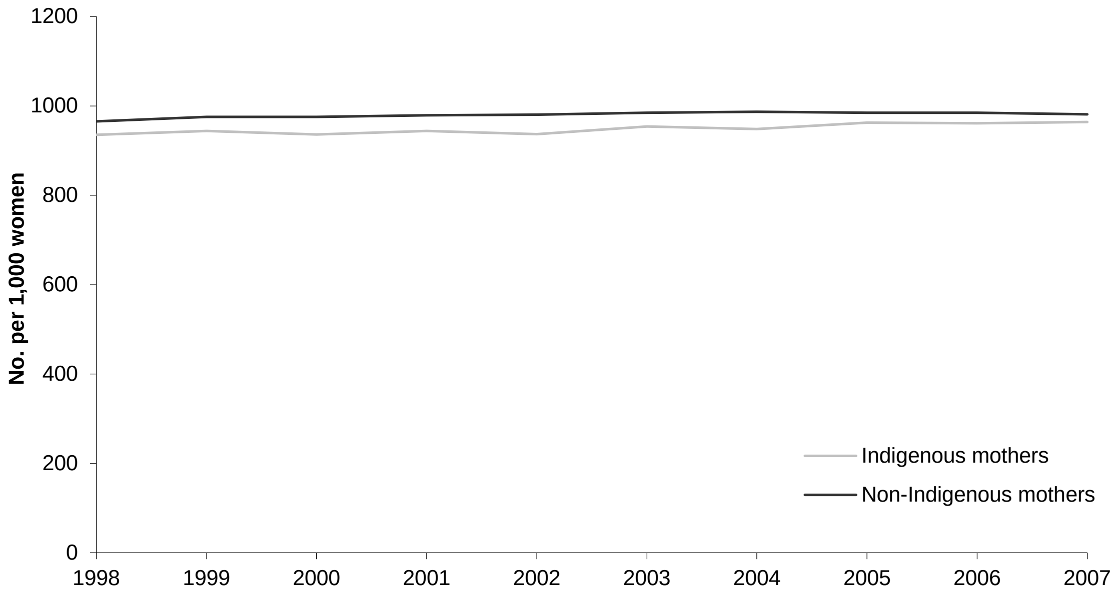
(g) In the NT in 1998, 1999 and 2002, a system error occurred where a large number of women had birthing records created with no antenatal data attached. NT average annual change in rates and rate ratios and per cent change based on the period 2003 to 2007.

(h) NT average annual change in rates and rate ratios and per cent change based on the period 2003 to 2007.

(i) Number per 1,000 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 was 20 weeks or more.

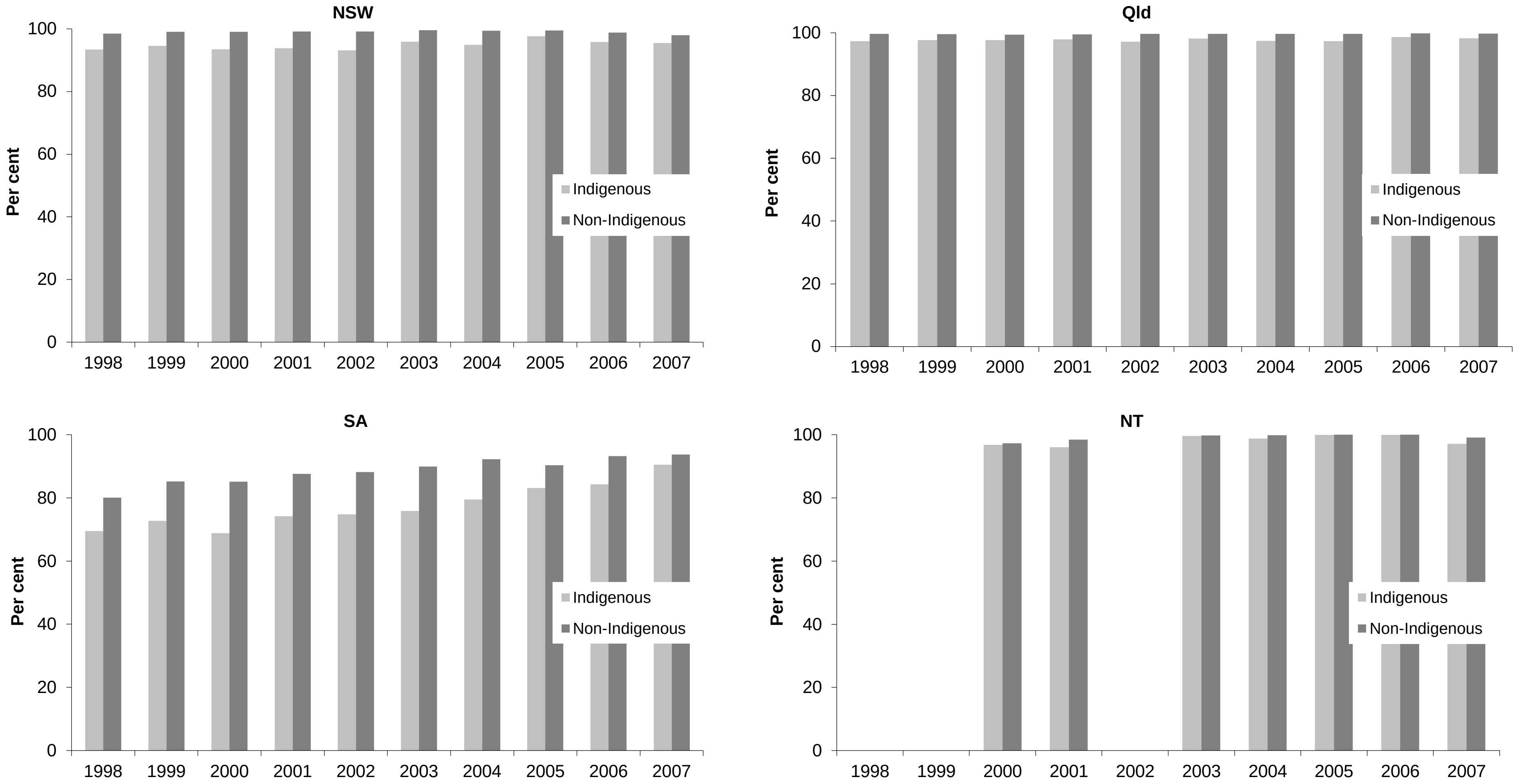
(j) Rate ratio—Indigenous: non-Indigenous.

Source: AIHW analysis of state/territory perinatal collections.



Source: AIHW analysis of state/territory perinatal collections.

Figure 3.01.2: Proportion of mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld and SA combined, 1998–2007



Note: 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.

Source: AIHW analysis of state/territory perinatal collections.

Figure 3.01.3: Percentage of mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld, SA and NT, 1998–2007

Table 3.01.9: Proportion of mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld and SA combined, 1998–2007

	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
					Number per 1,000 women					
Indigenous mothers	935.5	944.0	936.1	944.3	936.9	953.9	948.4	962.9	961.5	963.7
Non-Indigenous mothers	965.7	975.4	975.7	979.4	980.4	984.5	986.8	985.1	985.1	981.0

Source: AIHW analysis of state/territory perinatal collections.

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 2009, 54 Indigenous primary health-care services which were part of the HfL Program provided valid data on antenatal care. Of the 1,704 women who gave birth to an Indigenous baby who were regular clients of these services, 48% attended their first antenatal visit before 13 weeks of pregnancy and 67% attended an antenatal visit before 20 weeks of pregnancy (Table 3.01.10).
- 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 (before 13 weeks) than mothers in urban areas (54% and 50% compared with 32%, respectively) (Table 3.01.10).
- The proportion of mothers who attended their first antenatal visit before 20 weeks of pregnancy was 50% in urban areas, 77% in regional areas and 68% in remote areas.

Table 3.01.10: Number and proportion of women[(a)] who gave birth to an Indigenous baby[(b)], by timing of the first antenatal visit, by region, 1 July 2008 to 30 June 2009

	Urban		Regional		Remote		Total	
Timing of first antenatal visit	**Per cent**	**N/D[(c)]**	**Per cent**	**N/D[(c)]**	**Per cent**	**N/D[(c)]**	**Per cent**	**N/D[(c)]**
Before 13 weeks of pregnancy	32.4	117/361	53.9	333/618	50.3	365/725	47.8	815/1,704
At 13 weeks or after, but before 20 weeks of pregnancy	18.0	65/361	23.1	143/618	17.4	126/725	19.6	334/1,704
Before 20 weeks of pregnancy	*50.4*	*182/361*	*77.0*	*476/618*	*67.7*	*491/725*	*67.4*	*1,149/1,704*
At 20 weeks of pregnancy or after	25.2	91/361	18.1	112/618	22.5	163/725	21.5	366/1,704
Did not attend/Not recorded antenatal visit	24.4	88/361	4.9	30/618	9.8	71/725	11.1	189/1,704
Total	**100.0**	**361/361**	**100.0**	**618/618**	**100.0**	**725/725**	**100.0**	**1,704/1,704**

(a) Women who were regular clients of the Healthy for Life service.

(b) Women who gave birth to an Indigenous baby in the current reporting period.

(c) N (numerator) is the number of women who attended an antenatal visit. D (denominator) is the total number of women who gave birth to an Indigenous baby.

Notes

1. Valid data for this indicator were provided by 54 services (10 urban services, 27 regional services and 17 remote services).
2. Services used their own definition of regular client.

Source: AIHW Healthy for Life data collection.

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 3.01.11).
- 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. Obstetrician was consulted by 17% while 8.8% consulted an Aboriginal or Torres Strait Islander Health Worker.

Table 3.01.11: 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**
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*

(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.

Use of antenatal services by health issues

The 2008 NATSISS were cross-tabulated to examine whether women with a health issue had used an antenatal service during pregnancy.

- Of those women who reported that they had diabetes while pregnant, 96% had used an antenatal service during pregnancy and, of those with high blood pressure, 95% had used an antenatal service (Table 3.01.12).
- Almost all Indigenous women who took folate during pregnancy also sought antenatal services. About 93% of Indigenous women who did not use folate during pregnancy had check-ups while pregnant.

Table 3.01.12: 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	
	No.	%	No.	%
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 3.01.12 (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

Data quality issues

Antenatal care data

All jurisdictions record self-reported information on some aspects of antenatal health status. The inventory of antenatal medical conditions reported on varies from jurisdiction to jurisdiction and they are not comparable.

Jurisdiction-level data are based on the state in which the birth has occurred, not the place of usual residence.

The current situation with regard to information on antenatal care visits is as follows:

Victoria, Tasmania and Western Australia and the Australian Capital Territory do not collect such information in their perinatal collections.

Data on the use of antenatal services by mothers was not collected in New South Wales. In 2007 NSW collected data for a new variable "was antenatal care received", which should provide a more accurate picture of the use of antenatal sessions.

Queensland and South Australia did not collect data on the duration of pregnancy at the first antenatal visit, while New South Wales and the Northern Territory do record the duration of pregnancy at first antenatal visit.

The Northern Territory, Queensland and South Australia collect data on the number of antenatal care visits during pregnancy and the type of health-care professional consulted. However, the categories for the latter are not comparable.

The Northern Territory has experienced IT problems which make reporting difficult (personal communication), and data suffers from under-recording in Aboriginal communities.

All jurisdictions are working towards improving the quality of the Indigenous status 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 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

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3.02 Immunisation (child and adult)

Vaccination coverage rates among Indigenous Australian children and adults

Data sources

Data for this measure come mainly from the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and the Australian Childhood Immunisation Register (ACIR).

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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.

Children for whom Indigenous status was not stated are included with the 'non-Indigenous' under the 'other' category.

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.

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).

Vaccination coverage rates for children aged 1 year, 2 years and 5 years as at 31 December 2009 are presented below.

- Aboriginal and Torres Strait Islander children had lower coverage for all vaccines at 1 year of age (84% compared with 92%), 2 years of age (87% and 91%) and at 5 years of age (78% and 83%), compared with other children (Table 3.02.1).
- Vaccination coverage for Indigenous children aged 1 and 5 years old was lower than for other children for all vaccines. At 2 years of age, the proportion of Indigenous and other children who were fully vaccinated against hepatitis B, DTP, polio and MMR was similar. However, the proportion of Indigenous children fully vaccinated against HIB at 2 years of age was lower than for other children (Table 3.02.1).
- Vaccination coverage for all vaccines for Indigenous children aged 1 year ranged from 74% in Western Australia to 92% in Tasmania. In Queensland, Western Australia, South Australia and the Northern Territory, Indigenous children aged 1 year had significantly lower coverage for all vaccines than other children (Table 3.02.2).
- Vaccination coverage for all vaccines for Indigenous children aged 2 years ranged from 73% in Western Australia to 96% in the Australian Capital Territory (ACT). Vaccination coverage rates were similar for Indigenous and other children aged 2 years in all states and territories except for Western Australia, where there was significantly lower coverage (Table 3.02.3).
- Vaccination coverage rates for all vaccines for Indigenous children aged 5 years ranged from 68% in the ACT to 86% in the Northern Territory. Vaccination coverage rates were similar for Indigenous and other children aged 5 years in all states and territories except for the Northern Territory where the proportion of Indigenous children fully vaccinated was higher (86% compared with 78%) (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 2009[(a)]

	1 year			2 years			5 years		
Vaccine	**Indigenous**	**Other**	**Ratio**[(b)]	**Indigenous**	**Other**	**Ratio**[(b)]	**Indigenous**	**Other**	**Ratio**[(b)]
	Per cent			**Per cent**			**Per cent**		
Hepatitis B	84.9	92.1	0.9*	92.8	93.7	1.0	n.a.[(c)]	n.a.[(c)]	. .
DTP	85.0	92.6	0.9*	93.7	94.8	1.0	79.0	83.5	0.95*
Polio	84.9	92.6	0.9*	93.6	94.7	1.0	79.0	83.5	0.95*
HIB	85.9	92.3	0.9*	90.0	93.6	1.0*	n.a.[(c)]	n.a.[(c)]	. .
MMR	n.a.[(d)]	n.a.[(d)]	. .	93.1	93.7	1.0	79.5	83.3	0.95*
All vaccines	**84.1**	**92.0**	**0.9***	**87.1**	**91.1**	**0.96***	**78.2**	**82.8**	**0.95***

* Represents results with statistically significant differences in the Indigenous/other comparisons.

(a) Three-month cohorts, for cohorts born between 1 July and 30 September 2008, 1 July and 30 September 2007, and 1 July and 30 September 2004, respectively.

(b) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

(c) Data are not collected for children aged 5 years who receive a HIB or hepatitis B vaccine.

(d) 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, as at 31 December 2009[(a)]

	Vaccine					
	Hepatitis B	DTP	Polio	HIB	MMR[(b)]	All vaccines
New South Wales	Per cent					
Indigenous	87.2	87.3	87.1	87.2	n.a.	**87.0**
Other	92.5	92.9	92.8	92.6	n.a.	**92.3**
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	**0.9**
Victoria						
Indigenous	84.3	84.3	84.3	84.3	n.a.	**84.3**
Other	92.1	92.9	92.9	92.4	n.a.	**92.0**
Ratio[(c)]	0.9	0.9	0.9	0.9	. .	**0.9**
Queensland						
Indigenous	85.8	85.8	85.8	85.9	n.a.	**85.8**
Other	92.4	92.7	92.7	92.5	n.a.	**92.3**
Ratio[(c)]	0.9*	0.9*	0.9*	0.9*	. .	**0.9***
Western Australia						
Indigenous	78.0	78.0	78.0	80.3	n.a.	**73.7**
Other	90.4	90.8	90.8	90.6	n.a.	**90.2**
Ratio[(c)]	0.9*	0.9*	0.9*	0.9*	. .	**0.8***
South Australia						
Indigenous	77.7	77.7	77.7	77.1	n.a.	**77.1**
Other	92.0	92.6	92.6	92.1	n.a.	**91.9**
Ratio[(c)]	0.8	0.8*	0.8*	0.8*	. .	**0.8***
Tasmania						
Indigenous	91.5	92.5	91.5	91.5	n.a.	**91.5**
Other	92.6	92.8	92.8	92.8	n.a.	**92.6**
Ratio[(c)]	1.0	1.0	1.0	1.0	. .	**1.0**
Australian Capital Territory						
Indigenous	80.0	80.0	80.0	80.0	n.a.	**80.0**
Other	93.6	94.3	94.2	94.0	n.a.	**93.5**
Ratio[(c)]	0.9	0.8	0.8	0.9	. .	**0.9**
Northern Territory						
Indigenous	86.7	87.0	87.0	93.2	n.a.	**85.4**
Other	91.7	91.7	91.5	92.5	n.a.	**89.7**
Ratio[(c)]	0.9	0.9	1.0	1.0	. .	**0.95***
Australia						
Indigenous	84.9	85.0	84.9	85.9	n.a.	**84.1**
Other	92.1	92.6	92.6	92.3	n.a.	**92.0**
Ratio[(c)]	0.9*	0.9*	0.9*	0.9*	. .	**0.9***

(continued)

Table 3.02.2 (continued): Vaccination coverage estimates for selected diseases for children fully vaccinated at 1 year of age, by Indigenous status, as at 31 December 2009[(a)]

* Represents results with statistically significant differences in the Indigenous/other comparisons.

(a) Three-month cohort, for cohort born between 1 July and 30 September 2008.
(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.

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, as at 31 December 2009[(a)]

	Vaccine					
	Hepatitis B	DTP	Polio	HIB	MMR	All vaccines
New South Wales			Per cent			
Indigenous	91.9	92.5	92.5	93.3	92.1	**88.4**
Other	94.0	94.5	94.4	94.6	93.3	**91.8**
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	**1.0**
Victoria						
Indigenous	93.7	95.3	95.3	94.2	94.8	**92.7**
Other	93.9	95.5	95.4	93.9	94.4	**91.7**
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	**1.0**
Queensland						
Indigenous	93.4	94.9	94.8	92.8	93.5	**89.8**
Other	92.8	94.2	94.2	91.7	93.3	**89.5**
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	**1.0**
Western Australia						
Indigenous	93.0	93.0	93.0	74.9	93.6	**73.3**
Other	93.9	94.4	94.3	94.0	93.6	**91.2**
Ratio[(b)]	1.0	1.0	1.0	0.8*	1.0	**0.8***
South Australia						
Indigenous	87.0	88.6	88.1	84.3	89.2	**83.2**
Other	94.0	95.6	95.6	91.7	94.5	**89.7**
Ratio[(b)]	0.9	0.9	0.9	0.9	0.9	**0.9**
Tasmania						
Indigenous	94.5	95.3	95.3	95.3	92.2	**90.6**
Other	94.3	94.8	94.8	95.1	94.6	**92.9**
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	**1.0**
Australian Capital Territory						
Indigenous	95.8	95.8	95.8	95.8	95.8	**95.8**
Other	95.1	95.3	95.3	95.6	94.4	**93.1**
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	**1.0**
Northern Territory						
Indigenous	95.0	95.3	95.3	91.9	95.3	**91.3**
Other	92.8	93.7	93.7	92.4	93.5	**90.2**
Ratio[(b)]	1.0	1.0	1.0	1.0	1.0	**1.0**
Australia						
Indigenous	92.8	93.7	93.6	90.0	93.1	**87.1**
Other	93.7	94.8	94.7	93.6	93.7	**91.1**
Ratio[(b)]	1.0	1.0	1.0	0.96*	1.0	**0.96***

(continued)

Table 3.02.3 (continued): Vaccination coverage estimates for selected diseases for children fully vaccinated at 2 years of age, by Indigenous status, as at 31 December 2009[(a)]

* Represents results with statistically significant differences in the Indigenous/other comparisons.

(a) Three-month cohort, for cohort born between 1 July and 30 September 2007.

(b) Ratio—coverage estimate for Indigenous children divided by 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, as at 31 December 2009[(a)]

	Vaccine					
	Hepatitis B[(b)]	DTP	Polio	HIB[(b)]	MMR	All vaccines
New South Wales			Per cent			
Indigenous	n.a.	78.2	78.1	n.a.	78.4	**78.0**
Other	n.a.	81.5	81.4	n.a.	81.3	**80.9**
Ratio[(c)]	. .	1.0	1.0	. .	1.0	**1.0**
Victoria						
Indigenous	n.a.	79.5	79.5	n.a.	81.4	**79.1**
Other	n.a.	86.9	86.8	n.a.	86.6	**86.3**
Ratio[(c)]	. .	0.9	0.9	. .	0.9	**0.9**
Queensland						
Indigenous	n.a.	79.0	79.1	n.a.	79.7	**77.8**
Other	n.a.	83.4	83.3	n.a.	83.2	**82.6**
Ratio[(c)]	. .	0.9	0.9	. .	1.0	**0.9**
Western Australia						
Indigenous	n.a.	75.5	75.5	n.a.	75.9	**74.3**
Other	n.a.	82.5	82.4	n.a.	81.9	**81.4**
Ratio[(c)]	. .	0.9	0.9	. .	0.9	**0.9**
South Australia						
Indigenous	n.a.	71.9	71.9	n.a.	73.3	**71.9**
Other	n.a.	81.4	81.5	n.a.	81.1	**80.8**
Ratio[(c)]	. .	0.9	0.9	. .	0.9	**0.9**
Tasmania						
Indigenous	n.a.	86.2	86.2	n.a.	85.1	**85.1**
Other	n.a.	87.5	87.4	n.a.	87.2	**86.3**
Ratio[(c)]	. .	1.0	1.0	. .	1.0	**1.0**
Australian Capital Territory						
Indigenous	n.a.	73.7	68.4	n.a.	68.4	**68.4**
Other	n.a.	86.4	86.2	n.a.	86.2	**85.8**
Ratio[(c)]	. .	0.9	0.8	. .	0.8	**0.8**
Northern Territory						
Indigenous	n.a.	86.9	86.9	n.a.	86.9	**86.2**
Other	n.a.	79.2	79.0	n.a.	78.8	**77.8**
Ratio[(c)]	. .	1.1	1.1	. .	1.1	**1.1***
Australia						
Indigenous	n.a.	79.0	79.0	n.a.	79.5	**78.2**
Other	n.a.	83.5	83.4	n.a.	83.3	**82.8**
Ratio[(c)]	. .	0.95*	0.95*	. .	0.95*	**0.95***

(continued)

Table 3.02.4 (continued): Vaccination coverage estimates for selected diseases for children fully vaccinated at 5 years of age, by Indigenous status, as at 31 December 2009[(a)]

* Represents results with statistically significant differences in the Indigenous/other comparisons.

(a) Three-month cohort, for cohort born between 1 July and 30 September 2004.
(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.

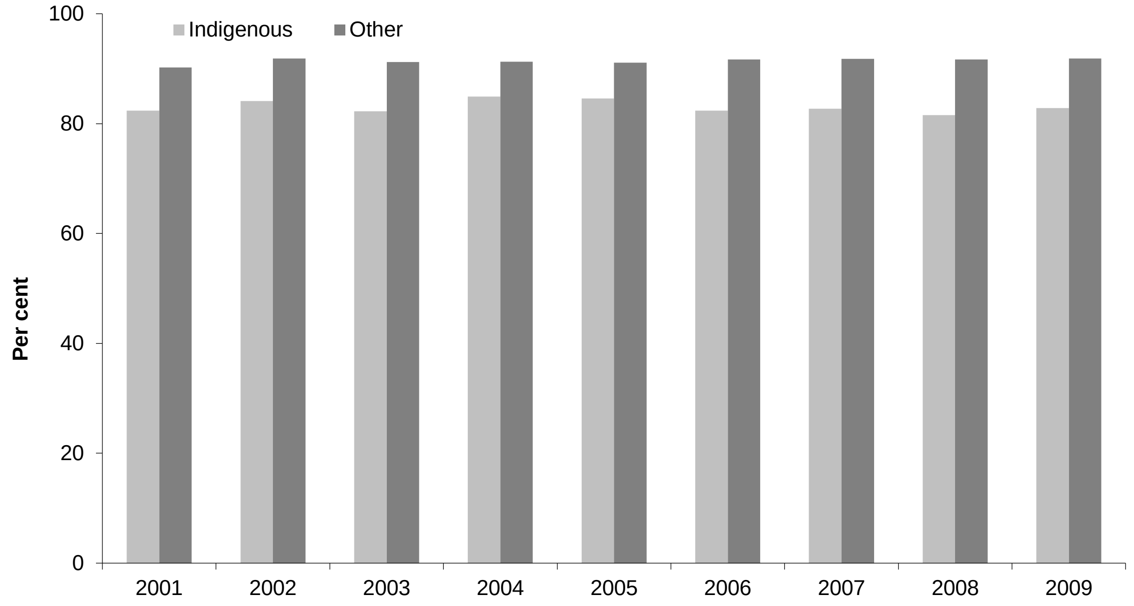
Note: From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, owing to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Time series analyses

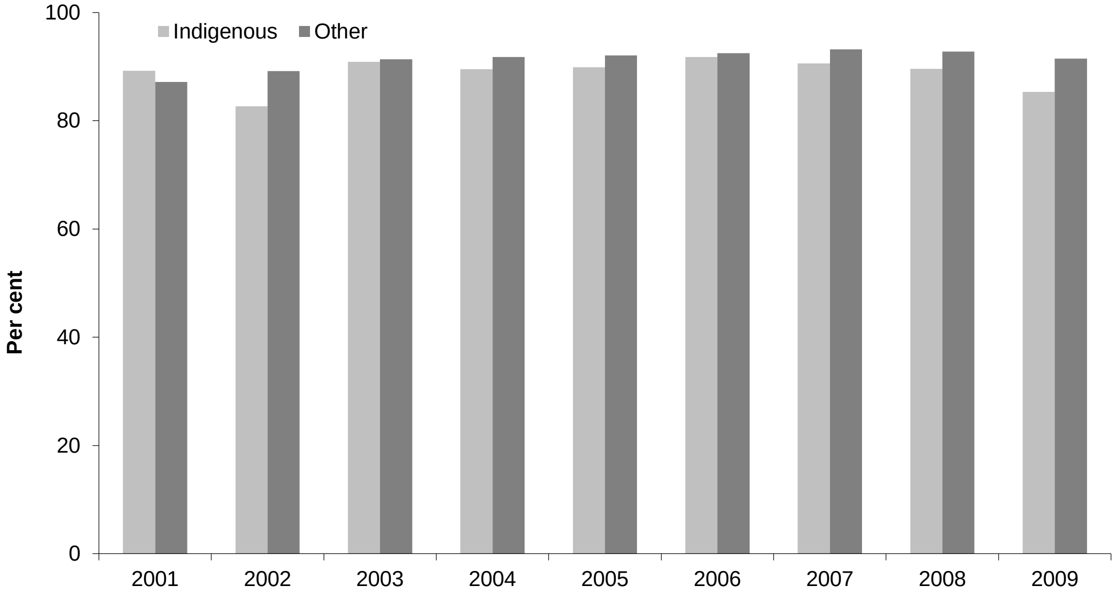
Longer term trend data are limited to five jurisdictions—New South Wales, Victoria, Western Australia, South Australia and the Northern Territory. Data from the ACT, Queensland and Tasmania have not been included because information on Indigenous status from these jurisdictions has not been routinely reported or transferred to the ACIR in previous years.

- Between 2001 and 2009, there was very little change in the proportion of Indigenous children who were fully vaccinated at one year of age, and a slight increase for other children (Table 3.02.5; Figure 3.02.1).
- Between 2001 and 2009, there was a no change in the proportion of Indigenous children who were fully immunised at 2 years of age and a significant increase in the proportion of other children who were fully immunised at two years of age (Table 3.02.5; Figure 3.02.2).
- Between 2008 and 2009, there was an increase in the proportion of Indigenous children and other children who were fully immunised at five years of age (Table 3.02.5; Figure 3.02.3).
- Between 2002 and 2007, there were significant increases in the proportion of Indigenous children and other children who were fully immunised at six years of age (Table 3.02.5; Figure 3.02.4).



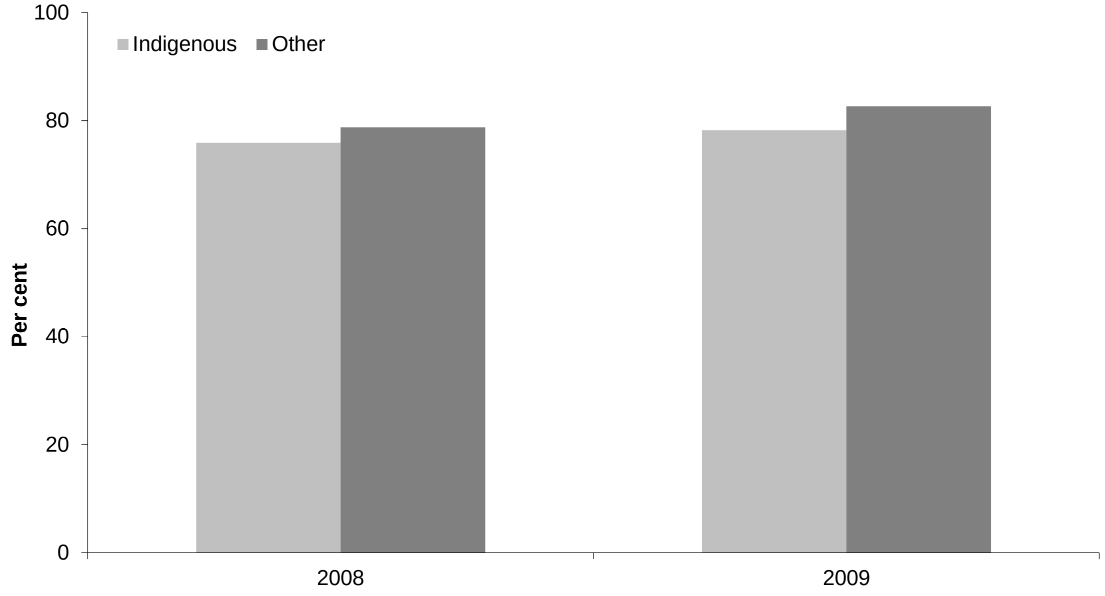
Source: AIHW analysis of ACIR Medicare Australia data.

Figure 3.02.1: Coverage rates for children fully vaccinated at age 1 year in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001–2009



Source: AIHW analysis of ACIR Medicare Australia data.

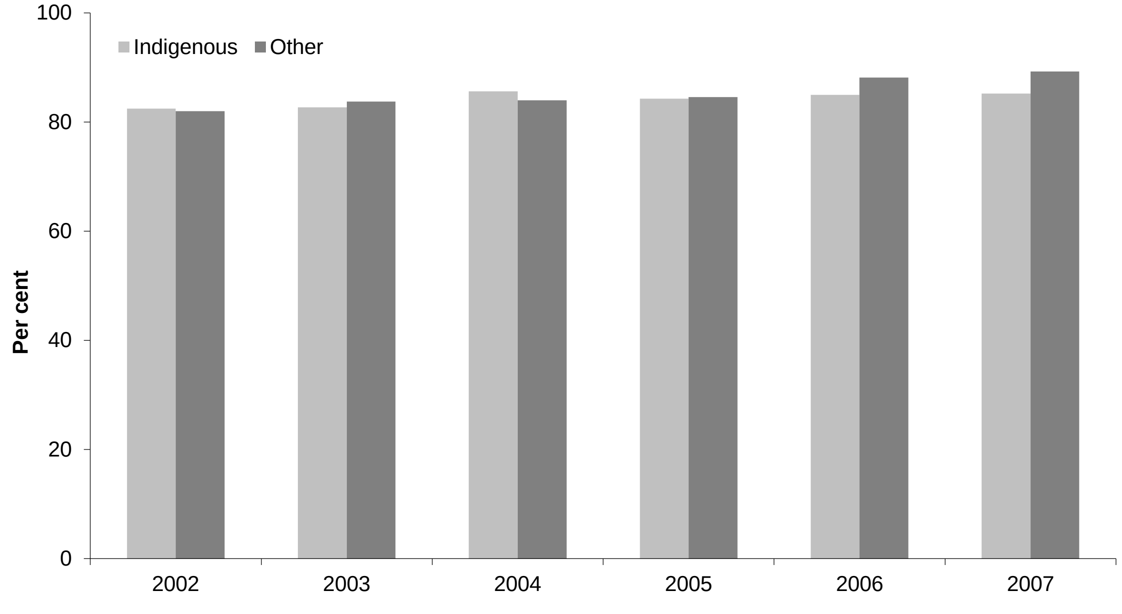
Figure 3.02.2: Coverage rates for children fully vaccinated at age 2 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001–2009



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 and 2009



Notes:

1. Data not available for children at age 6 years for 2001.
2. 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, 2001–2009

	Age 1 years			Age 2 years			Age 5 years			Age 6 years		
	Indig.	Other	Rate difference	Indig.	Other	Rate difference	Indig.	Other	Rate difference	Indig.	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.	. .

Notes:

1. Data not available for six year olds for 2001.
2. From 2008, fully vaccinated status for five 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 3.02.5 (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
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
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
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
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.

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 4.0% of Indigenous children aged 0–6 years were partially immunised in 2001 and 7.0% were partially immunised in 2004–05 (Table 3.02.6).
- 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, but Indigenous children were around twice as likely to be partially immunised.
- 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 3.02.7). 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 3.02.6: 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**		**Indigenous**
	Per cent		**Ratio[(a)]**	**Per cent**
Self-reported status				
Immunisation records not available				
Fully immunised	88	92	1.0	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	1.0	93
Partially immunised	4[(b)]	2	1.9	7[(b)]
Not immunised	n.p.	1[(b)]	—	—
Not known if immunised	n.p.	—[(b)]	—	—
Total[(d)]	**100**	**100**	. .	**100**
Status for selected vaccinations[(e)(f)]				
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[(d)]	**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[(d)]	**100**	**100**	. .	**100**
Hepatitis B[(g)]				
Fully immunised	78	78	1.0	82
Partially immunised	18[(b)]	16	1.1	12
Not immunised	n.p.	3[(b)]	n.p.	1[(c)]
Total[(d)]	**100**	**100**	. .	**100**
Polio				
Fully immunised	88	90	1.0	78
Partially immunised	9[(b)]	8	1.2	18
Not immunised	2[(c)]	1	1.3	2[(b)]
Total[(d)]	**100**	**100**	. .	**100**

(continued)

Table 3.02.6 (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**		**Indigenous**
	Per cent		**Ratio**[(a)]	**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[(d)]	**100**	**100**	. .	**100**
Measles, mumps, rubella				
Fully immunised	88	90	1.0	84
Partially immunised	5[(b)]	7	0.7	10[(b)]
Not immunised	6[(b)]	2	2.4	4[(b)]
Total[(d)]	**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) Includes immunisation status not known.

(e) For children who had immunisation records available.

(f) Status derived based on vaccination schedule started.

(g) Introduced in the recommended immunisation schedule from 1 May 2000 and therefore only applies to children born from that date.

Source: ABS 2006 (2001 NHS and 2004–05 NATSIHS).

Table 3.02.7: 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-Indigenous**		**Indigenous**
	Per cent		**Ratio[(a)]**	**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.

Adolescent immunisation

From September 2003, the NIP 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/territories, and generally the coverage estimates were lower in Indigenous adolescents, although the differences 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 other (non-Indigenous) adult Australians, the recommended age to receive these two vaccines is 65 years or over, and is funded through the Influenza Vaccine Program for Older Australians since 1999 and 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 3.02.8).
- 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 3.02.8).
- Of the 23% of the Indigenous population aged 18–49 who reported having the influenza vaccination in the last 12 months, 8.4% 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 or heavy alcohol use was 32%, which then rose to 66% when tobacco smoking was added (Table 3.02.9).
- 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 3.02.9).
- Of the 12% of the Indigenous population aged 18–49 who reported having the pneumococcal vaccination in the last 5 years, 8.6% had at least one risk factor and 3.4% had no risk factors (NCIRS 2008).

Table 3.02.8: 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	16	17	20	16	15	22	17
Chronic conditions and asthma	28	29	31	29	25	30	26	29
Proportion who had influenza vaccination in the last 12 months								
Of those who reported at least one risk factor	14	23	35	31	33	17	55	29
Of total population	10	16	29	20	21	11	48	23

Source: NCIRS 2008.

Table 3.02.9: 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, approximately 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 3.02.10).
- 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 significantly 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 significantly 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 3.02.11).
- 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 3.02.10: 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 3.02.10 (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 3.02.11: 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

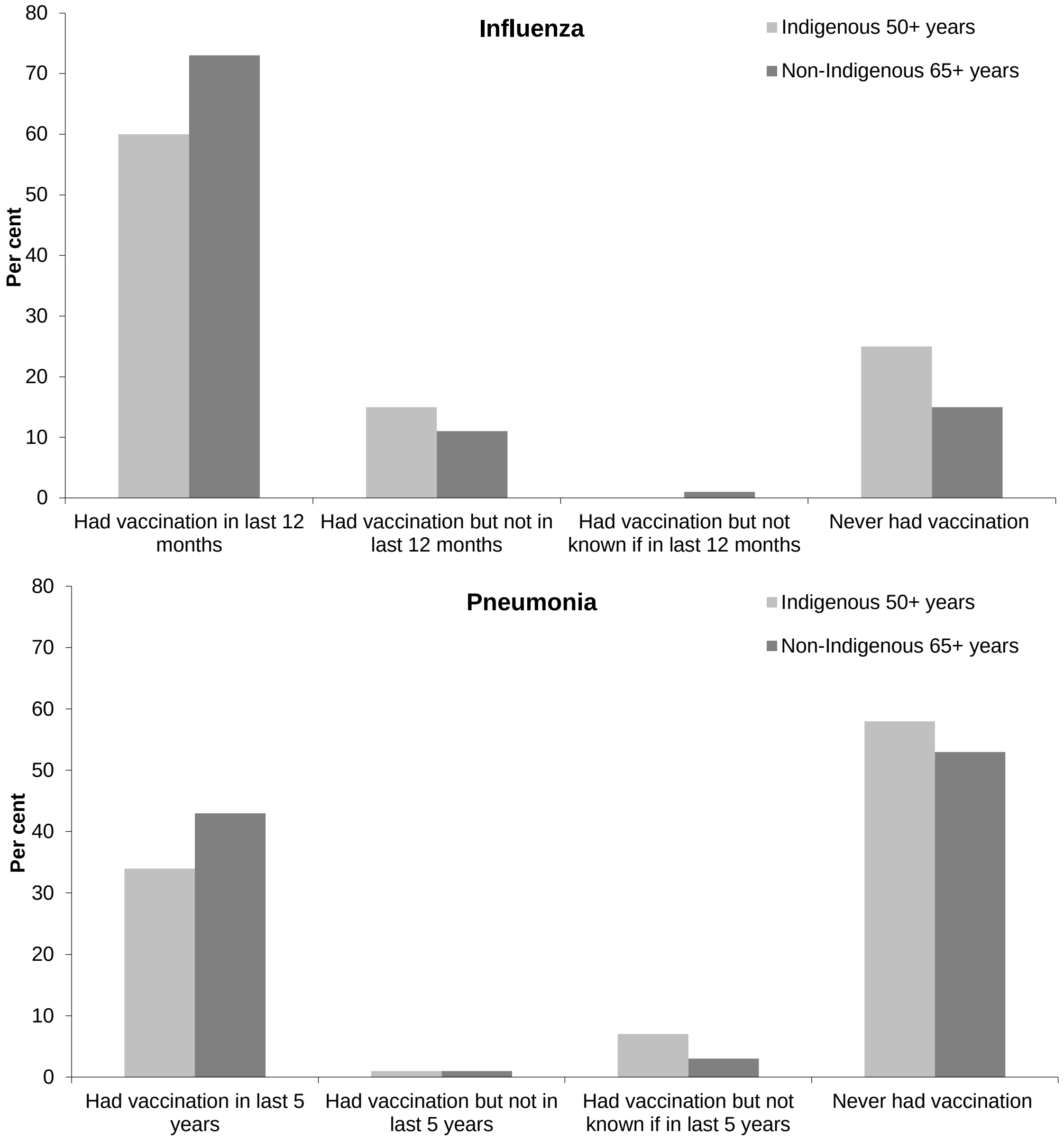
(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(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 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 3.02.12).
- A higher proportion of Indigenous Australians 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 3.02.13). Indigenous Australians who were in the lowest quintile of household income and index of disparity and were renters were more likely to have had influenza and pneumonia vaccinations than those in the highest quintiles of income and disparity and who were home owners.

Table 3.02.12: 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 3.02.13: 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
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

(continued)

Table 3.02.13 (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				
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

(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 3.02.14). 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 3.02.14: 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	30	67	0.5*	43
Influenza vaccination not free of charge	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 in the Indigenous/non-Indigenous comparisons.

(a) Ratio—Indigenous: non-Indigenous.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: AIHW analysis of 2001 NHS (Indigenous supplement) and 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 regional and remote areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 NHS.

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).

Immunisation data

The 2004–05 NATSIHS collected immunisation status data for Indigenous Australian children in non-remote areas only. The 2004–05 NHS did not collect child immunisation data, so no comparative data are available for non-Indigenous children. The 2004–05 NHS collected influenza and pneumococcal vaccination status data for all adults aged 50 years or more. The 2004–05 NATSIHS collected influenza and pneumococcal vaccination data for persons aged 15 years and over.

Further information on NATSIHS data quality issues can be found in the 2004–05 NATSIHS publication (ABS 2006).

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. Immunisations are notified to Medicare Australia by a range of providers, including general practitioners, councils, Aboriginal medical services and the state and territory health authorities.

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, poliomyelitis, haemophilus influenza type B, measles, mumps and rubella.

The Varicella 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. Consequently, data for these vaccinations are not available for the cohort of children being reported for this indicator in this iteration of the report.

Although there are now more vaccines than reported on the National Immunisation Program Schedule for children, these are not in scope for those children aged 5 years at the time of reporting.

A minimum 3-month lag period is allowed for late notification of immunisations to the Register. Data have been presented for children born between 1 January 2004 and 31 March 2004.

The ACIR automatically includes all children aged under seven years who are enrolled in Medicare as its denominator to calculate vaccine coverage rate (ABS and AIHW 2006). It is estimated that approximately 99% of children are registered with Medicare by 12 months of age. However, it is not currently possible to determine accurately whether this is true of the Indigenous Australian child population, nor whether Indigenous Australian children are less likely to be enrolled in Medicare. Children not registered with Medicare are added to the ACIR when details of an eligible immunisation are supplied by a recognised immunisation provider (DoHA 2006).

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. Improving Indigenous identification on the ACIR database is an issue currently being investigated by the Australian Government.

Under-identification

General limitations of data available from the ACIR must be considered when used to estimate vaccination coverage.

ACIR coverage estimates could overestimate or underestimate coverage, depending on whether those children not identified as Indigenous Australian have higher or lower than average vaccination coverage. A recent study (Rank and Menzies 2007) found that the reporting of Indigenous status on the ACIR has improved from 42% of the estimated national cohort of Indigenous children aged 12 to 14 months in 2002 to 95% in 2005. The ACIR holds records only for children up to seven years of age.

At the time of writing its report *Vaccine preventable diseases and vaccination coverage in Aboriginal and Torres Strait Islander people, Australia 1999 to 2002*, the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases stated that: ‘Indigenous status is currently either not routinely reported or not transferred to the ACIR from the ACT, Queensland and Tasmania, so these jurisdictions were not included in this report’ (Menzies et al. 2004).

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.

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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3.03 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 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 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. There were 210,351 people who had identified as Aboriginal and/or Torres Strait Islander in this database at January 2009: around 41% of the estimated Aboriginal and Torres Strait Islander population (AIHW 2010d). There has been a rapid expansion in the number of enrollees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

To date, the database has not been analysed to estimate the numbers of people who have identified themselves as non-Indigenous, or those who have either not responded to the question or have not been presented with an opportunity to respond to the question.

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'. The latest report combined data from the 2006–2007 and 2007–2008 reporting periods.

The standard ABS question is used to record Indigenous status in this database. 'Not stated' values for Indigenous status are separately quantified for most jurisdictions, but are included in the 'non-Indigenous' numbers for those jurisdictions that do not record this separately. Care should be taken when interpreting data at the jurisdictional level as the numbers are too small to provide meaningful comparison between jurisdictions.

Participation of Indigenous women remained lower than that of non-Indigenous women (36.4% compared with 54.8% in 2007–2008). The participation rate for Indigenous women in breast screening should be treated with caution as it is not known how many women do not report their Indigenous status (AIHW 2010a).

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 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 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. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided only for five jurisdictions—New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2008).

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 2003–2008 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. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

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 people invited between 1 January 2008 and 31 December 2008. It includes all activity up until 31 January 2009 and presented in the NBCSP monitoring report 2009. This includes invitees from both phase 1 and phase 2, which began on 1 July 2008. However, as people aged 50 years were only included from phase 2, data for people aged 50 years were only available for the final 6 months of 2008 (AIHW & DoHA 2009).

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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

OATSIH Services Reporting data collection

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). 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 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services, 81 (94%) responded to the OSR questionnaire, as well as five auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance-use disorder specific services.

Forty five (90%) out of 50 substance use disorder specific services as well as three auspiced services responded to the OSR questionnaire.

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 (Item numbers 700, 702, 704, 706, 708 and 710).

- Annual health checks for Aboriginal and Torres Strait Islander children aged 0–14 years were introduced into the MBS in May 2006 (Medicare Item number 708). For the period July 2008 to June 2009, there were 14,160 health assessments of Indigenous children in Australia (a rate of 72 per 1,000 Indigenous children) (Table 3.03.1). The rate at which Indigenous children aged 0–14 years received health assessments under the MBS ranged from 4 per 1,000 in Tasmania to 187 per 1,000 in South Australia.
- Two-yearly health checks for Aboriginal and Torres Strait Islanders aged 15–54 years were introduced in the MBS in May 2004 (Medicare Item no. 710). Between July 2008 and June 2009, there were 18,370 health assessments of Indigenous Australians aged 15–54 years, which was a rate of 61 per 1,000 population. The rate at which Indigenous

Australians aged 15–54 years received health assessments under the MBS ranged from 8 per 1,000 in Tasmania to 98 per 1,000 in the Northern Territory (Table 3.03.1).

- Annual health assessments for Aboriginal and Torres Strait Islander Australians aged 55 years and over were introduced in November 1999 (Medicare Item numbers 704 and 706). Between July 2008 and June 2009, there were 5,253 health assessments of Indigenous Australians aged 55 years and over (a rate of 115 per 1,000 population). The rate of MBS health assessments for Indigenous Australians aged 55 years and over ranged from 13 per 1,000 in Tasmania to 190 per 1,000 in the Northern Territory (Table 3.03.1).
- Between July 2008 and June 2009, Indigenous Australians aged 55 years and over received MBS health assessments at a rate of 115 per 1,000 (Medicare Item nos. 704 and 706). This was much lower than the rate at which all Australians aged 75 years and over received assessments during this period (228 per 1,000) (Medicare Item numbers 700 and 702) (Table 3.03.2).
- The rate of MBS health assessments for Indigenous Australians aged 55 years and over increased between the first quarter of 2006 and the fourth quarter of 2009 (from 67 per 1,000 in January to March 2006 to 123 per 1,000 in October to December 2009). The rate of MBS assessments for Indigenous Australians aged 15–54 years increased between the first quarter 2006 and the fourth quarter 2009 (from 29 per 1,000 to 68 per 1,000). The rate of MBS assessments for Indigenous Australians aged 0–14 years increased between the second quarter 2006 and the fourth quarter 2009 (from 9 per 1,000 to 76 per 1,000) (Table 3.03.3 and Figure 3.03.1).

Table 3.03.1: Medicare Benefits Schedule health assessments and health checks for Indigenous Australians aged 0–14 years, 15–54 years and 55 years and over, by state/territory, 2008–09

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Aboriginal and Torres Strait Islander child health checks aged 0–14 years (MBS Item 708)[(a)]									
Number	3,923	422	4,537	1,946	561	28	55	2,688	14,160
No. per 1,000	67.0	33.7	78.6	75.0	54.0	4.1	34.6	118.2	72.1
Aboriginal and Torres Strait Islander health checks aged 15–54 years (MBS Item 710)[(b)]									
Number	4,653	805	5,616	2,715	559	91	105	3,826	18,370
No. per 1,000	53.3	41.0	66.3	64.2	33.5	8.3	39.3	98.2	60.5
Aboriginal and Torres Strait Islander Health Assessments aged 55 years and older (MBS Item 704/706)[(c)]									
Number	1,470	269	1,542	790	144	23	26	989	5,253
No. per 1,000	101.6	80.9	127.9	132.2	59.5	13.0	90.9	190.1	115.3

(a) Child health checks commenced in May 2006. Data provided are for the period 1 July 2008 to 30 June 2009. Rates are calculated using the average of 2008 and 2009 Indigenous population projections for those aged 0–14 years.

(b) These adult health checks were introduced in May 2004 as a biennial assessment. Data provided are for the period 1 July 2008 to 30 June 2009. Rates are calculated using the average of 2008 and 2009 Indigenous population projections for those aged 15–54 years

(c) Health assessments for older patients were introduced in November 1999. Data provided are for the period 1 July 2008 to 30 June 2009. Rates are calculated using the average of 2008 and 2009 Indigenous population projections for those aged 55 years and over.

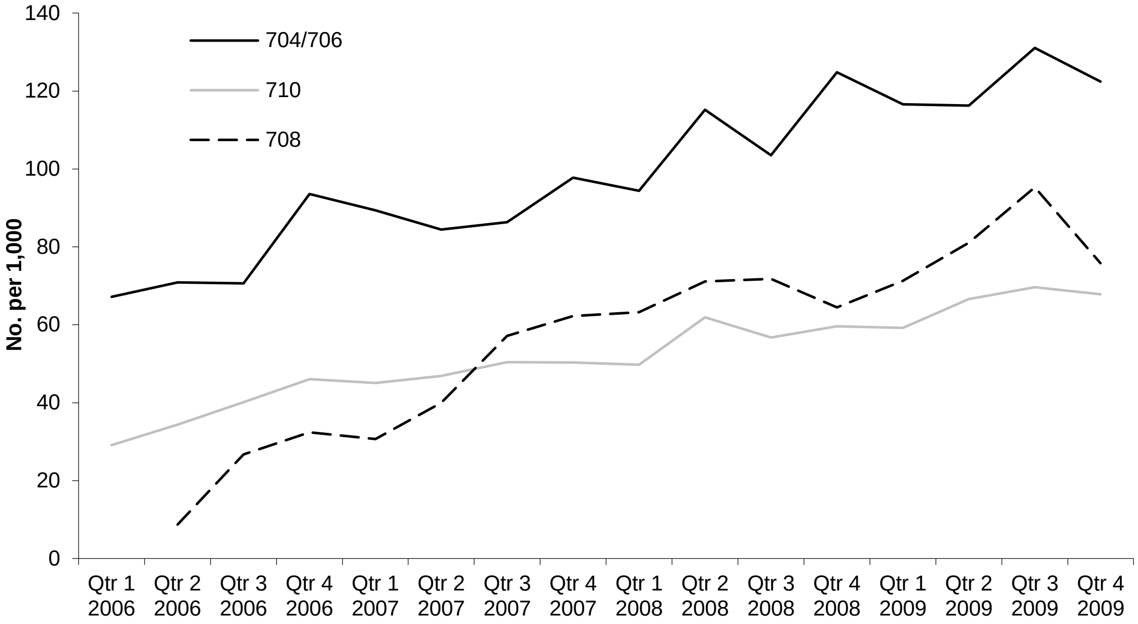
Source: AIHW analysis of Medicare data.

Table 3.03.2: Health assessments for older patients: Indigenous persons 55 years and over and all Australians aged 75 years and over, 2008–09

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Aboriginal and Torres Strait Islander health assessments aged 55 years and older (MBS Item 704/706)									
Number	1,470	269	1,542	790	144	23	26	989	5,253
No. per 1,000(a)	101.6	80.9	127.9	132.2	59.5	13.0	90.9	190.1	115.3
All Australian health assessments aged 75 years and older (MBS Item 700/702)									
Number	111,434	73,240	62,649	22,019	27,520	9,486	2,429	274	309,051
No. per 1,000(a)	239.1	210.6	260.5	186.4	223.4	271.7	157.2	80.9	229.0

(a) Data provided are for the period 1 July 2008 to 30 June 2009. Rates are calculated using the average of 2008 and 2009 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. Item 704/706 commenced in November 1999. Rates for Item 704/706 were calculated using the Indigenous population estimates for 2006–2009, divided by four to obtain quarterly rates for each year.
2. Item 710 commenced in May 2004. Rates for Item 710 were calculated using the Indigenous population estimates for 2006–2009, divided by four to obtain quarterly rates for each year.
3. The rate for Item 708 was calculated using the Indigenous population estimates for 2008–2009, divided by four to obtain quarterly rates for each year. Data for quarter 1, 2006 were not available.

Source: AIHW analysis of Medicare data.

Figure 3.03.1: Rate of MBS health checks/assessments for Indigenous Australians aged 0–14 years (Item 708), Indigenous Australians aged 15–54 years (Item 710) and Indigenous Australians aged 55 years and over (Item 704/706), January–March 2006 to October–December 2009

Table 3.03.3: Rate[(a)] of MBS health checks/assessments for Indigenous Australians aged 0–14 years (Item 708), Indigenous Australians aged 15–54 years (Item 710) and Indigenous Australians aged 55 years and over (Item 704/706), January–March 2006 to October–December 2009

	Item 708		Item 710		Item 704/706	
	Number	Rate	Number	Rate	Number	Rate
Qtr 1 2006	n.a.	n.a.	2055	29.1	672	67.2
Qtr 2 2006	423	8.7	2432	34.4	709	70.9
Qtr 3 2006	1298	26.7	2834	40.1	707	70.7
Qtr 4 2006	1574	32.4	3254	46.0	936	93.5
Qtr 1 2007	1496	30.7	3279	45.1	941	89.4
Qtr 2 2007	1947	39.9	3409	46.9	889	84.5
Qtr 3 2007	2786	57.2	3667	50.4	909	86.4
Qtr 4 2007	3035	62.3	3662	50.3	1029	97.8
Qtr 1 2008	3095	63.3	3721	49.7	1047	94.4
Qtr 2 2008	3481	71.2	4634	61.9	1277	115.2
Qtr 3 2008	3510	71.7	4244	56.7	1148	103.5
Qtr 4 2008	3152	64.4	4459	59.6	1384	124.8
Qtr 1 2009	3508	71.3	4548	59.2	1362	116.6
Qtr 2 2009	3990	81.1	5119	66.6	1359	116.3
Qtr 3 2009	4688	95.3	5353	69.6	1532	131.1
Qtr 4 2009	3731	75.8	5213	67.8	1431	122.5

(a) Number per 1,000 population.

Notes

1. Item 704/706 commenced in November 1999. Rates for Item 704/706 were calculated using the Indigenous population estimates for 2006–2009, divided by four to obtain quarterly rates for each year.
2. Item 710 commenced in May 2004. Rates for Item 710 were calculated using the Indigenous population estimates for 2006–2009, divided by four to obtain quarterly rates for each year.
3. The rate for Item 708 was calculated using the Indigenous population estimates for 2008–2009, divided by four to obtain quarterly rates for each year. Data for quarter 1, 2006 were 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 1,273,403 women aged 50-69 years and over participating in screening through BreastScreen Australia in 2007–2008, 10,189 (0.8%) identified as Aboriginal or Torres Strait Islander. Although 8,060 women in 2007–2008 were classified as not stating their Indigenous status, the true not stated figure is higher because some jurisdictions classified these women as 'non-Indigenous' (AIHW 2010a).
- During 2007–2008, the participation rate for BreastScreen Australia was highest among those aged 60–64 years for Indigenous women. The participation rate measures the proportion of the eligible population attending the screening program within a 24-month period.
- The age-standardised participation rate for Indigenous women aged 50–69 years was 36%, which was markedly lower than the national rate for all females in that age group (55%). The participation rate for Indigenous women aged 40 years and over was also lower than for all females in that age group (23% compared with 33% for all women) (Table 3.03.4).
- 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 47% in Queensland (Table 3.03.4). 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 from 35% to 36% for all years between 1999–2000 and 2007–2008. Over the same period, the participation rate for all women ranged between 55% and 57% (Table 3.03.5; Figure 3.03.2).

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 4 year periods 2003–2007. Due to the additional of New South Wales (NSW) in 2001, comparisons prior to this time period are not valid. Previously NSW was considered to have insufficient data on Aboriginal and Torres Strait Islander status on the AIHW National Mortality Database.

- In 2003–2007, 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 (23 deaths per 100,000 women) was not significantly different from the rate for non-Indigenous women (23 deaths per 100,000 women) (AIHW 2010a).

Table 3.03.4: Age-specific participation rates[(a)] in BreastScreen Australia of Indigenous and all women, by state/territory, 2007–2008

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Indigenous women									
40–49 years	6.6	3.3	24.8	14.2	9.9	11.8	6.2	4.6	12.5
50–59 years	34.6	24.8	45.4	26.9	30.8	28.1	24.8	22.6	33.9
60–64 years	40.1	33.7	48.4	34.2	33.1	32.7	48.0	25.3	38.6
65+ years	21.8	19.5	34.1	24.9	19.0	20.9	27.8	13.2	23.9
40+ (age-standardised rate)[(b)]	**22.0**	**16.9**	**35.5**	**22.8**	**20.6**	**20.9**	**21.7**	**14.1**	**23.1**
50–69 years (age-standardised rate)[(b)(c)]	**37.1**	**28.3**	**46.7**	**30.6**	**31.6**	**n.a.**	**n.a.**	**23.6**	**36.0**
All women									
40–44 years	6.3	5.3	25.2	11.0	10.2	22.0	3.8	4.2	10.9
45–49 years	11.6	10.3	37.4	21.4	20.0	34.0	9.5	13.1	18.6
50–54 years	50.1	48.2	53.8	52.0	53.2	47.6	45.5	34.8	50.5
55–59 years	55.3	54.3	58.1	55.2	57.7	56.7	57.3	42.7	55.8
60–64 years	57.9	58.0	60.4	58.0	61.6	59.3	59.9	45.6	58.7
65–69 years	56.4	56.5	59.5	58.4	60.3	58.8	59.3	41.4	57.6
70–74 years	13.5	33.4	53.1	20.0	25.2	33.9	18.8	8.7	28.0
75–79 years	6.6	13.3	19.4	11.1	13.5	11.2	8.7	4.9	11.8
80–84 years	2.6	3.0	5.1	4.2	5.0	3.9	2.7	2.7	3.5
85+ years	0.6	0.6	1.3	0.9	0.9	0.6	0.4	0.2	0.8
40+ (age-standardised rate)[(b)]	**29.2**	**30.3**	**42.0**	**32.9**	**34.1**	**37.6**	**28.9**	**22.3**	**32.9**
50–69 years (age-standardised rate)[(b)(c)]	**54.3**	**53.4**	**57.4**	**55.3**	**57.4**	**54.5**	**54.2**	**40.4**	**54.9**

(continued)

Table 3.03.4 (continued): Age-specific participation rates[(a)] in BreastScreen Australia of Indigenous and all women, by state/territory, 2007–2008

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Rate ratios[(d)]				
40+	0.8	0.6	0.8	0.7	0.6	0.6	0.8	0.6	0.7
50–69 years	0.7	0.5	0.8	0.6	0.6	n.a.	n.a.	0.6	0.7

(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) Age-standardised rates for women aged 50-69 years are not available for the ACT and Tasmania as Indigenous estimated resident population data are not available for this age group.

(d) Rate ratio—Indigenous: all women.

Source: AIHW analysis of BreastScreen Australia data

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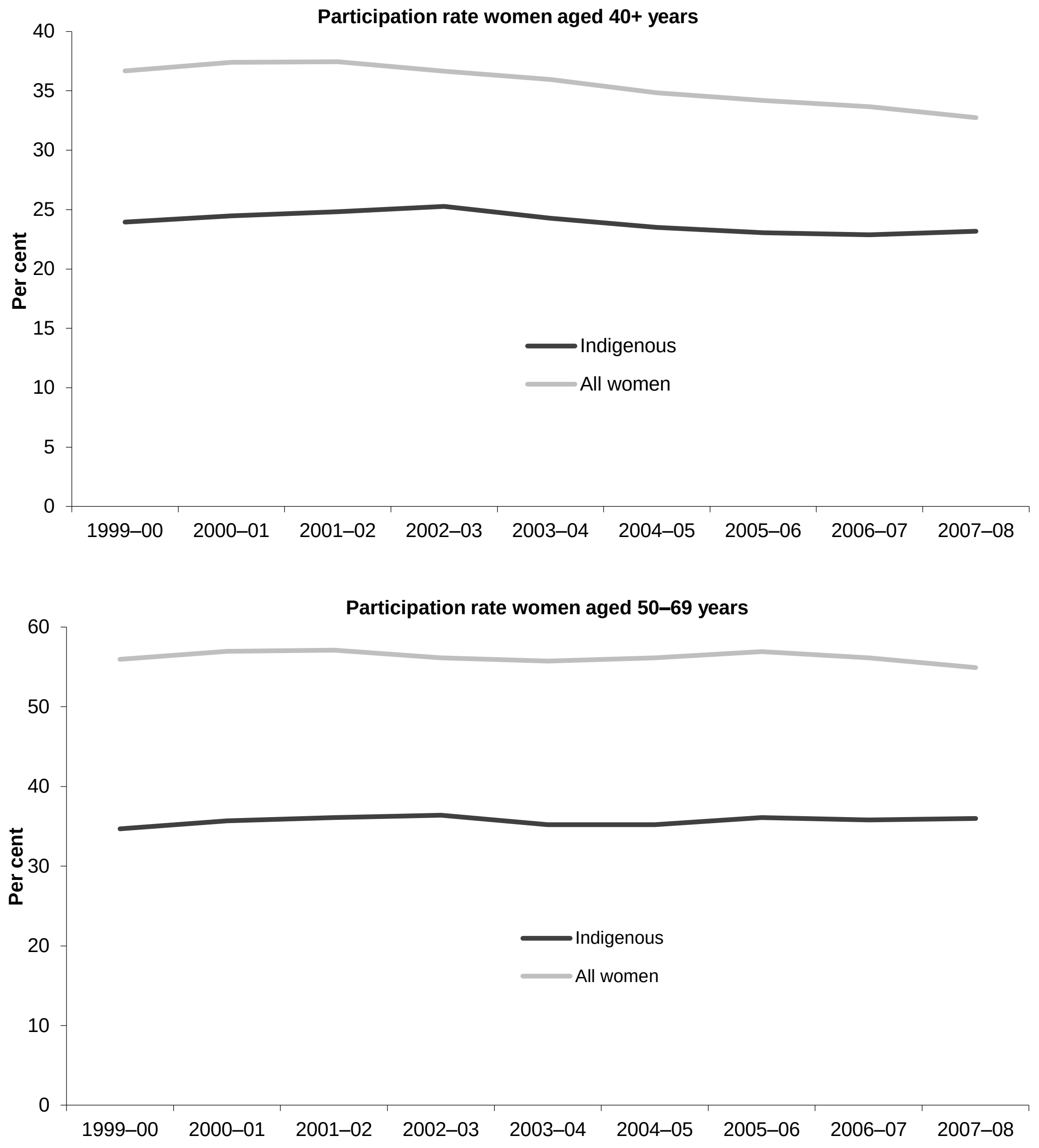


Source: AIHW analysis of BreastScreen Australia data

Figure 3.03.2: Participation rates in BreastScreen Australia of women aged 40 years and over, and 50–69 years, Indigenous and all women, 1999–2000 to 2007–2008

Table 3.03.5: Participation rates (per cent) in BreastScreen Australia of women aged 40 years and over, and 50–69 years, Indigenous and all women, 1999–2000 to 2007–2008

	Indigenous women	LCL 95%[(a)]	UCL 95%[(b)]	All women	LCL 95%[(a)]	UCL 95%[(b)]
Women 40+ years						
1999–2000	23.9	23.5	24.4	36.7	36.6	36.7
2000–2001	24.5	24.0	24.9	37.4	37.3	37.5
2001–2002	24.8	24.3	25.3	37.4	37.4	37.5
2002–2003	25.3	24.8	25.7	36.7	36.6	36.7
2003–2004	24.3	23.8	24.7	36.0	35.9	36.0
2004–2005	23.5	23.1	23.9	34.8	34.8	34.9
2005–2006	23.1	22.7	23.5	34.2	34.1	34.2
2006–2007	22.9	22.5	23.3	33.7	33.6	33.7
2007–2008	23.2	22.8	23.6	32.7	32.7	32.8
Women 50-69 years						
1999–2000	34.7	33.8	35.5	55.9	55.8	56.1
2000–2001	35.7	34.8	36.5	57.0	56.8	57.1
2001–2002	36.1	35.3	37.0	57.1	57.0	57.2
2002–2003	36.4	35.6	37.3	56.2	56.1	56.3
2003–2004	35.2	34.4	35.9	55.7	55.6	55.8
2004–2005	35.2	34.5	36.0	56.1	56.0	56.2
2005–2006	36.1	35.3	36.8	56.9	56.8	57.0
2006–2007	35.8	35.1	36.6	56.1	56.0	56.2
2007–2008	36.0	35.3	36.7	54.9	54.8	55.0

(a) LCL = lower confidence limit.

(b) UCL = upper confidence limit.

Source: AIHW analysis of BreastScreen Australia data.

Bowel cancer screening

The NBCSP aims 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 and, where bowel cancer has developed, to detect cancers at an early stage in order to maximise the effectiveness of treatment. Data in this indicator are based on data recorded in the Register for people invited to screen for bowel cancer between 1 January 2008 and 31 December 2008. This includes invitees from both phase 1 and phase 2; however, because people aged 50 years were only included from phase 2, data for people aged 50 years were only available for the final 6 months of 2008 (AIHW & DoHA 2009).

Participation in screening

- Between 1 January 2008 and 31 December 2008, 685,915 eligible Australians were invited to screen for bowel cancer; of these, 251,152 (37%) agreed to participate by 31 January 2009.
- There were 945 people who identified as Indigenous who responded to the invitation to screen. Of these, 178 were aged 50 years, 484 were aged 55 years and 283 were aged 65 years (Table 3.03.6).
- Participation in the NBCSP was significantly higher (2.2 times) for non-Indigenous invitees than for Indigenous people (AIHW & DoHA 2009).

Table 3.03.6: People responding to the National Bowel Cancer screening invitations, by age, sex and Indigenous status, 2008

	Indigenous		Non-Indigenous		Total		
	Number	Rate (no. per 100 persons invited)[(a)(b)]	Number	Rate (no. per 100 persons invited)[(b)]	Number	Rate (no. per 100 persons invited)[(a)(b)]	Rate difference[(c)]
Males							
50 years[(d)]	87	4.7	11,156	9.7	11,243	9.6	–5.0
55 years	219	13.3	33,303	24.7	33,522	24.5	–11.4
65 years	133	16.9	28,118	31.4	28,251	31.3	–14.5
Total	**439**	**10.2 (9.3–11.2)**	**72,577**	**21.4 (21.2–21.5)**	**73,016**	**21.2 (21.2–21.3)**	**–11.2**
Females							
50 years[(d)]	91	4.8	13,493	11.7	13,584	11.6	–6.9
55 years	265	14.6	41,780	31.1	42,045	30.9	–16.5
65 years	150	15.8	31,044	35.6	31,194	35.4	–19.8
Total	**506**	**10.9 (10.0–11.7)**	**86,317**	**25.6 (25.5–25.8)**	**86,823**	**25.4 (25.3–25.6)**	**–14.7**
Persons							
50 years[(d)]	178	4.7	24,649	10.7	24,827	10.6	–6.0
55 years	484	14	75,083	27.9	75,567	27.7	–13.9
65 years	283	16.2	59,162	33.5	59,445	33.3	-17.3
Total	**945**	**10.6 (9.9–11.2)**	**158,894**	**23.5 (23.4–23.6)**	**159,839**	**23.3 (23.2–23.4)**	**–12.9**

(a) Rates are the number of people returning a completed FOBT kit as a percentage of the total number of the eligible population who were invited to screen.

(b) The total rates reported in the table include 95% confidence intervals.

(c) Indigenous rate minus non-Indigenous rate.

(d) People aged 50 years were invited to screen from 1 July 2008.

Note: Indigenous status was defined by the participant on the Participant Details form. There were 93,313 participants with Indigenous status 'not stated'. These are treated as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total; data in this table is therefore considered unreliable.

Source: AIHW & DoHA 2009.

Faecal Occult Blood Test (FOBT) positivity numbers and rates

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.

- Positivity rates were higher in people identified as Indigenous (8.1%) than non-Indigenous (6.6%); however, the difference was not statistically significant (Table 3.03.7). Due to the low numbers of Indigenous participants, care must be exercised in interpreting these results (AIHW & DoHA 2009).

Colonoscopy procedures

Table 3.03.8 provides a summary of the number of colonoscopy procedures as part of the NBCSP.

- Only 6,713 of the 8,741 participants who underwent a colonoscopy by 31 January 2009 had their Indigenous status recorded, so comparisons of colonoscopy follow-up rates between Indigenous and non-Indigenous people should be made with caution (AIHW & DoHA 2009).
- Colonoscopy follow-up rates were significantly lower for Indigenous people (50%) than non-Indigenous people (64%) (Table 3.03.8).

Table 3.03.7: Faecal Occult Blood Test positivity rates from the National Bowel Cancer Screening Program, by age, sex and Indigenous status, 2008

		Indigenous	Non-Indigenous	Total
Males				
50 years[(a)]	Positive results	4	683	687
	Per cent	4.7	6.2	6.2
55 years	Positive results	25	2,194	2,219
	Per cent	11.8	6.6	6.7
65 years	Positive results	12	2,703	2,715
	Per cent	9.2	9.7	9.7
Total	**Positive results**	**41**	**5,580**	**5,621**
	Per cent[(b)]	**9.6 (6.8–12.4)**	**7.7 (7.6–7.9)**	**7.8 (7.6–8.0)**
Females				
50 years[(a)]	Positive results	8	669	677
	Per cent	9.0	5.0	5.1
55 years	Positive results	15	2,088	2,103
	Per cent	5.9	5.0	5.0
65 years	Positive results	10	2,114	2,124
	Per cent	6.8	6.9	6.9
Total	**Positive results**	**33**	**4,871**	**4,904**
	Per cent[(b)]	**6.7 (4.5–8.9)**	**5.7 (5.5–5.9)**	**5.7 (5.5–5.9)**
Persons				
50 years[(a)]	Positive results	12	1,352	1,364
	Per cent	6.9	5.6	5.6
55 years	Positive results	40	4,282	4,322
	Per cent	8.5	5.7	5.8
65 years	Positive results	22	4,817	4,839
	Per cent	7.9	8.2	8.2
Total	**Positive results**	**74**	**10,451**	**10,525**
	Per cent[(b)]	**8.1 (6.3–9.8)**	**6.6 (6.5–6.8)**	**6.6 (6.5–6.8)**

(a) People aged 50 years were invited to screen from 1 July 2008.

(b) The total rates reported in the table include 95% confidence intervals.

Notes

1. Indigenous status was defined by the participant on the Participant Details form.
2. There were 5,911 positive FOBT results and 90,000 valid 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 are the number of participants with positive FOBT results as a proportion of the total number of participants with valid results. A valid result was either positive or negative; inconclusive results were excluded.

Source: AIHW & DoHA 2009

Table 3.03.8: Colonoscopies reported following a positive Faecal Occult Blood Test result from the National Bowel Cancer Screening Program, by age, sex and Indigenous status, 2008

		Indigenous	Non-Indigenous	Total
Males				
50 years[(a)]	Number	n.p.	n.p.	179
	Per cent	n.p.	n.p.	26.1
55 years	Positive results	n.p.	n.p.	1,508
	Per cent	n.p.	n.p.	68.0
65 years	Number	n.p.	n.p.	1,833
	Per cent	n.p.	n.p.	67.5
Total	**Number**	**22**	**3,498**	**3,520**
	Per cent[(b)]	**53.7 (38.4–68.9)**	**62.7 (61.4–64.0)**	**62.6 (61.4–63.9)**
Females				
50 years[(a)]	Number	n.p.	n.p.	208
	Per cent	n.p.	n.p.	30.7
55 years	Number	n.p.	n.p.	1,508
	Per cent	n.p.	n.p.	71.7
65 years	Number	n.p.	n.p.	1,477
	Per cent	n.p.	n.p.	69.5
Total	**Number**	**15**	**3,178**	**3,193**
	Per cent[(b)]	**45.5 (28.5–62.4)**	**65.2 (63.9–66.6)**	**65.1 (63.8–66.4)**
Persons				
50 years[(a)]	Number	n.p.	n.p.	387
	Per cent	n.p.	n.p.	28.4
55 years	Number	n.p.	n.p.	3,016
	Per cent	n.p.	n.p.	69.8
65 years	Number	n.p.	n.p.	3,310
	Per cent	n.p.	n.p.	68.4
Total	**Number**	**37**	**6,676**	**6,713**
	Per cent[(b)]	**50.0 (38.6–61.4)**	**63.9 (63.0–64.8)**	**63.8 (62.9–64.7)**

(a) People aged 50 years were invited to screen from 1 July 2008.

(b) The total rates reported in the table include 95% confidence intervals.

Notes

1. Indigenous status was defined by the participant on the Participant Details form.
2. There were 2,028 recorded colonoscopies and 5,911 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: AIHW & DoHA 2009

Mortality from bowel cancer

A major objective of the NBCSP is to reduce mortality from bowel cancer in Australia through early detection and treatment of bowel cancers and through identifying and treating polyps and adenocarcinomas, which might develop into cancer.

- The age-standardised rate of deaths from bowel cancer was lower (18 deaths per 100,000 population) in Indigenous in 2002–06 than in non-Indigenous people (20 people per 100,000) in Queensland, Western Australia, South Australia and the Northern Territory (AIHW & DoHA 2009).

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 3.03.9).
- In 2004–05, only 5.0% of Indigenous women aged 18 years and over reported that they had not heard of a pap smear test.

Pap smears by age and sex

- 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 3.03.9).

Table 3.03.9: 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 3.03.10).
- 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 3.03.11).
- The proportion of Indigenous women who reported having regular pap smear tests was highest in the *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%), although this difference is not statistically significant (ABS 2006) (Figure 3.03.3).

Table 3.03.10: 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, these data were 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

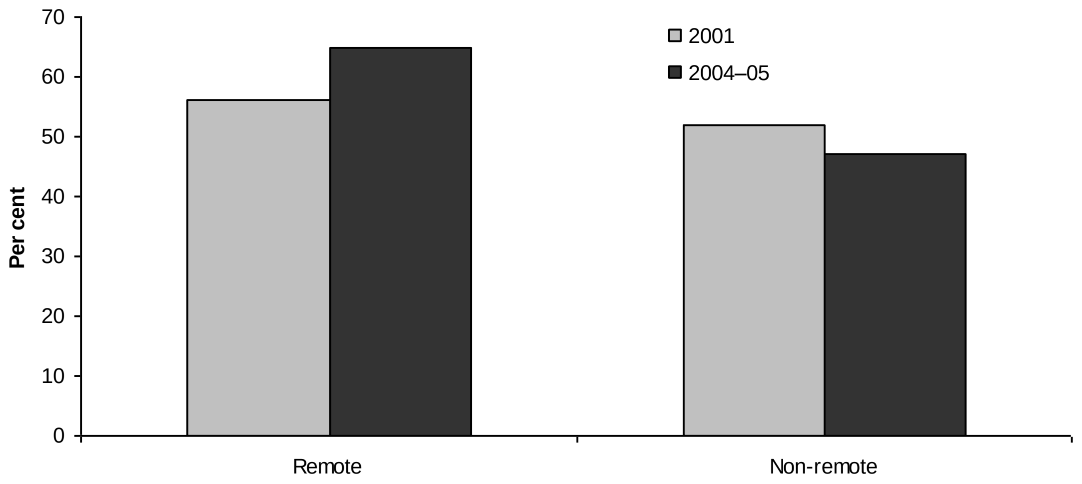
Table 3.03.11: Indigenous women aged 18 years and over reporting whether had a pap smear test[(a)], by remoteness, 2004–05

	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, 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



Source: ABS 2006.

Figure 3.03.3: 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 2003–2007 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 56 deaths of Indigenous women from cervical cancer. Indigenous women died at around 5 times the rate of non-Indigenous women in these states and territories (9.9 per 100,000 compared with 1.9 per 100,000) (AIHW 2010b).
- The age-standardised rate 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 2008–09, approximately 80% of respondent Aboriginal and Torres Strait Islander primary health-care services provided appropriate well persons checks, 80% provided pap smear/cervical screening and 78% provided diabetic screening (Table 3.03.12).
- Between 2001–02 and 2008–09, there was a slight increase in the proportion of Aboriginal and Torres Strait Islander primary health-care services providing cardiovascular screening (49% to 66%, respectively) and renal disease screening (44% to 54%, respectively) (Table 3.03.12; Figure 3.03.5).

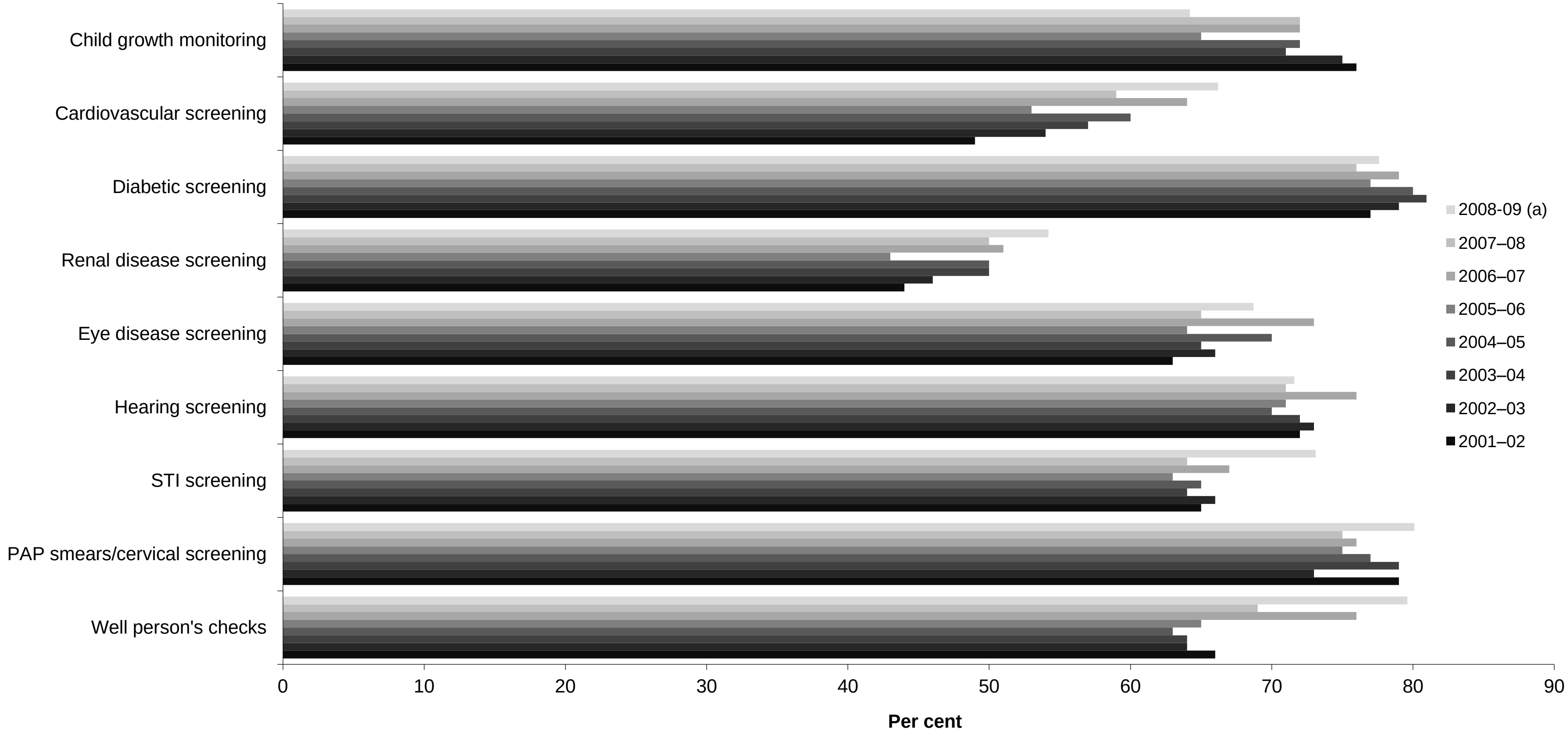
Table 3.03.12: Percentage of respondent Aboriginal and Torres Strait Islander primary health-care services providing screening activities, 2001–02 to 2008–09.

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09[(a)]
Well person's checks	66.0	64.0	64.0	63.0	65.0	76.0	69.0	79.6
PAP smears/cervical screening	79.0	73.0	79.0	77.0	75.0	76.0	75.0	80.1
STI screening	65.0	66.0	64.0	65.0	63.0	67.0	64.0	73.1
Hearing screening	72.0	73.0	72.0	70.0	71.0	76.0	71.0	71.6
Eye disease screening	63.0	66.0	65.0	70.0	64.0	73.0	65.0	68.7
Renal disease screening	44.0	46.0	50.0	50.0	43.0	51.0	50.0	54.2
Diabetic screening	77.0	79.0	82.0	80.0	77.0	79.0	76.0	77.6
Cardiovascular screening	49.0	54.0	57.0	60.0	53.0	64.0	59.0	66.2
Child growth monitoring	76.0	75.0	71.0	72.0	65.0	72.0	72.0	64.2

(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 the table above are calculated as a proportion of these 201 services.

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 data collection.



(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 the figure above are calculated as a proportion of these 201 services

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 data collection.

Figure 3.03.4: Percentage of respondent Aboriginal and Torres Strait Islander primary health-care services providing screening activities, 2001–02 to 2008–09

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

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 210,351 people who had identified as Aboriginal and/or Torres Strait Islander in this database at January 2009: around 41% of the estimated Aboriginal and Torres Strait Islander population (AIHW 2010d). There has been a rapid expansion in the number of enrollees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

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. 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 1997). 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 & 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%, Tasmania and the Australian Capital Territory were not calculated because of small numbers, Australia 55% (ABS 2008).

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 2010* (ABS 2009).

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.

In the NBCSP, Aboriginal and Torres Strait Islander status relies on self-identification of participants. In 2008, only 63.6% supplied the relevant information, meaning the status was unknown for 91,313 (36.4%) participants. These participants were excluded from the analysis. 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, it is not possible to know the actual number of Aboriginal and Torres Strait Islander people that were invited into the NBCSP. Instead an estimated denominator was calculated from the proportion of people known to be Aboriginal and Torres Strait Islander using population estimates from the 2006 Census of Population and Housing, multiplied by the number of people invited into the NBCSP in 2008 (AIHW & DoHA 2009).

The data presented in this indicator are based on data recorded in the Register for the period 1 January 2008 to 31 December 2008. Because of both time lags in reporting and under reporting by clinicians, data on primary health care consultations, colonoscopies and colonoscopy outcomes in this report understate the true performance of the NBCSP. Therefore, these data should be treated with caution (AIHW & DoHA 2009).

A data supplement containing updates on preliminary numbers was released in 2010 including data for participants up to31 January 2010, however this did not include Indigenous breakdowns (AIHW & DoHA 2010).

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 2010a), 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 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 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).

OATSIH Services Reporting 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: OATSIH Services Reporting—key results* (AIHW 2010c).

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 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 the Service Activity Reporting (SAR) data collection and the Healthy for Life data collection.

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. For the reporting period ending June 2009, 72 HfL services submitted data to the AIHW.

Divisions of General Practice National Performance Indicators

The National Performance Indicators (NPIs) are reported in the Divisions of General Practice Annual Reports submitted to DoHA, and are part of the National Quality Performance System (NQPS). The NQPS is an integral aspect of the Government's primary health policy framework. The framework focuses on five National Priority Areas (NPAs): governance; prevention and early intervention; access; integration; and chronic disease (diabetes, mental health and asthma). The NPAs are tackled through 51 NPIs, which reflect expectations of the Divisions network, and assist members to measure progress and improve planning processes. Data on the first full cycle of reporting were submitted in the 2007–08 Annual Reports, and provide a benchmark for Division performance.

OATSIH Services Reporting data collection

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). 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 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services, 81 (94%) responded to the OSR questionnaire, as well as five auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance-use disorder specific services.

Forty five (90%) out of 50 substance use disorder specific services as well as three auspiced services responded to the OSR questionnaire.

Data on the management of specific chronic diseases, such as rheumatic heart disease, coronary artery disease and Type II diabetes, were unable to be provided at present. For the purpose of this measure, chronic disease management is defined as the clinical management of a disease that has been diagnosed.

Analyses

Aboriginal and Torres Strait Islander primary health-care services

Healthy for Life data

For the reporting period July 2008 to June 2009, 57 services that were funded through the Healthy for Life program provided data on chronic disease management.

In the period ending June 2009:

- The most commonly used strategies for chronic disease management by HfL services were emotional wellbeing behavioural risk reduction (89%) and physical activity advice (88%) (Table 3.04.1).
- Client education (80%) was the most common strategy for client self-management of chronic disease, followed by goal setting (74%) and staff training (72%). This shows an increase in the use of these strategies since the reporting period ending June 2007 where they were 68%, 58% and 54%, respectively (Table 3.04.1).
- Over three-quarters (78%) of services provided routine clinical reviews and 87% provided a team-based approach to chronic disease management.

Table 3.04.1: Chronic disease: management, reporting periods ending 30 June 2007–09

	Jun-07			Jun-08			Jun-09		
HfL services had strategies for chronic disease management[(a)] for their clients with chronic disease that included:	**Per cent yes**	**Per cent no**	**Per cent no response**	**Per cent yes**	**Per cent no**	**Per cent no response**	**Per cent yes**	**Per cent no**	**Per cent no response**
1. A population-based approach									
a. condition register used for recall and reminder	64.4	15.3	20.3	83.6	9.0	7.5	81.1	8.1	10.8
b. Use of recognised guidelines	76.3	5.1	18.6	88.1	3.0	9.0	85.1	4.1	10.8
2. A team-based approach	71.2	11.9	16.9	92.5	1.5	6.0	86.5	2.7	10.8
3. Clinical review, behavioural, social and environmental risk assessment									
a. Systematic	61.0	22.0	16.9	67.2	25.4	7.5	74.3	14.9	10.8
b. Opportunistic	69.5	10.2	20.3	91.0	1.5	7.5	81.1	5.4	13.5
4. Behavioural risk reduction									
a. Smoking									
– Brief intervention	76.3	6.8	16.9	88.1	3.0	9.0	85.1	4.1	10.8
– Other advice	69.5	11.9	18.6	86.6	6.0	7.5	83.8	5.4	10.8
b. Nutrition	74.6	6.8	18.6	91.0	1.5	7.5	83.8	4.1	12.2
c. Alcohol									
– Brief intervention	74.6	8.5	16.9	88.1	4.5	7.5	85.1	4.1	10.8
– Other advice	66.1	13.6	20.3	83.6	9.0	7.5	81.1	8.1	10.8
d. Physical activity	74.6	8.5	16.9	91.0	1.5	7.5	87.8	1.4	10.8

(continued)

Table 3.04.1 (continued): Chronic disease: management, reporting periods ending 30 June 2007–09

	Jun-07			Jun-08			Jun-09		
HfL services had strategies for chronic disease management[(a)] for their clients with chronic disease that included:	**Per cent yes**	**Per cent no**	**Per cent no response**	**Per cent yes**	**Per cent no**	**Per cent no response**	**Per cent yes**	**Per cent no**	**Per cent no response**
e. Emotional wellbeing	69.5	11.9	18.6	91.0	1.5	7.5	89.2	. .	10.8
f. Other	28.8	30.5	40.7	14.9	46.3	38.8	21.6	44.6	33.8
5. Care planning	64.4	16.9	18.6	n.a.	n.a.	n.a.	. .	. .	100.0
6. Routine clinical reviews	67.8	13.6	18.6	70.1	19.4	10.4	78.4	6.8	14.9
7. Follow-up of abnormal results									
a. Systematic	74.6	8.5	16.9	80.6	10.4	9.0	78.4	8.1	13.5
b. Opportunistic	74.6	5.1	20.3	79.1	10.4	10.4	68.9	14.9	16.2
8. Immunisation									
a. Systematic	64.4	18.6	16.9	74.6	14.9	10.4	73.0	12.2	14.9
b. Opportunistic	72.9	8.5	18.6	83.6	4.5	11.9	75.7	6.8	17.6
9. Systematic approach to client self-management									
a. Staff training	54.2	27.1	18.6	70.1	20.9	9.0	71.6	13.5	14.9
b. Goal setting	57.6	23.7	18.6	70.1	20.9	9.0	74.3	12.2	13.5
c. Client education	67.8	15.3	16.9	80.6	10.4	9.0	79.7	6.8	13.5
d. Hand held records	27.1	52.5	20.3	35.8	53.7	10.4	37.8	47.3	14.9
e. Support for involvement of family	49.2	28.8	22.0	70.1	20.9	9.0	70.3	13.5	16.2
f. Peer support	30.5	45.8	23.7	44.8	43.3	11.9	41.9	31.1	27.0

(continued)

Table 3.04.1 (continued): Chronic disease: management, reporting periods ending 30 June 2007–09

	Jun-07			Jun-08			Jun-09		
HfL services had strategies for chronic disease management[(a)] for their clients with chronic disease that included:	**Per cent yes**	**Per cent no**	**Per cent no response**	**Per cent yes**	**Per cent no**	**Per cent no response**	**Per cent yes**	**Per cent no**	**Per cent no response**
10. Health service linkages									
a. Hospital admission communication	66.1	15.3	18.6	62.7	25.4	11.9	70.3	14.9	14.9
b. Hospital discharge communication	67.8	13.6	18.6	71.6	16.4	11.9	71.6	13.5	14.9
c. Care provided in residential aged care services	54.2	27.1	18.6	40.3	49.3	10.4	43.2	41.9	14.9
11. Social service linkages, referrals and client advocacy									
a. Social services	64.4	13.6	22.0	68.7	17.9	13.4	74.3	10.8	14.9
b. Housing	59.3	20.3	20.3	65.7	22.4	11.9	62.2	21.6	16.2
c. Employment	52.5	27.1	20.3	61.2	26.9	11.9	56.8	28.4	14.9
d. Income support	57.6	20.3	22.0	62.7	25.4	11.9	63.5	21.6	14.9
e. Domestic violence	67.8	11.9	20.3	79.1	9.0	11.9	74.3	10.8	14.9
f. Legal aid	57.6	22.0	20.3	64.2	23.9	11.9	60.8	24.3	14.9
g. Other	22.0	33.9	44.1	16.4	49.3	34.3	14.9	40.5	44.6

(a) ‘Management’ includes health promotion, prevention of complications, clinical care and advocacy.

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 2009, 68 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 11 of these were urban services, 33 were regional services and 24 were remote services.

- Of the 9,960 Indigenous adults with Type II diabetes who were regular clients of the HfL services, 4,991 (50%) 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 40% in urban areas to 53% in remote areas (Table 3.04.2).

Table 3.04.2: Number and proportion of Indigenous regular clients[(a)] with Type II diabetes and had an HbA1c test in the last 6 months, by region, 1 January–30 June 2009

	Urban		Regional		Remote		Total	
	Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]
HbA1c test in the last 6 months	39.9	520/1,302	48.7	1,467/3,015	53.2	3,004/5,643	50.1	4,991/9,960

(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 an HbA1c test in the last 6 months. D (denominator) is the total number of Indigenous regular clients with Type II diabetes.

Notes

1. Valid data for this indicator were provided by 68 services (11 urban services, 33 regional services and 24 remote services).
2. Services used their own definition of regular client.

Source: AIHW Healthy for Life data collection.

- Of the 4,482 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), 30% had an HbA1c result less than or equal to 7%, and 26% had a result greater than or equal to 10% (Table 3.04.3).
- Clients living in remote areas had the highest proportion of HbA1c results that were greater than or equal to 10% (31%).

Table 3.04.3: Number and proportion of Indigenous regular clients[(a)] with Type II diabetes who had an HbA1c test in the last 6 months, by HbA1c result[(b)] and region, 1 January–30 June 2009

	Urban		Regional		Remote		Total	
HbA1c result	**Per cent**	**N/D[(c)]**	**Per cent**	**N/D[(c)]**	**Per cent**	**N/D[(c)]**	**Per cent**	**N/D[(c)]**
≤7%	30.6	199/650	33.2	485/1,460	27.6	655/2,372	29.9	1,339/4,482
>7% to ≤8%	23.4	152/650	21.9	320/1,460	17.5	416/2,372	19.8	888/4,482
>8% to <10%	23.7	154/650	24.6	359/1,460	23.8	564/2,372	24.0	1,077/4,482
≥10%	22.3	145/650	20.3	296/1,460	31.1	737/2,372	26.3	1,178/4,482
Total	**100.0**	**650/650**	**100.0**	**1,460/1,460**	**100.0**	**2,372/2,372**	**100.0**	**4,482/4,482**

(a) Indigenous regular clients aged 15 years and over.

(b) HbA1c results in the last 6 months.

(c) N (numerator) is the number of Indigenous regular clients with Type II diabetes who had an HbA1c test in the last 6 months by HbA1c result. D (denominator) is the total number of Indigenous regular clients with Type II diabetes who had an HbA1c test in the last 6 months.

Notes

1. Valid data for this indicator were provided by 68 services (12 urban services, 33 regional services and 23 remote services).
2. Services used their own definition of regular client.

Source: AIHW Healthy for Life data collection.

For the 6 month reporting period ending June 2009, 69 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 3.04.4 below.

- Of the 4,981 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 8.5%.
- The average HbA1c result was 8.3% in urban areas, 8.7% in remote areas and 8.2% in regional areas.

Table 3.04.4: Average HbA1c result for Indigenous regular clients[(a)] with Type II diabetes who had an HbA1c test in the last 6 months, by region, 1 January–30 June 2009

	Urban	Regional	Remote	Total
		Per cent		
Average HbA1c result	8.3	8.2	8.7	8.5
Number of Indigenous regular clients with Type II diabetes who had an HbA1c test in the last 6 months	652	1,484	2,845	4,981

(a) Indigenous regular clients aged 15 years and over.

Notes

1. Valid data for this indicator were provided by 69 services (12 urban services, 33 regional services and 24 remote services).
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 2009, 68 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 9,960 Indigenous adults with Type II diabetes who were regular clients of the HfL services, 5,902 (59%) had a blood pressure test in the last 6 months. In remote areas, 60% of Indigenous adults with Type II diabetes had a blood pressure test in the last 6 months, compared with 59% in regional areas and 55% in urban areas (Table 3.04.5).

Table 3.04.5: Number and proportion of Indigenous regular clients[(a)] diagnosed with Type II diabetes who had a blood pressure test in the last 6 months, by region, 1 January–30 June 2009

Urban		Regional		Remote		Total	
Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]
55.1	717/1,302	59.2	1,785/3,015	60.3	3,400/5,643	59.3	5,902/9,960

(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 6 months. D (denominator) is the total number of Indigenous regular clients with Type II diabetes.

Notes

1. Valid data for this indicator were provided by 68 services (11 urban services, 33 regional services and 24 remote services).
2. Services used their own definition of regular client.

Source: AIHW Healthy for Life data collection.

- Of the 6,299 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, 2,666 (42%) 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 (45%), followed by urban (42%) and regional areas (38%) (Table 3.04.6).

Table 3.04.6: Number and proportion of Indigenous regular clients[(a)] with Type II diabetes who had a blood pressure test in the last 6 months with a result less than or equal to 130/80mmHg, by region, 1 January–30 June 2009

Urban		Regional		Remote		Total	
Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]
42.3	464/1,096	38.1	687/1,803	44.6	1,515/3,400	42.3	2,666/6,299

(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 6 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 6 months.

Notes

1. Valid data for this indicator were provided by 70 services (12 urban services, 34 regional services and 24 remote services).
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 2009, 68 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 69 services provided data on blood pressure test results of Indigenous clients.

- Of the 3,009 Indigenous adults with coronary heart disease who were regular clients of the HfL services, 1,911 (64%) 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 regional areas (67%), followed by remote (66%) and urban areas (57%) (Table 3.04.7).

Table 3.04.7: Number and proportion of Indigenous regular clients[(a)] with coronary heart disease who had a blood pressure test in the last 6 months, by region, 1 January–30 June 2009

Urban		Regional		Remote		Total	
Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]
57.2	537/939	66.7	678/1,017	66.1	696/1,053	63.5	1,911/3,009

(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 6 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 68 services (12 urban services, 32 regional services and 24 remote services).
2. Services used their own definition of regular client.
3. Finalised data from one service was excluded on the basis that the numbers were inconsistent with other data provided and for this indicator the service wrote ‘Recording paper based notes not always accurate.’

Source: AIHW Healthy for Life data collection.

- Of the 1,940 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, 1,220 (63%) had a blood pressure result less than 140/90 mmHg. Proportions were highest among clients living in remote areas (65%), followed by regional (63%) and urban areas (61%) (Table 3.04.8).

Table 3.04.8: Number and proportion of Indigenous regular clients[(a)] with coronary heart disease who had a blood pressure test in the last 6 months with a result less than 140/90 mmHg, by region, 1 January–30 June 2009

Urban		Regional		Remote		Total	
Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]	Per cent	N/D[(b)]
60.9	327/537	62.8	444/707	64.5	449/696	62.9	1,220/1,940

(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 6 months with a result less than or equal to 140/90 mmHg. D (denominator) is the total number of Indigenous regular clients with coronary heart disease who had a blood pressure test in the last 6 months.

Notes

1. Valid data for this indicator were provided by 69 services (12 urban services, 33 regional services and 24 remote services).
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 the 2007–08 period and is presented below.

- Of the 108 Divisions for whom online reports were available in 2007–08, 105 reported on the diabetes domain. Of these 105, 53 (50%) reported data on the most recent HbA1c result in the past 12 months among patients with diabetes on practice reminder systems. Of these:
  - 58% had recorded their Indigenous diabetes patients' most recent HbA1c result. About 29% of Indigenous patients on the practice diabetes register had an HbA1c result of 7.0% or less (Table 3.04.9). When a patient for whom HbA1c was not measured or recorded was excluded, 51% of Indigenous patients on the practice diabetes register had a result of 7.0% or less.
  - 60% had recorded their non-Indigenous diabetes patients' most recent HbA1c status in the past 12 months. Approximately 39% of non-Indigenous patients on the practice diabetes register had an HbA1c result of 7.0% or less. When a patient for whom HbA1c was not measured or recorded was excluded, 64% of non-Indigenous patients on the practice diabetes register had a result of 7.0% or less (Table 3.04.9).
- 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:
  - 56% 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.
  - 65% 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 3.04.10).

Table 3.04.9: Most recent HbA1c in past 12 months among patients on practice diabetes register, by Indigenous status, 2007–08

	Indigenous	Non-Indigenous	Origin missing
		Per cent	
7.0% or less	29.3	38.6	30.0
Between 7.0% and 10%	18.7	18.4	18.9
10% or more	9.6	2.9	2.8
Total measured/ recorded	**57.6**	**60.0**	**51.7**
Not measured/ recorded	42.4	40.0	48.3

Source: Divisions of General Practice National Performance Indicators 2007–08.

Table 3.04.10: 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.

OATSIH Services Reporting

- In 2008–09, there were 200 respondent Aboriginal and Torres Strait Islander primary health-care services included in the OSR. Not all services provide clinical care. Approximately 65% of these services had a doctor working at the service, with 330 full-time doctors in total (AIHW 2010).
- Approximately 86% of Indigenous primary health-care services provided management of chronic illness, 71% reported keeping track of clients needing follow-up (for example, through monitoring sheets/follow-up files), 73% reported they maintained health registers (for example, chronic disease register) and 74% used clinical practice guidelines. About 64% of Indigenous primary health-care services reported that they used Patient Information and Recall Systems (PIRS), which automatically provide reminders for follow-up and routine health checks (Table 3.04.11).
- Approximately half of Indigenous primary health-care services provided the chronic disease management activities of chronic disease management groups (48%), mothers and babies groups (58%), sport/ recreation/ exercise groups (52%), cooking and nutrition (59%), and men's groups (57%) (Table 3.04.11).
- There was an increase in the proportion of Indigenous primary health-care services providing management of chronic illness between 2001–02 and 2008–09 (from 74% to 89%) (Table 3.04.12; Figure 3.04.1). The proportion of services keeping track of clients needing follow-up fluctuated during this period beginning at 70% in 2001–02, dropping to 57% in 2005–06 but returning to 71% in 2008–09 (Table 3.04.12).

Table 3.04.11: Percentage of respondent Indigenous primary health-care services providing chronic disease management activities and use of the Patient Information and Recall System, 2008–09

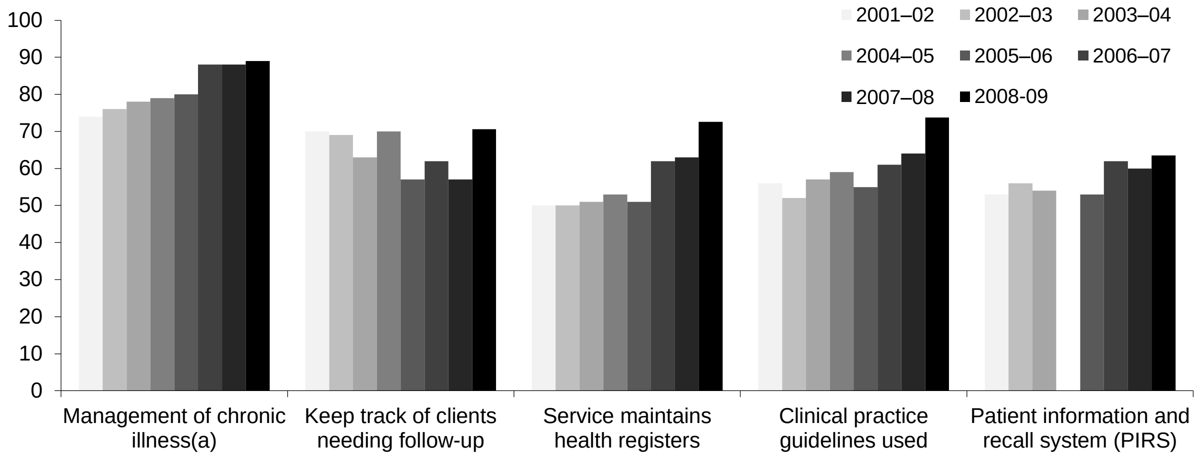
	Per cent
Chronic disease management activities [(a)]	
Management of diabetes	88.6
Management of cardiovascular disease	83.6
Management of other chronic illness	86.1
Keep track of clients needing follow-up (e.g. through monitoring sheets/follow-up files)	70.6
Maintains health registers (e.g. chronic disease register)	72.6
Clinical practice guidelines used (e.g. Central Australian Remote Practitioners Association, diabetes guidelines)	74.1
Patient Information and Recall Systems (PIRS) [(b)]	
PIRS which automatically provides reminders for follow-up and routine health checks	63.5
Chronic disease management groups [(c)]	
Counselling groups	26.7
Chronic disease management groups	48.3
Antenatal groups	33.9
Mothers and babies group	58.3
Tobacco use treatment/prevention groups	28.3
Alcohol use treatment/prevention groups	22.8
Other substance use treatment/prevention	12.2
Cultural groups	48.9
Sport/recreation/physical exercise groups	52.2
Living skills groups (e.g. cooking and nutrition groups)	59.4
Men’s groups	56.7
Women's groups	66.1
Youth groups	44.4
Other groups	12.8

(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 the table above are calculated as a proportion of these 201 services.

(b) Two hundred and three of the 205 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data for using computers. The percentages in the table above are calculated as a proportion of these 200 services.

(c) 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.



(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 data collection.

Figure 3.04.1: Percentage of respondent Indigenous primary health-care services that provide management of chronic disease, 2001–02 to 2008–09

Table 3.04.12: Percentage of respondent Indigenous primary health-care services that provide management of chronic disease, 2001-02 to 2008-09

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008-09
Management of chronic illness[(a)]	74.0	76.0	78.0	79.0	80.0	88.0	88.0	89.0
Keep track of clients needing follow-up	70.0	69.0	63.0	70.0	57.0	62.0	57.0	70.6
Service maintains health registers	50.0	50.0	51.0	53.0	51.0	62.0	63.0	72.6
Clinical practice guidelines used	56.0	52.0	57.0	59.0	55.0	61.0	64.0	74.1
Patient information and recall system (PIRS)	53.0	56.0	54.0	n.a.	53.0	62.0	60.0	63.5

(a) 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: 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 data collection.

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Additional information

Acute rheumatic fever and rheumatic heart disease

Registrations of acute rheumatic fever

- Between 2006 and 2009 there were 213 new and recurrent cases of acute rheumatic fever in the Northern Territory among Aboriginal and Torres Strait Islander people.
- The peak age group of incidence of acute rheumatic fever is 5–14 years. During the period 2006–2009, 58% of all new and recurrent cases of acute rheumatic fever occurred in this age group and very few of these cases occurred in non-Indigenous children.

For more information on acute rheumatic fever see Measure 1.06.

Secondary prevention of rheumatic heart disease

The immediate aim in the management of acute rheumatic fever/rheumatic heart disease (RHD) is to identify cases of acute rheumatic fever and, once identified, to prevent the progression to rheumatic heart disease through secondary prevention measures. Secondary prevention refers to the early detection of disease and implementation of measures to prevent recurrent and worsening of disease and poorer outcomes.

Secondary prophylaxis with benzathine penicillin G (BPG) is the only RHD control strategy shown to be cost effective at both community and population levels and is recommended for all people with a history of ARF or RHD. Four-weekly BPG dosages is the current treatment of choice, except in patients considered to be at high risk, for whom 3-weekly administration is recommended. Pharmacokinetic data suggest that prolonging the dosing interval beyond 4 weeks may increase the risk of breakthrough ARF, so regular and timely adherence to the dosing regimen is important. Where BPG is contraindicated, alternatives are available, although these are considered to be less effective. Secondary prophylaxis should be continued in all people with ARF or RHD for a minimum of 10 years after the last episode of ARF or until the age of 21 years (whichever is the longer period). Those with moderate or severe RHD should continue secondary prophylaxis up to the age of 35–40 years. The fundamental goal for the long-term management of chronic RHD is to prevent, or at least forestall, valve surgery. Prophylaxis with BPG to prevent recurrent ARF is therefore a crucial strategy in managing patients with a history of ARF and RHD (NHFA and CSANZ 2006).

Adherence to secondary prophylaxis has been problematic in remote Aboriginal and Torres Strait Islander communities. For example, in 2005 in the Top End of the Northern Territory, 28% of patients on secondary prophylaxis missed half or more of their scheduled BPG injections over a 12-month period, although around half of all episodes of ARF were recurrences. Poor adherence in remote Indigenous communities is thought to be related mainly to the availability and acceptability of health services, rather than personal factors such as injection refusal, pain of injections, or a lack of knowledge and understanding of ARF and RHD (NHFA and CSANZ 2006).

Data quality issues

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.

Divisions of General Practice National Performance Indicators (NPI)

The NPI are reported in the Divisions of General Practice Annual Reports submitted to DoHA, and are part of the National Quality Performance System (NQPS). No single Division reported against all the NPIs, but all indicators were reported against in the 2007–08 Annual Report. Much of the data provided involved inconsistencies, errors or omissions, however, and could not be used. Divisions were required to report on at least one domain within the chronic disease priority area. Of the 108 divisions for whom online reports were available, 105 completed at least some part of the diabetes sections. Of the 105 divisions who reported on diabetes, 48 reported data on the most recent total cholesterol among patients with diabetes.

OATSIH Services Reporting (OSR) data collection

The data were collected using the OSR questionnaire, (surveying all auspiced 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 2010b).

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) 2010. Aboriginal and Torres Strait Islander health services report, 2008/09. Cat. no. AIHW 31. Canberra: AIHW.

NHFA (National Heart Foundation of Australia) and CSANZ (Cardiac Society of Australia and New Zealand) 2006. Diagnosis and management of acute rheumatic fever and rheumatic heart disease in Australia: an evidence-based review. National Heart Foundation of Australia (RF/RHD Guideline Development Working Group).

NHMRC (National Health and Medical Research Council) 2004. National Evidence Based Guidelines for the Management of Type 2 Diabetes Mellitus: Part 4 Blood Pressure Control in Type 2 Diabetes. Prepared by the Australian Centre for Diabetes Strategies Prince of Wales Hospital, Sydney for the Diabetes Australia Guideline Development Consortium

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3.05 Differential access to key 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.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08: New South Wales (NSW), Victoria (Vic), Queensland (Qld), Western Australia (WA), South Australia (SA) and the Northern Territory (NT). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients: around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. 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.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation that is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in the change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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 3.05.1 presents the proportion of hospitalisations with a procedure recorded in public hospitals between July 2006 and June 2008 by a number of demographic variables. This table includes six jurisdictions (NSW, Vic, Qld, WA, SA and the NT), 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 2006 and June 2008, there were around 13 million hospitalisations with a procedure reported in Australia, 3.1% (389,972) of which were hospitalisations recorded for Indigenous patients. Excluding hospitalisations for care involving dialysis, there were around 11 million hospitalisations with a procedure reported, 1.6% (167,223) of which were hospitalisations recorded for Indigenous patients. Over one-third (37%) of all hospitalisations of Indigenous Australians had more than one procedure performed.
- Although Indigenous Australians were more likely to be hospitalised than other Australians, they were less likely to undergo a procedure once admitted to hospital. Between July 2006 and June 2008, excluding hospitalisations for care involving dialysis, 59% of Indigenous hospitalisations had a procedure recorded, compared with 81% of other hospitalisations (Table 3.05.1).
- The proportion of hospitalisations with a procedure recorded was highest for Indigenous patients aged 55–64 years and 65 years and over (both 64%).
- Patients who were hospitalised in *Remote* or *Very remote* areas were less likely to undergo a procedure (49% of Indigenous patients and 68% and 63% of other patients) compared with those hospitalised in *Major cities* (72% and 83% for Indigenous and other patients, respectively).
- Both Indigenous and other patients hospitalised in private hospitals were much more likely to undergo a procedure (90% and 93%, respectively) than Indigenous and other patients hospitalised in public hospitals (56% and 72%, respectively).
- Indigenous patients hospitalised in Qld and SA were least likely to receive a procedure (54% and 57%) and Indigenous patients hospitalised in Vic were most likely to receive a procedure (69%).
- For Indigenous Australians, 6% of hospitalisations with a procedure recorded occurred in private hospitals, compared with 50% for other Australians.

Table 3.05.1: Number and proportion of hospitalisations with a procedure recorded[(a)(b)], by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

	Indigenous		Other[(c)]		
	Number	**Per cent**	**Number**	**Per cent**	**Ratio**
Overall	167,223	58.7	10,605,058	80.9	0.73
Sex					
Males	70,439	58.7	4,836,126	80.9	0.73
Females	96,784	58.7	5,768,791	80.8	0.73
Age group (years)					
Under 1	8,111	43.6	139,365	50.8	0.86
1–14	21,991	49.7	490,174	64.7	0.77
15–34	55,092	52.1	1,806,178	74.3	0.70
35–54	48,746	54.3	2,579,895	82.5	0.66
55–64	17,331	63.6	1,757,295	86.6	0.73
65+	15,952	64.3	3,832,149	84.1	0.76
State/territory of residence					
NSW	42,223	56.5	3,249,271	81.4	0.72
Vic	9,942	66.7	2,913,873	79.9	0.86
Qld	41,765	53.0	2,122,320	79.8	0.68
WA	31,174	59.8	1,068,103	85.5	0.71
SA	11,149	54.8	839,605	79.8	0.71
NT	26,218	58.0	61,212	76.3	0.78
Remoteness of residence					
Major cities	47,255	72.4	7,412,145	82.9	0.87
Inner regional	32,842	63.0	2,140,043	78.7	0.80
Outer regional	37,017	55.2	911,302	73.2	0.75
Remote	21,598	48.8	103,838	67.8	0.72
Very remote	28,190	49.1	32,643	62.9	0.78
Sector					
Public	157,439	56.7	5,287,151	72.3	0.78
Private	9,784	89.5	5,317,907	92.5	0.97
Same-day admission					
Yes	48,740	62.8	5,661,722	85.2	0.74
No	118,483	56.9	4,943,336	76.2	0.75
Patient accommodation					
Public	152,606	56.4	4,488,711	71.7	0.79
Private	14,547	82.2	6,095,518	90.0	0.91

(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

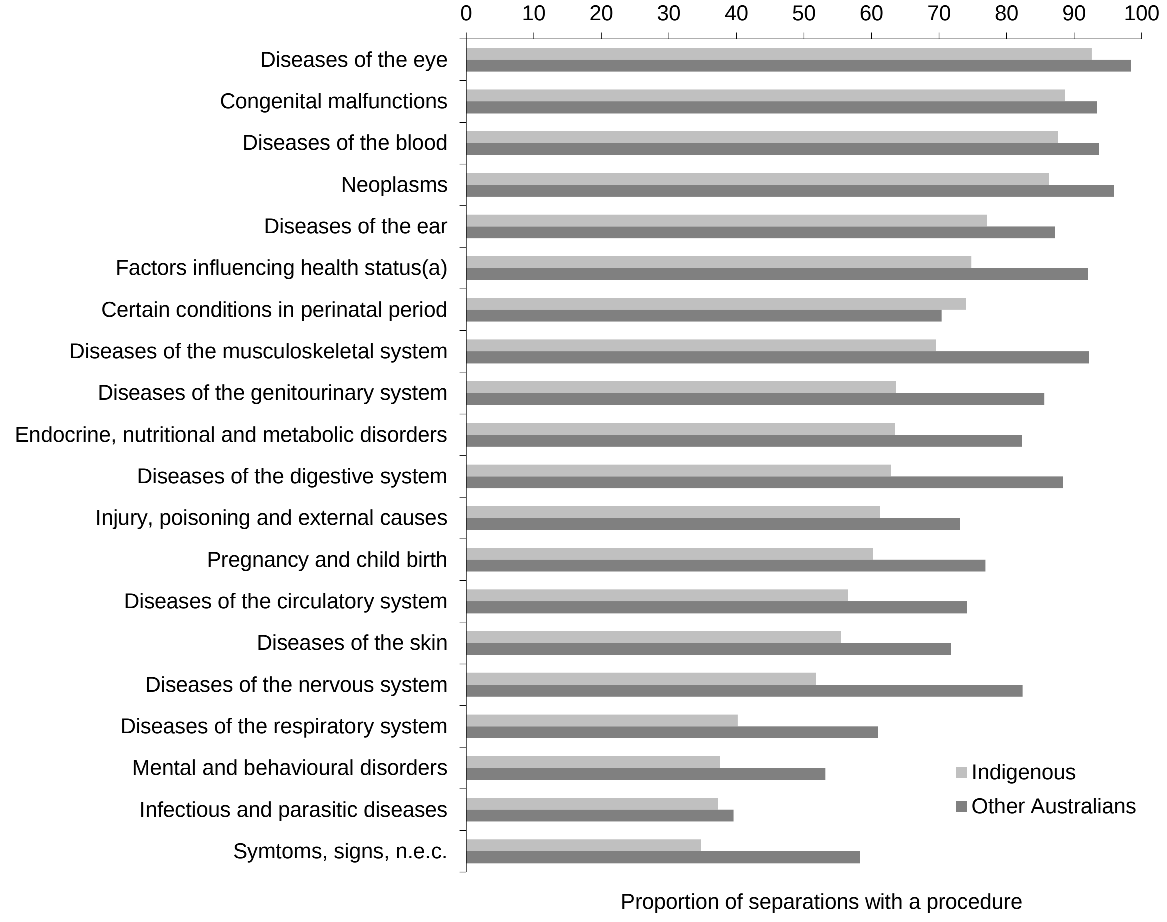
(b) Excludes private hospitals in the Northern Territory.

(c) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

Note: Proportions are age-standardised using the age-specific rates of other Australians.

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.05.1 and Table 3.05.02 show that between July 2006 and June 2008 in Australia, the proportion of separations with a procedure reported by principal diagnosis was lower for Indigenous patients than for other patients for all but one of the diagnosis chapters. For example, for 'diseases of the nervous system', 52% of separations for Indigenous patients had a procedure reported, compared with 82% of separations for other patients. 'Certain conditions originating in the perinatal period' was the only chapter for which the proportions of separations were higher for Indigenous patients.



(a) Excludes care involving dialysis

Note: Proportions are age-standardised using the age- and cause-specific rates of other Australians.

Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.05.1: Proportion of separations with a procedure reported, by principal diagnosis and Indigenous status, Australia, July 2006 to June 2008

Table 3.05.2: Proportion of separations with a procedure reported, by principal diagnosis and Indigenous status, Australia, July 2006 to June 2008

Principal diagnosis chapter (excluding dialysis)	**Indigenous**	**Other**
	Per cent	
Diseases of the eye	92.6	98.4
Congenital malfunctions	88.7	93.4
Diseases of the blood	87.6	93.7
Neoplasms	86.3	95.9
Diseases of the ear	77.1	87.2
Factors influencing health status	74.8	92.1
Certain conditions in perinatal period	74.0	70.4
Diseases of the musculoskeletal system	69.6	92.2
Diseases of the genitourinary system	63.6	85.6
Endocrine, nutritional and metabolic disorders	63.5	82.3
Diseases of the digestive system	62.9	88.4
Injury, poisoning and external causes	61.3	73.1
Pregnancy and child birth	60.2	76.9
Diseases of the circulatory system	56.5	74.2
Diseases of the skin	55.5	71.8
Diseases of the nervous system	51.8	82.4
Diseases of the respiratory system	40.2	61.0
Mental and behavioural disorders	37.6	53.2
Infectious and parasitic diseases	37.3	39.6
Symptoms, signs, n.e.c.	34.8	58.3
Any principle diagnosis[(a)]	**58.3**	**80.6**

(a) Excludes care involving dialysis.

Note: Proportions are age-standardised using the age-specific rates of other Australians.

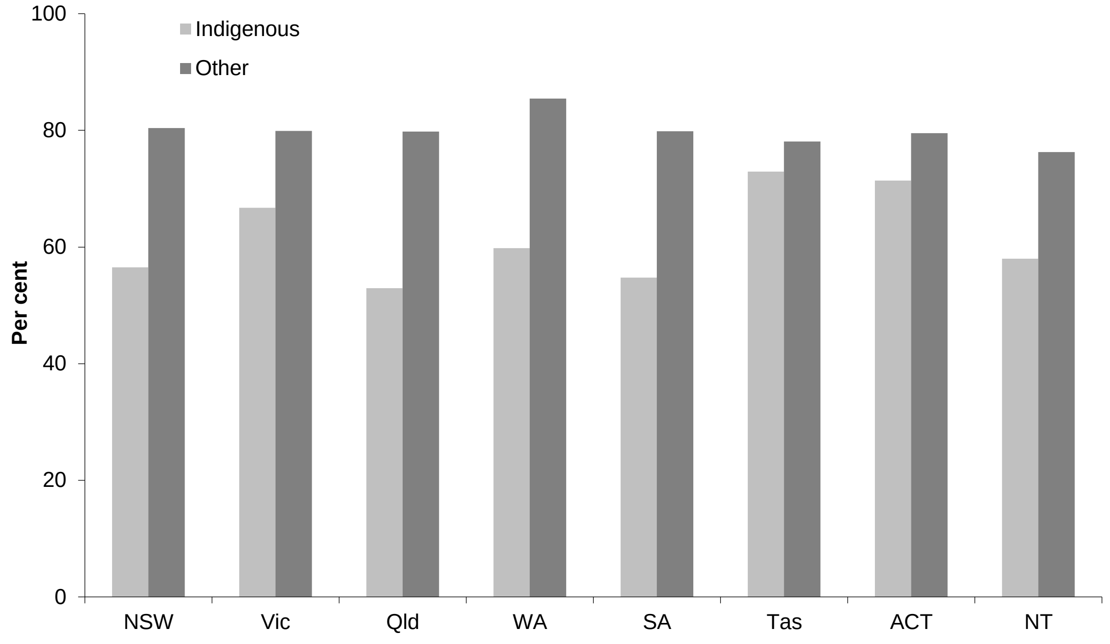
Source: AIHW analysis of National Hospital Morbidity Database

Detailed analyses (univariate and multivariate regression) of hospitalisations with a procedure reported

In 2010, the AIHW undertook a series of univariate and 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 2006–07 to 2007–08 in Australia.

Likelihood of receiving a procedure by jurisdiction and diagnosis

The first series of univariate analyses revealed that there were variations in the likelihood of receiving a procedure by state/territory and principal diagnosis chapter. As shown in Figure 3.05.2, in all states and territories, Indigenous Australians were less likely to receive a procedure than other Australians. For Indigenous Australians, the lowest proportions were in Qld and SA, with the highest proportions in Tas, the ACT, and Vic. The greatest disparities were observed in NSW, Qld, WA and SA—all with a ratio of 0.7. There was no disparity between Indigenous patients and other patients in Tas, with a ratio of 1.0, and little disparity between Indigenous patients and other patients in Vic and the ACT—both with a ratio of 0.9.



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.05.2. Proportion of hospitalisations with a procedure performed, by Indigenous status and state/territory (excluding care involving dialysis), 2006–07 to 2007–08

The univariate analyses found that the principal diagnoses that had the lowest proportions of procedures reported for Indigenous patients were 'symptoms, signs, n.e.c.' (35%), 'infectious and parasitic diseases' (37%), 'mental and behavioural disorders' (38%), and 'diseases of the respiratory system' (40%). The highest proportions of procedures reported for Indigenous patients were 'diseases of the eye' (93%), 'congenital malformations' (89%), 'diseases of the blood' (88%) and 'neoplasms' (86%).

The disease categories with the greatest levels of inequality in procedures reported between Indigenous Australians and other Australians were ‘diseases of the nervous system’, and ‘signs, symptoms, n.e.c.’ (ICD-10-AM chapter R) – both with a ratio of 0.6.

Further analyses by state/territory found that, across all states and territories, the proportion of separations for ‘factors influencing health status’ with a procedure recorded was higher for Indigenous patients or similar to the proportions for other Australians.

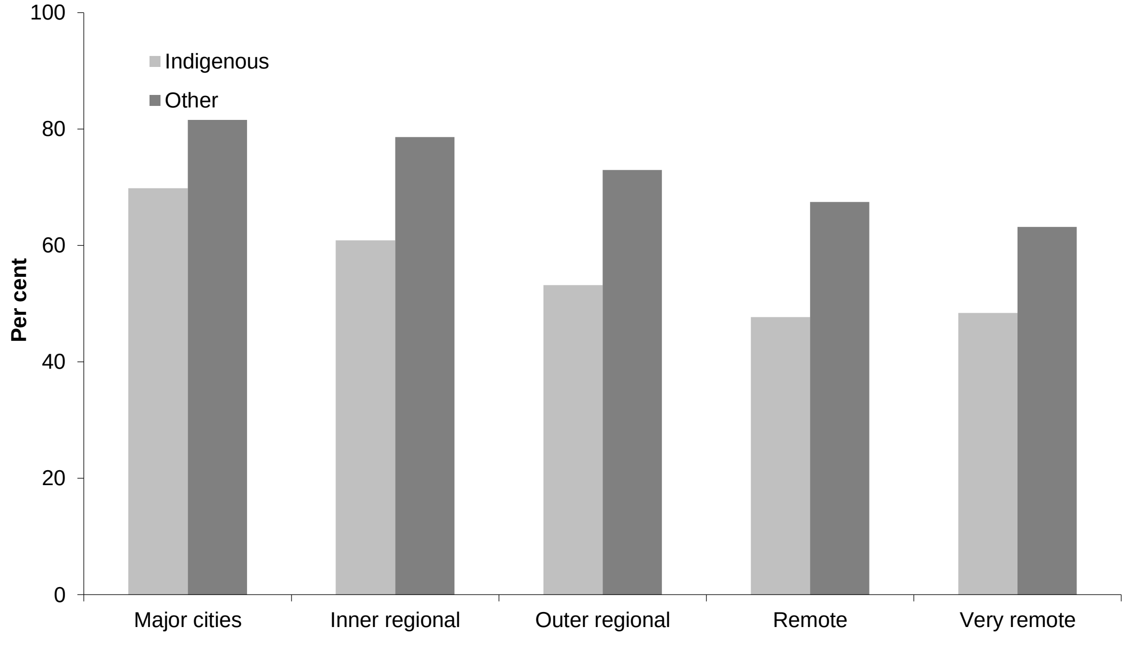
In Vic, Tas and the ACT, separations for ‘infectious and parasitic diseases’ and ‘conditions originating in the perinatal period’ also had higher procedure rates for Indigenous patients than for other patients.

Tas and the ACT had higher proportions of separations with a procedure reported for Indigenous patients than for other patients for numerous disease categories, including ‘infectious and parasitic diseases’, ‘neoplasms’, and ‘diseases of the blood’.

In the ACT, several diagnosis chapters had a higher proportion of separations with a procedure reported for Indigenous patients, including ‘diseases of the ear’, ‘congenital malformations’, ‘endocrine, nutritional and metabolic disorders’, ‘injury, poisoning and external causes’.

Differences by jurisdiction, diagnosis and remoteness

A second series of univariate analyses focused on differences by state/territory, diagnosis chapter, and remoteness category. Figure 3.05.3 demonstrates that the proportion of separations with a procedure reported is lower for Indigenous patients in all remoteness categories.



Source: AIHW analysis of National Hospital Morbidity Database

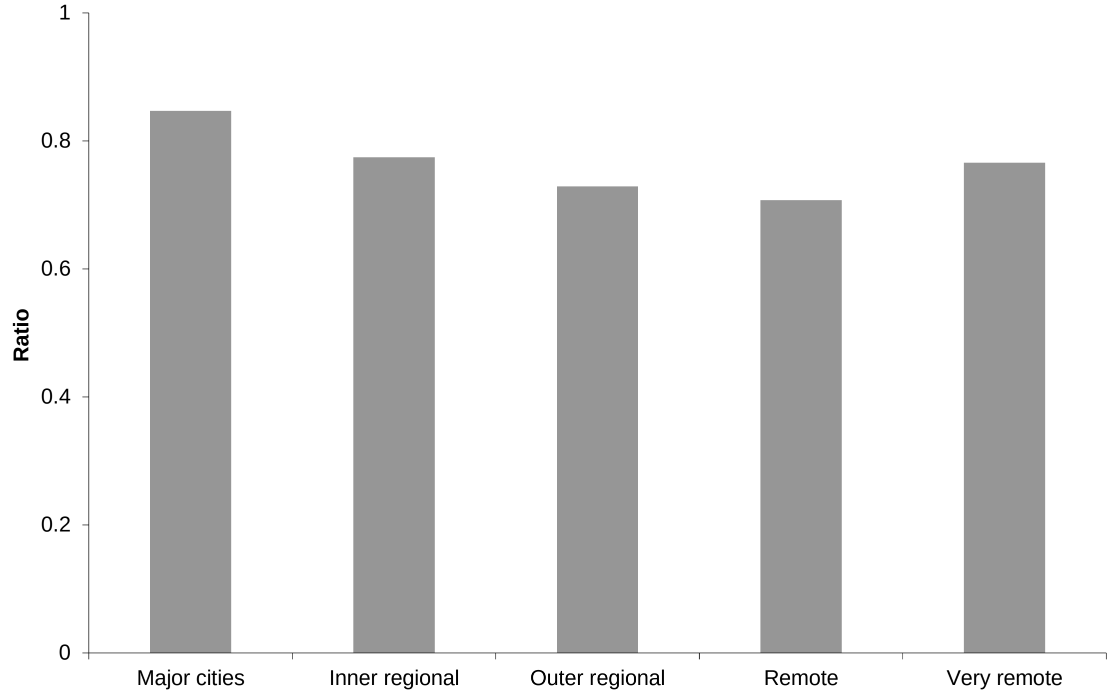
Figure 3.05.3: Proportion of hospitalisations with a procedure reported, by Indigenous status and remoteness (care excluding dialysis), 2006–07 to 2007–08

The lowest proportion of hospitalisations with procedures reported for Indigenous patients was in *Remote* areas, although for other patients the lowest proportion was in *Very Remote* areas.

The breakdown by state/territory shows that in NSW and Vic, the overall proportions of separations with a procedure reported were lowest in *Remote* areas. In Qld and SA, the lowest proportions were in *Remote* and *Very remote* areas. In WA, Tas and NT, the lowest proportions was in *Very remote* areas.

In all states and territories, Indigenous patients were less likely to undergo a procedure across all remoteness categories, with the exception of Tasmania where proportions were higher for *Remote* areas and similar for *Very Remote* areas.

As shown in Figure 3.05.4, the greatest disparities between Indigenous Australians and other Australians were found in *Outer regional* and *Remote* areas, with Indigenous Australians being about 25% less likely to receive a procedure while in hospital.



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.05.4: Disparity in the likelihood of receiving a procedure in hospital, by remoteness (care excluding dialysis), 2006–07 to 2007–08

In Qld, SA and NSW, disparities were greatest in *Outer regional*, *Remote*, and *Very remote* areas (ratios of 0.5 to 0.7). In the NT, disparities were greatest in *Remote* and *Very remote* areas (both 0.8) and in Vic, the ratio of Indigenous to other Australian separations with a procedure reported was similar in *Major Cities*, *Inner Regional* (both with a ratio of 0.9), and *Outer regional* and *Remote* areas (both with a ratio of 0.8).

The data were further broken down by remoteness category and principal diagnosis. The proportions of separations for which Indigenous patients received procedures were lowest in *Remote* and *Very remote* areas for most principal diagnoses.

The diagnostic chapters with the lowest proportions of Indigenous separations receiving a procedure were fairly consistent across remoteness categories. The same four principal diagnoses ('symptoms, signs, n.e.c.', 'mental and behavioural disorders', 'infectious and parasitic diseases', and 'diseases of the respiratory system') had the lowest proportion of Indigenous separations receiving a procedure in each remoteness category. *Within* each of the categories, the likelihood of receiving a procedure decreased with remoteness (Table 3.05.3).

Table 3.05.3: Diagnosis chapters with the lowest proportions of Indigenous separations receiving a procedure, Australia, 2006–07 to 2007–08

Remoteness category	Lowest proportion	Second lowest proportion	Third lowest proportion
Major cities	Infectious and parasitic diseases (47.5%)	Mental and behavioural disorders (48.7%)	Symptoms and signs and n.e.c. (49.6%)
Inner regional	Infectious and parasitic diseases (35.2%)	Symptoms and signs and n.e.c. (36.8%)	Mental and behavioural disorders (42.1%)
Outer regional	Symptoms and signs and n.e.c. (28.9%)	Mental and behavioural disorders (32.7%)	Infectious and parasitic diseases (34.5%)
Remote	Mental and behavioural disorders (23.7%)	Symptoms and signs and n.e.c. (25.5%)	Diseases of the respiratory system (34.4%)
Very remote	Mental and behavioural disorders (22.4%)	Symptoms and signs and n.e.c. (28.4%)	Diseases of the respiratory system (30.7%)

Source: AIHW analysis of National Hospital Morbidity Database

Influence of other variables on likelihood of receiving a procedure

A third 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, sex, same day admission, sector of hospital, volume of procedures, diagnosis subcategory and procedure block.

This analysis showed that the proportion of Indigenous males and females who received a procedure once in hospital was the same (59%). The disparity between Indigenous males and other males and Indigenous females and other females in the proportion who received a procedure once in hospital was similar (ratios of 0.9 including separations for dialysis, and ratios of 0.7 excluding separations for dialysis).

Half of all Indigenous patients who received a procedure once in hospital were aged 15–44 years (49%). In comparison, only 28% of other patients aged 15–44 years received a procedure once in hospital. The majority of other patients who received a procedure once in hospital were aged 55 years and over (53%). Within each age group, the highest proportion of hospitalisations of Indigenous and other patients for which a procedure was reported were for those aged 55–64 and 65–74 years (64% to 65% for Indigenous and 87% for other patients) (Figure 3.05.5 and Table 3.05.05). Indigenous patients were less likely to receive a procedure once in hospital than other patients across all age groups. The greatest disparity was observed for those aged 35–44 (ratio of 0.7).

Rates of hospitalisations with a procedure recorded in NSW, Vic, Qld, WA, SA and the NT are presented by Australian Standard Geographical Classification (ASGC) in Table 3.05.4, covering the period July 2007 to June 2009.

- Rates of hospitalisations with a procedure recorded were higher for Indigenous Australians hospitalised in *Outer regional, Remote* and *Very* remote areas. Rates for these hospitalisations were lower for Indigenous Australians in *Major cities* and *Inner regional* areas. The differences were statistically significant for all ASGC.

- Rates of these hospitalisations per 1,000 head of population were highest for Indigenous people in *Remote* areas, at 314 per 1,000. The rate was highest for other Australians who lived in *Major cities*, at 273 per 1,000. The lowest rates were observed in *Major cities* areas for Indigenous people (230 per 1,000) and *Very remote* areas for other Australians (210 per 1,000).
- Hospitalisations with a procedure recorded for Indigenous people were observed at a rate of 1.4 times that of other Australians in *Remote* areas of Australia. In *Major cities*, where the lowest ratio was observed, Indigenous people were hospitalised with a procedure recorded at 0.8 times the rate of other Australians. Nationally, the rate was significantly lower, at 0.9 times.

Table 3.05.4: Hospitalisations with a procedure recorded, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other[(g)]				
	Number	**No. per 1,000**[(h)]	**LCL 95%**[(i)]	**UCL 95%**[(j)]	**Number**	**No. per 1,000**[(h)]	**LCL 95%**[(i)]	**UCL 95%**[(j)]	**Ratio**[(k)]
Major cities	50,024	230.2	227.6	232.7	7,583,523	272.6	272.4	272.7	0.8*
Inner regional	33,253	246.2	242.9	249.5	2,078,543	262.4	262.0	262.7	0.9*
Outer regional[(l)]	37,892	255.7	252.6	258.8	871,161	242.6	242.1	243.1	1.1*
Remote	22,816	313.7	308.8	318.6	107,383	216.5	215.2	217.8	1.4*
Very remote	29,740	233.9	228.6	239.2	33,558	209.5	208.8	210.2	1.1*
Total[(m)]	**174,108**	**247.4**	**246.0**	**248.9**	**10,680,491**	**266.4**	**266.3**	**266.6**	**0.9***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio—Indigenous: other.

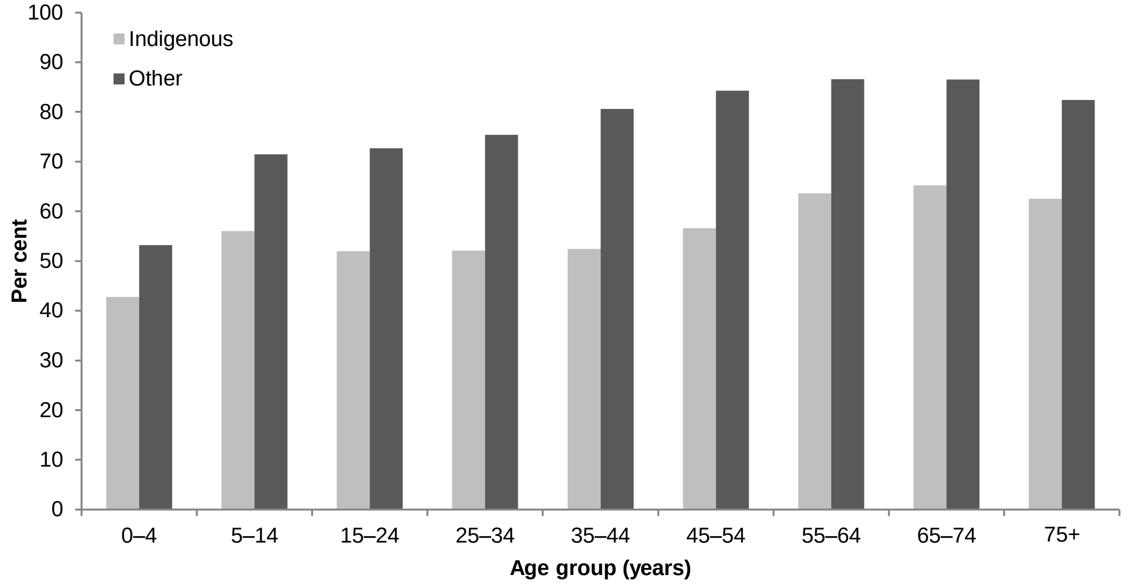
(l) Outer regional includes remote Victoria

(m) Total includes hospitalisations where ASGC is missing.

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) are excluded from the analysis.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.05.5: Proportion of separations with a procedure reported (excluding care involving dialysis), by Indigenous status and age group, Australia, 2006–06 to 2007–08

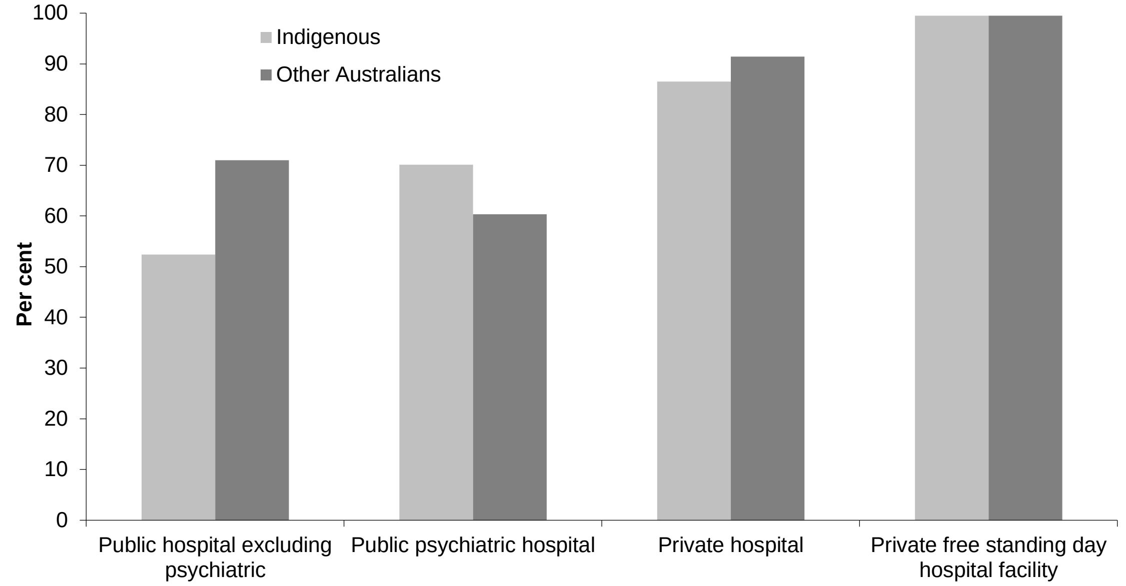
Table 3.05.5: Proportion of separations with a procedure reported (excluding care involving dialysis), by Indigenous status and age group, Australia, 2006–06 to 2007–08

Age groups (years)	Indigenous	Other
	Per cent	
0–4	42.8	53.2
5–14	56.0	71.5
15–24	52.0	72.7
25–34	52.1	75.4
35–44	52.4	80.6
45–54	56.6	84.3
55–64	63.6	86.6
65–74	65.2	86.5
75+	62.5	82.4

Source: AIHW analysis of National Hospital Morbidity Database

The proportion of separations with a procedure reported was slightly higher for Indigenous patients who were admitted to hospital for one day only (63%) compared with Indigenous patients who remained in hospital for more than one day (57%). The disparity between Indigenous and other Australians in the proportion of separations with a procedure reported was similar for those who had a same-day admission and those who were in hospital for more than one day (both with a ratio of 0.9).

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) (87% compared with 52%). The proportion of separations of Indigenous patients with a procedure reported was higher for public psychiatric hospitals than other public hospitals (70% compared with 52%). Indigenous patients admitted to public hospitals, excluding psychiatric hospitals, were less likely to receive a procedure than other patients admitted to public hospitals (ratio of 0.7) (Figure 3.05.6 and Table 3.05.06).



Source: AIHW analysis of National Hospital Morbidity Database

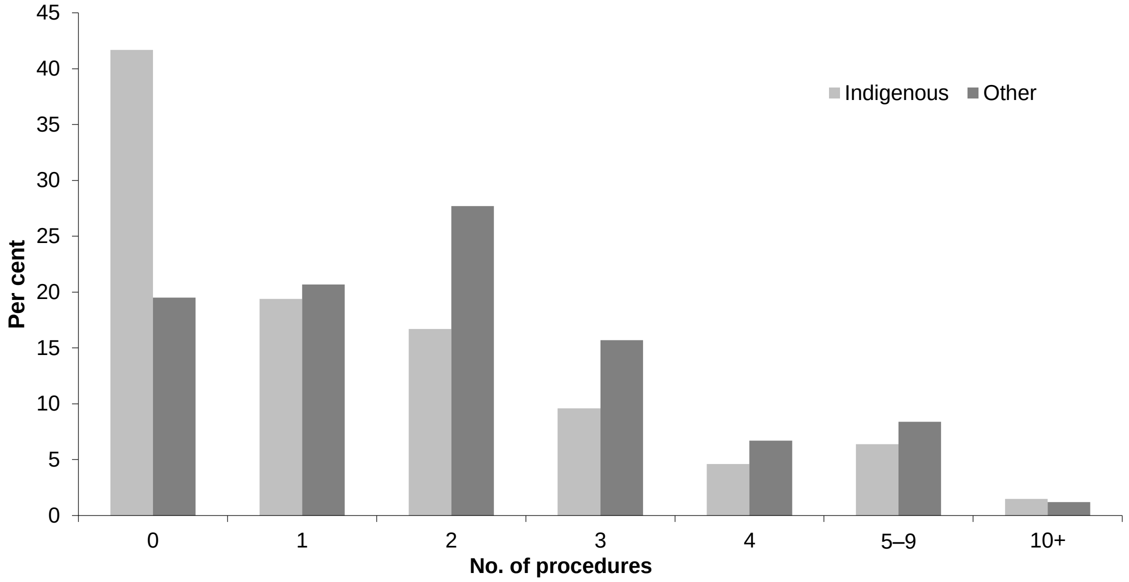
Figure 3.05.6: Proportion of separations with a procedure reported (excluding care involving dialysis), by Indigenous status and sector of hospital, Australia, 2006–07 to 2007–08

Table 3.05.6: Proportion of separations with a procedure reported (excluding care involving dialysis), by Indigenous status and sector of hospital, Australia, 2006–07 to 2007–08

Sector	Indigenous	Other Australians
	Per cent	
Public hospital excluding psychiatric	52.4	71.0
Public psychiatric hospital	70.1	60.3
Private hospital	86.5	91.4
Private free standing day hospital facility	99.5	99.5

Source: AIHW analysis of National Hospital Morbidity Database

Around 42% of all hospitalisations of Indigenous Australians did not have a procedure reported. Around 19% of Indigenous hospitalisations had one procedure reported, 17% had two procedures reported, 10% had three procedures reported and 13% had four or more procedures reported. Indigenous Australians were twice as likely as other Australians to have no procedures reported and less likely than other Australians to have one to nine procedures reported. They were, however, more likely to have 10 or more procedures reported (Figure 3.05.7 and Table 3.05.07).



Note: Data have been indirectly age-standardised.

Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.05.7: Proportion of separations with a procedure reported (excluding care involving dialysis), by Indigenous status and number of procedures reported, Australia, 2006–07 to 2007–08

Table 3.05.7: Proportion of separations with a procedure reported (excluding care involving dialysis), by Indigenous status and number of procedures reported, Australia, 2006–07 to 2007–08

No. of procedures	Indigenous	Other
	Per cent	
0	41.7	19.5
1	19.4	20.7
2	16.7	27.7
3	9.6	15.7
4	4.6	6.7
5-9	6.4	8.4
10+	1.5	1.2

Source: AIHW analysis of National Hospital Morbidity Database

Indigenous males and females were equally or less likely to receive a procedure than other Australians if they were hospitalised for any of the top 20 most common disease categories. The greatest disparities in the proportion of separations with a procedure reported between Indigenous and other males among the top 20 most common diagnosis subcategories were for 'episodic and paroxysmal disorders' (ratio of 0.5), 'symptoms and signs involving the circulatory and respiratory systems' (ratio of 0.6), 'mental and behavioural disorders due to psychoactive substance use' (ratio of 0.6), and 'symptoms and signs involving the digestive system and abdomen' (ratio of 0.6). The greatest disparities in the proportion of separations with a procedure reported between Indigenous and other females among the top 20 most common diagnosis subcategories were for 'mental and behavioural disorders due to psychoactive substance use' (ratio of 0.6), 'symptoms and signs involving the digestive system and abdomen' (ratio of 0.6), 'episodic and paroxysmal disorders' (ratio of 0.6), and 'symptoms and signs involving the circulatory and respiratory systems' (ratio of 0.6).

Whether a person hospitalised for each principal diagnosis chapter received a procedure corresponding to that principal diagnosis (based on related procedure block chapters) was also examined. For all of the 13 principal diagnosis chapters that had a corresponding procedure block chapter ('neoplasms'; 'diseases of the blood'; 'endocrine', 'metabolic and nutritional 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 skin and subcutaneous tissue'; 'diseases of the musculoskeletal system'; 'diseases of the genitourinary system'; and 'pregnancy, childbirth and the puerperium'), Indigenous males and females were less likely overall to receive a relevant procedure than other males and females, except for 'neoplasms'. Indigenous males and females were more likely to receive a radiation oncology procedure than other males and females (ratios of 1.7 for both males and females). For both males and females, the greatest discrepancy in the proportions of receiving a relevant procedure between Indigenous and other Australians was for 'endocrine, metabolic and nutritional disorders' (ratios of 0.1 and 0.2 for males and females, respectively). For 'diseases of the genitourinary system', the proportion of receiving a relevant procedure between Indigenous and other males were the same, while that proportion between Indigenous and other females was only 0.7.

In order to test whether compositional 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 13th most significant variable (third if the principal diagnosis chapters were not included) contributing to whether a patient would receive a procedure once in hospital. The odds of receiving a procedure for Indigenous Australians was about 40% 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 almost 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.

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', 'pregnancy and childbirth', and 'diseases of the ear and mastoid process'.

Remoteness of usual residence ranked after Indigenous status in terms of importance, and was more significant than state/territory 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 and sex were also significant variables in predicting whether a person would receive a procedure once in hospital.

A series of multivariate analyses also examined whether a person hospitalised for each principal diagnosis chapter underwent a procedure corresponding to that principal diagnosis. The results showed that, after controlling for age, sex, sector, state/territory of usual residence, remoteness of usual residence, and number of additional diagnoses, Indigenous status was still significant, except for 'diseases of the blood', and 'diseases of the ear and mastoid process', 'diseases of the skin and subcutaneous tissue', and 'diseases of the genitourinary system'.

For most principal diagnosis chapters, Indigenous status ranked after sector of hospital, number of additional diagnoses, sex, age group, and state/territory of usual residence. For eight of the 13 principal diagnosis chapters, Indigenous status ranked above remoteness of usual residence of the patient in terms of importance.

Given that the control variables did have a significant impact on the outcome variable, separate multivariate regressions were run for Indigenous and other Australians to test whether the impact of these variables was similar for both groups, such as whether living in a remote area has the same effect for other Australians that it does for Indigenous Australians.

Results from the overall analysis showed that, after adjusting for age, sex, sector, state/territory of usual residence of patient, remoteness of usual residence of patient, principal diagnosis and number of additional diagnoses, for both Indigenous and other Australians, the four most significant variables contributing to whether a patient would receive a procedure once in hospital were the number of additional diagnoses, the hospital sector, a principal diagnosis of neoplasms, and a principal diagnosis of diseases of the digestive system. The sector was the most significant variable for other Australians (it was the second most significant variable for Indigenous Australians).

Remoteness of usual residence of the patient was more significant in contributing to the outcome of whether a patient would receive a procedure than state/territory of usual residence of the patient for both Indigenous and other Australians. The likelihood of receiving a procedure for patients residing in *Remote* and *Very remote* areas was around half the likelihood for patients residing in *Major cities*. Remoteness of usual residence of the patient ranked higher in terms of importance for Indigenous Australians than for other Australians (7th compared with 13th).

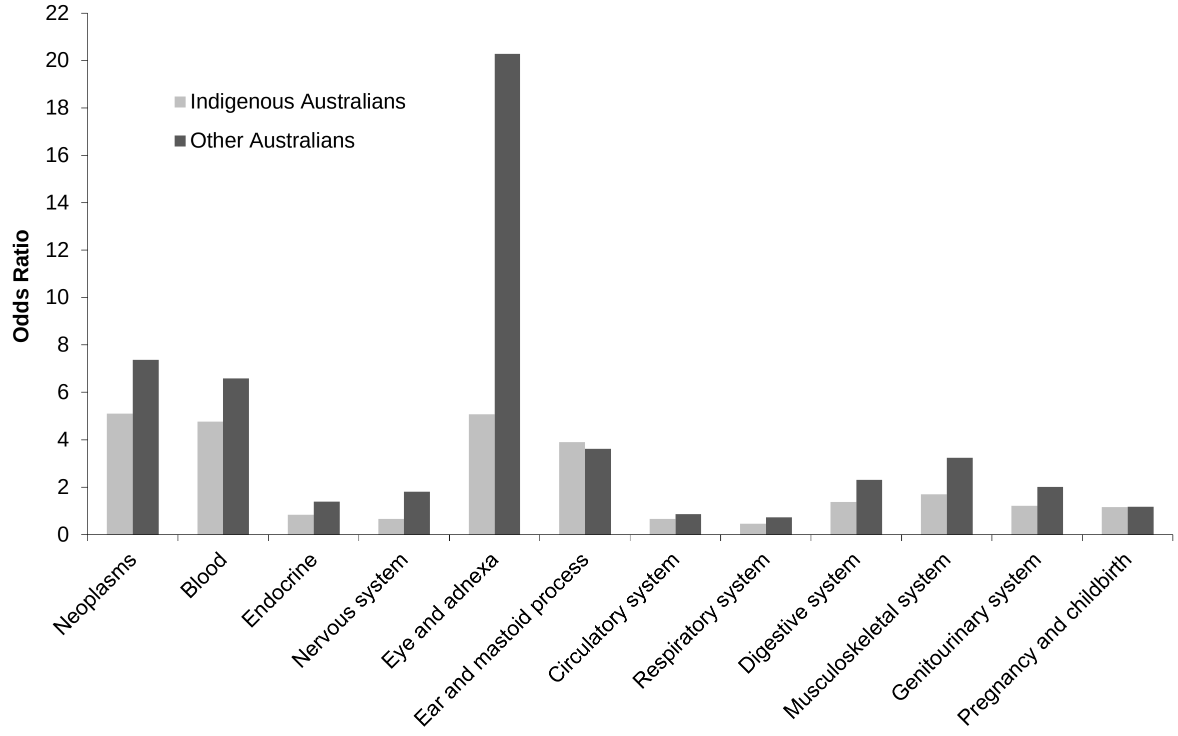
Age group and sex were both significant variables in affecting whether a patient would receive a procedure once in hospital for Indigenous and other Australians.

Results from the set of analyses that examined the outcome of whether a person hospitalised for each principal diagnosis chapter underwent a procedure corresponding to that principal diagnosis chapter showed that, for Indigenous Australians, no listing factors were significant in affecting the outcome of whether a person underwent a procedure for 'diseases of the blood', possibly due to the small number of separations with a procedure corresponding to 'diseases of the blood'. Age was significant for other principal diagnosis chapters, remoteness of usual residence was significant, except for 'neoplasms'; and number of additional diagnoses was significant except for 'diseases of the nervous system', and 'diseases of the skin and subcutaneous tissue'. For most principal diagnosis chapters, the variables sex and state/territory of usual residence were less significant than the variables age, sector, remoteness of usual residence.

Given the statistical and theoretical importance of principal diagnosis chapters on the likelihood of receiving a procedure once in hospital, a further set of analyses were conducted with the principal diagnosis chapters recoded as categorical variables in order to test their relative importance against the category of 'diseases of the skin'. The models—run separately for Indigenous Australians and other Australians—included the same set of variables (age group, sector of hospital, remoteness of usual residence, state/territory of usual residence, total number of additional diagnoses, and sex) as the previous analyses.

Results showed that, after adjusting for these variables, principal diagnosis and number of additional diagnoses, the four most significant variables contributing to whether a patient would receive a procedure once in hospital were the number of additional diagnoses, hospital sector, remoteness of usual residence of the patient and principal diagnosis for both Indigenous and other Australians. The number of additional diagnoses was the most significant variable for Indigenous Australians and sector was the most significant variable for other Australians. Remoteness of usual residence of the patient was more significant in affecting the outcome of whether a patient would receive a procedure once in hospital than state/territory of usual residence for both Indigenous and other Australians.

Figure 3.05.8 and Table 3.05.08 show the impact of the individual principal diagnosis categories on the likelihood of receiving a procedure in hospital for both Indigenous Australians and other Australians. All the results that are less than one indicate that patients with that principal diagnosis were less likely than those with 'diseases of the skin' to receive a procedure. Figure 3.05.8 shows that, for Indigenous Australians, patients with '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 circulatory system' —were also among the lowest for other Australians, along with 'pregnancy and childbirth'. For Indigenous Australians and other Australians, patients with 'neoplasms' and those with 'diseases of the eye and adnexa' were the most likely to receive procedures.



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.05.8: Impact of principal diagnosis on the likelihood of receiving a procedure in hospital (relative to diseases of the skin), by Indigenous status, 2006–07 to 2007–08

Table 3.05.8: Impact of principal diagnosis on the likelihood of receiving a procedure in hospital (relative to diseases of the skin), by Indigenous status, 2006–07 to 2007–08

	Indigenous	Other
	Per cent	
Neoplasms	5.10	7.38
Diseases of the blood	4.76	6.58
Endocrine, metabolic and nutritional disorders	0.83	1.38
Diseases of the nervous system	0.66	1.81
Diseases of the eye and adnexa	5.07	20.28
Diseases of the ear and mastoid process	3.89	3.61
Diseases of the circulatory system	0.66	0.86
Diseases of the respiratory system	0.45	0.73
Diseases of the digestive system	1.37	2.31
Diseases of the musculoskeletal system	1.70	3.24
Diseases of the genitourinary system	1.22	2.01
Pregnancy and childbirth	1.15	1.18
Diseases of the skin	1.00	1.00

Source: AIHW analysis of National Hospital Morbidity Database

Although these exploratory analyses have been critical in identifying some of the factors underlying the disparity between Indigenous and other 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 other 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 2006 to June 2008, there were 680,598 hospital procedures performed on Indigenous patients in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined. Approximately one third (33%) of these procedures were for haemodialysis (Table 3.05.9).
- Procedures on the urinary system was the most frequently reported procedure chapter for Indigenous patients (233,544). The number of haemodialysis procedures per 1,000 population for persons identified as Indigenous was about 11 times that for other persons. For procedures on the respiratory system, the rate for persons identified as Indigenous was about twice that for other persons and for procedures on the cardiovascular system the rate was 1.2 times that of other persons.
- Procedures for which the rate for Indigenous persons was less than that for other persons included: procedures on the nervous system; procedures on the nose, mouth and pharynx; procedures on the male genital organs; dental services; procedures on the digestive system; and gynaecological procedures.

Table 3.05.9: Hospital procedures, by type of procedure reported and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(a)(b)(c)(d)]

	Number		Per cent		Age standardised per cent[(e)]		Number per 1,000[(e)]		
	Indigenous	Other[(f)]	Indigenous	Other[(f)]	Indigenous	Other[(f)]	Indigenous	Other[(f)]	Ratio[(g)]
Procedure on the urinary system	233,544	2,236,949	34.3	7.6	45.8	7.6	444.7	53.2	8.4*
Haemodialysis	225,337	1,659,718	33.1	5.7	45.5	5.7	429.9	39.5	10.9*
Non-invasive and cognitive and other interventions, n.e.c.	216,498	13,711,265	31.8	46.9	34.0	46.9	310.1	332.1	0.9*
Imaging services	31,519	1,573,970	4.6	5.4	5.5	5.4	49.2	37.8	1.3*
Procedures on the cardiovascular system	20,158	1,132,585	3.0	3.9	3.6	3.9	33.0	26.9	1.2*
Procedures on the digestive system	24,365	2,744,325	3.6	9.4	3.5	9.4	38.8	66.2	0.6*
Dermatological and plastic procedures	24,242	1,173,957	3.6	4.0	3.5	4.0	27.7	28.6	0.97*
Obstetric procedures	29,953	969,727	4.4	3.3	3.3	3.3	25.8	25.5	1.0
Procedures on the musculoskeletal system	23,270	1,389,961	3.4	4.8	3.0	4.8	26.9	34.1	0.8*
Dental services	29,556	1,024,040	4.3	3.5	2.5	3.5	19.8	26.7	0.7*
Procedures on the respiratory system	12,067	347,308	1.8	1.2	1.6	1.2	15.0	8.5	1.8*
Gynaecological procedures	13,155	957,245	1.9	3.3	1.4	3.3	15.1	24.4	0.6*
Procedures on the eye and adnexa	4,604	556,705	0.7	1.9	1.1	1.9	10.7	13.2	0.8*
Procedures on the nervous system	4,488	412,538	0.7	1.4	0.6	1.4	5.4	10.0	0.5*
Procedures on the nose and mouth and pharynx	4,530	402,625	0.7	1.4	0.4	1.4	4.3	10.2	0.4*
Procedures on the ear and mastoid process	4,157	109,467	0.6	0.4	0.3	0.4	2.9	2.9	1.0
Procedures on the male genital organs	1,726	204,351	0.3	0.7	0.2	0.7	2.1	5.0	0.4*
Procedures on blood and blood-forming organs	1,038	103,938	0.2	0.4	0.2	0.4	1.7	2.5	0.7*
Procedures on the breast	1,066	134,243	0.2	0.5	0.1	0.5	1.6	3.3	0.5*
Radiation oncology procedures	369	31,200	0.1	0.1	0.1	0.1	0.7	0.7	1.0
Procedures on endocrine system	293	26,728	0.0	0.1	0.0	0.1	0.4	0.7	0.7*

(continued)

Table 3.05.9 (continued): Hospital procedures, by type of procedure reported and Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(a)(b)(c)(d)]

	Number		Per cent		Age standardised per cent[(e)]		Number per 1,000[(e)]		
	Indigenous	**Other[(f)]**	**Indigenous**	**Other[(f)]**	**Indigenous**	**Other[(f)]**	**Indigenous**	**Other[(f)]**	**Ratio[(g)]**
Total (excluding haemodialysis)	***455,261***	***27,583,418***	***66.9***	***94.3***	***65.8***	***94.3***	***606.2***	***673.1***	***0.9****
Total (including haemodialysis)	**680,598**	**29,243,136**	**100.0**	**100.0**	**100.0**	**100.0**	**1,036.1**	**712.6**	**1.5****

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(c) Financial year reporting.

(d) Data are presented by state/territory of usual residence of the patient and are reported 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) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Rate ratio—Indigenous: other.

Source: AIHW analysis of National Hospital Morbidity Database.

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 2007–08: 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 so they were included as part of the current period analysis (2006–07 to 2007-08).

Hospital procedure rates, rate ratios and rate differences between Indigenous and other Australians in Queensland, Western Australia, South Australia and the Northern Territory combined over the 9-year period 1998–99 to 2007–08, excluding haemodialysis procedures, are presented in Table 3.05.10 and Figure 3.05.9.

Hospital procedure rates, 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 2007–08, excluding haemodialysis procedures, are presented in Table 3.05.11 and Figure 3.05.10.

- Over the period 2001–02 to 2007–08 for Queensland, Western Australia, South Australia and Northern Territory combined, there were significant increases in hospital procedure rates, excluding dialysis, for both Indigenous and other Australians. The fitted trend implies an average yearly increase in the rate of 5.9 per 1,000 for Indigenous Australians (equivalent to a 17% increase over the period) and 1.8 per 1,000 for other Australians (equivalent to a 4.5% increase over the period).
- There was a significant change in the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period.

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.

Table 3.05.10: Age-standardised hospital procedure rates, rate ratios and rate differences (excluding haemodialysis), Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	18,197	18,747	19,800	19,989	21,462	21,956	24,482	962*	31.7*
Females	25,853	26,321	27,486	27,823	29,515	31,181	32,687	1,152*	26.7*
Persons	44,057	45,069	47,286	47,813	50,977	53,137	57,169	2,113*	28.8*
Other Australian[(d)] separations									
Males	774,647	796,414	817,192	841,720	876,520	921,528	962,417	31,174*	24.1*
Females	930,302	957,209	983,668	1,001,148	1,032,416	1,082,022	1,089,673	27,732*	17.9*
Persons	1,704,958	1,753,639	1,800,861	1,842,872	1,908,939	2,003,556	2,052,102	58,905*	20.7*
Indigenous no. per 1,000									
Males	189.5	196.6	214.2	201.9	217.4	213.1	240.2	6.7*	21.3*
Females	232.7	235.9	243.6	233.6	246.2	255.7	268.6	5.4*	13.8*
Persons	211.3	216.1	227.8	216.9	230.7	234.1	253.3	5.9*	16.7*
Other Australian[(d)] rate per 1,000									
Males	229.8	230.3	230.6	231.3	234.3	239.4	243.0	2.2*	5.8*
Females	258.5	260.4	261.9	261.0	263.4	269.6	265.6	1.5*	3.4*
Persons	242.8	244.0	244.9	244.8	247.4	253.1	252.8	1.8*	4.5*
Rate ratio[(e)]									
Males	0.8	0.9	0.9	0.9	0.9	0.9	1.0	0.02*	14.6*
Females	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.02*	10.1*
Persons	0.9	0.9	0.9	0.9	0.9	0.9	1.0	0.02*	11.7*
Rate difference[(f)]									
Males	-40.2	-33.7	-16.4	-29.4	-16.9	-26.3	-2.8	4.5*	–67.5*
Females	-25.8	-24.5	-18.3	-27.5	-17.2	-13.8	3.0	3.9*	–90.6*
Persons	-31.5	-27.9	-17.0	-27.9	-16.7	-19.0	0.5	4.1*	–77.7*

(continued)

Table 3.05.10 (continued): Age-standardised hospital procedure rates, rate ratios and rate differences (excluding haemodialysis), Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

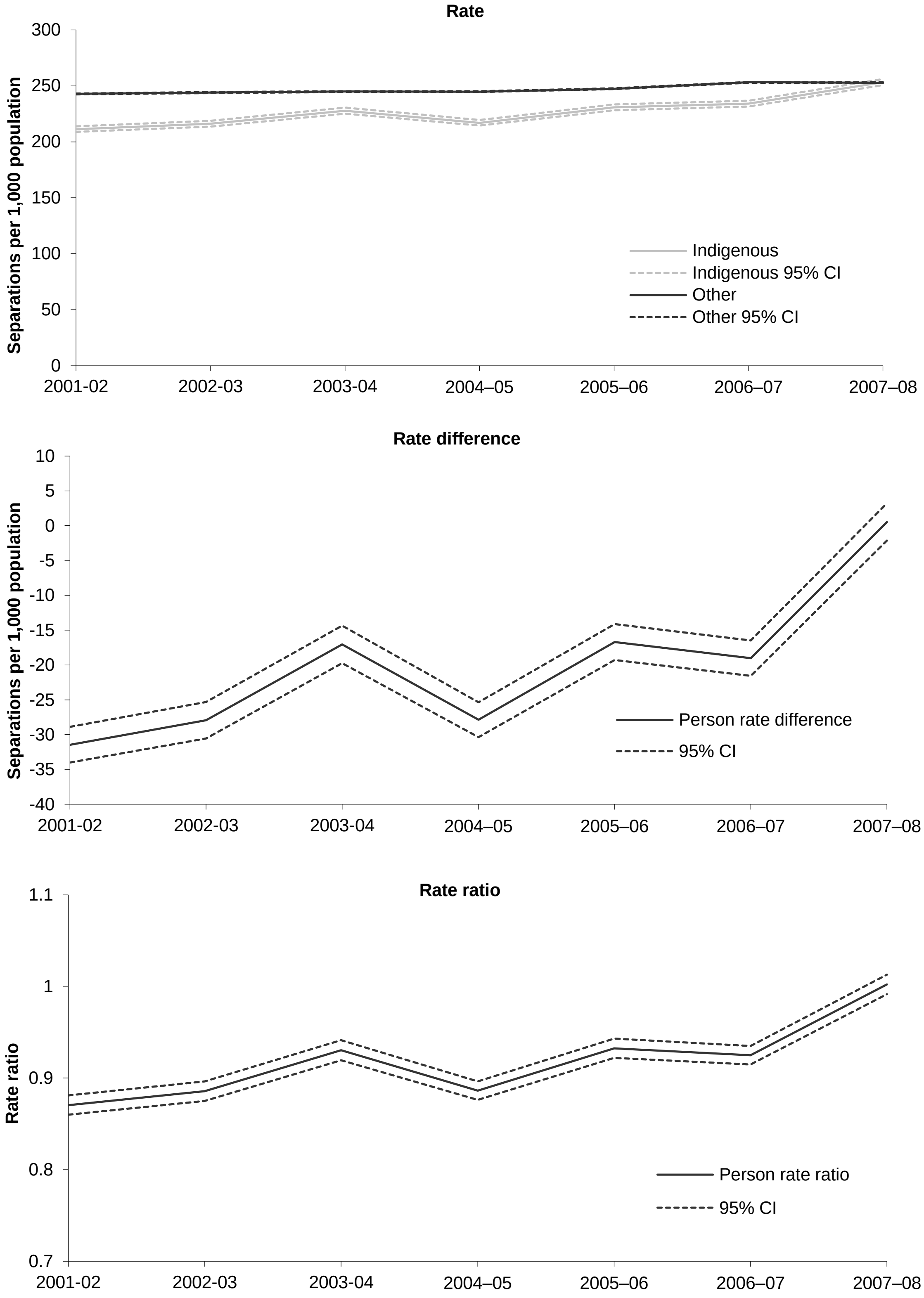
* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2007–08.

(a) 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 were determined using linear regression analysis.
(c) Per cent change between 1998–99 and 2007–08 are based on the average annual change over the period.
(d) ‘Other Australian’ includes hospitalisations for non-Indigenous Australians and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Excludes procedures for haemodialysis (block no. 1060 for 2002–03 to 2007–08 and block no. 1059 for 1998–99 to 2001–02).

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.05.9: Hospital procedure rates, rate ratios and rate differences (excluding haemodialysis) between Indigenous and other Australians, Qld, WA, SA and NT, 2001–02 to 2007–08

Table 3.05.11: Age-standardised hospital procedure rates, rate ratios and rate differences (excluding haemodialysis) NSW, Vic, Qld, WA, SA and NT, 2004-05 to 2007–08[a]

	2004–05	2005–06	2006–07	2007–08	Annual change[b]	Per cent change over period[c]
Indigenous separations						
Males	28,886	31,359	32,744	35,784	2,208*	22.9*
Females	39,943	42,602	45,830	48,112	2,774*	20.8*
Persons	68,832	73,961	78,574	83,896	4,981*	21.7*
Other Australian separations						
Males	2,112,071	2,192,105	2,288,547	2,387,661	92,321*	13.1*
Females	2,532,007	2,616,581	2,730,724	2,795,827	90,560*	10.7*
Persons	4,644,112	4,808,700	5,019,286	5,183,504	182,876*	11.8*
Indigenous rate per 1,000						
Males	178.8	193.1	193.8	212.9	10.3*	17.3*
Females	209.7	221.3	235.4	246.5	12.5*	17.8*
Persons	193.8	206.5	214.6	229.3	11.5*	17.8*
Other Australian rate per 1,000[d]						
Males	226.3	229.9	234.5	238.8	4.2*	5.5*
Females	252.7	256.8	263.0	264.1	4.0*	4.8*
Persons	238.3	242.2	247.5	250.2	4.1*	5.2*
Rate ratio[e]						
Males	0.8	0.8	0.8	0.9	0.03*	11.1*
Females	0.8	0.9	0.9	0.9	0.03*	12.5*
Persons	0.8	0.9	0.9	0.9	0.03*	12.0*
Rate difference[f]						
Males	–47.5	–36.9	–40.7	–25.8	6.1*	–38.7*
Females	–43.1	–35.5	–27.6	–17.6	8.4*	–58.7*
Persons	–44.5	–35.7	–32.9	–20.9	7.4*	–49.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 were determined using linear regression analysis.
(c) Per cent changes between 1998–99 and 2007–08 are based on the average annual change over the period.
(d) 'Other Australian' includes hospitalisations for non-Indigenous Australians and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Excludes procedures for haemodialysis (block no. 1060).

Source: AIHW analysis of National Hospital Morbidity Database.

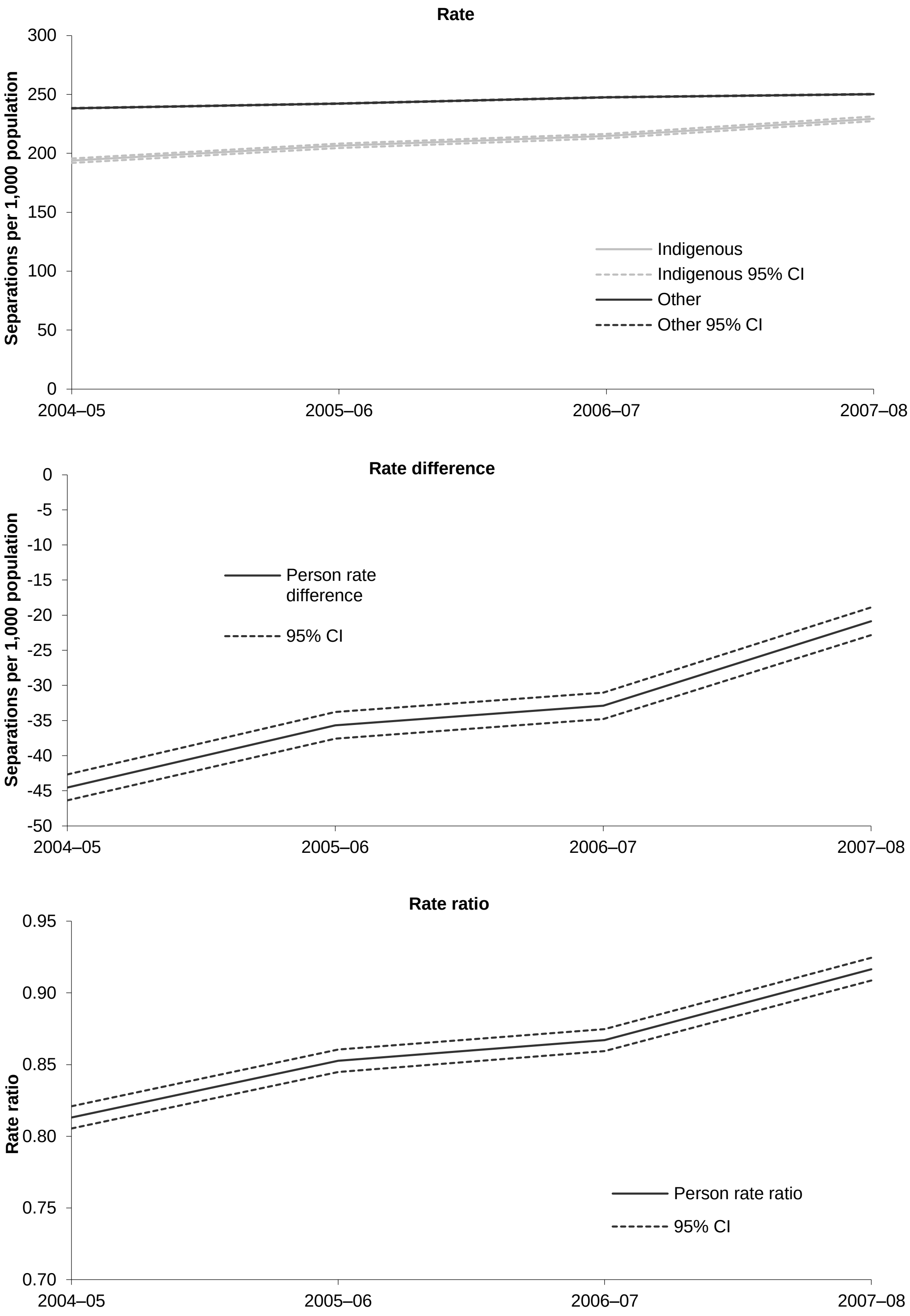


Figure 3.05.10: Hospital procedure rates, rate differences and rate ratios (excluding haemodialysis) between Indigenous and other Australians, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

Source: AIHW analysis of National Hospital Morbidity Database.

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 2006–08, 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 other Australians. This was evident across all age groups (Table 3.05.12). The detailed age-specific rates indicate that, in both relative and absolute terms, the largest differences for both angiography and revascularisation occurred in the 55–64 and 65–74 year age groups, where the rates for other Australians were around double that for Indigenous Australians and the rate difference was over 20 percentage points for angiography and over 15 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 50% lower than the rate for other Australians (rate ratio of 0.5 for both).
- Similar results were observed when PCI and CABG were analysed separately, with Indigenous Australians generally less likely to receive these procedures than other 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 60% lower than other Australians, although the age-adjusted rate for CABG is 20% lower (age-standardised rate ratio of 0.4 and 0.8, respectively).
- Indigenous Australians with coronary heart disease tended to have more complex cases (measured by the number of comorbidities). In 2006–08, 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 other Australians.

Table 3.05.12: Use of coronary procedures for those hospitalised with coronary heart disease, by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

	Indigenous Australians		Other Australians		Inequality measures	
Age group	Number	Per cent[(a)]	Number	Per cent[(a)]	Rate ratio[(b)]	Rate difference[(c)]
Coronary angiography						
25–34	88	32.2	477	37.8	0.9	–5.6
35–44	444	31.0	4,589	45.3	0.7*	–14.3
45–54	699	30.4	17,986	49.7	0.6*	–19.3
55–64	516	28.5	37,549	53.3	0.5*	–24.8
65–74	252	26.8	41,815	51.3	0.5*	–24.5
75+	74	17.0	36,588	34.9	0.5*	–17.9
All ages[(d)]						
Crude	**2,083**	**28.9**	**139,070**	**45.7**	**0.6***	**–16.8**
ASR[(e)]	**—**	**—**	**—**	**—**	**0.5***	**—**
Revascularisation (PCI and CABG)						
25–34	41	15.0	246	19.5	0.8	–4.5
35–44	279	19.5	2,976	29.4	0.7*	–9.9
45–54	429	18.7	12,048	33.3	0.6*	–14.6
55–64	328	18.1	24,088	34.2	0.5*	–16.1
65–74	145	15.4	25,540	31.4	0.5*	–15.9
75+	42	9.6	20,852	19.9	0.5*	–10.3
All ages[(d)]						
Crude	**1,268**	**17.6**	**85,765**	**28.2**	**0.6***	**–10.6**
ASR[(e)]	**—**	**—**	**—**	**—**	**0.5***	**—**

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

(a) Per cent refers to the proportion of hospitalisations with coronary heart disease as the principal diagnosis receiving either coronary angiography or coronary revascularisation.

(b) Rate ratio–Indigenous: other.

(c) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

(d) Includes those aged less than 25 years.

(e) ASR refers to indirectly age-standardised rate using 'other Australians' population as the standard population.

Source: AIHW analysis of National Hospital Morbidity Database

Table 3.05.13: Inequalities in the use of PCI and CABG procedures for those hospitalised with a principal diagnosis of coronary heart disease, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

	Age group (years)						All ages[(a)]	
	25–34	**35–44**	**45–54**	**55–64**	**65–74**	**75+**	**Crude**	**ASR[(b)]**
PCI								
Rate ratio[(c)]	0.9	0.6*	0.5*	0.4*	0.4*	0.4*	0.5*	0.4*
Rate difference[(d)] (%)	–2.3	–11.2	–14.3	–15.1	–13.2	–8	–9.4	—
CABG								
Rate ratio[(c)]	—[(e)]	1.3	0.9	0.9*	0.7*	0.6*	0.8*	0.8
Rate difference[(d)] (%)	—[(e)]	1.3	-0.3	-1.0	-2.7	-2.2	-1.2	—

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

(a) Includes those aged less than 25 years.

(b) ASR refers to indirectly age-standardised rate using 'other Australians' population as the standard population.

(c) Rate ratio–Indigenous: other.

(d) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

(e) The estimates are not reliable because some of the numbers involved are small.

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 2005 to June 2008, and results are summaries in Table 3.05.14. 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 more likely than other Australians to receive an appendicectomy for a principal diagnosis recorded as appendicitis.

Table 3.05.14: Relative odds of receiving corresponding procedure for Indigenous people versus other Australians for hospital admissions involving diagnoses of the digestive tract, June 2005 to July 2008

Principal diagnoses	Adjusted odds ratio	95% confidence interval	p value
Appendicitis	1.33	1.09 – 1.62	0.006
Complicated and uncomplicated hernias	0.78	0.69 – 0.88	< 0.001
Diseases of extrahepatic biliary tree	0.84	0.78 – 0.91	< 0.001
Non-neoplastic anorectal disease	0.91	0.82 – 1.01	0.085 Not significant
Malignant neoplasm of the large intestine/rectum	1.01	0.81 – 1.26	0.917 Not significant

Source: AIHW analysis of National Hospital Morbidity Database.

Cancer research work

A recent 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).

Discharge against medical advice

Table 3.05.15 presents number and proportion of hospitalisations with a procedure reported for Indigenous Australians who were discharged against medical advice for the 2-year period from July 2006 to June 2008, in NSW, Vic, Qld, WA, SA and the NT.

- Overall, 2.8% of Indigenous Australians who were hospitalised with a procedure reported were discharged against medical advice.
- For Indigenous Australians who were hospitalised and had a procedure reported, the highest proportion of them who were discharged against medical advice had a principal diagnosis chapter of 'mental and behavioural disorders', 'injury, poisoning and external causes' or 'diseases of the skin' (7.8%, 4.4% and 4.3%, respectively).

Table 3.05.15: Number and proportion of hospitalisations with a procedure reported, by principal diagnosis and discharge against medical advice, NSW, Vic, Qld, WA, SA and NT, Indigenous Australians, July 2006 to June 2008

Principal diagnosis chapter (excluding dialysis)	**Discharged against medical advice**		**Not discharged against medical advice**	
	Number	**Per cent**	**Number**	**Per cent**
Diseases of the eye	n.p.	n.p.	n.p.	n.p.
Congenital malfunctions	n.p.	n.p.	n.p.	n.p.
Diseases of the blood	24	1.4	1,653	98.6
Neoplasms	42	0.8	5,091	99.2
Diseases of the ear	8	0.3	2,395	99.7
Factors influencing health status(a)	29	0.8	3,722	88.2
Certain conditions in perinatal period	13	0.4	3,272	99.6
Diseases of the musculoskeletal system	114	2.6	4,295	97.4
Diseases of the genitourinary system	87	1.5	5,918	98.6
Endocrine, nutritional and metabolic disorders	135	2.8	4,622	97.2
Diseases of the digestive system	343	2.5	13,245	97.5
Injury, poisoning and external causes	788	4.4	17,132	95.6
Pregnancy and child birth	254	1.4	18,014	98.6
Diseases of the circulatory system	186	2.5	7,121	97.5
Diseases of the skin	207	4.3	4,564	95.7
Diseases of the nervous system	99	3.8	2,514	96.2
Diseases of the respiratory system	279	3.2	8,402	96.8
Mental and behavioural disorders	524	7.8	6,205	92.2
Infectious and parasitic diseases	67	3.4	1,911	96.6
Total	**3,207**	**2.8**	**112,922**	**97.2**

(a) Excludes care involving dialysis

Note: Proportions are age-standardised using the age- and cause-specific rates of other Australians.

Source: AIHW analysis of National Hospital Morbidity Database.

Sub-acute care

Sub-acute care service provision in Australia was recently measured in a report produced by the COAG Reform Council (CRC 2010). This report presented sub-acute services disaggregated by state, Indigenous status and age group.

Table 3.05.16 presents hospital separation rates involving non-acute care for all states and territories for the financial year 2007-08. Table 3.05.17 presents this information further disaggregated by the type of care provided.

- The highest rate of separations involving non-acute care for Indigenous people was observed in Western Australia, at 8.0 separations per 1,000 population in 2007–08. The lowest rate was observed in New South Wales, at 3.6 separations per 1,000 population. For non-Indigenous people, the rate varied from 2.7 in Queensland and South Australia to 3.5 separations per 1,000 population in Victoria (Table 3.05.16).

Table 3.05.16: Non-acute care separations[(a)], by state/territory and Indigenous status, 2007–08

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(b)]
				Number per 1,000 population[(c)]					
Indigenous	3.6	4.1	6.3	8.0	4.4	n.p.	n.p.	6.9	5.2
Non-Indigenous	3.0	3.5	2.7	3.2	2.7	n.p.	n.p.	2.8	2.9

(a) Non-acute care separations are for overnight admissions only and include the care types rehabilitation, palliative care, geriatric evaluation and management, psychogeriatic care and maintenance care. Caution should be used in the interpretations of these data because there is some variation in the use of care type categories between jurisdictions.

(b) The Australian totals for Indigenous/other Australians do not include data for the ACT and Tasmania.

(c) Rates are age standardised to the Australian population as at 30 June 2001.

Source: CRC 2010.

- The most common form of non-acute care provided in the 2007–08 financial year was rehabilitation. Rates of separations for care involving rehabilitation for Indigenous people varied from 1.5 per 1,000 in the Northern Territory to 4.5 per 1,000 in Western Australia. The range was somewhat lower for non-Indigenous people, ranging from 0.5 per 1,000 in the Northern Territory to 2.2 per 1,000 in Victoria. The number per thousand nationally was 2.6 per 1,000 for Indigenous people and 1.8 per 1,000 for non-Indigenous people.
- Separations involving maintenance care for Indigenous people were around seven times more common in the Northern Territory, which had the highest rate (4.2 per 1,000), than in New South Wales, which experienced the lowest rate (0.6 per 1,000). The next highest rate was observed in Western Australia, at 2.1 per 1,000, which is half the rate observed in the Northern Territory (Table 3.05.17).

Table 3.05.17: Non-acute care separations[(a)], by care type, Indigenous status, sex and state/territory 2007-08

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(b)]
				Number per 1,000 population[(c)]					
Rehabilitation									
Indigenous	2.2	2.8	3.1	4.5	2.1	n.p.	n.p.	1.5	2.6
Non-Indigenous	2.1	2.2	1.4	1.9	1.8	n.p.	n.p.	0.5	1.8
Palliative care									
Indigenous	0.6	0.5	1.3	1.3	0.9	n.p.	n.p.	1.2	0.9
Non-Indigenous	0.5	0.5	0.6	0.7	0.4	n.p.	n.p.	1.2	0.5
Geriatric evaluation and management									
Indigenous	0.1	0.6	0.1	0.1	n.p.	n.p.	n.p.	n.p.	0.1
Non-Indigenous	0.1	0.6	—	0.1	n.p.	n.p.	n.p.	0.3	0.2
Psychogeriatric care									
Indigenous	—	0.2	n.p.	n.p.	n.p.	n.p.	n.p.	—	—
Non-Indigenous	—	0.2	—	0.1	—	n.p.	n.p.	—	0.1
Maintenance care									
Indigenous	0.6	—	1.9	2.1	1.3	n.p.	n.p.	4.2	1.5
Non-Indigenous	0.3	0.1	0.6	0.4	0.4	n.p.	n.p.	0.8	0.3

(a) Non-acute care separations are for overnight admissions only and include the care types rehabilitation, palliative care, geriatric evaluation and management, psychogeriatic care and maintenance care. Caution should be used in the interpretations of these data because there is some variation in the use of care type categories between jurisdictions.

(b) The Australian totals for Indigenous/other Australians do not include data for the ACT or Tasmania.

(c) Rates are age standardised to the Australian population as at 30 June 2001.

Source: CRC 2010.

Table 3.05.18 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 3.05.18: Separations for persons aged 65 years or over, receiving sub-acute services[(a)], by Indigenous status and state/territory, 2007-08

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[(b)]
				Number per 1,000 population[(c)]					
Indigenous	32.3	59.2	26.7	38.1	15.6	n.p.	n.p.	9.9	28.9
Other Australians	78.4	62.3	52.5	44.6	42.0	n.p.	n.p.	36.3	60.1

(a) Sub-acute services includes separations where the type of care was reported as rehabilitation, palliative care, geriatric evaluation and management or psychogeriatric care.

(b) The Australian totals for Indigenous/other Australians do not include data for the ACT or Tasmania.

(c) Crude rates.

Source: CRC 2010.

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 3.05.19.

- Nationally, the percentages of patients seen within the recommended waiting times were similar for Indigenous and non-Indigenous people (65 and 67%).
- Rates of Indigenous people seen within the recommended times were higher when compared with non-Indigenous rates in Victoria, Queensland, Western Australia and the Northern Territory. In all other jurisdictions, rates were similar.
- Rates were lowest in the Northern Territory for both Indigenous and non-Indigenous people (44 and 39%). The highest rates were observed in New South Wales (73%) for both Indigenous and non-Indigenous people.

Table 3.05.19: Patients treated within national benchmarks for emergency department waiting times, by Indigenous status and state/territory, 2007-08[(a)(b)(c)]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Per cent				
Indigenous	73	77	70	64	56	59	58	44	65
Non-Indigenous	73	70	62	58	58	60	58	39	67

(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% of emergency department services.

(c) The quality of the identification of Indigenous patients in the 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: CRC 2010.

Elective surgery waiting times

The median and 90th percentile waiting times for elective surgery procedures in public acute care hospitals are presented in Table 3.05.20. 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, Indigenous the median wait time for Indigenous people was 37 days, compared with 34 days for other Australians. In the Northern Territory, the median wait for Indigenous people was 62 days, compared with 37 days for other Australians. In South Australia, Indigenous people were on the waiting list for a median of 37 days, and other Australians 42 days.
- The longest 90th percentile waiting time was in the Northern Territory for Indigenous people, at 533 days. The 90th percentile for other Australians in the Northern Territory was 282 days. The shortest 90th percentile waiting times for both Indigenous and other Australians were observed in Queensland, at 174 and 136 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 (37 and 42 days) and the 90th percentile (202 and 209 days).

Table 3.05.20: Waiting times for elective surgery in public hospitals, by Indigenous status, procedure and state/territory, 2007-08 (days)(a)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia(b)
					Indigenous				
50th percentile	40	40	31	31	37	n.p.	n.p.	62	37
90th percentile	290	221	174	272	202	n.p.	n.p.	533	276
					Other Australians				
50th percentile	38	32	27	31	42	n.p.	n.p.	37	34
90th percentile	277	216	136	207	209	n.p.	n.p.	282	228

(a) The data presented for this indicator are sourced from linked records in the National Hospital Morbidity Database and National Elective Surgery Waiting Times Data Collection. The linked records represent about 97% of all records in National Elective Surgery Waiting Times Data Collection for 2007–08.

(b) The Australian totals for Indigenous/other Australians do not include data for the Australian Capital Territory or Tasmania.

Source: CRC 2010.

Overnight separations

Age-standardised separation rates where the length of stay in hospital was at least one night are presented in Table 3.05.21. The CRC (2010) 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 (314 and 318 separations per 1,000 population). The lowest rate was observed in Victoria, at 164 separations per 1,000.
- New South Wales had the lowest rate of overnight stays for other Australians, at 112 separations per 1,000.
- Nationally, the overnight separation rate for Indigenous Australians about twice the rate of other Australians (111 and 224 per 1,000). The greatest difference was in the Northern territory, where the overnight separation rate for Indigenous Australians was over three times that for other Australians (298 compared with 88 per 1,000 population).

Table 3.05.21: Overnight separations, by Indigenous status and state/territory, 2007–08

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia(a)
					Number per 1,000 population(b)				
Indigenous	190.4	164.1	216.5	314.0	317.8	n.p.	n.p.	298.1	224.2
Other Australians	112.4	116.6	117.3	115.7	128.1	n.p.	n.p.	88.4	111.3

(a) The Australian totals for Indigenous/other Australians do not include data for the ACT or Tasmania.

(b) Rates are age standardised to the Australian population as at 30 June 2001.

Source: CRC 2010.

Data quality issues

National Hospital Morbidity data

Hospital separations data

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.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

Indigenous status question why some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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 peoples. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of the jurisdictions not included.

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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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 2010 (ABS 2009).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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 Ambulatory care sensitive hospital admissions

The number of hospital admissions for ambulatory care sensitive 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.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08: New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (AIHW 2010). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients: around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period from July 2006 to June 2008, or, in some cases, July 2007 to June 2009. An aggregate of two years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

Analyses

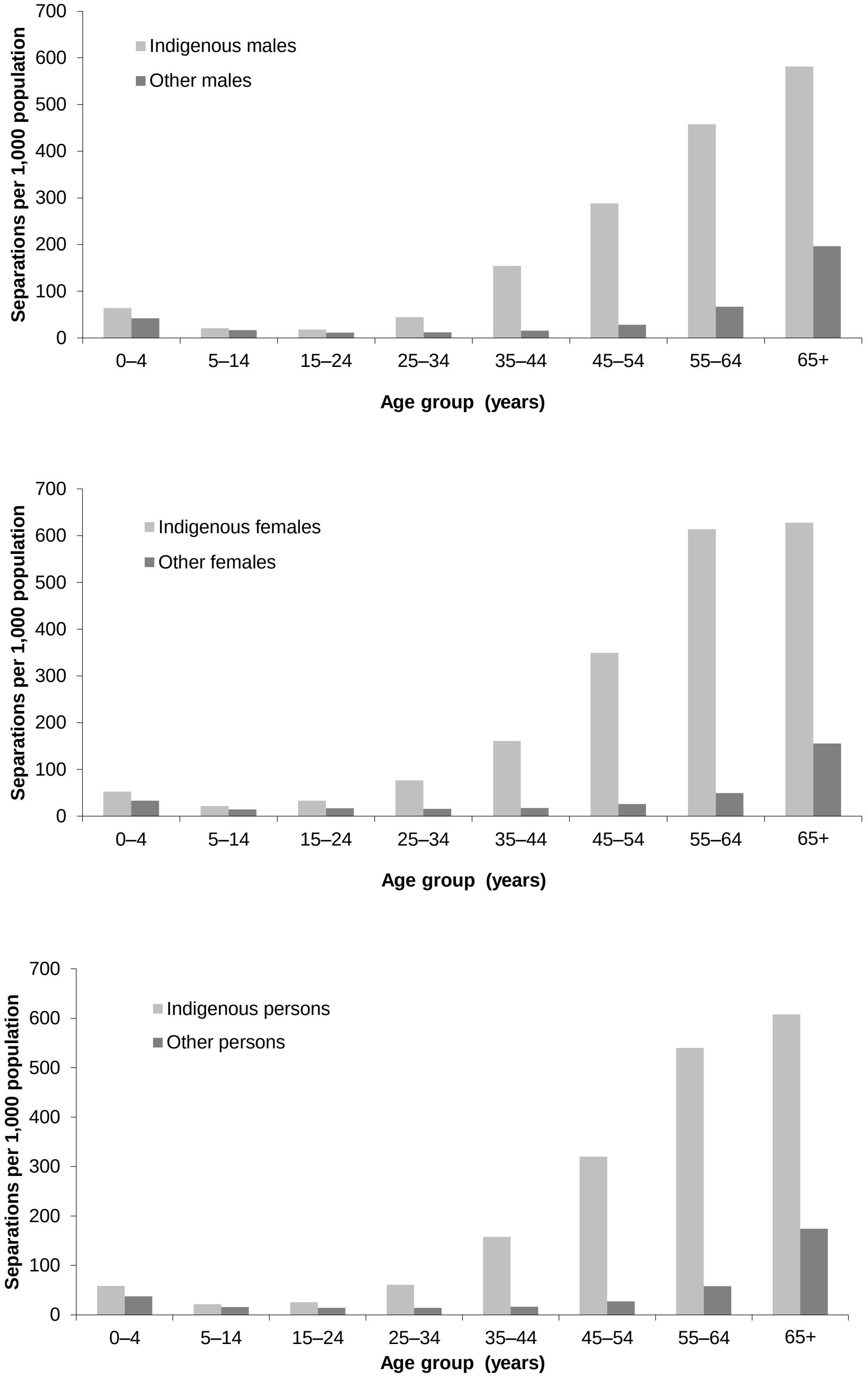
Age-standardised rates and ratios have been used for this indicator as a measure of hospitalisations in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of other Australians,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

Hospitalisations

- For the two-year period from July 2006 to June 2008, there were 1,869,314 ambulatory care sensitive hospital admissions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 120,308 (6.4%) of which were hospitalisations of Aboriginal and Torres Strait Islander peoples.
- Ambulatory care sensitive conditions represented 23% of all hospital admissions of Indigenous Australians in the six jurisdictions (Tables 3.06.2 and 3.12.23).

Hospitalisations by age and sex

- In the two-year period from July 2006 to June 2008, Indigenous males and females had higher hospitalisation rates than other males and females for ambulatory care sensitive conditions across all age groups (Figure 3.06.1; Table 3.06.1).
- Differences in rates between Indigenous and other Australians were particularly marked in the older age groups. For males, the greatest difference in rates occurred in the 35–44 and 45–54 year age groups where Indigenous males were hospitalised for ambulatory care sensitive conditions at 10 times the rate of other males. For females, the greatest difference in rates occurred in the 45–54 and 55–64 year age group, where Indigenous females were hospitalised at 12 to 13 times the rate of other females in both these age groups.
- 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 age groups 55–64 and 65 years and over in both population groups.
- Approximately 43%of Indigenous Australians hospitalised for ambulatory care sensitive conditions were males (51,744) and 57% were females (68,564).



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.1: Age-specific hospitalisation rates for ambulatory care sensitive hospital admissions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008

Table 3.06.1: Age-specific hospitalisation rates for ambulatory care sensitive conditions (per 1,000 population), by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008 (a)(b)(c)(d)

	0–4	5–14	15–24	25–34	35–44	45–54	55–64	65+
Males								
Indigenous	63.9	20.9	18.0	44.7	154.1	288.2	458.0	581.6
Other(e)	42.0	16.5	11.5	12.0	15.4	28.2	66.6	196.7
Females								
Indigenous	52.6	21.9	33.1	76.5	160.8	349.3	614.0	627.6
Other(e)	33.1	14.9	17.3	16.1	17.5	26.3	49.7	155.3
Persons								
Indigenous	58.4	21.4	25.4	60.8	157.6	319.9	540.4	608.1
Other(e)	37.7	15.7	14.4	14.0	16.4	27.3	58.2	174.1

(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 fifth edition (National Centre for Classification in Health 2006): ICD-10-AM codes J10, J11, J181, J188, A35, A36, A37, A80, B05, B06, B161, B169, B180, B181, B26, G000, M014, J45, J46, I50, I110, J81, E101, E102, E103, E104, E105, E106, E107, E108, E110, E111, E112, E113, E114, E115, E116, E117, E118, E130, E131, E132, E133, E134, E135, E136, E137, E138, E140, E141, E142, E143, E144, E145, E146, E147, E148, J20, J41, J42, J43, J44, J47, I20, I240, I248, I249, D501, D508, D509, I10, I119, E40, E41, E42, E43, E550, E643, 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, K35, K36, K37, 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 AIHW and National Health Performance Committee 2004, The national report on health sector performance indicators 2003.

(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) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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 3.06.2 presents the number of ambulatory care sensitive hospital admissions for the two-year period from July 2006 to June 2008 in New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania, the Australian Capital Territory and the Northern Territory.

- Over the period from July 2006 to June 2008, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for ambulatory care sensitive conditions at around five times the rate of other Australians.
- Within Australia, for all states and territories combined, Indigenous people were hospitalised for ambulatory care sensitive conditions at five times the rate of other Australians.
- Indigenous Australians in New South Wales and Victoria were hospitalised for ambulatory care sensitive conditions at around three times the rate of other Australians. In Queensland, South Australia and the Northern Territory Indigenous Australians were hospitalised for ambulatory care sensitive conditions at four times the rate of other

Australians. In Western Australia, Indigenous Australians were hospitalised at around 14 times the rate of other Australians.

Table 3.06.2: Hospitalisations for ambulatory care sensitive hospital admissions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, and Tas and ACT, July 2006 to June 2008(a)(b)(c)(d)

	Indigenous				Other(e)				
	Number	No. per 1,000(f)	LCL 95%(g)	UCL 95%(h)	Number	No. per 1,000(f)	LCL 95%(g)	UCL 95%(h)	Ratio(i)
NSW									
Males	9,369	102.6	99.9	105.2	282,127	41.8	41.6	41.9	2.5*
Females	10,433	107.5	105.1	110.0	271,321	35.5	35.4	35.6	3.0*
Persons	19,802	105.3	103.5	107.1	553,455	38.4	38.3	38.5	2.7*
Vic									
Males	1,697	80.4	75.8	85.1	246,214	48.3	48.1	48.5	1.7*
Females	2,945	167.6	160.9	174.3	242,727	41.8	41.7	42.0	4.0*
Persons	4,642	128.9	124.6	133.2	488,942	44.7	44.6	44.8	2.9*
Qld									
Males	10,657	137.8	134.4	141.2	183,594	46.7	46.5	47.0	2.9*
Females	13,074	166.4	163.0	169.8	164,492	38.7	38.5	38.8	4.3*
Persons	23,731	154.1	151.7	156.6	348,086	42.4	42.2	42.5	3.6*
WA									
Males	21,263	607.0	597.1	617.0	107,563	55.0	54.7	55.3	11.0*
Females	31,371	737.6	728.7	746.4	91,226	43.1	42.8	43.4	17.1*
Persons	52,634	668.6	662.1	675.1	198,789	48.6	48.4	48.8	13.7*
SA									
Males	2,881	182.4	174.3	190.4	75,368	46.1	45.8	46.4	4.0*
Females	3,033	160.6	154.2	167.0	76,091	40.8	40.5	41.1	3.9*
Persons	5,914	169.4	164.4	174.4	151,460	43.1	42.9	43.3	3.9*
NT									
Males	5,877	161.9	156.5	167.4	5,110	45.8	44.3	47.3	3.5*
Females	7,708	178.0	173.4	182.6	3,164	32.3	31.0	33.6	5.5*
Persons	13,585	169.5	166.1	173.0	8,274	39.6	38.6	40.7	4.3*
NSW, Vic, Qld, WA, SA and NT									
Males	**51,744**	**194.3**	**192.2**	**196.4**	**899,976**	**46.1**	**46.0**	**46.2**	**4.2***
Females	**68,564**	**229.0**	**227.0**	**230.9**	**849,021**	**39.0**	**38.9**	**39.0**	**5.9***
Persons	**120,308**	**212.3**	**210.9**	**213.7**	**1,749,006**	**42.2**	**42.1**	**42.3**	**5.0***
Tas									
Males	610	75.3	68.2	82.3	22,219	43.0	42.4	43.5	1.8*
Females	708	59.8	54.9	64.7	20,940	37.8	37.2	38.3	1.6*
Persons	1,318	66.3	62.1	70.5	43,175	40.0	39.6	40.4	1.7*
ACT									
Males	118	59.6	42.3	76.9	9,557	33.2	32.5	33.9	1.8*
Females	125	59.9	44.6	75.2	8,804	27.6	27.0	28.2	2.2*
Persons	243	59.3	47.9	70.7	18,361	30.2	29.7	30.6	2.0*

(continued)

Table 3.06.2 (continued): Hospitalisations for ambulatory care sensitive hospital admissions, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, Tas and ACT July 2006 to June 2008[a][b][c][d]

* 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 fifth edition (National Centre for Classification in Health 2006): ICD-10-AM 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, E101, E102, E103, E104, E105, E106, E107, E108, E110, E111, E112, E113, E114, E115, E116, E117, E118, E130, E131, E132, E133, E134, E135, E136, E137, E138, E140, E141, E142, E143, E144, E145, E146, E147, E148, J20, J41, J42, J43, J44, J47, I20, I240, I248, I249, D501, D508, D509, I10, I119, E40, E41, E42, E43, E550, E643, 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, K35, K36, K37, 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 AIHW and National Health Performance Committee 2004, the national report on health sector performance indicators 2003.

(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) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(f) 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.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio—Indigenous: other.

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 ambulatory care sensitive 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 3.06.3, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for ambulatory care sensitive conditions 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.
- Rates of hospitalisations per 1,000 head of population were highest for Indigenous people living in *Remote* areas, at 495 per 1,000. The rate was highest for other Australians who lived in *Very remote* areas, at 47 per 1,000. The lowest rates were observed in *Inner regional* areas for Indigenous people (149 per 1,000) and *Major cities* for other Australians (39 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 11 times that of other Australians in *Remote* areas of Australia. In *Inner regional* areas, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of four times that of other Australians. Nationally, the rate was five times.

Table 3.06.3: Hospitalisations for ambulatory care sensitive conditions by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT combined, July 2007 to June 2009(a)(b)(c)(d)(e)(f)

	Indigenous				Other(g)				
	Number	No. per 1,000(h)	LCL 95%(i)	UCL 95%(j)	Number	No. per 1,000(h)	LCL 95%(i)	UCL 95%(j)	Ratio(k)
Major cities	27,617	171.3	168.9	173.7	1,068,917	38.7	38.6	38.8	4.4*
Inner regional	15,939	149.2	146.5	152.0	353,935	42.9	42.8	43.1	3.5*
Outer regional(l)	25,961	226.6	223.4	229.8	164,266	44.7	44.5	44.9	5.1*
Remote	26,266	494.6	487.8	501.4	21,354	44.6	44.0	45.2	11.1*
Very remote	19,595	199.5	194.1	204.9	6,919	47.2	46.9	47.6	4.2*
Total(m)	**115,493**	**216.1**	**214.7**	**217.6**	**1,616,383**	**40.1**	**40.1**	**40.2**	**5.4***

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

(aa) Data are from public and most private hospitals. Jurisdictional data excludes private hospitals in the Northern Territory.

(bb) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(cc) Financial year reporting.

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

(ee) 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+.

(ff) 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.

(gg) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(ii) LCL = lower confidence limit.

(jj) UCL = upper confidence limit.

(kk) Rate ratio — Indigenous: other.

(ll) Outer regional includes remote Victoria

(mm) Total includes hospitalisations where ASGC is missing.

Notes:

5. Population estimates based on the 2006 Census.
6. 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 diagnosis

Table 3.06.4 presents data on the top 10 ambulatory care sensitive hospital admissions for Aboriginal and Torres Strait Islander peoples in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined for the two-year period July 2006 to June 2008.

- In the two-year period July 2006 to June 2008, diabetes complications were the most common type of ambulatory care sensitive condition among Indigenous Australians in these six jurisdictions, followed by convulsions and epilepsy, and chronic obstructive pulmonary disease (COPD). Indigenous Australians were hospitalised at around eight times the rate of other Australians for diabetes complications and around five times the rate of other Australians for convulsions and epilepsy and COPD.
- Ear, nose and throat infections was the fourth most common ambulatory care sensitive condition for which Indigenous Australians were hospitalised, at twice the rate of other Australians.

- For most ambulatory care sensitive conditions, the average length of stay in hospital was higher among other Australians compared with Indigenous Australians (4.7 days compared with 3.3 days for total ambulatory care sensitive conditions).
- Of these conditions, COPD and congestive heart failure were responsible for the greatest average number of days in hospital, with Indigenous Australians staying an average of between five and six days in hospital compared with between seven and eight days for other Australians.

Table 3.06.4: Top 10 ambulatory care sensitive hospital admissions, by Indigenous status, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008[(a)(b)(c)(d)]

	Separations						Average bed days		Total bed days	
	Number Indigenous	**Indigenous no. per 1,000[(e)]**	**LCL 95%[(f)]**	**UCL 95%[(g)]**	**Other no. per 1,000[(e)(h)]**	**Ratio[(i)]**	**Indigenous**	**Other[(h)]**	**Indigenous**	**Other[(h)]**
Diabetes complications	82,788	165.2	163.9	166.4	20.3	8.1*	3.5	5.9	290,618	5,100,337
Convulsions and epilepsy	6,034	7.0	6.8	7.2	1.5	4.8*	2.4	3.0	14,223	170,123
Chronic obstructive pulmonary disease	4,928	11.8	11.5	12.2	2.5	4.6*	5.6	7.1	27,375	770,094
Ear, nose and throat infections	4,171	3.1	3.0	3.2	1.6	1.9*	1.9	1.7	7,768	108,380
Dental problems	4,115	3.1	3.0	3.2	2.7	1.1*	1.5	1.2	6,028	123,238
Cellulitis	3,911	4.6	4.4	4.8	1.5	3.0*	3.5	3.8	13,686	240,259
Asthma	3,850	3.7	3.5	3.8	1.8	2.1*	2.0	2.2	7,812	151,949
Pyelonephritis	3,793	6.1	5.8	6.4	2.2	2.8*	3.6	4.7	13,750	430,377
Angina	2,534	5.2	4.9	5.4	1.7	3.0*	2.3	2.4	5,834	176,448
Congestive cardiac failure	2,480	5.9	5.6	6.1	2.0	3.0*	5.4	7.5	13,460	636,965
Total[(j)]	**120,308**	**212.3**	**210.9**	**213.7**	**42.2**	**5.0***	**3.3**	**4.7**	**397,313**	**8,229,632**

(continued)

Table 3.06.4 (continued): Top 10 ambulatory care sensitive hospital admissions, by Indigenous status, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008(a)(b)(c)(d)

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was ‘not stated’.

(i) Rate ratio—Indigenous: other.

(j) All ambulatory care sensitive hospital admissions. Note that the sum of the number of hospitalisations for each condition may exceed the total because more than one ambulatory care sensitive condition can be diagnosed for each hospital separation.

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 diagnosis and age group

Table 3.06.5 presents data on the top three ambulatory care sensitive 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 2006 to June 2008.

- In the two-year period from July 2006 to June 2008, ear, nose and throat infections were the most common type of ambulatory sensitive condition among Indigenous Australians aged less than one year of age, followed by pyelonephritis. Indigenous infants were hospitalised at twice the rate of other infants for ear, nose and throat infections and at similar rates for pyelonephritis.
- Dental conditions were the most common reason for hospitalisation among Indigenous Australians aged 1–14 years of age. This group was hospitalised at 1.1 times the rate of other Australians at this age. Dental conditions accounted for 6% of total hospitalisations of Indigenous Australians in this age group.
- Diabetes complications was the most common reason for hospitalisation among Aboriginal and Torres Strait Islander peoples aged 15–24 years, followed by appendicitis. Indigenous Australians of this age were hospitalised at more than twice the rate of other Australians for diabetes complications and at similar rates to other Australians for appendicitis. These two conditions each accounted for approximately 1% of total hospitalisations of Indigenous Australians aged 15–24 years.
- Diabetes complications was also the most common ambulatory care sensitive condition among Indigenous Australians aged 25–44, 45–64 and 65 years and older. Indigenous Australians were hospitalised at between 4 and 18 times the rate of other Australians for diabetes complications in these age groups. Diabetes complications were responsible for 12%, 25% and 27% of total hospitalisations of Indigenous Australians in these age groups, respectively.
- COPD was another common potentially preventable condition responsible for hospitalisation among Indigenous Australians aged 45–64 and 65 years and over. Indigenous Australians were hospitalised at up to six times the rate of other Australians for this condition. COPD accounted for 1% and 3% of total hospitalisations of Indigenous Australians aged 45–64 and 65 years and over, respectively.

Table 3.06.5: Major ambulatory care sensitive hospital admissions, by age group and Indigenous status, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008[(a)(b)(c)(d)]

		Indigenous				Other[(e)]				
Age group (years)	Condition	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)]
<1	Ear, nose and throat infections	770	31.9	29.6	34.2	5,956	16.1	15.7	16.5	2.0*
	Pyelonephritis	231	9.6	8.3	10.8	3,801	10.3	9.9	10.6	0.9
	Convulsions and epilepsy	187	7.7	6.6	8.9	2,411	6.5	6.2	6.8	1.2*
1–14	Dental conditions	2,763	8.5	8.2	8.8	39,985	7.7	7.7	7.8	1.1*
	Ear, nose and throat infections	2,094	6.5	6.2	6.7	28,811	5.6	5.5	5.6	1.2*
	Asthma	1,910	5.9	5.6	6.2	38,342	7.4	7.4	7.5	0.8*
15–24	Diabetes complications	758	4.1	3.8	4.4	6,905	1.7	1.7	1.8	2.4*
	Appendicitis	644	3.5	3.2	3.8	14,988	3.7	3.7	3.8	0.9
	Pyelonephritis	569	3.1	2.8	3.3	7,070	1.8	1.7	1.8	1.7*
25–44	Diabetes complications	18,256	72.8	71.8	73.9	33,595	4.0	4.0	4.1	18.0*
	Convulsions and epilepsy	2,617	10.4	10.0	10.8	12,982	1.6	1.5	1.6	6.7*
	Cellulitis	1,337	5.3	5.0	5.6	11,461	1.4	1.4	1.4	3.9*
45–64	Diabetes complications	47,467	370.4	367.1	373.8	232,373	31.5	31.4	31.7	11.7*
	COPD	2,350	18.3	17.6	19.1	22,151	3.0	3.0	3.0	6.1*
	Angina	1,479	11.5	11.0	12.1	23,479	3.2	3.1	3.2	3.6*
65+	Diabetes complications	16,039	552.1	543.5	560.6	586,218	151.1	150.7	151.5	3.7*
	COPD	1,713	59.0	56.2	61.8	84,161	21.7	21.5	21.8	2.7*
	Congestive cardiac failure	771	26.5	24.7	28.4	74,726	19.3	19.1	19.4	1.4*

(continued)

Table 3.06.5 (continued): Major ambulatory care sensitive hospital admissions, by age group and Indigenous status, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008[(a)(b)(c)(d)]

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) Other includes hospitalisations for non-Indigenous people and those for whom Indigenous status was not stated.

(f) Age standardised number per 1,000 population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio—hospitalisation rate for Indigenous Australians divided by hospitalisation rate for other 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.

Time series analyses

Time series data from 2001–02 to 2007–08 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 and are presented in Tables 3.06.6, 3.06.8, 3.06.10, 3.06.12, 3.06.14 and their corresponding figures.

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. Therefore additional trend analysis has 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 Other Australians in Tables 3.06.7, 3.06.9, 3.06.11, 3.6.13 and 3.6.15 and their corresponding figures.

Trends are presented for:

- all ambulatory care sensitive conditions
- vaccine preventable conditions
- potentially preventable chronic conditions
- potentially preventable acute conditions

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 people are hospitalised. An increase in hospitalisation rates may reflect better access rather than a worsening of health, but is likely to be a combination of both.

All ambulatory care sensitive conditions 2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for total ambulatory care sensitive conditions over the seven-year period 2001–02 to 2007–08 in Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 3.06.6 and Figure 3.06.2. This period has been used for analysis because coding changes were made to diabetes complications (the most common ambulatory care sensitive condition) in July 1999 and July 2000. Coding for diabetes is only consistent from 2000–01 onwards and thus data for earlier years should not be included in the analysis of trends involving diabetes complications.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for ambulatory care sensitive conditions among Indigenous Australians during the period 2001–02 to 2007–08. The fitted trend implies an average yearly increase in the rate for Indigenous Australians of around 28 per 1,000 which is equivalent to a 126% increase in the rate over the period. The increases in hospitalisation rates were significant for both males and females.
- Over the same period, there were significant increases in hospitalisation rates for ambulatory care sensitive conditions among other Australians, with an average yearly increase in the rate of around 2.7 per 1,000. This is equivalent to a 54% increase in the rate over this period. The increases in hospitalisation rates were also significant for both males and females.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period 2000–01 to 2007–08 (48% increase in the rate ratio and 147% increase in the rate difference), reflecting both a relative and absolute increase in the gap between hospitalisation rates of Indigenous and other Australians for ambulatory care sensitive conditions over the period.

Table 3.06.6: Age-standardised hospitalisation rates, rate ratios and rate differences for all ambulatory care sensitive hospital admissions, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	9,844	10,423	12,925	15,622	17,896	18,732	21,946	2,068*	126.0*
Females	11,788	12,812	16,951	21,726	24,423	26,264	28,922	3,064*	155.9*
Persons	21,635	23,235	29,876	37,348	42,319	44,996	50,868	5,131*	142.3*
Other Australian[(d)] separations									
Males	107,800	112,377	121,992	149,712	166,696	178,842	192,793	15,450*	86.0*
Females	104,539	108,445	115,654	139,064	151,985	162,294	172,679	12,445*	71.4*
Persons	212,342	220,823	237,646	288,776	318,681	341,136	365,473	27,895*	78.8*
Indigenous rate (separations per 1,000)									
Males	121.8	129.9	172.4	204.8	230.3	237.8	281.5	26.9*	132.5*
Females	144.8	154.5	200.3	254.7	281.9	288.9	308.8	30.1*	124.6*
Persons	134.9	143.7	187.0	231.5	258.1	264.5	294.4	28.3*	125.7*
Other Australian[(d)] rate (separations per 1,000)									
Males	32.7	33.2	35.2	42.0	45.5	47.4	49.7	3.2*	58.7*
Females	28.6	29.1	30.3	35.5	37.8	39.3	40.9	2.3*	48.2*
Persons	30.4	30.9	32.5	38.5	41.3	43.0	44.9	2.7*	53.6
Rate ratio[(e)]									
Males	3.7	3.9	4.9	4.9	5.1	5.0	5.7	0.3*	47.2*
Females	5.1	5.3	6.6	7.2	7.5	7.4	7.6	0.4*	52.8*
Persons	4.4	4.6	5.7	6.0	6.2	6.2	6.6	0.4*	47.9*

(continued)

Table 3.06.6 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences for all ambulatory care sensitive hospital admissions, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Rate difference[(f)]									
Males	89.1	96.6	137.2	162.7	184.8	190.3	231.8	23.7*	159.5*
Females	116.2	125.4	170.0	219.3	244.1	249.6	268.0	27.8*	143.5*
Persons	104.4	112.7	154.4	193.0	216.8	221.5	249.5	25.5*	146.7*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

(d) ‘Other Australians’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

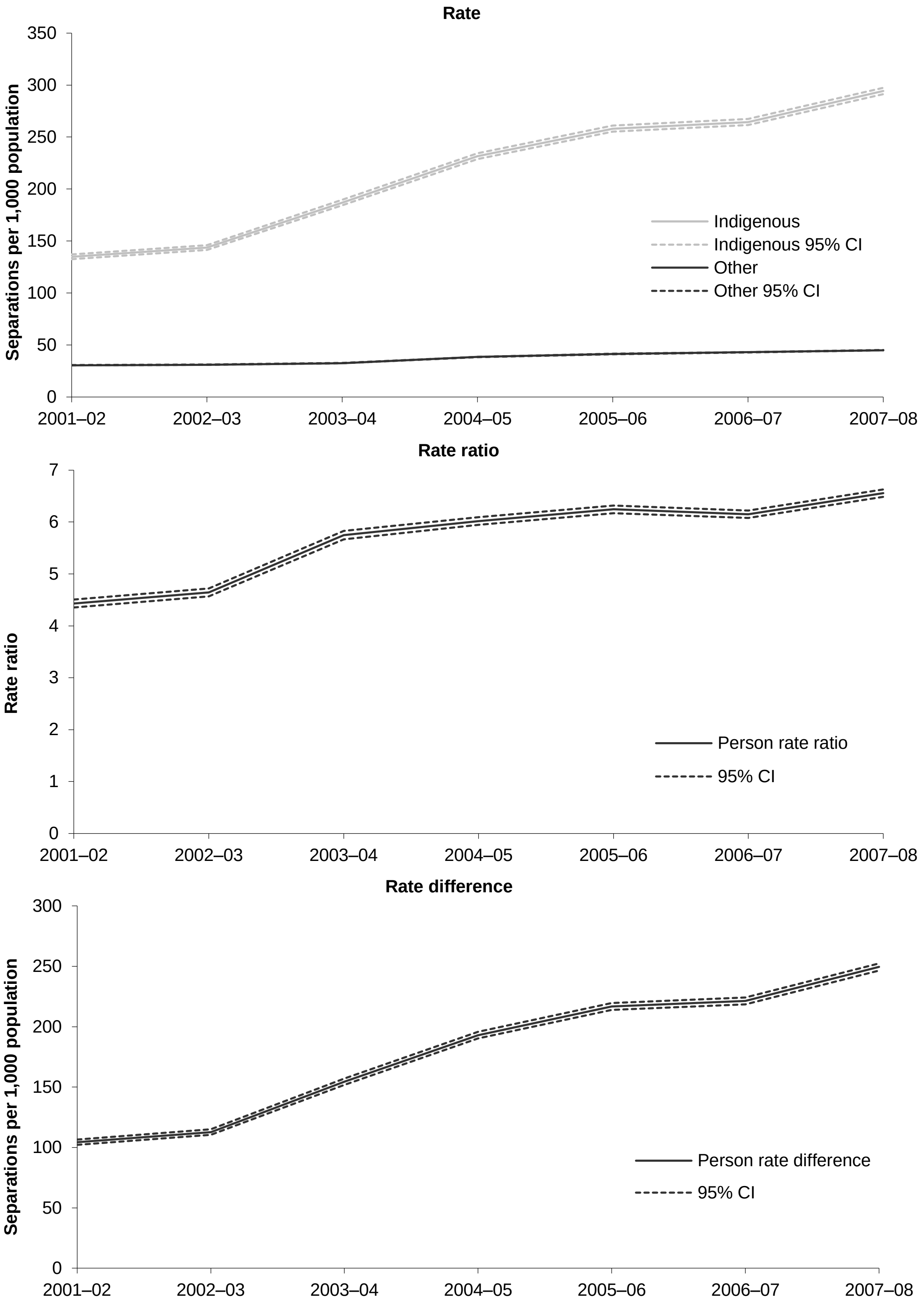
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes:

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for total ambulatory care sensitive conditions, Qld, WA, SA and NT combined, 2001–02 to 2007–08

All ambulatory care sensitive conditions 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period 2004–05 to 2007–08 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 3.06.7 and Figure 3.06.3.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for ambulatory care sensitive conditions among Indigenous Australians during the period 2004–05 to 2007–08. The fitted trend implies an average yearly increase in the rate for Indigenous Australians of around 14 per 1,000 which is equivalent to a 24% increase in the rate over the period. The increases in hospitalisation rates were significant for both males and females.
- Over the same period, there were significant increases in hospitalisation rates for ambulatory care sensitive conditions among other Australians, with an average yearly increase in the rate of around 1.8 per 1,000. This is equivalent to a 14% increase in the rate over this period. The increases in hospitalisation rates were also significant for both males and females.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period 2004–05 to 2007–08 (9.0% increase in the rate ratio and 27% increase in the rate difference), reflecting both a relative and absolute increase in the gap between hospitalisation rates of Indigenous and other Australians for ambulatory care sensitive conditions over the period.

Table 3.06.7: Age-standardised hospitalisation rates, rate ratios and rate differences for total ambulatory care sensitive conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	20,631	23,089	23,846	27,898	2,256*	32.8*
Females	27,066	30,546	32,599	35,965	2,875*	31.9*
Persons	47,698	53,635	56,445	63,863	5,131*	32.3*
Other Australian[(d)] separations						
Males	377,342	408,378	436,065	463,911	28,739*	22.8*
Females	359,849	389,553	413,048	435,973	25,187*	21.0*
Persons	737,209	797,936	849,118	899,888	53,922*	21.9*
Indigenous rate (separations per 1,000)						
Males	159.1	175.4	178.3	209.7	15.5*	29.2*
Females	192.5	214.9	221.3	236.4	13.8*	21.5*
Persons	176.8	196.6	201.1	223.1	14.3*	24.3*
Other Australian[(d)] rate (separations per 1,000)						
Males	41.1	43.5	45.3	47.0	2.0*	14.3*
Females	34.8	36.9	38.3	39.6	1.6*	13.5*
Persons	37.6	39.9	41.5	42.9	1.8*	14.0*
Rate ratio[(e)]						
Males	3.9	4.0	3.9	4.5	0.2*	13.0*
Females	5.5	5.8	5.8	6.0	0.1*	6.9*
Persons	4.7	4.9	4.8	5.2	0.1*	9.0*
Rate difference[(f)]						
Males	118.0	131.9	133.1	162.8	13.5*	34.4*
Females	157.7	178.0	183.0	196.8	12.2*	23.3*
Persons	139.2	156.7	159.6	180.2	12.6*	27.1*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) ‘Other Australian’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

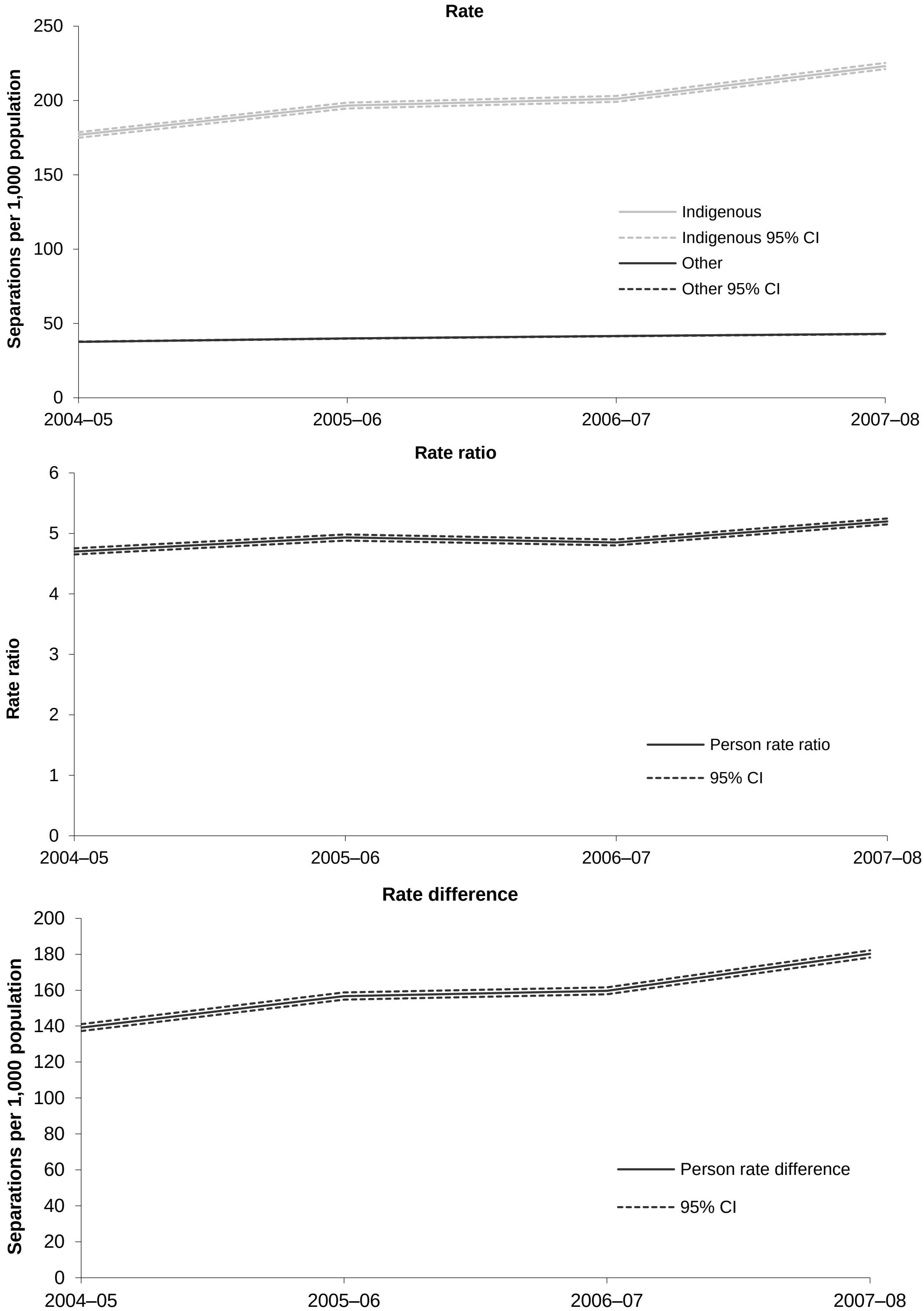
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for total ambulatory care sensitive conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08

Vaccine-preventable conditions 2001–02 to 2007–08

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 2001–02 to 2007–08 for Queensland, Western Australia, South Australia and the Northern Territory are presented in Table 3.06.8 and Figure 3.06.4.

- 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 2001–02 to 2007–08. The fitted trend implies an average yearly decline in the rate of around 0.2 per 1,000 for Indigenous Australians, which was equivalent to a 25% decline in the rate over the period.
- Over the same period, there were statistically significant declines in hospitalisation rates for other Australian males and females. The fitted trend implies an average yearly decline in the rate of around 0.04 per 1,000 for other Australians, which is equivalent to a 30% decline in the rate over the period.
- There was no significant change in the hospitalisation rate ratio between Indigenous and other Australians for vaccine-preventable conditions over the period 2001–02 to 2007–08. There was a significant decline in the hospitalisation rate difference between Indigenous and other Australians for vaccine-preventable conditions over the period 2001–02 to 2007–08 (24%).

Table 3.06.8: Age-standardised hospitalisation rates, rate ratios and rate differences for vaccine preventable conditions, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)(b)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	% change over period[(c)]
Indigenous separations									
Males	507	420	400	369	432	343	431	–13	–14.8
Females	502	383	442	356	354	370	403	–15	–17.5
Persons	1,009	803	842	725	786	713	834	–27	–16.2
Other Australian[(d)] separations									
Males	3,220	3,114	2,955	2,505	2,712	2,312	3,044	–85	–15.8
Females	2,822	2,643	2,557	2,076	2,298	1,790	2,452	–110*	–23.3*
Persons	6,042	5,757	5,512	4,581	5,010	4,102	5,496	–195	–19.3
Indigenous rate (separations per 1,000)									
Males	4.9	4.4	4.0	3.7	4.1	3.1	3.7	–0.2*	–26.7*
Females	4.4	3.8	3.3	3.2	3.0	3.2	3.2	–0.2*	–23.7*
Persons	4.6	4.0	3.6	3.4	3.5	3.2	3.5	–0.2*	–24.8*
Other Australian[(d)] rate (separations per 1,000)									
Males	1.0	0.9	0.8	0.7	0.7	0.6	0.8	–0.05*	–28.2*
Females	0.8	0.7	0.7	0.5	0.6	0.4	0.6	–0.04*	–32.4*
Persons	0.9	0.8	0.8	0.6	0.7	0.5	0.7	–0.04*	–30.0*
Rate ratio[(e)]									
Males	5.1	4.8	4.8	5.3	5.5	5.1	4.7	0.0	1.6
Females	5.6	5.2	4.8	5.8	5.1	7.3	5.3	0.1	13.7
Persons	5.3	5.0	4.7	5.5	5.3	6.1	5.0	0.1	7.3

(continued)

Table 3.06.8 (continued) : Age-standardised hospitalisation rates, rate ratios and rate differences for vaccine preventable conditions, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)(b)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	% change over period[(c)]
Rate difference[(f)]									
Males	3.9	3.5	3.2	3.0	3.3	2.5	2.9	–0.2*	–26.3*
Females	3.6	3.0	2.7	2.6	2.4	2.8	2.6	–0.1*	–21.8*
Persons	3.8	3.2	2.9	2.8	2.8	2.7	2.8	–0.1*	–23.6*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

(d) ‘Other Australians’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

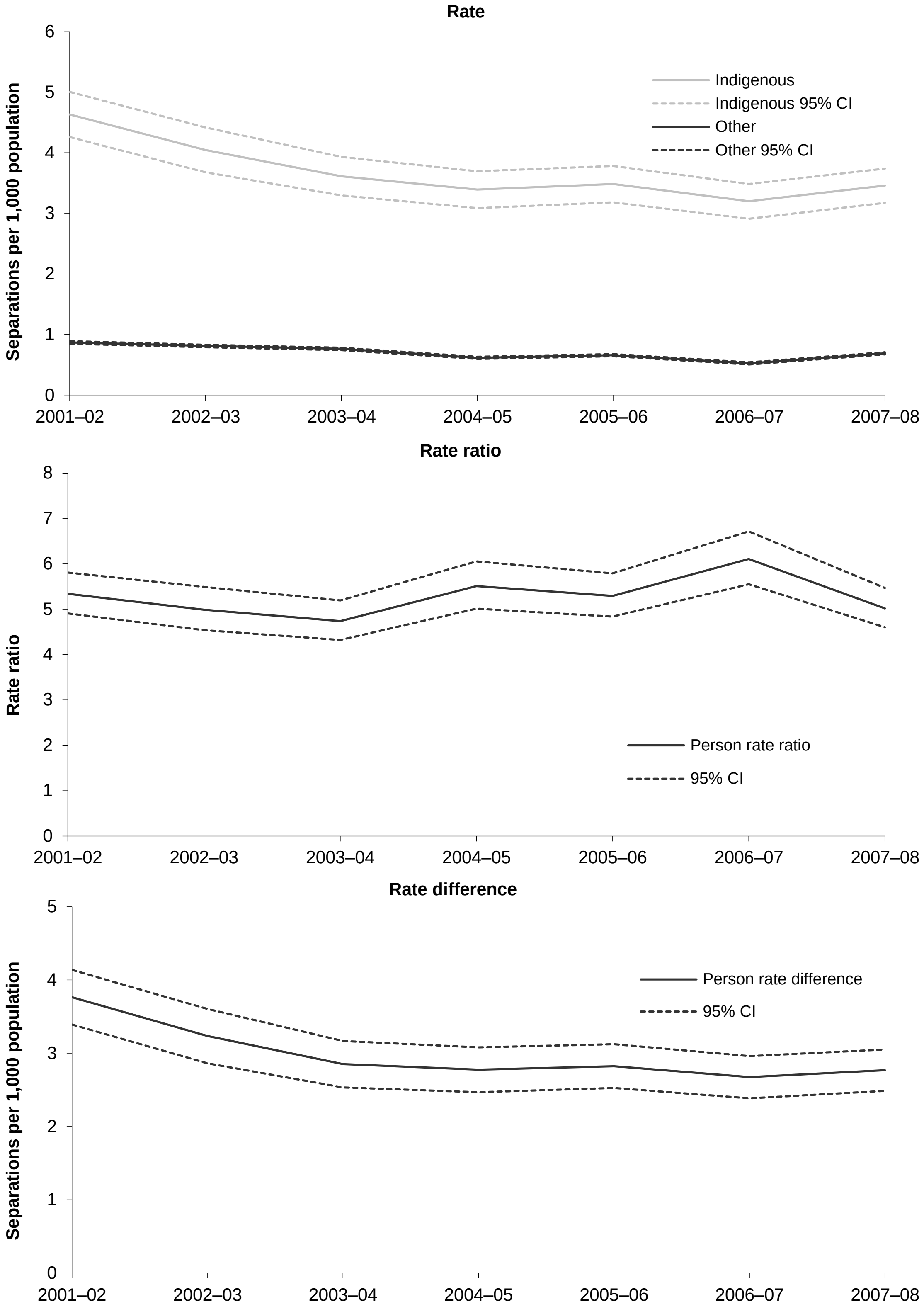
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes:

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.4: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for vaccine-preventable conditions, Qld, WA, SA and NT combined, 2001–02 to 2007–08

Vaccine preventable conditions 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period 2004–05 to 2007–08 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 3.06.9 and Figure 3.06.5.

- 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 2007–08. Over the same period, there was also no significant change in hospitalisation rates for other Australians.
- There was no significant change in the hospitalisation rate ratio between Indigenous and other Australians for vaccine-preventable conditions over the period 2004–05 to 2007–08. There was a significant increase in the hospitalisation rate difference between Indigenous females and other females for vaccine-preventable conditions over the same period (8.4%).

Table 3.06.9: Age-standardised hospitalisation rates, rate ratios and rate differences for vaccine preventable conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	% change over period[(c)]
Indigenous separations						
Males	468	518	453	539	15	9.5
Females	447	452	461	517	22*	14.7*
Persons	915	970	914	1,056	37	12.0
Other Australian separations						
Males	7,182	7,084	6,476	7,775	117	4.9
Females	5,424	5,541	4,784	6,161	145	8.0
Persons	12,606	12,625	11,260	13,936	263	6.2
Indigenous rate (separations per 1,000)						
Males	2.8	3.1	2.5	2.8	–0.1	–7.4
Females	2.4	2.4	2.4	2.6	0.1*	7.3*
Persons	2.6	2.7	2.5	2.7	0.0	0.7
Other Australian[(d)] rate (separations per 1,000)						
Males	0.8	0.8	0.7	0.8	0.0	–2.0
Females	0.5	0.5	0.5	0.6	0.0	3.5
Persons	0.7	0.6	0.6	0.7	0.00	0.6
Rate ratio[(e)]						
Males	3.6	4.1	3.8	3.5	–0.1	–5.4
Females	4.5	4.4	5.3	4.4	0.1	4.8
Persons	4.0	4.2	4.4	3.9	0.0	0.6
Rate difference[(f)]						
Males	2.1	2.3	1.9	2.0	–0.1	–9.5
Females	1.9	1.9	2.0	2.0	0.1*	8.4*
Persons	1.9	2.1	1.9	2.0	0.0	0.8

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

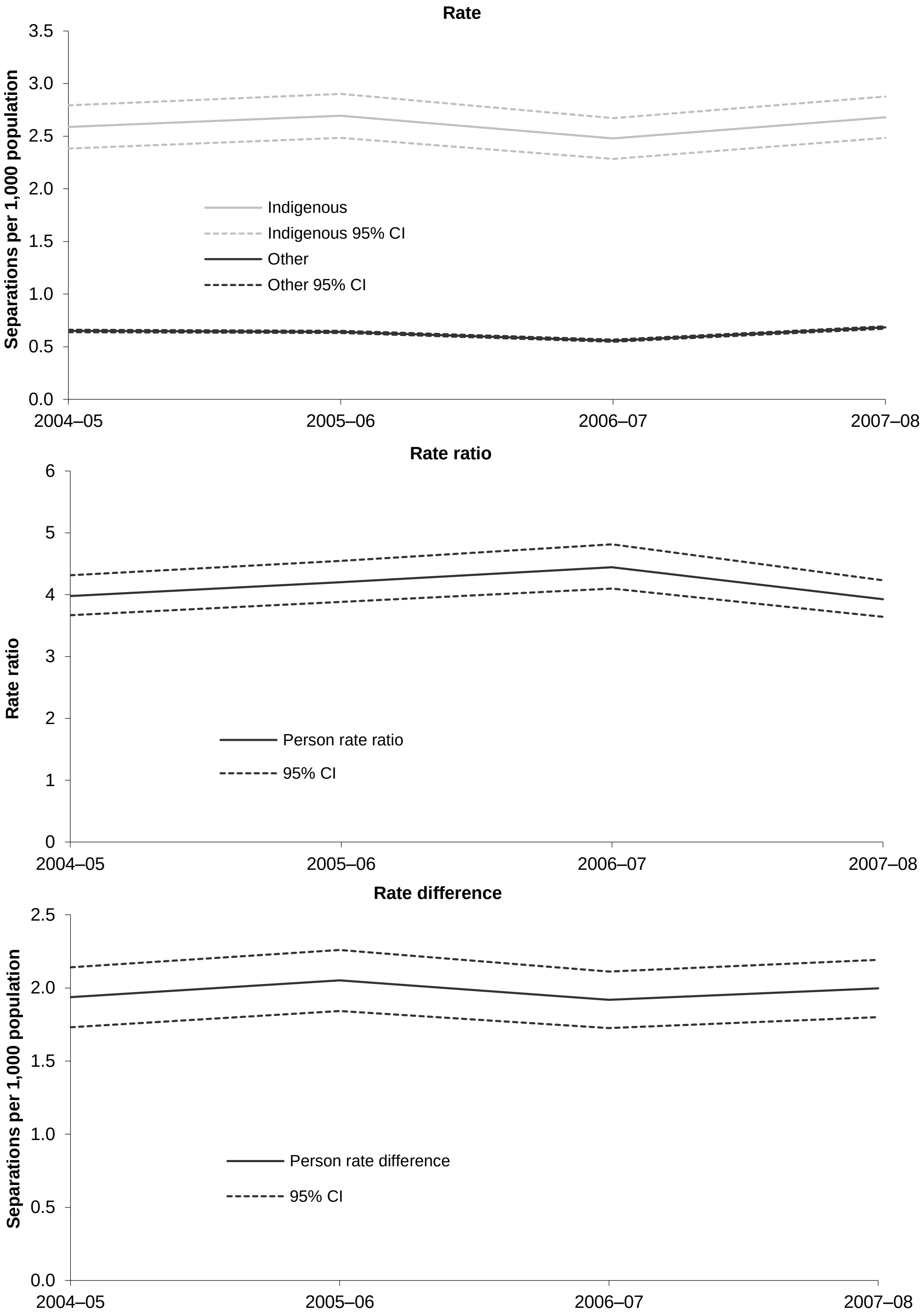
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes:

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.5: 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 2007–08

Potentially preventable chronic conditions 2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable chronic conditions such as diabetes, asthma, angina, hypertension and chronic obstructive pulmonary disease over the period 2001–02 to 2007–08 in Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 3.06.10 and Figure 3.06.6. This period has been used for analysis because coding changes were made to diabetes complications (the most common potentially preventable chronic condition) in July 1999 and July 2000. Coding for diabetes is only consistent from 2000–01 onwards and thus data for earlier years should not be included in the analysis of trends involving diabetes complications.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for potentially preventable chronic conditions (predominantly diabetes) among Indigenous Australians during the period 2001–02 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 29 per 1,000 (equivalent to an increase of 178% over the period). These increases in hospitalisation rates were significant for both males and females.
- There were also significant increases in hospitalisation rates for potentially preventable chronic conditions for other Australians, with an average yearly increase in the rate of around 2.7 per 1,000. This is equivalent to an increase of 95% in the rate over the period. These increases were statistically significant for both males and females.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period 2001–02 to 2007–08 (an increase of 42% in the rate ratio and 196% in the rate difference). This reflects a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other Australians for potentially preventable chronic conditions over the period 2001–02 to 2007–08.

Table 3.06.10: Age-standardised hospitalisation rates, rate ratios and rate differences for potentially preventable chronic conditions, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	5,468	6,189	8,539	11,341	13,509	14,575	17,249	2,039*	223.7*
Females	7,144	8,350	12,307	17,275	20,052	21,732	23,970	3,035*	254.9*
Persons	12,614	14,539	20,846	28,616	33,561	36,307	41,219	5,074*	241.3*
Other Australian[(d)] separations									
Males	63,231	67,023	74,675	103,511	118,414	129,265	140,506	14,287*	135.6*
Females	54,281	57,206	61,807	86,252	97,747	106,600	113,311	11,136*	123.1*
Persons	117,512	124,229	136,482	189,763	216,161	235,865	253,817	25,424*	129.8*
Indigenous rate (separations per 1,000)									
Males	86.4	95.7	138.0	173.0	198.1	208.5	248.8	27.6*	191.7*
Females	107.3	118.8	165.3	222.6	251.6	258.9	276.8	31.2*	174.6*
Persons	98.3	108.7	152.2	199.5	226.9	234.9	262.1	29.2*	178.4*
Other Australian[(d)] rate (separations per 1,000)									
Males	19.6	20.2	21.8	29.3	32.4	34.3	36.2	3.2*	96.8*
Females	14.5	14.9	15.7	21.4	23.6	25.0	26.0	2.2*	92.3*
Persons	16.8	17.3	18.5	25.0	27.7	29.3	30.7	2.7*	95.1*
Rate ratio[(e)]									
Males	4.4	4.8	6.3	5.9	6.1	6.1	6.9	0.4*	48.0*
Females	7.4	8.0	10.5	10.4	10.7	10.3	10.7	0.5*	42.5*
Persons	5.8	6.3	8.2	8.0	8.2	8.0	8.5	0.4*	42.4*
Rate difference[(f)]									
Males	66.8	75.6	116.2	143.7	165.7	174.2	212.6	24.4*	219.6*
Females	92.8	103.9	149.6	201.2	227.9	233.9	250.8	29.0*	187.5*
Persons	81.5	91.3	133.7	174.5	199.2	205.5	231.4	26.6*	195.6*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.

(d) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

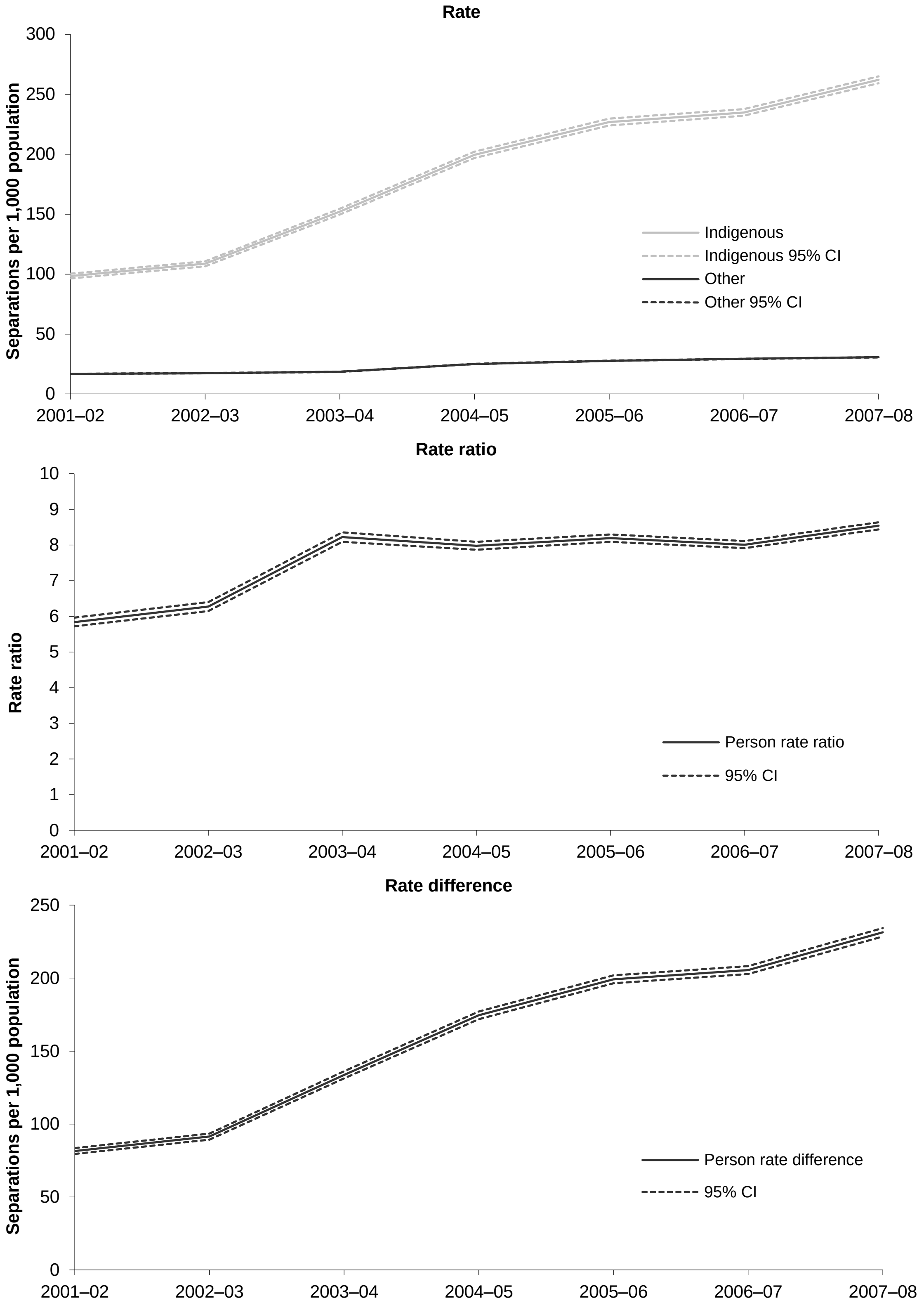
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes:

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.6: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable chronic conditions, Qld, WA, SA and NT combined, 2001–02 to 2007–08

Potentially preventable chronic conditions 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period 2004–05 to 2007–08 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 3.06.11 and Figure 3.06.7.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for potentially preventable chronic conditions (predominantly diabetes) among Indigenous Australians during the period 2004–05 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 14 per 1,000 (equivalent to an increase of 28% over the period); these increases in hospitalisation rates were significant for both males and females.
- There were also significant increases in hospitalisation rates for potentially preventable chronic conditions for other Australians, with an average yearly increase in the rate of around 1.5 per 1,000. This is equivalent to an increase of 18% in the rate over the period. These increases were statistically significant for both males and females.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period 2004–05 to 2007–08 (an increase of 8.4% in the rate ratio and 30% in the rate difference). This reflects a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other Australians for potentially preventable chronic conditions over the period 2004–05 to 2007–08.

Table 3.06.11: Age-standardised hospitalisation rates, rate ratios and rate differences for potentially preventable chronic conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	14,717	16,900	17,899	21,205	2,046*	41.7*
Females	20,826	24,219	26,108	28,828	2,590	37.3
Persons	35,544	41,119	44,007	50,033	4,636*	39.1*
Other Australian[(d)] separations						
Males	260,338	286,919	311,332	334,176	24,593*	28.3*
Females	225,688	249,872	269,447	284,288	19,538*	26.0*
Persons	486,040	536,794	580,783	618,466	44,127*	27.2*
Indigenous rate (separations per 1,000)						
Males	132.2	147.8	152.9	181.8	15.4*	34.9*
Females	165.1	188.1	194.9	207.8	13.5*	24.5*
Persons	149.6	169.4	175.1	194.9	14.1*	28.3*
Other Australian[(d)] rate (separations per 1,000)						
Males	28.4	30.6	32.3	33.7	1.8*	18.6*
Females	21.1	22.8	24.1	24.8	1.2*	17.7*
Persons	24.4	26.4	27.8	28.9	1.5*	18.3*
Rate ratio[(e)]						
Males	4.7	4.8	4.7	5.4	0.2*	13.7*
Females	7.8	8.2	8.1	8.4	0.1*	5.7*
Persons	6.1	6.4	6.3	6.7	0.2*	8.4*
Rate difference[(f)]						
Males	103.8	117.2	120.6	148.0	13.6*	39.3*
Females	144.0	165.3	170.8	183.0	12.3*	25.5*
Persons	125.2	143.1	147.3	166.0	12.6*	30.3*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

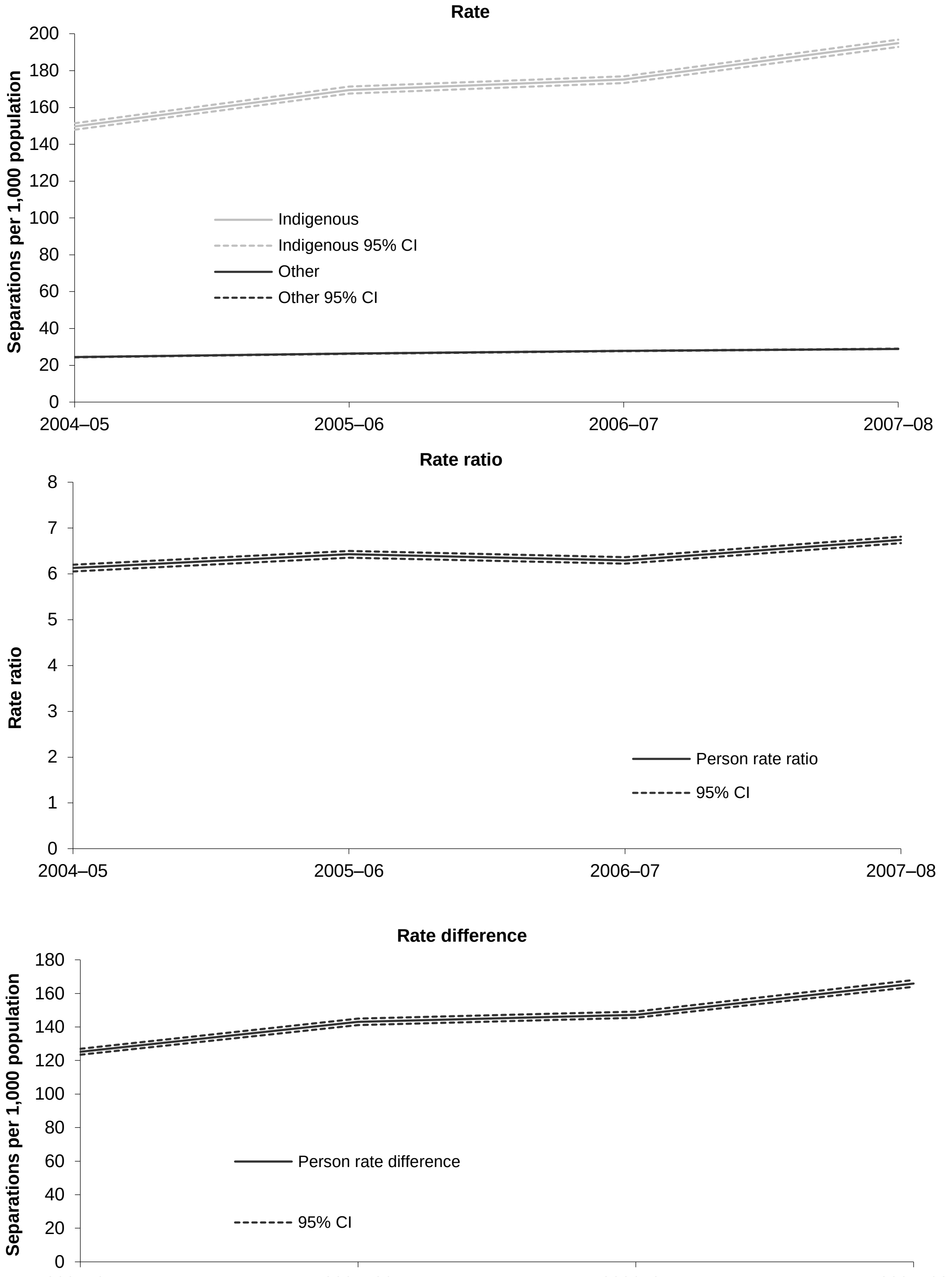
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes:

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.7: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable chronic conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08

Potentially preventable acute conditions 2001–02 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable acute conditions, such as kidney infection, perforated ulcer, cellulitis, pelvic inflammatory disease, ear, nose and throat infections and dental conditions, over the period 2001–02 to 2007–08 for Queensland, Western Australia, South Australia and the Northern Territory combined, are presented in Table 3.06.12 and Figure 3.06.8.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were no significant changes in hospitalisation rates for potentially preventable acute conditions among Indigenous Australians during the period 2001–02 to 2007–08.
- There were significant increases in hospitalisation rates for other Australians during the same period, with an average yearly increase in the rate of 0.2 per 1,000. This is equivalent to a 9.2% increase in the rate over the period and was significant for both males and females.
- There were no significant changes in the hospitalisation rate ratios or rate differences between Indigenous and other Australians over the period 2001– to 2007–08.

Table 3.06.12: Age-standardised hospitalisation rates, rate ratios and rate differences for potentially preventable acute conditions, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Males	4,044	4,025	4,242	4,268	4,430	4,212	4,792	100*	14.9*
Females	4,389	4,410	4,580	4,757	4,750	4,956	5,463	160*	21.9*
Persons	8,434	8,435	8,822	9,025	9,180	9,168	10,255	260*	18.5*
Other Australian[(d)] separations									
Males	42,636	43,708	45,927	46,097	48,507	50,437	53,051	1,689*	23.8*
Females	48,465	49,872	52,775	53,131	55,035	57,299	60,621	1,914*	23.7*
Persons	91,104	93,581	98,702	99,228	103,542	107,736	113,673	3,602*	23.7*
Indigenous rate (separations per 1,000)									
Males	33.3	33.0	35.3	33.3	35.1	31.9	36.3	0.2	4.3
Females	37.0	36.7	36.8	37.7	37.0	37.0	40.6	0.4	6.7
Persons	35.4	35.1	36.1	35.8	36.2	34.6	38.7	0.3	5.6
Other Australian[(d)] rate (separations per 1,000)									
Males	12.5	12.6	13.0	12.8	13.1	13.3	13.7	0.2*	8.9*
Females	13.6	13.8	14.3	14.1	14.3	14.6	15.1	0.2*	9.6*
Persons	13.1	13.2	13.7	13.5	13.7	14.0	14.4	0.2*	9.2*
Rate ratio[(e)]									
Males	2.7	2.6	2.7	2.6	2.7	2.4	2.7	0.0	–4.2
Females	2.7	2.7	2.6	2.7	2.6	2.5	2.7	0.0	–2.6
Persons	2.7	2.7	2.6	2.7	2.6	2.5	2.7	0.0	–3.3

(continued)

Table 3.06.12 (continued): Age-standardised hospitalisation rates, rate ratios and rate differences for potentially preventable acute conditions, Qld, WA, SA and NT combined, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Rate Difference[(f)]									
Males	20.8	20.4	22.3	20.6	22.0	18.5	22.7	0.1	1.6
Females	23.4	22.9	22.4	23.6	22.7	22.4	25.5	0.2	5.0
Persons	22.3	21.8	22.4	22.3	22.5	20.7	24.3	0.1	3.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2005–06.

(a) 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 2001–02 and 2005–06 based on the average annual change over the period.

(d) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

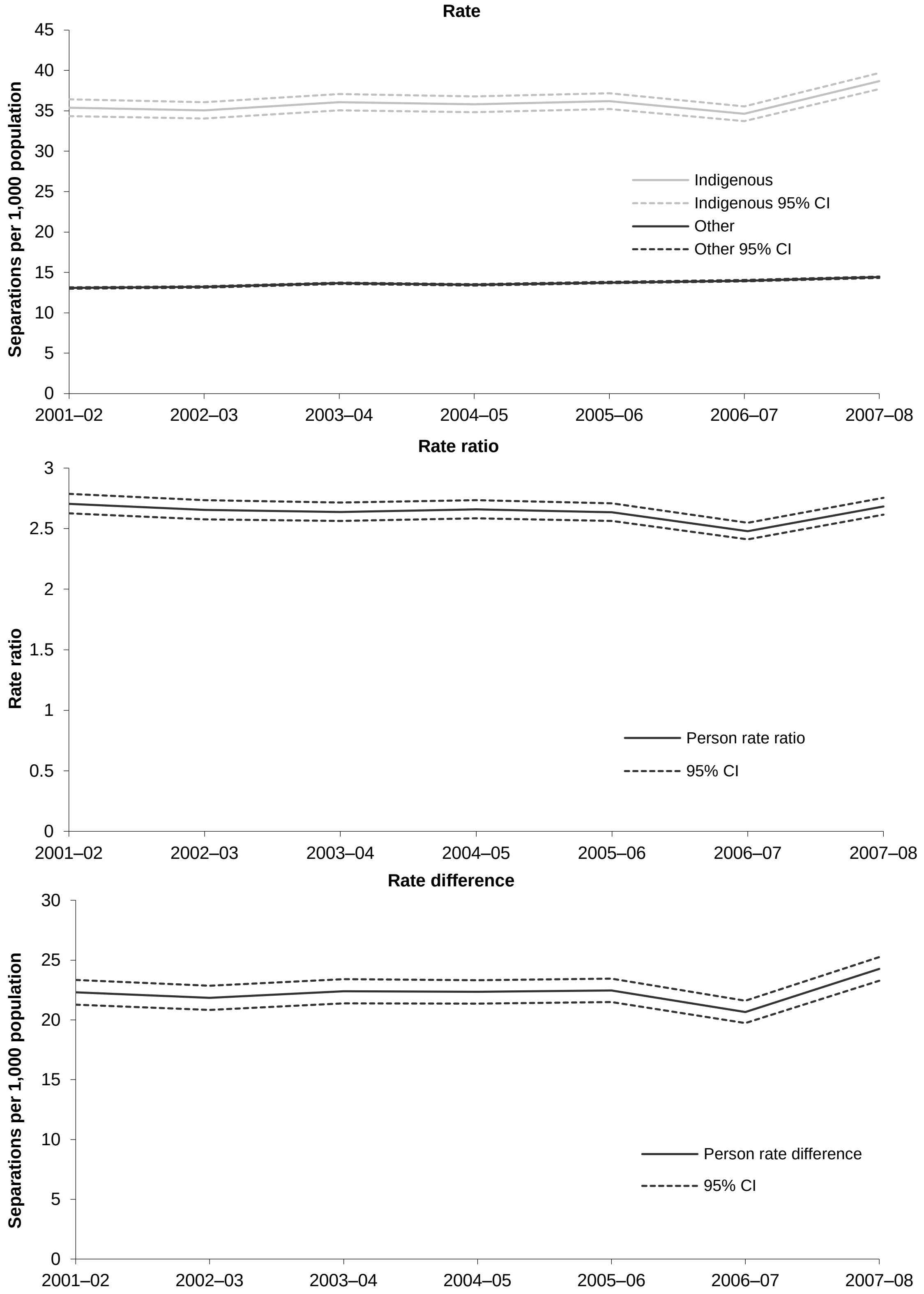
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes:

1. Rates have been directly age-standardised using the Australian 2001 standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.8: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable acute conditions, Qld, WA, SA and NT combined, 2001–02 to 2007–08

Potentially preventable acute conditions 2004–05 to 2007–08

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period 2004–05 to 2007–08 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented in Table 3.06.13 and Figure 3.06.9.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for potentially preventable acute conditions among Indigenous females during the period 2004–05 to 2007–08 (10%; 3.5 separations per 1,000 population). These differences were however not significant for Indigenous males or Indigenous persons.
- There were significant increases in hospitalisation rates for other Australians during the same period, with an average yearly increase in the rate of 0.3 per 1,000. This is equivalent to a 7.8% increase in the rate over the period and significant increases were seen for both males and females.
- There were no significant changes in the hospitalisation rate ratios or rate differences between Indigenous and other Australians over the period 2004–05 to 2007–08.

Table 3.06.13: Age-standardised hospitalisation rates, rate ratios and rate differences for potentially preventable acute conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Males	5,868	6,213	6,003	6,795	257*	13.1*
Females	6,543	6,737	6,970	7,721	377*	17.3*
Persons	12,411	12,950	12,973	14,516	634*	15.3*
Other Australian[(d)] separations						
Males	116,491	122,257	126,875	131,775	5,047*	13.0*
Females	135,700	142,800	148,434	155,807	6,596*	14.6*
Persons	252,195	265,059	275,310	287,584	11,642*	13.8*
Indigenous rate (separations per 1,000)						
Males	27.7	29.3	27.3	30.5	0.6	6.9
Females	31.2	31.5	31.5	34.7	1.1*	10.2*
Persons	29.7	30.6	29.6	32.8	0.8	8.5
Other Australian[(d)] rate (separations per 1,000)						
Males	12.6	13.0	13.2	13.5	0.3*	6.8*
Females	13.9	14.3	14.6	15.1	0.4*	8.7*
Persons	13.2	13.7	13.9	14.3	0.3*	7.8*
Rate ratio[(e)]						
Males	2.2	2.3	2.1	2.3	0.0	0.0
Females	2.3	2.2	2.2	2.3	0.0	1.4
Persons	2.2	2.2	2.1	2.3	0.0	0.7
Rate difference[(f)]						
Males	15.1	16.3	14.1	17.0	0.3	6.9
Females	17.4	17.1	16.9	19.6	0.7	11.4
Persons	16.4	16.9	15.7	18.5	0.5	9.1

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

(d) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

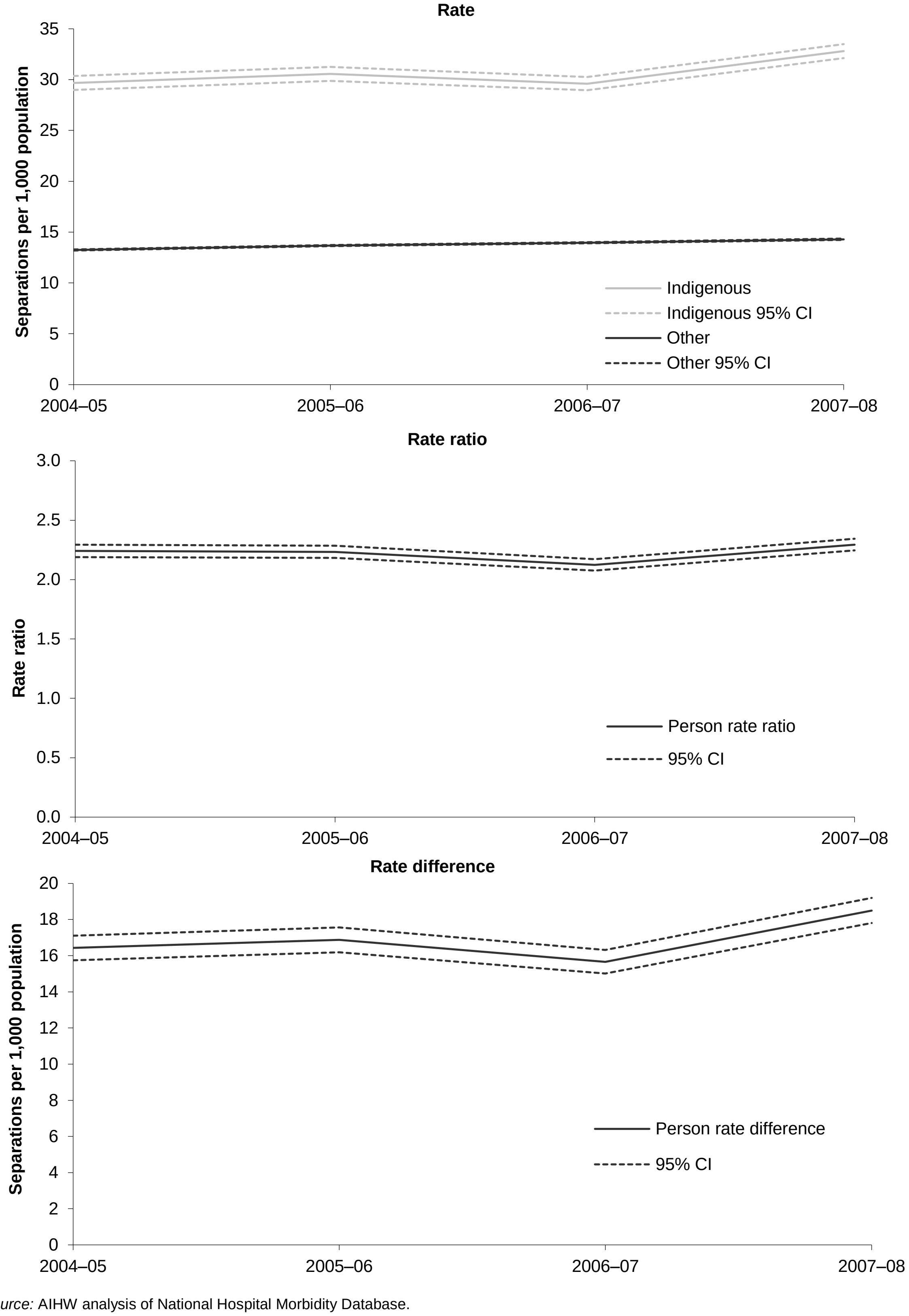
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes:

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.9: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable acute conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08

Comparison of vaccine preventable, chronic and acute conditions 2001–02 to 2007–08

Table 3.06.14 and Figure 3.06.10 present hospitalisation rates for Indigenous Australians for vaccine preventable, potentially preventable chronic and potentially preventable acute conditions for the period 2001–02 to 2007–08 in Queensland, Western Australia, South Australia and the Northern Territory combined.

- Over the period between 2001–02 and 2007–08, the age-standardised rates of potentially preventable chronic conditions hospitalisations for Indigenous Australians have increased from 98 to 262 per 1,000 persons.
- Hospitalisations for vaccine preventable conditions have declined slightly over the period from 2001–02 to 2007–08 while hospitalisations for acute conditions showed a small increase.

Table 3.06.14: Hospitalisation rates (per thousand head of population) for vaccine preventable, potentially preventable chronic and potentially preventable acute conditions, Indigenous Australians, Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

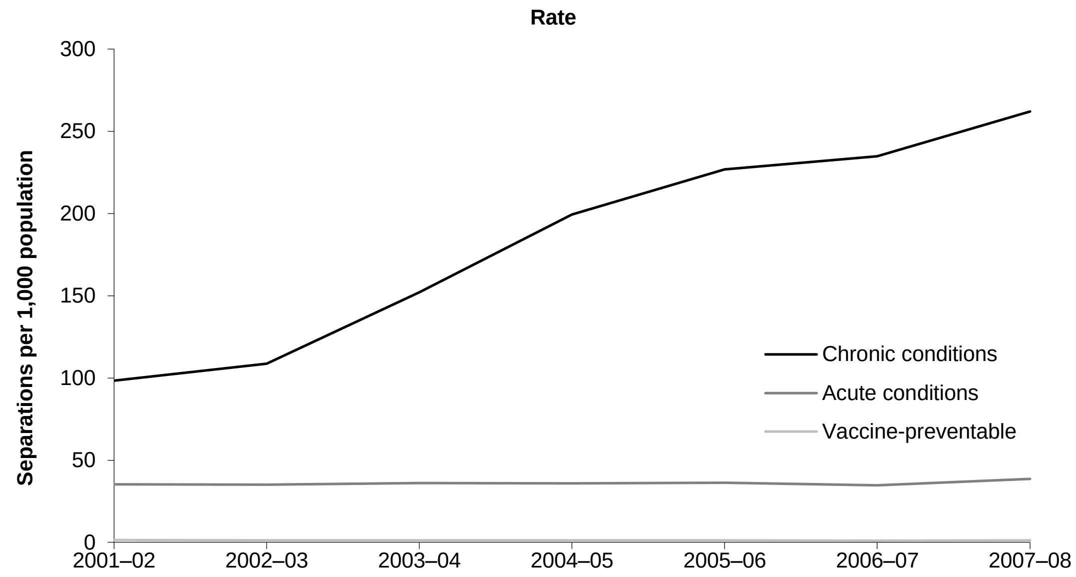
	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08
Chronic conditions	98.3	108.7	152.2	199.5	226.9	234.9	262.1
Vaccine-preventable	4.6	4.0	3.6	3.4	3.5	3.2	3.5
Acute conditions	35.4	35.1	36.1	35.8	36.2	34.6	38.7

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

Notes:

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.10: Hospitalisation rates for vaccine preventable, potentially preventable chronic and potentially preventable acute conditions, Indigenous Australians, Qld, WA, SA and NT combined, 2001–02 to 2007–08

Comparison of vaccine preventable, chronic and acute conditions 2004–05 to 2007–08

Table 3.06.15 and Figure 3.06.11 present hospitalisation rates for Indigenous Australians for vaccine preventable, potentially preventable chronic and potentially preventable acute conditions for the period 2004–05 to 2007–08 in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- The age-standardised hospitalisation rates for potentially preventable chronic conditions for Indigenous Australians have increased from 150 to 195 per 1,000 persons over the period between 2001–02 and 2007–08.
- Hospitalisations for vaccine preventable conditions have remained largely unchanged over the period from 2001–02 to 2007–08 while hospitalisations for acute conditions showed a small increase.

Table 3.06.15: Hospitalisation rates (per thousand head of population) for vaccine preventable, potentially preventable chronic and potentially preventable acute conditions, Indigenous Australians, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08[(a)]

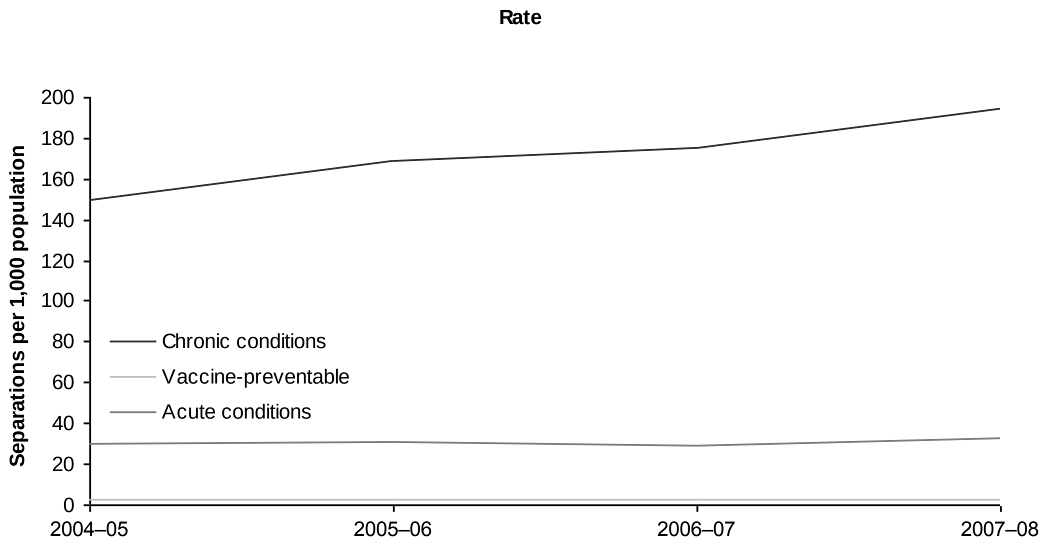
	2004–05	2005–06	2006–07	2007–08
Chronic conditions	149.6	169.4	175.1	194.9
Vaccine-preventable	2.6	2.7	2.5	2.7
Acute conditions	29.7	30.6	29.6	32.8

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

Notes:

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. 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



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.06.11: Hospitalisation rates for vaccine preventable, potentially preventable chronic and potentially preventable acute conditions, Indigenous Australians, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08

Data quality issues

National Hospital Morbidity data

Hospital separations data

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.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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 peoples. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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 2010* (ABS 2009).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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 2005. Improving the quality of Indigenous identification in hospital statistics. Health services series no. 25. Cat. no. HSE 101. Canberra: AIHW.

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3.07 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

Health expenditure data

The report on expenditure on health services for Aboriginal and Torres Strait Islander people is produced every two years. The latest report covers expenditure for the 2006–07 financial year and was published in the AIHW report *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07* (AIHW 2009).

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 and under-coverage of Indigenous Australians in health data collections (such as hospital separations) are further issues that affect data quality. Although adjustments are made to the data to allow for under-identification, the adjusted estimates may be an overestimate or underestimate of actual health service use and expenditure by Indigenous people. The attribution 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).

Expenditure is a measure of met need. Indigenous Australians have a significantly poorer health status (measured in terms of life expectancy, mortality rates and morbidity) than non-Indigenous Australians. It could therefore be expected that per capita investment of health resources to achieve equality for Aboriginal and Torres Strait Islanders should be higher than for other Australians.

Expenditure on health and high care residential aged care for Aboriginal and Torres Strait Islander people amounted to $2,976 million in 2006–07. This was equivalent to 3.1% of the national expenditure on health and high care residential aged care. In 2006-07, the average expenditure per person on health and high care residential aged care was $5,696 for Aboriginal and Torres Strait Islander people. For non-Indigenous people, the average expenditure per person was $4,557. The ratio of Indigenous to non-Indigenous expenditure per person was 1.25. For the Australian Government schemes of Medicare and the Pharmaceutical Benefits Scheme (PBS), total benefits paid per Aboriginal and Torres Strait Islander person were 59% of the amount spent on non-Indigenous people.

Divisions of GP Survey

Since 1997–98, the Annual Survey of Divisions (ASD) has been conducted by the Primary Health Care Research and Information Service (PHC RIS) on behalf of the DoHA. Along with the Annual Report, the ASD forms a component of the reporting requirements for all Divisions of General Practice. Divisions of General Practice are required to complete the

Survey, which includes questions about their membership, activities (including population health) and infrastructure for the previous financial year.

Bettering the Evaluation and Care of Health (BEACH) Survey

Information about encounters in general practice is available from the BEACH survey, which is conducted by the AIHW Australian General Practice Statistics and Classification Unit. 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. A more detailed explanation of the BEACH methods can be found in General practice activity in Australia 2008–09, (Britt et al 2009).

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). Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998–2008, (Britt H & Miller GC (eds) 2009, p101).

> "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 H 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."

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.3% of total GP encounters in the survey.

Community Housing and Infrastructure Needs Survey (CHINS)

The 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. In addition to the survey instrument and methodology testing conducted prior to the 2006 CHINS, aggregate data from the 2006 CHINS have been compared with that collected in 2001 CHINS. 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 peoples
- 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 that 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 of fewer than 50 people.

In the 2006 CHINS, a community questionnaire collected detailed infrastructure information from all discrete Indigenous communities with a reported usual population of 50 persons or more, as well as for communities that had a reported usual population of fewer than 50 persons but which were not administered by a larger discrete Indigenous community or Resource Agency (375 communities). The 812 other communities had reported usual populations of fewer than 50 persons and were asked a subset of questions from the community questionnaire form: the short community questionnaire (ABS 2007).

Results from this survey were published in August 2007. FaHCSIA and the ABS jointly hold the CHINS data.

OATSIH Services Reporting (OSR) data collection

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH-funded services include both Indigenous Community Controlled Health Organisations and non-community controlled health organisations. Note that the 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. As pre 2008–09 questionaries are not fully compatible with the questionnaires used for the 2008–09 data collection, AIHW advises against building time-series comparisons with the data prior to 2008-09.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services 81 (94%) responded to the OSR questionnaire, as well as 5 auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance use service.

Forty five (90%) out of 50 stand-alone substance use services as well as 3 auspiced services responded to the OSR questionnaire.

Analyses

Government expenditure

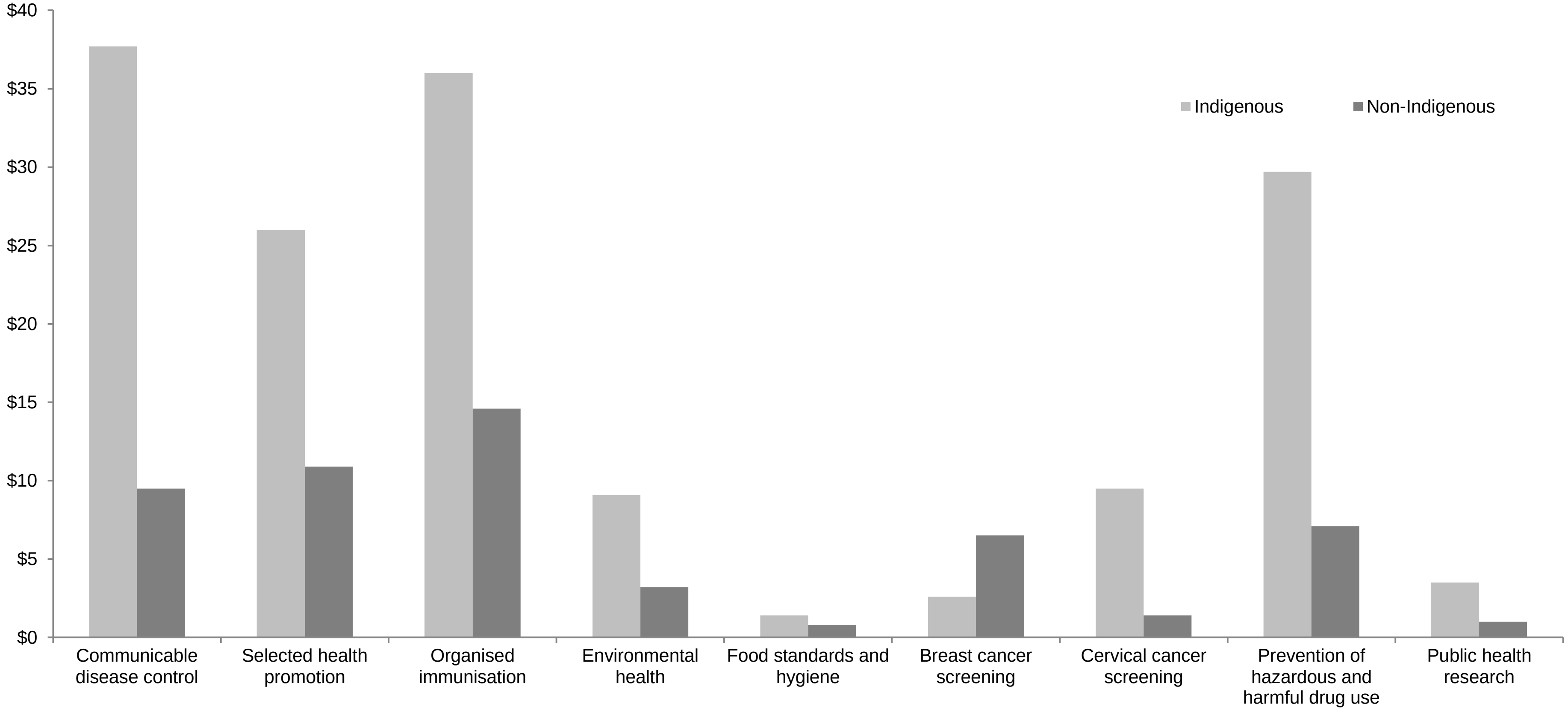
Government expenditure on selected public health activities for Indigenous and non-Indigenous Australians in 2006–07 is presented in Table 3.07.1 and Figure 3.07.1 below.

- In 2006–07, state/territory government expenditure on core public health activities was $81.2 million for Indigenous Australians and $1,124.4 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 ($156 compared with $55).
- The Indigenous share of state/territory government expenditure was 14.5% for cervical cancer screening, 9.7% for prevention of hazardous and harmful drug use, 9.2% for communicable disease control and 8.1% for public health research.
- Of the core public health activities, communicable disease control received the most state/territory government expenditure per person for Indigenous Australians ($38).
- 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 (6.6) and lowest for breast cancer screening (0.4).

Table 3.07.1: Expenditure for Indigenous Australian and non-Indigenous Australians on selected public health activities, state and territory governments and total, 2006–07

	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	19.7	193.8	9.2	37.7	9.5	3.97
Selected health promotion	13.6	222.4	5.8	26.0	10.9	2.38
Organised immunisation	18.8	298.0	5.9	36.0	14.6	2.46
Environmental health	4.8	66.0	6.7	9.1	3.2	2.81
Food standards and hygiene	0.7	17.2	4.0	1.4	0.8	1.63
Breast cancer screening	1.4	131.9	1.0	2.6	6.5	0.40
Cervical cancer screening	5.0	29.3	14.5	9.5	1.4	6.59
Prevention of hazardous and harmful drug use	15.5	145.1	9.7	29.7	7.1	4.17
Public health research	1.8	20.7	8.1	3.5	1.0	3.41
Public health expenditure	**81.2**	**1,124.4**	**6.7**	**155.4**	**55.2**	**2.81**

Source: AIHW health expenditure database.



Source: AIHW health expenditure database.

Figure 3.07.1: Total expenditure per person for core public health activities, by Indigenous status, 2006–07.

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. The number and proportion of Divisions of General Practice aimed at Indigenous Australians for selected prevention and early intervention programs and activities in 2006–07 is presented in Table 3.07.2 and Figures 3.07.2a and b.

- In 2006–07, over 80% of general practice divisions ran programs for Type II diabetes and life-scripts; 75% ran programs for health promotion; 55% ran programs for physical activity, 46% for nutrition, 54% for alcohol and other drugs, 40% for smoking and 25% for injury prevention.
- In 2006–07, 35% of divisions focused on Indigenous Australians in their Type II diabetes programs, 25% in their health promotion programs, 14% in their life-scripts programs, 13% in their nutrition programs, 11% in their alcohol and other drug programs, and 10% in their physical activity programs. Only 8.4% of Divisions with activities or programs for smoking aimed at Indigenous Australians, and only 5.0% aimed at Indigenous Australians for injury prevention programs.

Table 3.07.2: Number and proportion of Divisions of General Practice with selected prevention/early intervention programs and number and proportion of Divisions targeting Indigenous Australians in their prevention and early intervention programs, 2006–07

	Divisions with program/activity		Indigenous Australians	
Selected prevention programs	**Number**	**Per cent[(a)]**	**Number**	**Per cent[(a)]**
Type II diabetes	105	88.2	42	35.3
Life-scripts	101	84.9	17	14.3
Health promotion	89	74.8	30	25.2
Physical activity	65	54.6	12	10.1
Nutrition	55	46.2	16	13.4
Alcohol and other drugs	64	53.8	13	10.9
Smoking	48	40.3	10	8.4
Injury prevention	30	25.2	6	5.0

(a) Proportion calculated in relation to total number of divisions.

Source: Hordacre et al. 2007a

- Between 2004–05 and 2006–07 there has been a continual decrease in the proportion of Divisions with nutrition, alcohol and other drugs, breast cancer screening and skin cancer screening programs and an increase in the number of Divisions with Type II diabetes and health promotion (Table 3.07.3; Figure 3.07.2a).
- 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 3.07.3; Figure 3.07.2b).
- Between 2004-05 and 2005-06 there was an increase in the proportion of Divisions that focused on Indigenous Australians in their nutrition, smoking and bowel cancer screening but these proportions have decreased in 2006-07 (Table 3.07.3; Figure 3.07.2b).

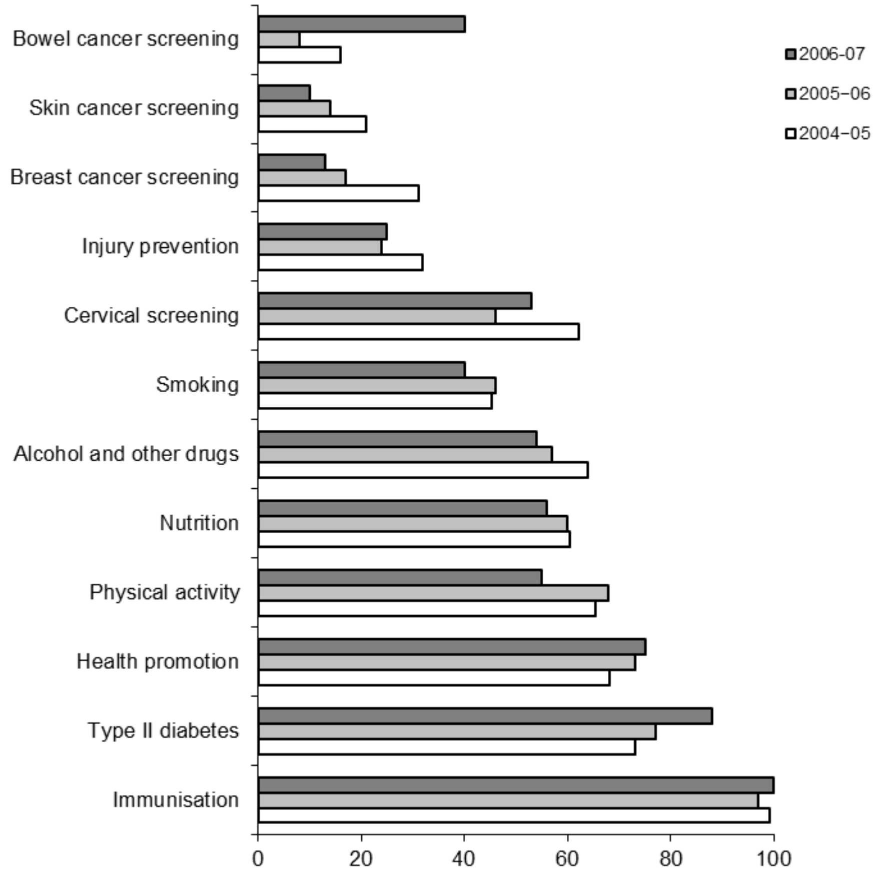
Table 3.07.3: Proportion of Divisions of General Practice with selected prevention/early intervention programs, and proportion of Divisions focusing on Indigenous Australians in their selected prevention/early intervention programs, 2004–05 to 2006–07.

	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	99.2	73.1	68.1	65.5	60.5	63.9	45.4	62.2	31.9	31.1	21.0	16.0
% focusing on Indigenous Australians	22.9	20.7	17.3	7.7	22.2	13.2	9.3	4.1	0	2.7	0	5.3
2005–06												
% with program	96.6	77.3	73.1	68.1	59.7	57.1	46.2	46.2	23.5	16.8	14.3	7.6
% focusing on Indigenous Australians	40.4	26.1	27.6	18.5	31.0	17.7	23.6	9.1	7.1	5.0	.0	11.1
2006–07												
% with program	100.0	88.2	74.8	54.6	46.2	53.8	40.3	52.9	25.2	12.6	10.1	40.3
% focusing on Indigenous Australians	43.7	40.0	33.7	18.5	29.1	20.3	20.8	19.0	20.0	20.0	16.7	8.3

Notes

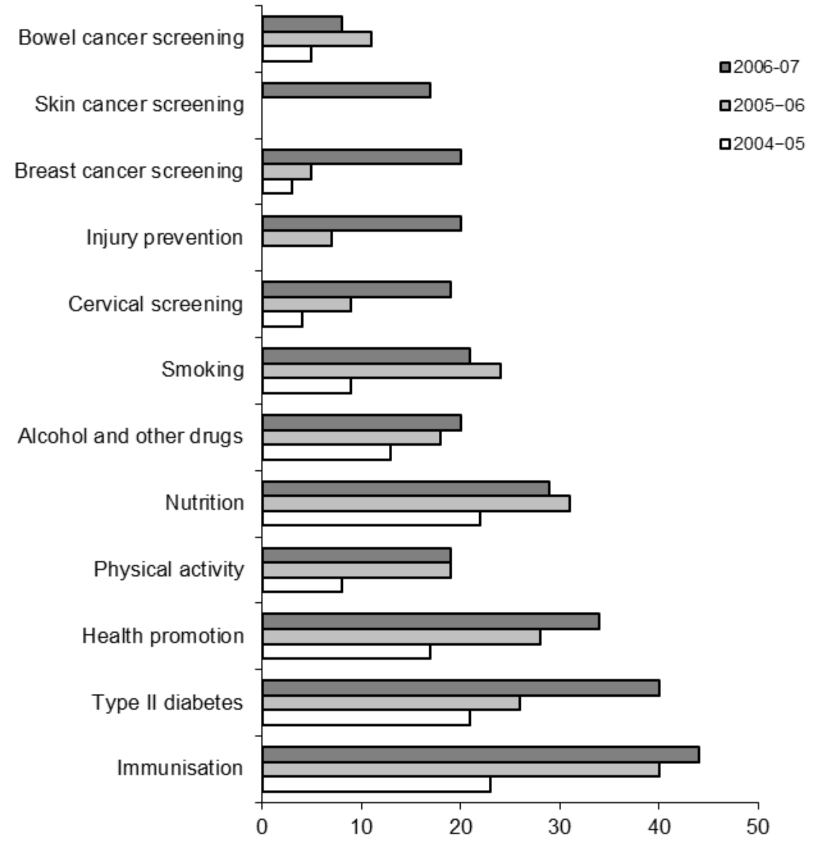
1. '% focusing on Indigenous Australians' calculated using the number of Divisions with the specified program as the denominator.
2. Prior to 2004–05, prevention was dealt with in a different question format which precludes longitudinal comparison with subsequent data.

Source: Hordacre et al. 2007b



Source: Hordacre et al. 2006; Hordacre et al. 2007a; Hordacre et al 2007b.

Figure 3.07.2a: Proportion of Divisions of General Practice with selected prevention/early intervention programs, 2004–05 to 2006–07.



Note: Data on skin cancer screening for 2004–05 and 2005–06, and injury prevention for 2004–05 are not available.

Source: Hordacre et al. 2006; Hordacre et al. 2007a; Hordacre et al. 2007b.

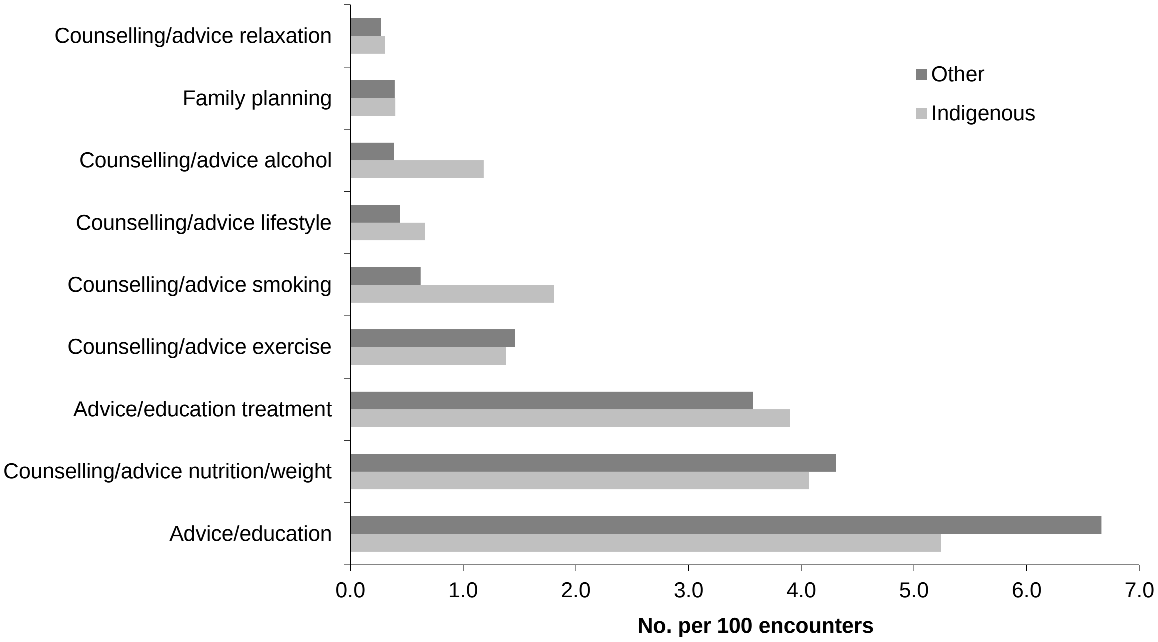
Figure 3.07.2b: Proportion of Divisions focusing on Indigenous Australians in their selected prevention/early intervention programs, 2004–05 to 2006–07.

Clinical treatments provided by general practitioners

Information on clinical treatments provided by general practitioners such as advice, education and counselling for factors such as smoking, alcohol, nutrition, weight, exercise and lifestyle are available from the BEACH survey. Data for the 5-year BEACH reporting periods April 2004–March 2005 to April 2008–March 2009 are provided below.

- Over the April 2004–March 2005 to April 2008–March 2009, of the 3,518 clinical treatments provided to Indigenous patients surveyed in the BEACH, 8.5% were for advice/education, 6.3% were for counselling/advice related to treatment, 6.2% were for advice/education related to nutrition and weight, 3.4% were for counselling/advice related to smoking, 2.2% were for counselling/advice related to alcohol and 2.0% were for counselling/advice related to exercise (Table 3.07.4).
- The selected clinical treatments related to health promotion outlined above were provided at a rate of 17.8 per 100 encounters for Indigenous patients. Of these, general advice/education (4.9 per 100 encounters) and counselling/advice related to nutrition and weight were the most common treatments provided (3.6 per 100 encounters) (Table 3.07.4).

- Both before and after age standardisation, Indigenous patients were more likely than other patients to receive counselling/advice related to alcohol (standardised ratio of 3.1) and smoking (ratio of 2.9) (Table 3.07.4).
- At encounters with Indigenous patients, advice and education related to treatment and relaxation was provided less often in the BEACH survey year April 2008–March 2009 than in April 1998–March 1999 for Indigenous patients (Table 3.07.5).
- Over the period April 2004–March 2005 to April 2008–March 2009, clinical treatments related to health promotion were most commonly provided by GPs to Indigenous patients in the management of endocrine/metabolic disorders (27 per 100 problems managed), followed by psychological problems (16 per 100 problems managed). For other patients, the clinical treatments related to health promotion most commonly provided by GPs were in the management of endocrine/metabolic problems (26 per 100 problems managed) and respiratory problems (11 per 100 problems managed) (Table 3.07.6).



Source: AIHW analysis of BEACH survey of general practice AGPSCC.

Figure 3.07.3: Age-Standardised rate (no. per 100) encounters for selected clinical treatments provided by general practitioners, by Indigenous status, BEACH years April 2004–March 2005 to April 2008–March 2009

Table 3.07.4: Selected clinical treatments provided by general practitioners, by Indigenous status, BEACH years April 2004–March 2005 to April 2008–March 2009(a)

	Number		Per cent		Crude rate (no. per 100 encounters)						Age standardised rate (no. per 100 encounters)(c)		
	Indig	Other(c)	Indig	Other(c)	Indig	95% LCL(d)	95% UCL(e)	Other(c)	95% LCL(d)	95% UCL(e)	Indig	Other(c)	Rate ratio(f)
Advice/education(g)	299	31,547	8.5	12.0	4.9	3.8	5.9	6.6	6.3	6.9	5.2	6.7	0.8
Advice/education treatment(h)	223	16,312	6.3	6.2	3.6	2.8	4.5	3.4	3.2	3.5	4.1	4.3	0.9
Counselling/advice nutrition/weight(i)	219	19,513	6.2	7.4	3.6	2.9	4.2	4.1	3.9	4.2	3.9	3.6	1.1
Counselling/advice smoking(j)	118	3,024	3.4	1.2	1.9	1.4	2.4	0.6	0.6	0.7	1.4	1.5	0.9
Counselling/advice alcohol(k)	77	1,858	2.2	0.7	1.3	0.9	1.6	0.4	0.4	0.4	1.8	0.6	2.9
Counselling/advice exercise(l)	71	6,710	2.0	2.6	1.2	0.8	1.5	1.4	1.3	1.5	0.7	0.4	1.5
Counselling/advice lifestyle(m)	37	2,029	1.1	0.8	0.6	0.3	0.9	0.4	0.4	0.5	1.2	0.4	3.1
Family planning(n)	31	1,873	0.9	0.7	0.5	0.3	0.7	0.4	0.4	0.4	0.4	0.4	1.0
Counselling/advice relaxation(o)	19	1,271	0.5	0.5	0.3	0.1	0.5	0.3	0.2	0.3	0.3	0.3	1.1
Total selected clinical treatments	*1,094*	*84,137*	*31.1*	*32.0*	*17.8*	*15.4*	*20.3*	*17.5*	*17.0*	*18.1*	*18.9*	*18.1*	*1.0*
All other clinical treatments	2,424	178,650	68.9	68.0	39.5	35.0	44.0	37.2	36.6	37.8	39.2	35.5	1.1
Total	**3,518**	**262,787**	**100.0**	**100.0**	**57.3**	**51.9**	**62.8**	**54.7**	**53.7**	**55.7**	**58.2**	**53.6**	**1.1**

(Continued)

Table 3.07.4 (continued): Selected clinical treatments provided by general practitioners, by Indigenous status, 2004–05 to 2008–09(a)(b)

(a) Data from five combined BEACH years April 2004–March 2005 to April 2008–March 2009 inclusive.
(b) Directly age-standardised rate using the total number of encounters for 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 for Indigenous divided by rate for other Australians.
(g) IPCP-2 codes defining Advice/education codes A45002, B45002, D45002, F45002, H45002, K45002, L45002, N45002, P45002, R45001, S45002, T45002, U45002, W45004, X45002, Y45002, Z45002.
(h) IPCP-2 codes defining Counselling/advice treatment A45016, A45019, A45020, A45021, A45030, A48004, L45004, R45004, T45004, T45009.
(i) IPCP-2 codes defining Counselling/advice nutrition/weight T45005, T45007, T58002, A45006.
(j) IPCP-2 codes defining Counselling/advice smoking P58008, P45005.
(k) IPCP-2 codes defining counselling/ advice alcohol P45005, P58009.
(l) IPCP-2 codes defining counselling/ advice exercise A45004, A58005.
(m) IPCP-2 codes defining counselling/ advice lifestyle P45008, P58012.
(n) IPCP-2 codes defining family planning A98002, A98003, W14002, W45006, W45007, W45008,W58001, W58005, W58007, W58012, W58013,Y14001, Y45006, Y45007, Y58005, Y58006.
(o) IPCP-2 codes defining counselling/ advice relaxation P45007, P58011, P58017.

Source: AIHW analysis of BEACH survey of general practice AGPSCC.

Table 3.07.5: Selected clinical treatments provided by general practitioners, by Indigenous status, April 1998–March 1999 and April 2008–March 2009(a)(b)

	April 1998 – March 1999									April 2008 –March 2009								
	Crude rate (no. per 100 encounters)						Age-standardised rate (no. per 100 encounters)(b)			Crude rate (no. per 100 encounters)						Age-standardised rate (no. per 100 encounters)(b)		
Selected clinical treatments	**Indig.**	**95% LCL(c)**	**95% UCL(d)**	**Other(e)**	**95% LCL(c)**	**95% UCL(d)**	**Indig**	**Other(e)**	**Rate ratio**	**Indig**	**95% LCL(c)**	**95% UCL(d)**	**Other (e)**	**95% LCL(c)**	**95% UCL(d)**	**Indig**	**Other(e)**	**Rate ratio(f)**
Advice/education(g)	2.4	1.1	3.6	3.7	3.2	4.2	1.9	3.7	0.5	6.0	2.3	9.6	6.4	5.7	7.1	6.0	6.4	0.9
Counselling/advice nutrition/weight(h)	3.5	2.2	4.7	3.7	3.4	4.0	3.8	3.7	1.0	4.3	3.0	5.7	4.0	3.6	4.3	4.3	3.9	1.1
Advice/education treatment(i)	6.2	3.9	8.5	6.3	5.8	6.8	5.5	6.2	0.9	2.7	1.2	4.1	3.3	3.0	3.6	2.0	3.3	0.6
Counselling/advice —exercise(j)	1.1	0.4	1.9	1.5	1.2	1.7	2.1	1.4	1.5	1.1	0.4	1.9	1.4	1.2	1.6	1.4	1.4	1.0
Counselling/advice smoking(j)	1.2	0.5	1.9	0.6	0.6	0.7	1.6	0.6	2.6	1.6	0.7	2.6	0.7	0.6	0.8	1.4	0.7	2.0
Counselling/advice —life style(l)	0.2	0.0	0.4	0.3	0.3	0.4	0.1	0.3	0.4	0.2	0.0	0.5	0.2	0.2	0.3	0.2	0.2	1.1
Counselling/advice —alcohol(m)	0.8	0.3	1.3	0.4	0.3	0.4	0.8	0.4	2.2	0.8	0.0	1.6	0.4	0.3	0.4	0.6	0.4	1.6
Family planning(n)	0.3	0.0	0.6	0.3	0.2	0.3	0.2	0.3	0.7	0.5	0.1	0.9	0.3	0.3	0.4	0.3	0.3	0.8
Counselling/advice relaxation(o)	0.4	0.1	0.8	0.4	0.3	0.4	0.4	0.4	1.1	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.2	0.0
Total selected clinical treatments	*16.1*	*12.2*	*19.9*	*17.1*	*16.0*	*18.1*	*16.5*	*16.9*	*1.0*	*17.3*	*12.4*	*22.1*	*16.9*	*15.7*	*18.0*	*16.2*	*16.8*	*1.0*
All other clinical treatments	23.0	19.0	27.1	27.8	26.7	28.9	23.4	27.6	0.8	44.4	33.4	55.5	39.2	37.8	40.6	44.3	38.9	1.1
Total	**39.1**	**32.9**	**45.3**	**44.9**	**43.1**	**46.6**	**39.9**	**44.5**	**0.9**	**61.7**	**51.5**	**72.0**	**56.1**	**53.9**	**58.2**	**60.6**	**55.7**	**1.1**

(Continued)

Table 3.07.5 (continued): Selected clinical treatments provided by general practitioners, by Indigenous status, April 1998–March 1999 and April 2008–March 2009 (a)(b)

(a) Data from five combined BEACH years April 2004–March 2005 to April 2008–March 2009 inclusive.
(b) Directly age-standardised rate using the total number of encounters for 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) IPCP-2 codes defining Advice/education codes A45002, B45002, D45002, F45002, H45002, K45002, L45002, N45002, P45001, P45002, R45002, S45002, T45002, U45002, W45004, X45002, Y45002, Z45002.
(h) IPCP-2 codes defining Counselling/advice nutrition/weight T45005, T45007, T58002, A45006.
(i) IPCP-2 codes defining Counselling/advice treatment A45016, A45019, A45020, A45021, A45030, A48004, L45004, R45004, T45004, T45009.
(j) IPCP-2 codes defining counselling/ advice exercise A45004, A58005.
(k) IPCP-2 codes defining Counselling/advice smoking P58008, P45005.
(l) IPCP-2 codes defining counselling/ advice lifestyle P45008, P58012.
(m) IPCP-2 codes defining counselling/ advice alcohol P45005, P58009.
(n) IPCP-2 codes defining family planning A98002, A98003, W14002, W45006, W45007, W45008,W58001, W58005, W58007, W58012, W58013,Y14001, Y45006, Y45007, Y58005, Y58006.
(o) IPCP-2 codes defining counselling/ advice relaxation P45007, P58011, P58017.

Source: AIHW analysis of BEACH survey of general practice AGPSCC.

Table 3.07.6: Selected clinical treatments provided by general practitioners: rate (no. per problems managed(a)), by Indigenous status, BEACH years April 2004–March 2005 to April 2008–March 2009(b)

	Indigenous							Other						
Selected clinical treatments	**Respira-tory (n= 1,250)(d)**	**Musculo-skeletal (n= 872) (d)**	**Cardio-vascular (n= 802) (d)**	**Endocrine/ metabolic (n= 974) (d)**	**Psycho-logical (n= 901) (d)**	**Other(c) (n= 4,506) (d)**	**Total (n= 9,305) (d)**	**Respir-atory (n= 92,621) (d)**	**Musculo-skeletal (n= 82,911) (d)**	**Cardio-vascular (n= 84,270)(d)**	**Endocrine/ metabolic (n= 60,328) (d)**	**Psycho-logical (n= 58,291)(d)**	**Other(c) (n= 354,587)(d)**	**Total (n= 733,008)(d)**
								No. per 100 problems managed(e)						
Advice/education(f)	4.0	4.7	2.1	1.3	2.1	3.5	3.2	4.7	5.4	2.6	2.3	3.1	4.9	4.3
Counselling/advice nutrition/weight(g)	0.0	0.6	2.2	13.9	0.3	1.3	2.4	0.2	0.7	3.1	15.8	0.3	1.8	2.7
Advice/education treatment(h)	4.8	2.3	0.6	5.3	1.0	1.7	2.4	5.5	2.6	0.6	2.1	0.6	2.0	2.2
Counselling/advice—exercise(i)	0.0	1.3	1.5	4.2	0.2	0.1	0.8	0.1	1.8	1.5	4.6	0.3	0.2	0.9
Counselling/advice smoking(j)	2.8	0.0	0.6	0.5	6.2	0.4	1.3	0.8	0.0	0.2	0.1	2.7	0.1	0.4
Counselling/advice—life style(k)	0.1	0.6	0.7	1.4	0.6	0.1	0.4	0.0	0.1	0.7	1.1	0.2	0.2	0.3
Counselling/advice—alcohol(l)	0.2	0.1	0.7	0.7	3.8	0.6	0.8	0.0	0.0	0.1	0.2	1.8	0.1	0.3
Family planning(m)	0.0	0.0	0.0	0.0	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.5	0.3
Counselling/advice relaxation(n)	0.1	0.1	0.0	0.0	1.7	0.0	0.2	0.0	0.0	0.1	0.0	1.7	0.1	0.2
Total selected clinical treatments	*12.0*	*9.6*	*8.6*	*27.4*	*15.9*	*8.5*	*11.8*	*11.3*	*10.6*	*9.0*	*26.3*	*10.9*	*9.9*	*11.5*
All other clinical treatments	19.8	28.0	15.5	15.4	35.5	29.7	26.1	20.9	24.6	11.2	11.8	37.1	28.4	24.4
Total treatments	**31.8**	**37.6**	**24.1**	**42.8**	**51.4**	**38.1**	**37.8**	**32.2**	**35.2**	**20.2**	**38.1**	**48.0**	**38.3**	**35.9**

(continued)

Table 3.07.6 (continued): Selected clinical treatments provided by general practitioners: rate (no. per problems managed[(a)]), by Indigenous status, BEACH years April 2004–March 2005 to April 2008–March 2009[(b)]

(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 2004–March 2005 to April 2008–March 2009 inclusive.
(c) Other problems include: skin, general and unspecified, digestive, female genital system, ear, pregnancy and family planning, neurological, urology, eye, male genital system, blood and social problems.
(d) Total problem managed in that problem chapter, for selected subgroup of patients.
(e) Directly age-standardised rate using total encounters in the period as the standard.
(f) IPCP-2 codes defining Advice/education codes A45002, B45002, D45002, F45002, H45002, K45002, L45002, N45002, P45001, P45002, R45002, S45002, T45002, U45002, W45004, X45002, Y45002, Z45002.
(g) IPCP-2 codes defining Counselling/advice nutrition/weight T45005, T45007, T58002, A45006.
(h) IPCP-2 codes defining Counselling/advice treatment A45016, A45019, A45020, A45021, A45030, A48004, L45004, R45004, T45004, T45009.
(i) IPCP-2 codes defining counselling/ advice exercise A45004, A58005.
(j) IPCP-2 codes defining Counselling/advice smoking P58008, P45005.
(k) IPCP-2 codes defining counselling/ advice lifestyle P45008, P58012.
(l) IPCP-2 codes defining counselling/ advice alcohol P45005, P58009.
(m) IPCP-2 codes defining family planning A98002, A98003, W14002, W45006, W45007, W45008,W58001, W58005, W58007, W58012, W58013,Y14001, Y45006, Y45007, Y58005, Y58006.
(n) IPCP-2 codes defining counselling/ advice relaxation P45007, P58011, P58017.

Source: AIHW analysis of BEACH survey of general practice, AGPSCC.

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 their contribution to our understanding of the health promotion activities occurring in these discrete Indigenous communities.

- In 2006, most discrete Indigenous communities reported that one or more 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 3.07.7; Figure 3.07.4).
- 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%) of communities who reported one or more health promotion programs had been conducted (Table 3.07.8).
- The proportion of discrete Indigenous communities, with a population of 50 or more located more than 10 kilometres from a hospital, that reported conducting at least one health promotion program conducted decreased from 82% in 2001 to 75% in 2006 (Table 3.07.9; Figure 3.07.5).
- The three programs run in the most communities in 2001 and 2006 were women's health, well babies and immunisation (Table 3.07.9; Figure 3.07.5).

Table 3.07.7: 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.**

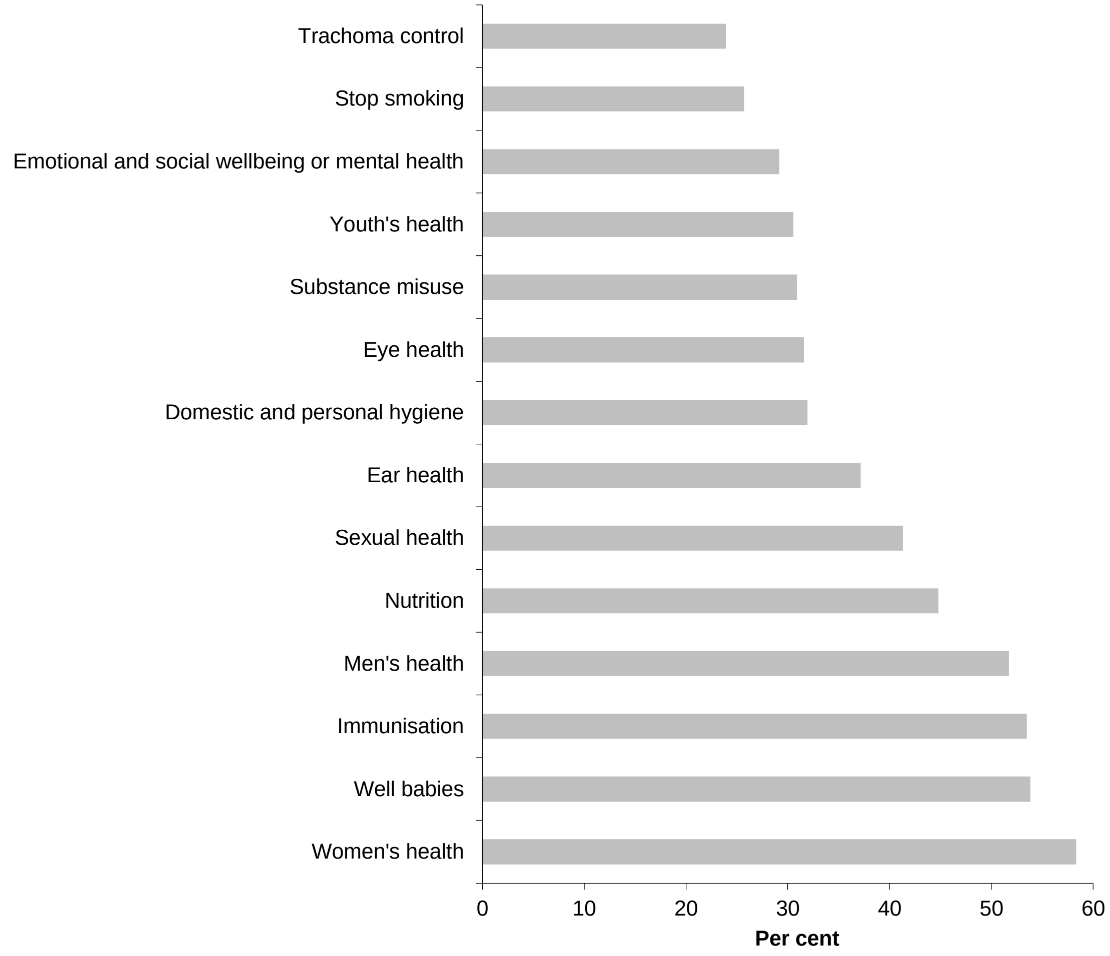
(a) With a population of 50 or more, or a reported usual population of fewer than 50 but which were not linked to a parent community or resource agency.

(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 3.07.4: Proportion of discrete Indigenous communities located 10 kilometres or more with each type of health promotion program conducted, 2006.

Table 3.07.8: 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.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
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 3.07.9: Discrete Indigenous communities with a population of 50 or more 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**
	%	**%**	**%**	**%**
Well babies	66	61	33	39
Women's health	72	65	27	35
Men's health	62	58	36	42
Youth's health	52	34	47	66
Sexual health	65	46	33	54
Substance misuse	52	34	47	66
Immunisation	74	61	26	39
Eye health inc. trachoma(a)	60	44	39	37
Ear health	64	42	35	58
Nutrition(b)	n.a.	49	n.a.	51
Stop smoking(b)	n.a.	29	n.a.	71
Domestic and personal hygiene(b)	n.a.	35	n.a.	65
Emotional and social wellbeing or mental health	50	32	49	68
Sub-total	*82(c)*	*75(c)*	*17(d)*	*25(d)*
Not stated	1	—	1	—
Total no. communities(e)	**242**	**237**	**242**	**237**

(a) 2006 data is the sum of communities with health promotion programs for eye health and/or trachoma. In 2001, data were not collected separately for eye health and trachoma control programs.

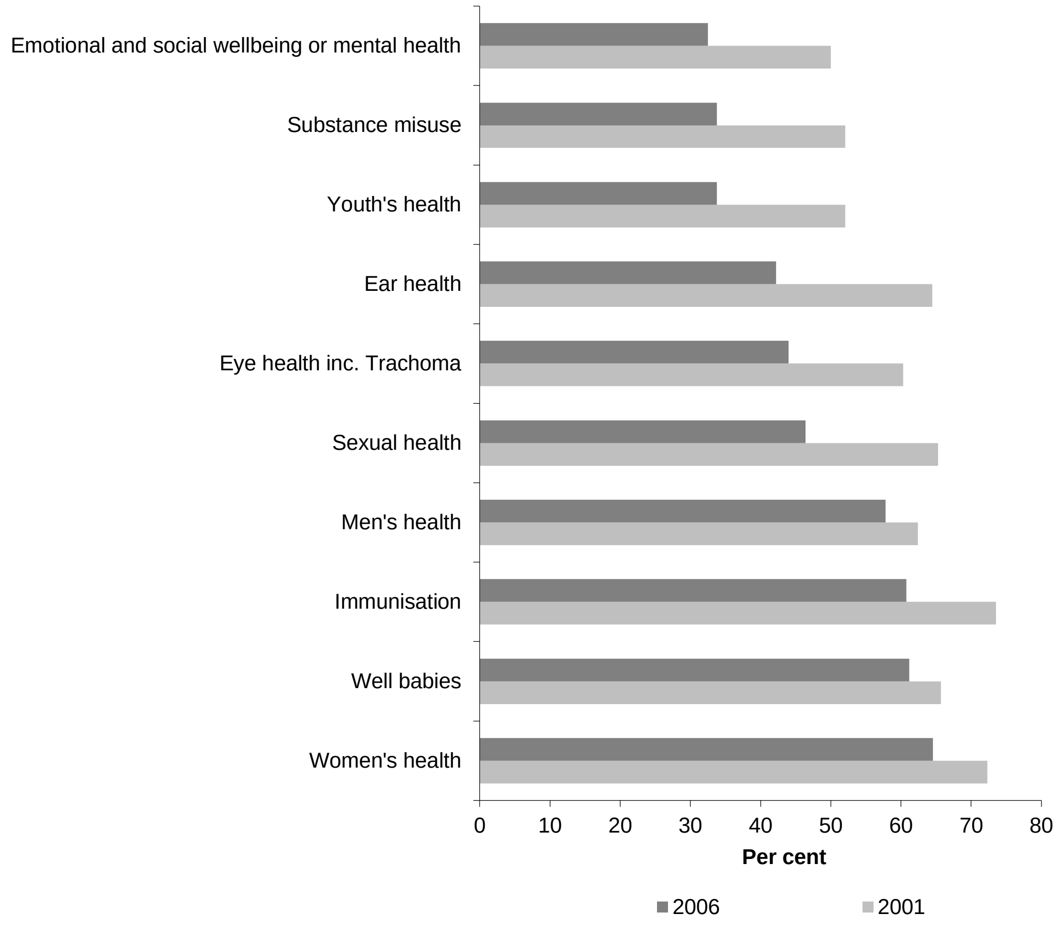
(b) Data on nutrition, stop smoking and domestic and personal hygiene programs were not collected in 2001.

(c) Number of communities where at least one health promotion program was conducted.

(d) Number of communities where no health promotion programs were conducted.

(e) 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 3.07.5: 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 varied. 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 3.07.10).

Table 3.07.10: 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 2008–09, there were 211 Indigenous primary health-care services included in the OSR of which 205 (97%) responded to the OSR questionnaire. Figure 3.07.6a shows the proportion of Indigenous primary health-care services that offered selected preventative health-care programs in 2008–09. Figure 3.07.6b shows the proportion of Indigenous primary health-care services that offered selected health care and screening activities (health related and community services) in 2008-09. Figure 3.07.6c shows the proportion of Indigenous primary health-care services that offered selected preventative health care and screening activities (screening programs) in 2008–09. Figure 3.07.6d shows the proportion of Indigenous primary health-care services that offered selected preventative health care and screening activities (traditional health care) in 2008–09.

Preventative health care and screening

- In 2008–09, a majority of Indigenous primary health-care services undertook each of the preventative care and screening programs: 94% offered health promotion/education programs, 82% routinely organised influenza immunisation, 81% offered child immunisation and 77% offered women’s health programs. Ten programs were offered by fewer than half of Indigenous primary health-care services (Figure 3.07.6a).

Health related and community services

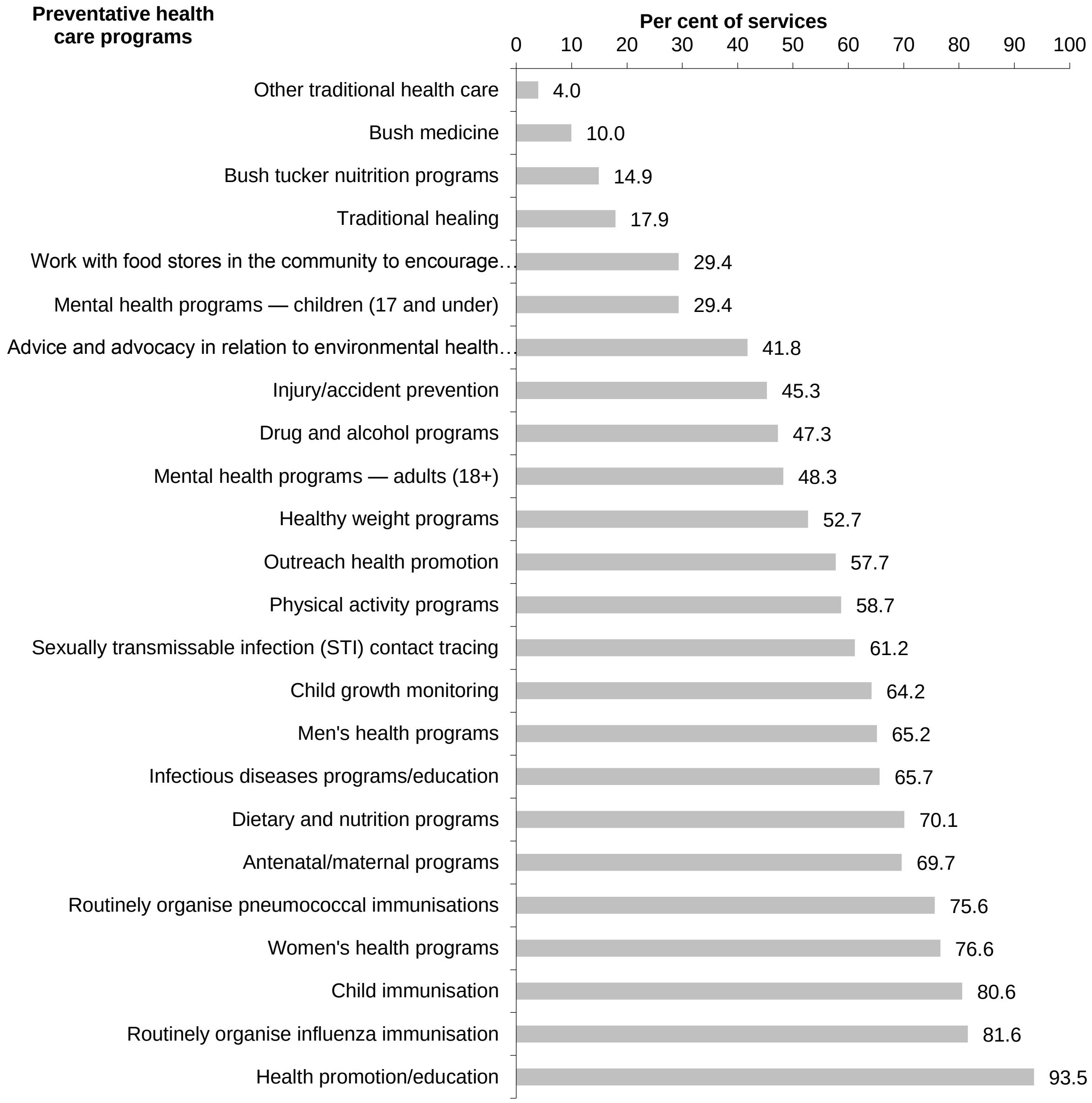
- In 2008–09, a majority of Indigenous primary health-care services undertook each of the preventative care programs: 86% offered transport, 77% were involved with committees on health and 69% offered to attend medical appointments with patients to provide support (Figure 3.07.6b). Ten programs were offered by less than half of Indigenous primary health-care services.

Screening programs

- In 2008–09, a majority of Indigenous primary health-care services undertook each of the screening programs; 80% offered PAP smears/cervical screening, but only 54% offered renal disease screening (Figure 3.07.6c).

Traditional health care

- In 2008–09, traditional health care was offered by a minority of Indigenous primary health-care services; 18% of Indigenous primary health-care services offered traditional healing, and 10% offered bush medicine activities (Figure 3.07.6d).

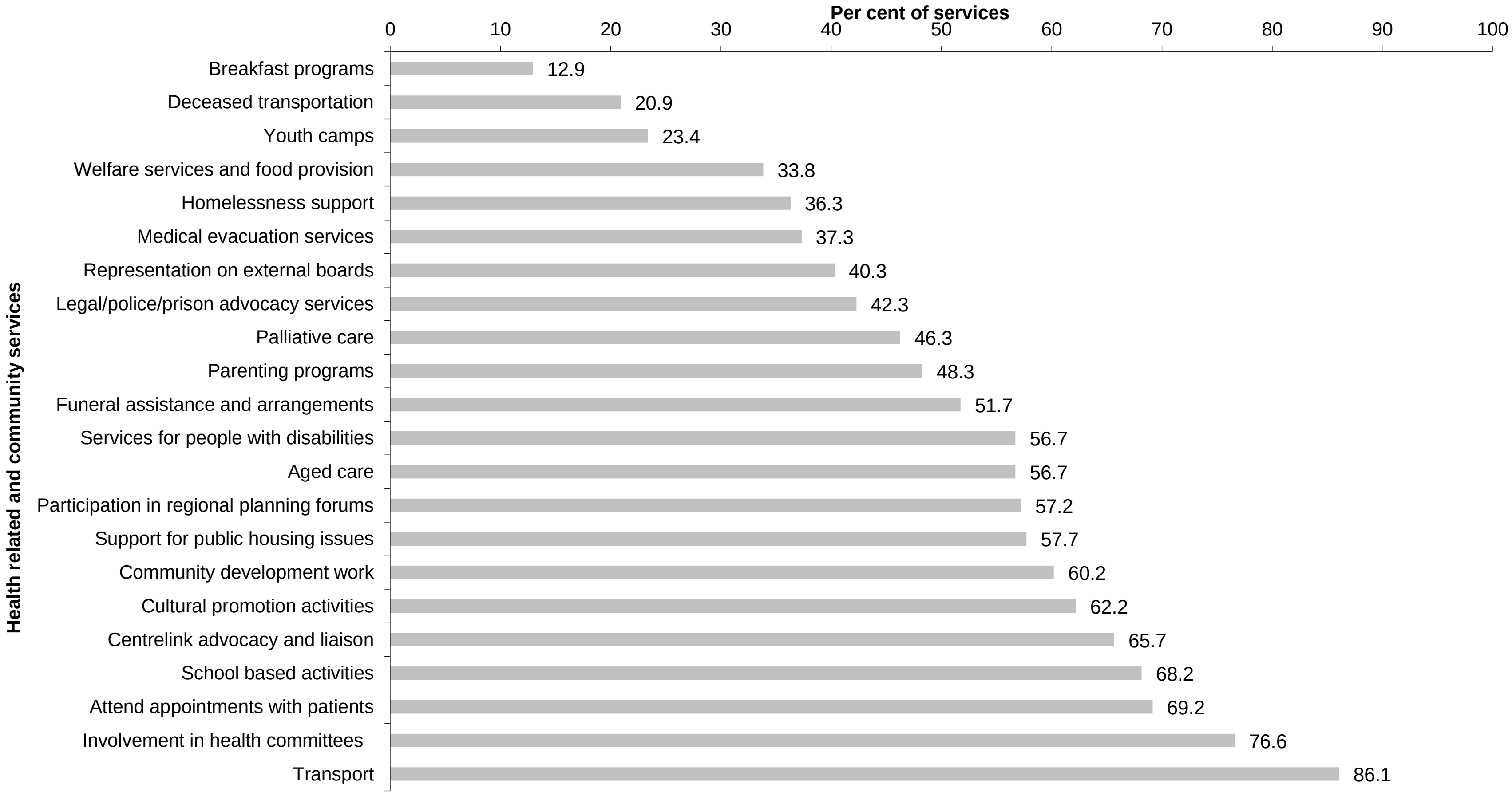


(a) Two hundred and one of the 205 respondent Aboriginal and Torres Strait Islander primary health-care services provided valid data about health-related activities provided by the service. The percentages in the table above are calculated as a proportion of these 201 services.

Note: 'Preventative health care programs' changed to 'Population health programs' in 2008–09 OSR.

Source: AIHW OSR data collection.

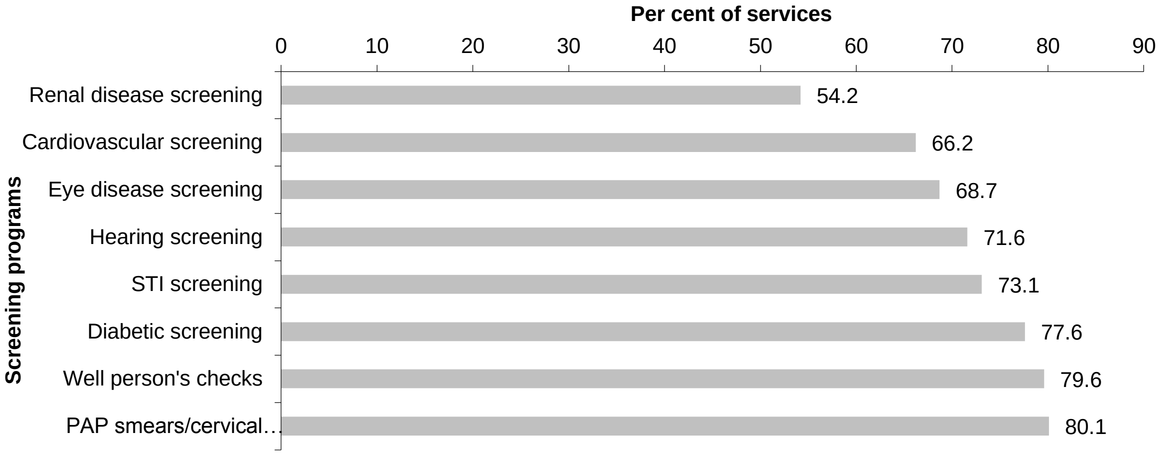
Figure 3.07.6a: Proportion(a) of Aboriginal and Torres Strait Islander primary health-care services that undertake selected preventative health care and screening activities, (preventative health care programs), 2008–09



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 in the table above are calculated as a proportion of these 201 services

Source: AIHW OSR data collection.

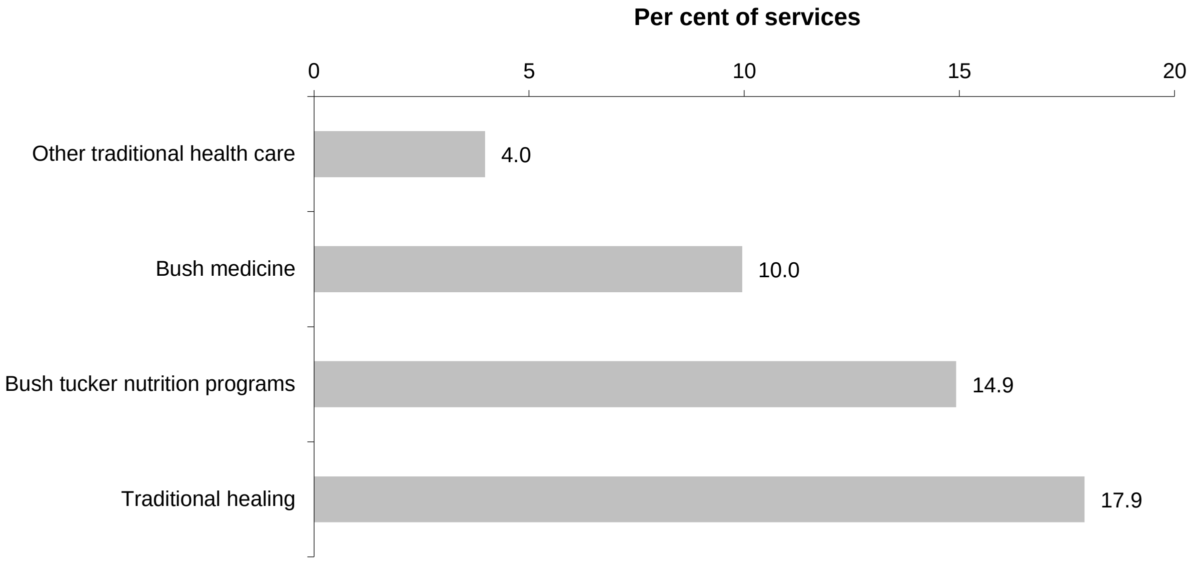
Figure 3.07.6b: Proportion of Aboriginal and Torres Strait Islander primary health-care services that undertake selected health care and screening activities (health related and community services), 2008–09



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 in the table above are calculated as a proportion of these 201 services

Source: AIHW OSR data collection.

Figure 3.07.6c: Proportion of Aboriginal and Torres Strait Islander primary health-care services that undertake selected preventative health care and screening activities (screening programs), 2008–09



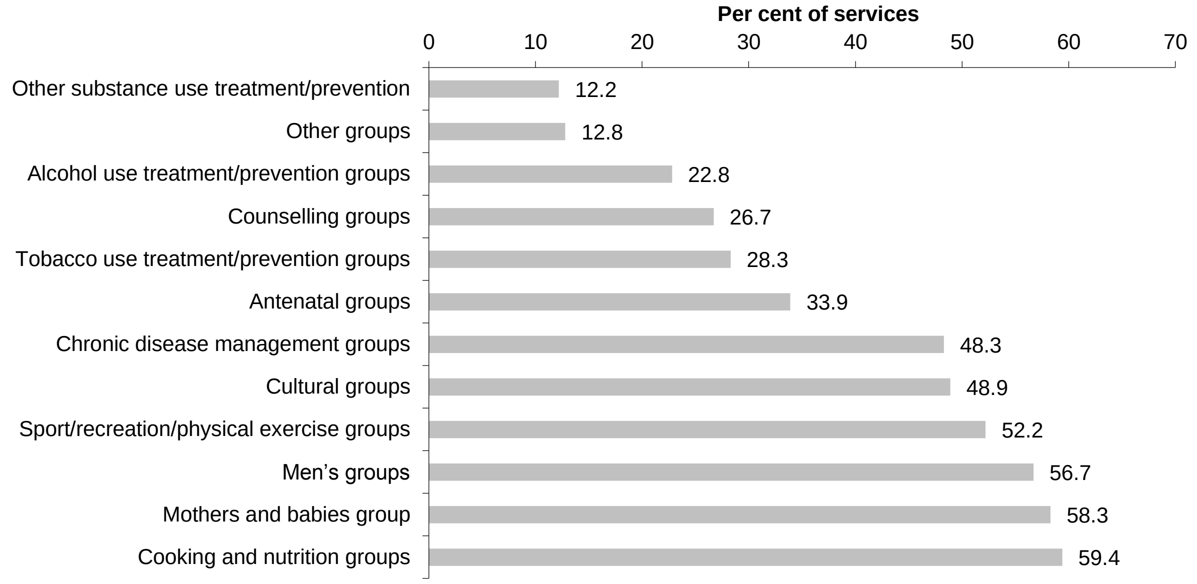
(a) Two hundred and one of the 205 respondent Aboriginal and Torres Strait Islander primary health-care services provided valid data about health-related activities provided by the service. The percentages in the table above are calculated as a proportion of these 201 services.

Source: AIHW OSR data collection.

Figure 3.07.6d: Proportion[(a)] of Aboriginal and Torres Strait Islander primary health-care services that undertake selected preventative health care and screening activities (traditional health care), 2008–09

Health promotion/prevention group activities

- In 2008–09, the most common health promotion/prevention group activity run by Aboriginal and Torres Strait Islander primary health-care services was cooking and nutrition groups (59%), followed by mothers and babies groups (58%) and men's groups (57%) (Figure 3.07.7).
- The least common health promotion/previous group activity was other substance use treatment/prevention (12%), followed by other groups (13%) and alcohol use treatment/prevention groups (23%).



(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 3.07.7: Proportion(a) of Aboriginal and Torres Strait Islander primary health-care services that ran health promotion/prevention group activities during 2008-09

Substance use services

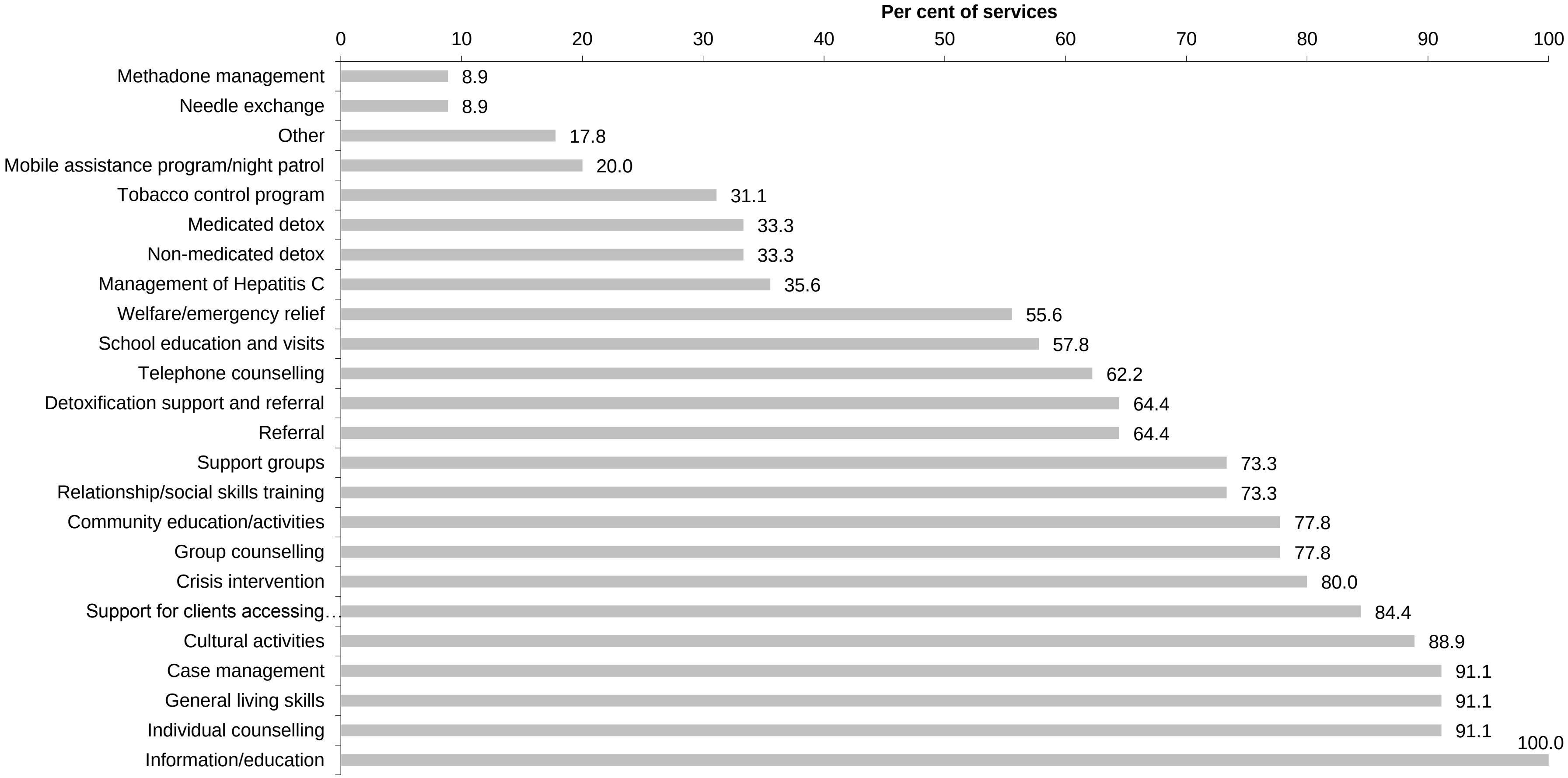
In 2008–09, there were 50 stand-alone Indigenous-specific substance use services that received OATSIH funding, of which 45 (90%) responded to the OSR questionnaire.

Counselling approaches and cultural activities

- In 2008-09, information/education programs were the most common program offered by substance use services (100%), followed by individual counselling, general living skills and case management programs (all 91%) (Figure 3.07.8; Table 3.07.11).
- Methadone management (8.9%) and needle exchange programs (8.9%) were the least offered programs in 2008–09.

Other selected groups

- In 2008–09, the most commonly run programs by substance use services were cultural groups (91%), community-based education and prevention groups (84%) and alcohol use treatment/prevention groups (82%) (Figure 3.07.9; Table 3.07.12).
- Less than half of substance use services ran youth groups (32%) or tobacco use treatment/prevention groups (46%).



(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.

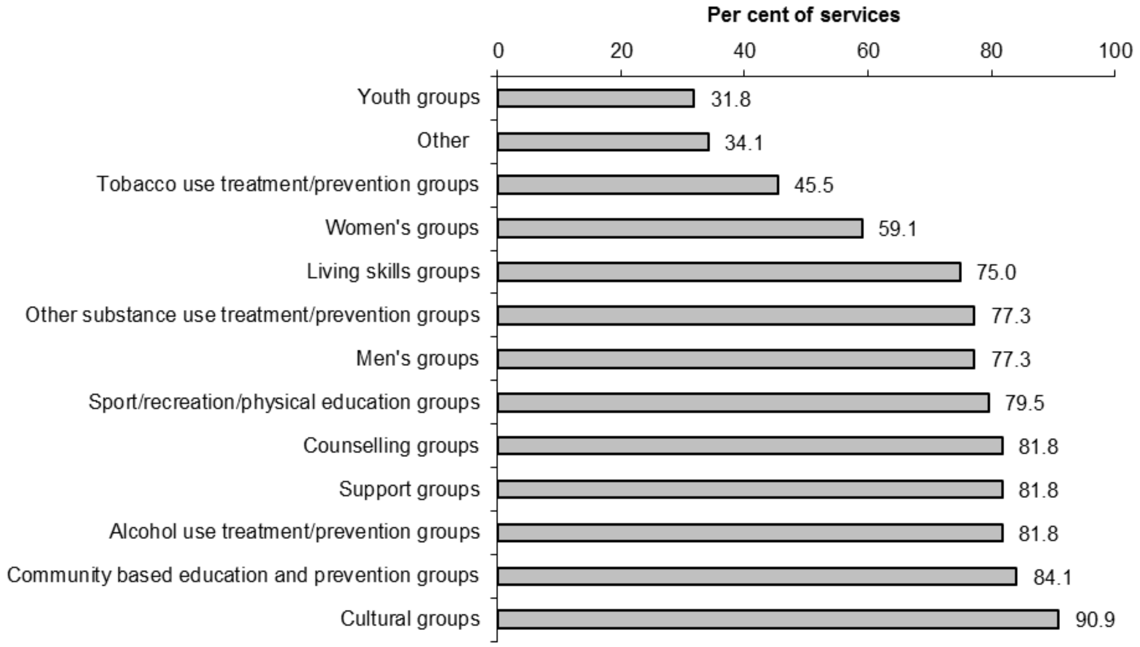
Figure 3.07.8: Proportion[(a)] of services conducting selected drug and alcohol service counselling approaches and cultural activities, 2008-09

Table 3.07.11: Proportion[(a)] of services conducting selected drug and alcohol service counselling approaches and cultural activities, 2008–09

Service	Percentage
Information/education	100.0
Case management	91.1
Individual counselling	91.1
General living skills	91.1
Cultural activities	88.9
Support for clients accessing mainstream services	84.4
Crisis intervention	80.0
Community education/activities	77.8
Group counselling	77.8
Support groups	73.3
Relationship/social skills training	73.3
Detoxification support & referral	64.4
Referral	64.4
Telephone conselling	62.2
School education & visits	57.8
Welfare/emergency relief	55.6
Management of Hepatitis C	35.6
Medication detox	33.3
non-medicated detox	33.3
Tobacco control program	31.1
Mobile assistance program/night patrol	20.0
Needle exchange	8.9
Methadone management	8.9
Other	17.8

(a) All of the 45 respondent Aboriginal and Torres Strait Islander substance use services provided valid data about activities the service provided to address 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 3.07.9: Proportion(a) of Aboriginal and Torres Strait Islander substance-use-specific services that ran selected groups during 2008–09

Table 3.07.12: Proportion[(a)] of Aboriginal and Torres Strait Islander substance-use-specific services that ran selected groups during 2008-09

Group	Percentage
Counselling groups	81.8
Support groups	81.8
Community based education and prevention groups	84.1
Cultural groups	90.9
Sport/recreation/physical education groups	79.5
Living skills groups	75.0
Alcohol use treatment/prevention groups	81.8
Tobacco use treatment/prevention groups	45.5
Other substance use treatment/prevention groups	77.3
Men's groups	77.3
Women's groups	59.1
Youth groups	31.8
Other	34.1

(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 services funded through the HFL program that had health promotion programs for behavioural risk reduction is available from the AIHW Healthy For Life data collection.

- In 2007, 2008 and 2009, of the services that were included in the HFL program that had community health promotion/development activities, those engaging with preschools and/or schools were 88%, 84% and 82%, respectively. Those engaging with child care centres and/or play groups were 63%, 67% and 65%, respectively (Table 3.07.13a).
- In 2007, 2008 and 2009, of the services that were included in the HFL program and provided strategies for chronic disease preventative care, those providing brief intervention programs for smoking were 73%, 91% and 85%, respectively. Those providing other advice on smoking were 72%, 90% and 85%, respectively (Table 3.07.13b).
- About 75% of HFL Services provided programs for nutrition and physical activity in 2007, about 93% for both in 2008 and 87% for nutrition and 85% for physical activity in 2009. Similar results were seen for the provision of emotional wellbeing advice and brief intervention (Table 3.07.13b).
- Services funded through the Healthy For Life program also provided strategies for chronic disease management in 2007, 2008 and 2009. Behavioural risk reduction for smoking was provided through brief intervention in 76%, 88%, 85% of services respectively. While behavioural risk reduction for alcohol consumption was provided through brief intervention in 75%, 90%, 85% of services respectively (Table 3.07.13c).

Table 3.07.13a: Proportion of services funded through the Healthy For Life program that had community health promotion/development activities[(a)] , reporting periods ending 30 June 2007 to 2009

	Jun-07			Jun-08			Jun-09		
	Yes	No	No response	Yes	No	No response	Yes	No	No response
				Per cent					
Engagement with child care centres and/or play groups	62.7	32.2	1.7	67.2	25.4	6.0	65.3	23.6	11.1
Engagement with preschools and/or schools	88.1	8.5	1.7	83.6	10.4	6.0	82.2	6.8	11.0
Engagement with community groups									
Community council	72.9	11.9	10.2	64.2	23.9	7.5	69.0	14.1	16.9
Women’s group(s)	69.5	18.6	10.2	82.1	10.4	6.0	75.0	6.9	18.1
Men’s group(s)	69.5	18.6	10.2	70.1	22.4	6.0	66.2	10.8	23.0
Youth group(s)	64.4	23.7	10.2	59.7	28.4	9.0	51.4	23.6	25.0
Sports club(s)	45.8	39.0	15.3	52.2	28.4	13.4	46.5	33.8	19.7
Art/cultural centre(s)	39.0	39.0	16.9	37.3	44.8	9.0	26.8	50.7	22.5
Other	28.8	15.3	54.2	24.2	28.8	40.9	16.4	34.2	49.3
Other community engagement	44.1	10.2	45.8	46.3	11.9	35.8	42.3	19.7	38.0

(a) Relating to maternal and child health and chronic disease prevention and care, including risk reduction for smoking, nutrition, alcohol, physical activity and emotional wellbeing.

Source: AIHW, Healthy for Life data collection.

Table 3.07.13b: 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 2007 to 2009

	Jun-07			Jun-08			Jun-09		
	Yes	No	No response	Yes	No	No response	Yes	No	No response
				Per cent					
Behavioural risk reduction									
Smoking									
Brief intervention	72.9	8.5	18.6	91.0	1.5	7.5	85.1	2.7	12.2
Other advice	71.2	10.2	18.6	89.6	1.5	9.0	85.1	2.7	12.2
Nutrition	74.6	6.8	18.6	92.5	. .	7.5	86.5	1.4	12.2
Alcohol									
Brief intervention	74.6	6.8	18.6	89.6	3.0	7.5	85.1	2.7	12.2
Other advice	67.8	11.9	20.3	77.6	13.4	9.0	81.1	6.8	12.2
Physical activity	74.6	6.8	18.6	92.5	. .	7.5	85.1	2.7	12.2
Emotional wellbeing	71.2	8.5	20.3	91.0	. .	9.0	86.5	. .	13.5
Other	33.9	18.6	47.5	14.9	40.3	44.8	13.5	36.5	50.0

Source: AIHW, Healthy for Life data collection.

Table 3.07.13c: 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 2007 to 2009

	Jun-07			Jun-08			Jun-09		
	Yes	No	No response	Yes	No	No response	Yes	No	No response
					Per cent				
Behavioural risk reduction									
Smoking									
Brief intervention	76.3	6.8	16.9	88.1	3.0	9.0	85.1	4.1	10.8
Other advice	69.5	11.9	18.6	86.6	6.0	7.5	83.8	5.4	10.8
Nutrition	74.6	6.8	18.6	91.0	1.5	7.5	83.8	4.1	12.2
Alcohol									
Brief intervention	74.6	8.5	16.9	88.1	4.5	7.5	85.1	4.1	10.8
Other advice	66.1	13.6	20.3	83.6	9.0	7.5	81.1	8.1	10.8
Physical activity	74.6	8.5	16.9	91.0	1.5	7.5	87.8	1.4	10.8
Emotional wellbeing	69.5	11.9	18.6	91.0	1.5	7.5	89.2	0.0	10.8
Other	28.8	30.5	40.7	14.9	46.3	38.8	21.6	44.6	33.8

(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 peoples. 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 major 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).

Quality of data on Indigenous service use

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

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.

Comparison with estimates for 2004–05 (continued)

The method involves the use of Medicare Voluntary Indigenous Identifier (VII) data to estimate expenditure on medical 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, AIHW 2009).

This change may have contributed to the increase in estimated MBS and PBS expenditure reported in 2006–07 compared with 2004–05.This change may have contributed to the increase in estimated MBS and PBS expenditure reported in 2006–07 compared with 2004–05.

Divisions of GP Survey

The data in the Survey are self-reported by Divisions and represent estimates and answers to questions about Division activities, staffing and other matters. Validity checks are implemented as part of the data collection and cleaning processes. However, the accuracy and quality is ultimately determined by Division data collection methods and influenced by Division staff turnover and skills (Howard et al. 2009).

The administration and structure of the ASD have changed considerably since the first survey in 1993–94. Two major milestones in this process were in 2005–06, with the implementation of the National Quality & Performance System (NQPS), aligning ASD questions with the national priority areas, and the conversion of the survey from a word document to a web-based survey with online submission. Some of the advantages of the ASD are that it has been an annual, standardised, comprehensive survey with a 100% response rate.

In 2007–08, around two-thirds of questions were removed, with some new questions introduced. This resulted in a significant reduction in the ASD content and reporting requirements.

The information provided in the 2007–08 ASD report is gathered directly from Divisions. Therefore, it is important to recognise that the accuracy and quality of the self-reported data provided is largely dependent on the nature of Division administration and information systems, as well as factors such as staff turnover. However, every effort is made to enhance the quality of the data by conducting a range of data checks.

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. 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, but the extent of this undercount is not measurable.

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 Services Reporting (OSR) data collection

The data were collected using the OSR questionnaire, 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).

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 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.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period from July 2006 to June 2008. An aggregate of 2 years of data has been used, as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in the change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

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.

Proportion of hospitalisations involving discharge against medical advice

Tables 3.08.1 and 3.08.2 present 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 65,065 hospitalisations in Australia where the patient left hospital against medical advice or was discharged at their own risk, 12,780 (20%) of which were hospitalisations of Indigenous patients.
- For approximately 2.5% of all hospitalisations of Indigenous Australians, the patient was discharged against medical advice. The Northern Territory had the highest proportion of Indigenous persons hospitalised who discharged against medical advice (3.8%).
- After adjusting for differences in age structure, Indigenous persons were almost six times as likely as other 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 nine, six and six times the rate of other persons respectively (Table 3.08.1).
- Indigenous males were more likely than Indigenous females to discharge against medical advice (2.8% compared with 2.3%) (Table 3.08.2).

Table 3.08.1: Discharges from hospital against medical advice, by Indigenous status and state/territory (excluding mental and behavioural disorders), July 2006 to June 2008 (a)(b)(c)

	Number		Proportion	Age standardised proportion(d)		
	Indigenous	**Other(e)**	**Indigenous**	**Indigenous**	**Other(e)**	**Ratio(f)**
New South Wales	2,557	24,645	2.5	2.1	0.6	3.7
Victoria	327	9,193	1.6	1.3	0.2	5.8
Queensland	2,167	10,068	1.7	1.4	0.4	3.9
Western Australia	2,279	3,814	2.2	1.7	0.3	6.1
South Australia	1,205	3,210	3.2	2.4	0.3	8.7
Tasmania	48	614	0.9	0.7	0.3	2.2
Australian Capital Territory	26	355	1.1	0.9	0.3	3.1
Northern Territory	4,171	386	3.8	3.4	0.7	5.0
Australia	**12,780**	**52,285**	**2.5**	**2.1**	**0.4**	**5.6**

(a) Ratio= observed hospitalisations divided by the expected number of hospitalisations based on the age and sex specific proportions for other Australians.

(b) Jurisdictional data excludes private hospitals in Tasmania, the Northern Territory and the Australian Capital Territory..

(c) Data are based on state/territory of usual residence.

(d) Proportions are age-standardised using the age-specific rates of other Australians.

(e) Other includes separations for non-Indigenous Australians and those for whom Indigenous status was not stated.

(f) Ratio = observed hospitalisations divided by the expected number of hospitalisations based on the age and sex specific proportions for other Australians.

Source: AIHW National Hospital Morbidity Database.

Table 3.08.2: Discharges from hospital against medical advice, by Indigenous status and sex (excluding mental and behavioural disorders), Australia, July 2006 to June 2008[(a)]

	Number		Proportion	Age standardised proportion		
	Indigenous	Other	Indigenous	Indigenous	Other[(a)]	Ratio[(b)]
Males	6,221	30,035	2.8	2.2	0.4	4.8
Females	6,559	22,250	2.3	1.9	0.3	6.4
Persons	**12,780**	**52,285**	**2.5**	**2.1**	**0.4**	**5.6**

(a) Other includes separations for non-Indigenous Australians and those for whom Indigenous status was not stated.

(b) Ratio = observed hospitalisations divided by the expected number of hospitalisations based on the age and sex specific proportions for other Australians.

Notes

1. Excludes private hospitals in Tasmania, the Northern Territory and the Australian Capital Territory.
2. Data are based on state/territory of usual residence.
3. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW National Hospital Morbidity Database.

Rates (hospitalisations per 1,000 population) of discharge against medical advice

Tables 3.08.3 and 3.08.4 present the number of hospitalisations involving discharge against medical advice per 1,000 population in the six jurisdictions with adequate Indigenous identification in their hospital recording systems (New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory).

Hospitalisations by age and sex

- Indigenous males had slightly higher rates of discharge against medical advice than Indigenous females; however the disparity between Indigenous and non-Indigenous females in rates of discharge against medical advice was greater than the disparity for males (rate ratio of 13 compared with 11) (Table 3.08.3).
- Indigenous Australians aged 34–44 (5.2%) and 15–24 years (4.5%) had the highest proportions of discharged from hospital against medical advice (Table 3.08.4).

Table 3.08.3: Discharges from hospital against medical advice, by Indigenous status and sex (excluding mental and behavioural disorders), NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(a)(b)(c)(d)]

	Number		Per cent[(e)]		Indigenous			Other[(f)]			
	Indigenous	Other[(f)]	Indigenous	Other[(f)]	No. per 1000[(g)]	95% LCL[(h)]	95% UCL[(i)]	No. per 1,000[(g)]	95% LCL[(h)]	95% UCL[(i)]	Rate ratio[(j)]
Males	6,187	29,481	2.9	0.5	15.7	15.3	16.2	1.5	1.5	1.5	10.5*
Females	6,519	21,835	2.3	0.3	14.4	14.0	14.8	1.1	1.1	1.1	13.4*
Persons	**12,706**	**51,316**	**2.5**	**0.4**	**15.0**	**14.7**	**15.3**	**1.3**	**1.3**	**1.3**	**11.7***

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2006–07 to 2007–08.

(f) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Directly age-using the age-specific rates of other Australians.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio—Indigenous: other.

Notes

1. Population estimates based on 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.

Table 3.08.4: Discharges from hospital against medical advice, by Indigenous status and age group (excluding mental and behavioural disorders), Australia, July 2006 to June 2008[a][b][c]

Age group (years)	Number		Per cent[d]	
	Indigenous	Other[e]	Indigenous	Other[e]
0–4	632	1,291	1.6	0.2
5–14	222	664	0.9	0.2
15–24	2,320	7,175	4.5	0.8
25–34	3,090	9,298	5.2	0.7
35–44	3,443	8,926	4.0	0.6
45–54	2,064	7,941	2.1	0.5
55–64	756	6,538	0.8	0.3
65+	253	10,452	0.4	0.2
Total[f]	**12,780**	**52,285**	**2.1**	**0.4**

* 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. Data exclude private hospitals in the Northern Territory.
(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).
(c) Financial year reporting.
(d) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2006–07 to 2007–08.
(e) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
(f) Directly age-standardised using the age-specific rates of other Australians.

Notes

1. Population estimates based on 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 3.08.5 presents hospitalisations for which patients were discharged against medical advice for the two-year period from July 2006 to June 2008 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- Overall, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were discharged from hospital against medical advice at 12 times the rate of other Australians.
- Indigenous Australians were discharged from hospital against medical advice at six times the rate of other Australians in New South Wales, and seven times in Victoria and Queensland. In Western Australia, South Australia and the Northern Territory, Indigenous Australians were discharged from hospital against medical advice at 20, 25 and 26 times the rate of other Australians in these jurisdictions, respectively (Table 3.08.5; Figure 3.08.1).

Table 3.08.5: Discharges from hospital against medical advice, by Indigenous status and state/territory (excluding mental and behavioural disorders), NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2006 to June 2008[(a)(b)(c)(d)]

	Number		Per cent[(e)]		Indigenous			Other[(f)]			
	Indig.	Other	Indig.	Other	No. per 1,000[(g)]	95% LCL[(h)]	95% UCL[(i)]	No. per 1000[(g)]	95% LCL[(h)]	95% UCL[(i)]	Rate ratio[(j)]
NSW	2,557	24,645	2.5	0.6	10.3	9.8	10.7	1.8	1.8	1.8	5.8*
Vic	327	9,193	1.6	0.2	5.7	5.1	6.4	0.9	0.8	0.9	6.6*
Qld	2,167	10,068	1.7	0.4	8.8	8.4	9.2	1.2	1.2	1.3	7.1*
WA	2,279	3,814	2.2	0.3	18.3	17.5	19.1	0.9	0.9	1.0	19.8*
SA	1,205	3,210	3.2	0.3	25.2	23.6	26.7	1.0	1.0	1.1	24.7*
NT	4,171	386	3.8	0.7	35.8	34.6	37.0	1.4	1.2	1.5	26.1*
NSW, Vic, Qld, WA, SA and NT	**12,706**	**51,316**	**2.5**	**0.4**	**15.0**	**14.7**	**15.3**	**1.3**	**1.3**	**1.3**	**11.7***
Tas	48	614	0.9	0.3	1.5	1.0	2.0	0.7	0.6	0.7	2.3*
ACT	26	355	1.1	0.3	2.9	1.8	4.1	0.5	0.5	0.6	5.6*

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

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

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2006–07 to 2007–08.

(f) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Directly age-using the age-specific rates of other Australians.

(h) LCL = lower confidence limit.

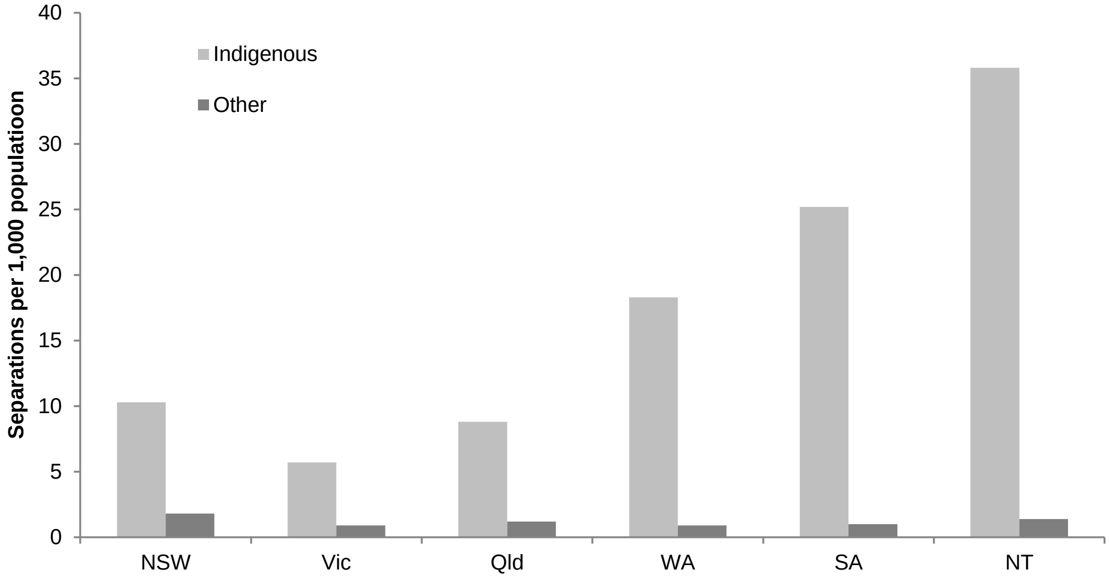
(i) UCL = upper confidence limit.

(j) Rate ratio—Indigenous: other.

Notes:

1. Population estimates based on 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.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.08.1: Discharges from hospital against medical advice, by Indigenous status and state/territory (excluding mental and behavioural disorders), NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Hospitalisations by remoteness

Hospitalisation rates for ambulatory care sensitive hospital conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory are presented by remoteness using the Australian Standard Geographical Classification (ASGC) in Table 3.08.6, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be discharged against advice than other Australians. The ratio of discharges against advice of Indigenous people compared with other Australians was higher and the difference was statistically significant for all ASGC areas.
- Rates of discharges against advice per 1,000 head of population were highest for Indigenous people living in *Remote* areas, at 32.4 per 1,000. The rate was highest for other Australians who lived in *Very remote* areas, at 2.1 per 1,000. The lowest rates were observed in *Major cities* areas for both Indigenous people (8.1 per 1,000) and other Australians (1.3 per 1,000).
- Indigenous people were discharged against advice at a rate 17 times that of other Australians in *Remote* areas of Australia. In *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of six times that of other Australians. Nationally, the rate was 11 times.

Table 3.08.6: Discharges against advice, by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009(a)(b)(c)(d)(e)(f)

	Indigenous				Other(g)				
	Number	**No. per 1,000(h)**	**LCL 95%(i)**	**UCL 95%(j)**	**Number**	**No. per 1,000(h)**	**LCL 95%(i)**	**UCL 95%(j)**	**Ratio(k)**
Major cities	2,117	8.1	7.7	8.5	36,587	1.3	1.3	1.3	6.2*
Inner regional	1,600	9.5	8.9	10.0	10,694	1.5	1.5	1.5	6.3*
Outer regional	2,777	15.4	14.8	16.0	5,778	1.7	1.7	1.8	8.9*
Remote	2,798	32.4	31.1	33.7	981	2.0	1.8	2.1	16.5*
Very remote	3,879	25.2	23.8	26.6	348	2.1	2.0	2.2	12.0*
Missing	59	. .	. .	. .	281	. .	. .	. .	. .
Total(l)	**13,230**	**15.2**	**15.0**	**15.5**	**54,669**	**1.4**	**1.4**	**1.4**	**11.0***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(h) Directly age-using the age-specific rates of other Australians.

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Total includes hospitalisations where ASGC is missing.

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 principal diagnosis

- The most common principal diagnoses of hospitalisations of Indigenous Australians who were discharged against medical advice were injury and poisoning (2,934 separations) followed by respiratory diseases (1,570). These two groups of diagnoses represented 35% 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 (7.3%), followed by diseases of the skin (6.7%), diseases of the nervous system (6.3%) and symptoms, signs and abnormal clinical and laboratory findings (6.0%) (Table 3.08.7).
- The age-standardised proportion of Indigenous Australians who were discharged from hospital against medical advice for diseases of the digestive system was 11.6 times the proportion of other Australians. This was followed by the Indigenous

Australians who were hospitalised for disease of the nervous system, 9.1 times the proportion of other Australians and Indigenous Australians who were hospitalised for diseases of the skin and subcutaneous tissue, were discharged against medical advice at 8.7 times the proportion of other Australians (Table 3.08.7).

Table 3.08.7: Discharges from hospital against medical advice, by Indigenous status and principal diagnosis (excluding mental and behavioural disorders), Australia, July 2006 to June 2008(a)(b)(c)

	Number		Per cent(d)		Age-standardised(d)(e)		
	Indigenous	Other(f)	Indigenous	Other(f)	Indigenous	Other(f)	Ratio
Injury, poisoning and certain other consequences of external causes (S00–Y98)	2,934	10,088	7.3	1.0	5.5	1.0	5.2
Diseases of the respiratory system (J00–J99)	1,570	3,691	4.9	0.6	4.3	0.6	7.6
Symptom, signs and abnormal clinical and laboratory findings, n.e.c. (R00–R99)	1,398	8,307	6.0	0.9	4.6	0.9	5.4
Diseases of the digestive system (K00–K93)	1,306	5,612	4.6	0.3	4.0	0.3	11.6
Complications of pregnancy, childbirth and the puerperium (O00–O99)	981	3,431	2.5	0.4	1.8	0.4	4.8
Diseases of the skin and subcutaneous tissue (L00–L99)	818	1,543	6.7	0.7	5.7	0.7	8.7
Diseases of the circulatory system (I00–I99)	695	4,257	4.1	0.5	2.9	0.5	6.1
Endocrine, nutritional and metabolic diseases (E00–E90)	572	1,630	5.3	0.6	4.2	0.6	7.2
Factors influencing health status and contact with health services (Z00–Z99)	525	4,719	0.2	0.1	0.2	0.1	1.6
Certain infectious and parasitic diseases (A00–B99)	485	992	4.6	0.6	4.8	0.6	8.4
Diseases of the nervous system (G00–G99)	458	1,828	6.3	0.5	4.8	0.5	9.1
Other(g)	1,038	6,187	2.2	0.2	1.9	0.2	10.7
Total(h)	**12,780**	**52,285**	**2.5**	**0.4**	**2.1**	**0.4**	**5.6**

(continued)

Table 3.08.7 (continued): Discharges from hospital against medical advice, by Indigenous status and principal diagnosis (excluding mental and behavioural disorders), NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[(a)(b)(c)(d)]

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(c) Financial year reporting.

(d) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2006–07 to 2007–08.

(e) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(f) Directly age- standardised using the age-specific rates of other 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).

Notes

1. Population estimates based on 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.

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 2001–02 to 2007–08—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 analyses analysis (2004–05 to 2007–08).

The number and rate of hospitalisations for which Indigenous and other Australians were discharged against medical advice over the period 2001–02 to 2007–08 are presented in Table 3.08.8a and Figure 3.08.2a and data for the period 2004–05 to 2007–08 are presented in Table 3.08.8b and Figure 3.08.2b.

- Over the period 2001–02 to 2007–08, in Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant differences in the rate ratios between Indigenous and other Australians rates of discharge from hospital against medical advice.
- In 2001–02, Indigenous persons were discharged from hospital against medical advice at a rate of 17 per 1,000. This rate increased during the period to 18 per 1,000 in 2007–08. However, in 2001–02, Indigenous persons were discharged against medical advice at 19 times the rate of other Australians, but by 2007–08 this had reduced to being discharged at 16 times the rate of other Australians.
- During the period 2004–05 to 2007–08, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant differences in the rate ratios between Indigenous and other Australians rates of discharge from hospital against medical advice. In 2004–05, Indigenous persons were discharged against medical advice at 12 times the rate of other Australians; by 2007–08 this had reduced to being discharged at 11 times the rate of other 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 rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may reflect better access to hospitals, rather than a worsening of health.

Table 3.08.8a: Discharges against medical advice, by Indigenous status (excluding mental and behavioural disorders), Qld, WA, SA and NT, 2001–02 to 2007–08[(a)(b)(c)(d)]

	Number		Indigenous			Other[(e)]			
	Indigenous	**Other[(e)]**	**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)]**
2001–02	4,184	6,414	16.9	16.4	17.5	0.9	0.9	0.9	18.5*
2002–03	4,134	6,134	16.7	16.1	17.2	0.9	0.8	0.9	19.4*
2003–04	4,316	6,439	17.0	16.5	17.6	0.9	0.9	0.9	19.3*
2004–05	4,559	6,986	17.9	17.3	18.4	0.9	0.9	1.0	19.0*
2005–06	4,975	7,448	19.2	18.6	19.8	1.0	1.0	1.0	19.5*
2006–07	4,871	8,275	18.3	17.8	18.9	1.1	1.0	1.1	17.2*
2007–08	4,951	9,203	18.3	17.7	18.8	1.2	1.1	1.2	15.9*

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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 these four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

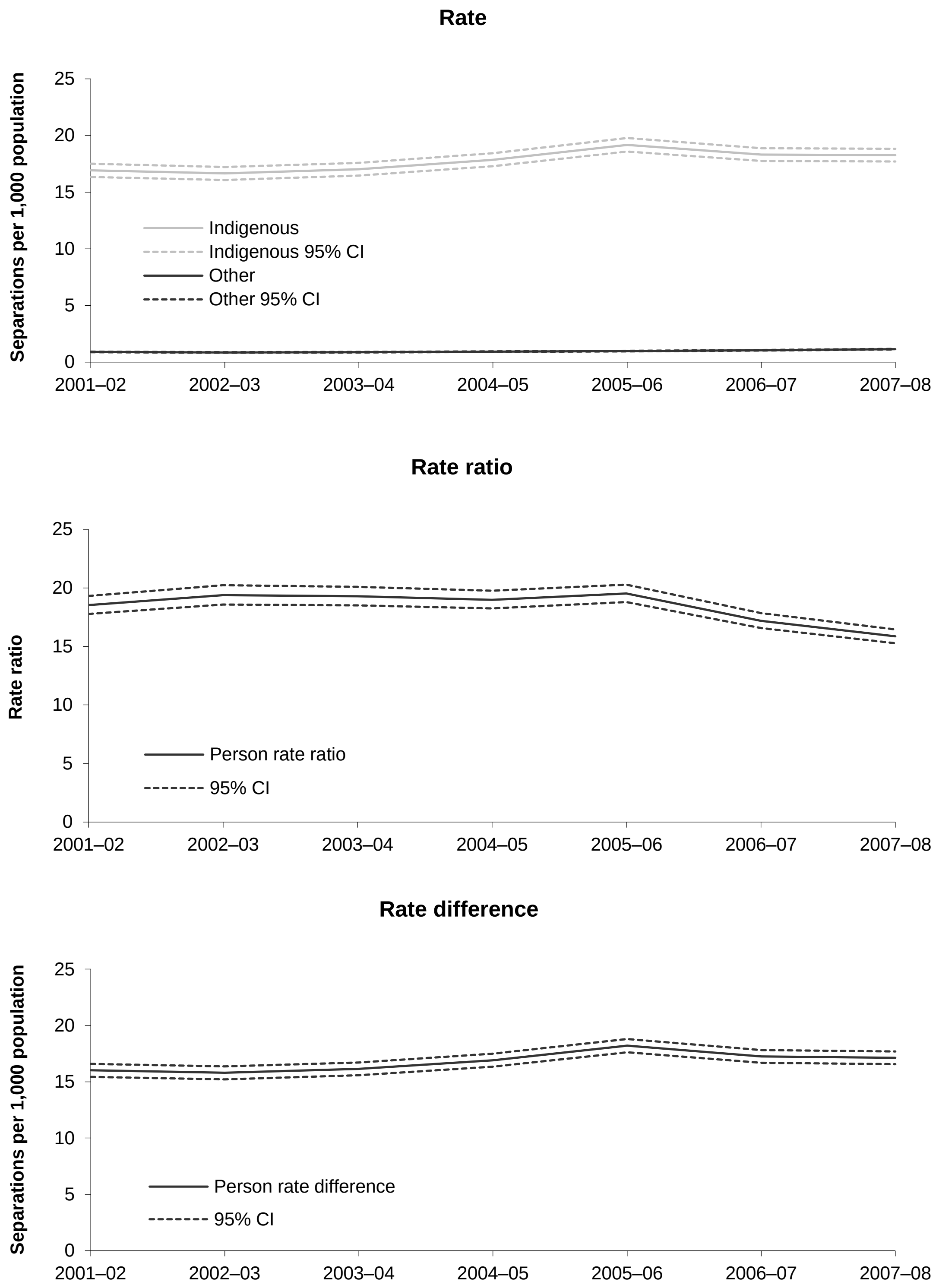
(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio—Indigenous: other.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.08.2a: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians involving discharge against medical advice, Qld, WA, SA and NT combined, 2001–02 to 2007–08

Table 3.08.8b: Discharges against medical advice, by Indigenous status (excluding mental and behavioural disorders), NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08[(a)(b)(c)(d)]

	Number		Indigenous			Other[(e)]			
	Indigenous	**Other[(e)]**	**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)]**
2004–05	5,631	21,490	13.9	13.5	14.3	1.1	1.1	1.1	12.4*
2005–06	6,249	22,790	15.1	14.7	15.5	1.2	1.2	1.2	12.9*
2006–07	6,258	24,338	14.9	14.5	15.3	1.2	1.2	1.2	12.2*
2007–08	6,448	26,981	15.1	14.7	15.5	1.3	1.3	1.3	11.4*

* 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. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

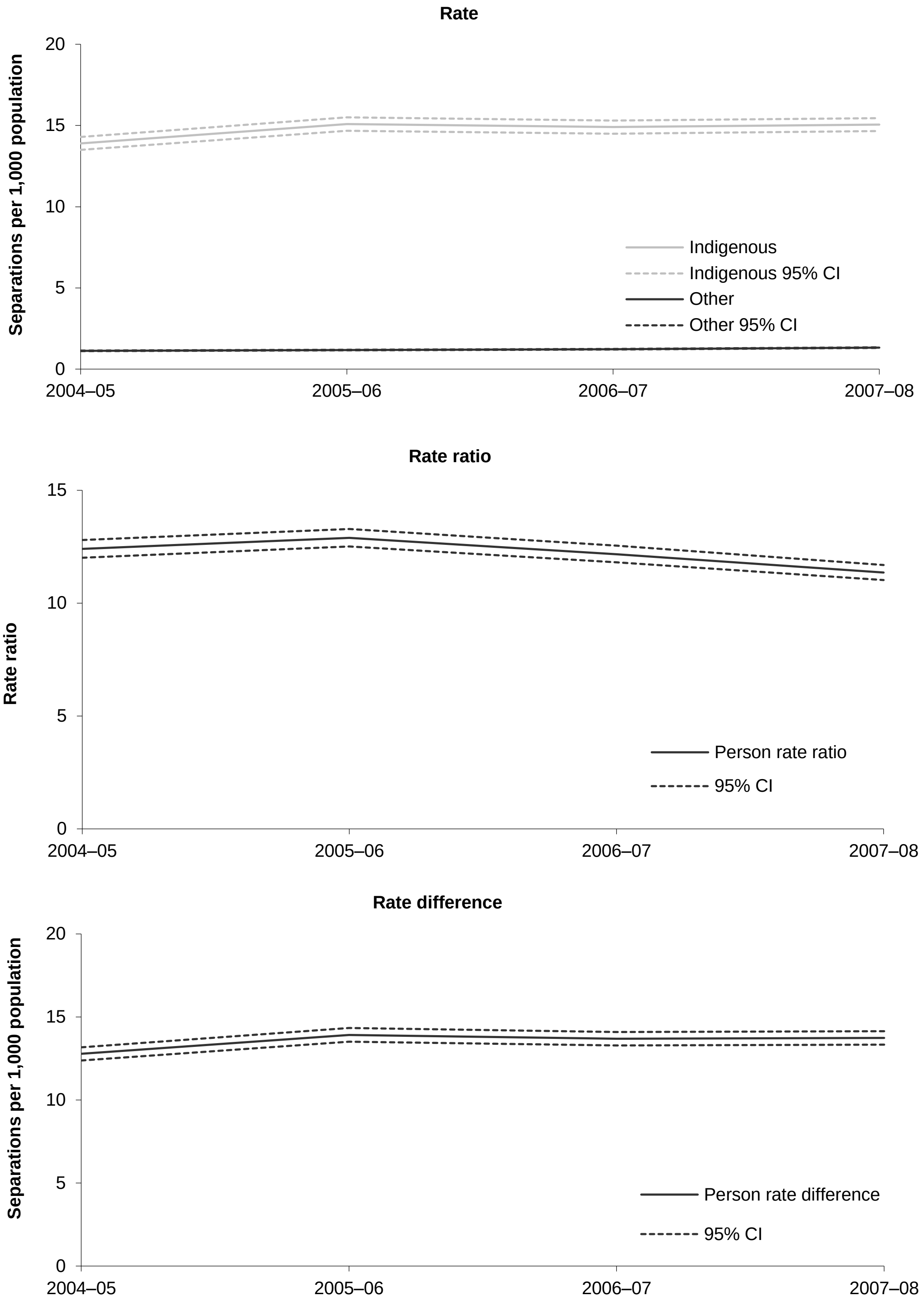
(f) Directly age-standardised using the Australian 2001 standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio—Indigenous: other.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

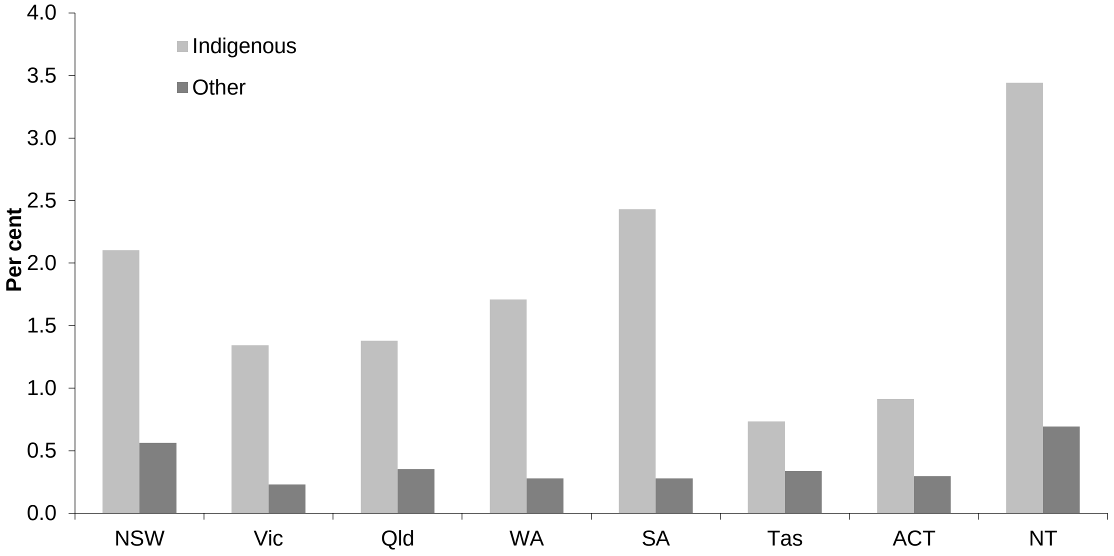
Figure 3.08.2b: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians involving discharge against medical advice, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08

Additional information

Detailed analysis of discharge from hospital against medical advice

In 2009–10 the AIHW undertook a series of univariate and 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 2006–07 to 2007–08 in Australia. All eight states and territories were included in the detailed analyses.

The first series of univariate analyses revealed that there were variations in the likelihood of discharging against medical advice by state and principal diagnosis chapter. As shown in Figure 3.08.3, in all states and territories, Indigenous Australians were more likely to leave hospital against medical advice than other Australians. For Indigenous Australians, the highest proportions were in the Northern Territory, South Australia, New South Wales, and Western Australia, with the lowest in the Australian Capital Territory and Tasmania.

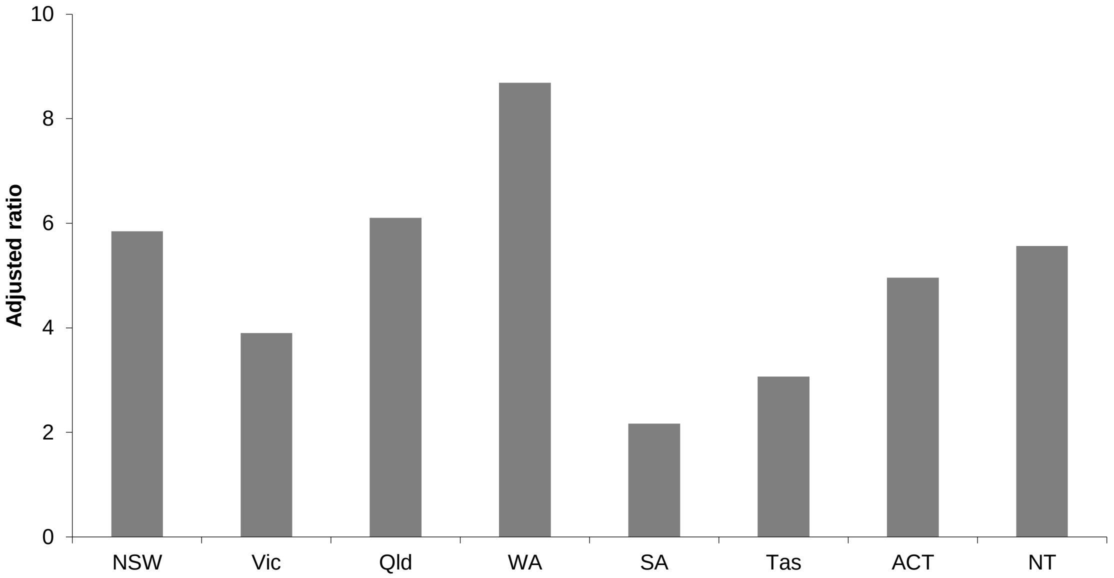


Note: Age-standardised proportions.

Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.08.3: Proportion of hospitalisations ending in discharge against medical advice, by state/territory, 2006–07 to 2007–08

Figure 3.08.4 and Table 3.08.9 show that the greatest disparities were observed in Western Australia and South Australia, where Indigenous patients were 6 to 9 times as likely to be discharged against medical advice as other patients. The lowest disparities were in Tasmania and the ACT.



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.08.4: Disparity between Indigenous Australians and other Australians in the likelihood of discharge against medical advice, by state/territory, 2006–07 to 2007–08

Table 3.08.9: Proportion of hospitalisations ending in discharge against medical advice, by state/territory, 2006–07 to 2007–08

	Indigenous	Other[(a)]	Ratio[(b)]
NSW	2.1	0.6	3.7
Vic	1.3	0.2	5.8
Qld	1.4	0.4	3.9
WA	1.7	0.3	6.1
SA	2.4	0.3	8.7
Tas	0.7	0.3	2.2
ACT	0.9	0.3	3.1
NT	3.4	0.7	5.0

(a) Other incudes people for whom Indigenous status was not stated.

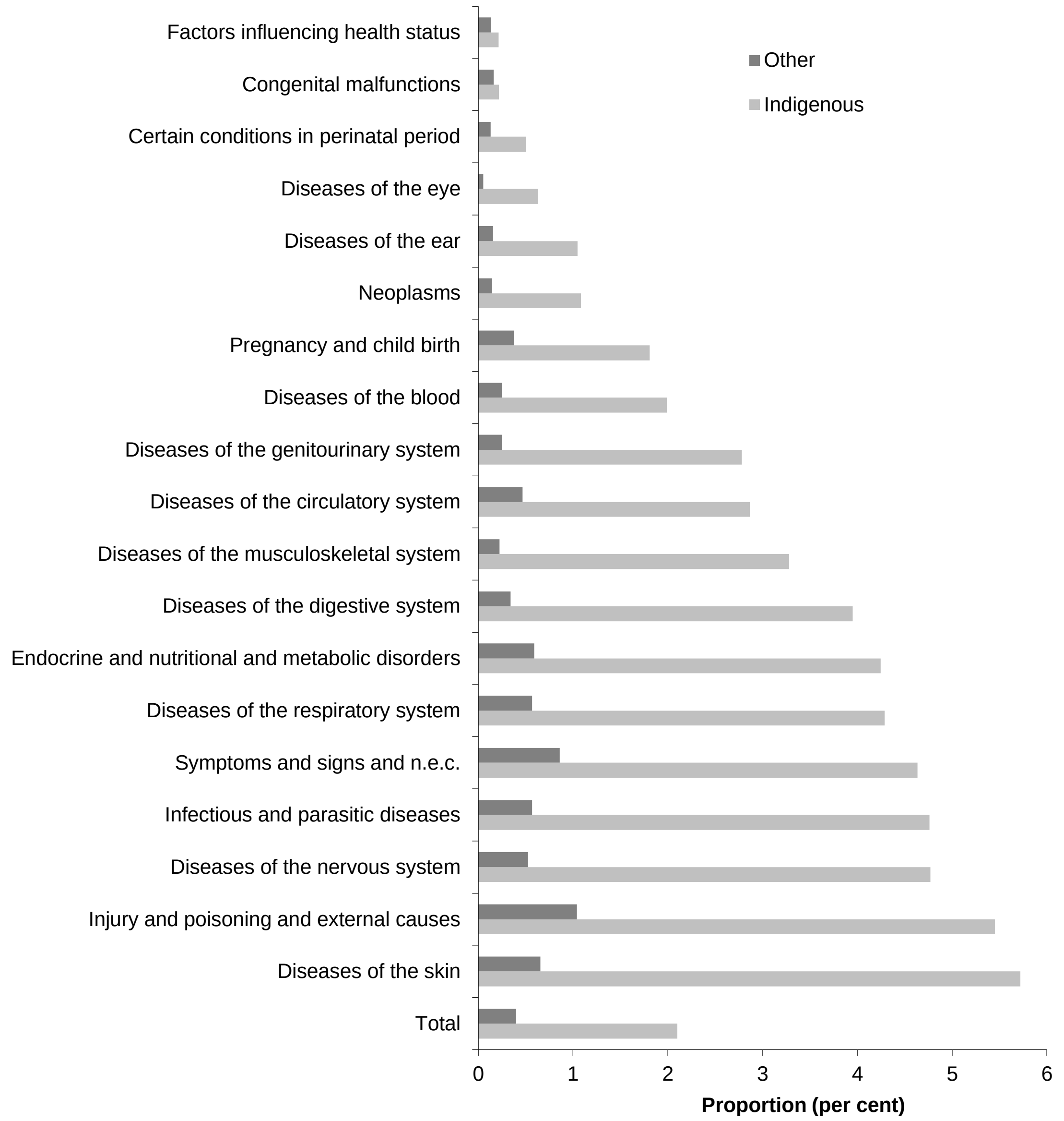
(b) Ratio = observed hospitalisations divided by the expected number of hospitalisations based on the age and sex specific proportions for other Australians.

Note: Age-standardised proportions.

Source: AIHW analysis of National Hospital Morbidity Database

The univariate analyses also found that a higher proportion of Indigenous patients were discharged against medical advice across all diagnostic categories, except for congenital malfunctions. Apart from mental and behavioural disorders, the principal diagnoses that had the highest numbers of separations for Indigenous people ending in self-discharge were diseases of the skin and injury, poisoning and external causes (Figure 3.08.05). Table 3.08.10 further shows that the diagnosis categories with the highest proportions of self-discharge were diseases of the skin (5.7%), injury, poisoning and external causes (5.5%), diseases of the nervous system (4.8%), and infectious and parasitic diseases (4.8%).

The disease categories with the greatest difference in self-discharge between Indigenous and other Australians were diseases of the musculoskeletal system (ratio of 15), diseases of the eye (ratio of 12), diseases of the digestive system (ratio of 12), and diseases of the genitourinary system (ratio of 11).



Note: Age-standardised proportions.

Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.08.5: Proportion of separations for which patients were discharged against medical advice (excluding mental and behavioural disorders), by principal diagnosis chapter and Indigenous status, Australia, 2006–07 to 2007–08

Table 3.08.10: Proportion of separations for which patients were discharged against medical advice (excluding mental and behavioural disorders), by principal diagnosis chapter and Indigenous status, Australia, 2006–07 to 2007–08

Principal diagnoses	Indigenous	Other	Ratio[(a)]
Diseases of the skin	5.7	0.7	8.7
Injury and poisoning and external causes	5.5	1.0	5.2
Diseases of the nervous system	4.8	0.5	9.1
Infectious and parasitic diseases	4.8	0.6	8.4
Symptoms and signs and n.e.c.	4.6	0.9	5.4
Diseases of the respiratory system	4.3	0.6	7.6
Endocrine and nutritional and metabolic disorders	4.2	0.6	7.2
Diseases of the digestive system	4.0	0.3	11.6
Diseases of the musculoskeletal system	3.3	0.2	14.7
Diseases of the circulatory system	2.9	0.5	6.1
Diseases of the genitourinary system	2.8	0.2	11.1
Diseases of the blood	2.0	0.3	7.9
Pregnancy and child birth	1.8	0.4	4.8
Neoplasms	1.1	0.1	7.4
Diseases of the ear	1.0	0.2	6.8
Diseases of the eye	0.6	0.1	12.1
Certain conditions in perinatal period	0.5	0.1	3.8
Congenital malfunctions	0.2	0.2	1.3
Factors influencing health status	0.2	0.1	1.6
Total	**2.1**	**0.4**	**5.6**

(a) Ratio= observed hospitalisations divided by the expected number of hospitalisations based on the age and sex specific proportions for other Australians.

Notes

1. Proportions are age-standardised.
2. Excludes private hospitals in Tasmania, the Northern Territory and the Australian Capital Territory.
3. Other includes separations for non-Indigenous Australians and those for whom Indigenous status was not stated.
4. Data are based on state/territory of usual residence.
5. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW National Hospital Morbidity Database.

Further analyses by state/territory found that the Northern Territory had the highest proportion of separations of Indigenous patients discharged against medical advice for most diagnostic chapters. For example, for diseases of the skin, diseases of the respiratory system, endocrine, nutrition and metabolic disorders, and infectious and parasitic diseases, over 8% of separations of Indigenous patients involved discharge against medical advice.

In Queensland, disparities were greatest for diseases of the digestive system (ratio of 8), diseases of the nervous system (ratio of 6), diseases of the musculoskeletal system (ratio of 6), and diseases of the blood (ratio of 6). In Western Australia, disparities were greatest for musculoskeletal diseases (ratio of 27), diseases of the blood (ratio of 15), and diseases of the digestive system (ratio of 14). In South Australia, disparities were greatest for diseases of the eye (ratio of 35) and musculoskeletal diseases (ratio of 27). In the Northern Territory, disparities were greatest for diseases of the blood (ratio of 27) and neoplasms (ratio of 20). In New South Wales, disparities were greatest for diseases of the musculoskeletal diseases (ratio of 7) and diseases of the eye (ratio of 8). In Victoria, disparities were greatest for diseases of the blood (ratio of 15) and certain conditions in perinatal period (ratio of 14).

A second series of univariate analyses focused on differences by state/territory, diagnosis chapter, and remoteness category. Table 3.08.11 and Figure 3.08.6 illustrate that the proportion of separations for which patients were discharged against medical advice among Indigenous Australians was much higher than among other Australians across all remoteness categories (excluding mental and behavioural disorders). For both Indigenous and other Australians, the proportions increased with increasing remoteness.

Table 3.08.11: Proportion of hospitalisations ending in discharge against medical advice, by Indigenous status and remoteness, 2006–07 to 2007–08

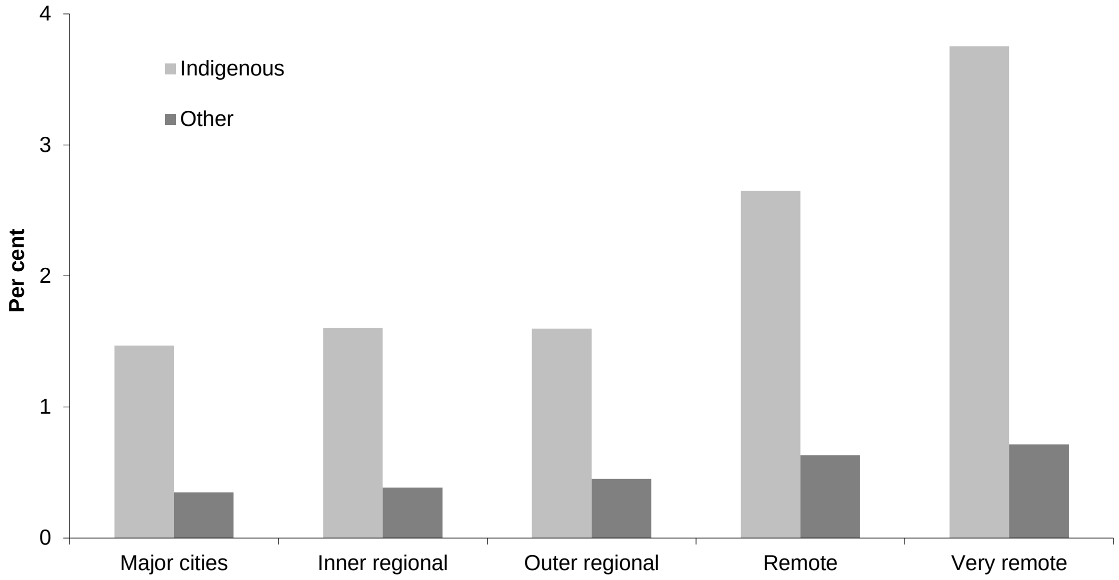
ASGC remoteness category	Indigenous	Other	Ratio[(a)]
Major cities	1.5	0.3	4.2
Inner regional	1.6	0.4	4.2
Outer regional	1.6	0.4	3.6
Remote	2.7	0.6	4.2
Very remote	3.8	0.7	5.3

(a) Ratio = observed hospitalisations divided by the expected number of hospitalisations based on the age and sex specific proportions for other Australians.

Notes

1. Proportions are age standardised.
2. Excludes private hospitals in Tasmania, the Northern Territory and the Australian Capital Territory.
3. Other includes separations for non-Indigenous Australians and those for whom Indigenous status was not stated.
4. Data are based on state/territory of usual residence.
5. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW National Hospital Morbidity Database.



Note: Age-standardised proportions.

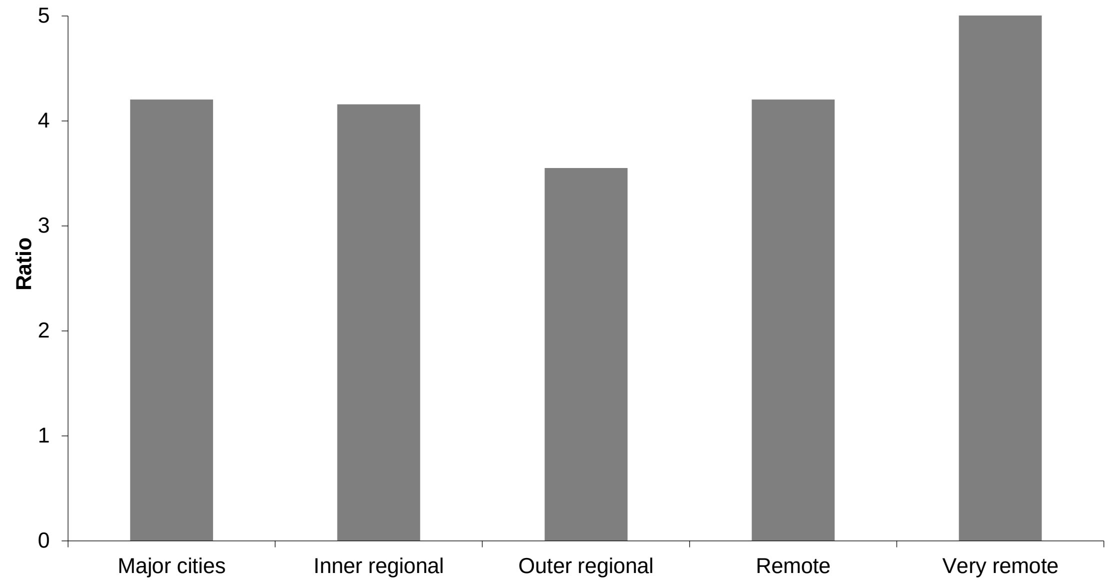
Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.08.6. Proportion of hospitalisations ending in discharge against medical advice, by Indigenous status and remoteness, 2006–07 to 2007–08

An examination of the variation in remoteness *within* each state/territory showed that these patterns of increasing proportions with increasing remoteness were exhibited in four states. In Queensland, proportions for Indigenous patients were highest in *Remote* areas (2.2%), followed by *Major cities* (1.4%). In Western Australia, proportions were highest in *Very remote areas* (2.8%), followed by *Inner regional* areas (2.3%). In South Australia, proportions were highest in *Remote* and *Very remote* areas (4.2% and 5.4% respectively). In the Northern Territory, proportions were highest in *Remote* areas (3.4%), followed by *Very remote* areas (3.2%).

In New South Wales, the proportions were highest in *Remote* areas (3.3%), followed by *Very remote* areas (2.6%). In Victoria, proportions were slightly higher in *Remote* areas (2.3%) followed by *Major cities* (1.4%). In Tasmania, proportion for *Inner* and *Outer regional* areas were 1.0% and 0.5% respectively.

As shown in Figure 3.08.7, the greatest disparities between Indigenous Australians and other Australians were found in the *Very remote* and *Remote* areas, with Indigenous Australians 4 and 5 times as likely as other Australians to discharge themselves.



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.08.7. Disparity between Indigenous and other Australians in the likelihood of discharge against medical advice, by remoteness, 2006–07 to 2007–08

These patterns generally hold within the state/territory. The data were further broken down by remoteness category and principal diagnosis. The proportions of separations for which Indigenous patients were discharged against medical advice were highest in *Remote* and *Very remote* areas for most principal diagnoses.

The diagnostic chapters with the highest proportions of Indigenous separations ending in discharge against medical advice varied by region (Table 3.08.12). Although some diagnostic chapters appear frequently (such diseases of the respiratory system and symptoms and signs), injury, poisoning and external causes have high rates in *Remote* regions.

Table 3.08.12: Diagnosis chapters with the highest proportions of Indigenous separations ending in discharge against medical advice

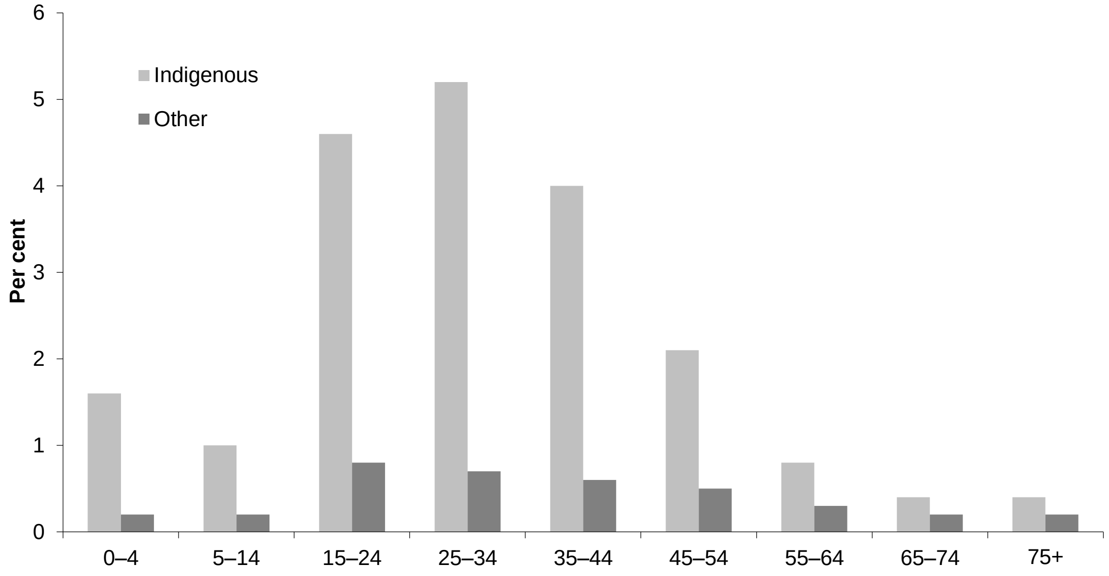
Remoteness category	Highest proportion	Second highest proportion	Third highest proportion
Major cities	Symptoms, signs, n.e.c. (3.8%)	Diseases of the respiratory system (3.7%)	Infectious and parasitic diseases (3.3%)
Inner regional	Diseases of the nervous system (5.0%)	Injury, poisoning, external causes (3.4%)	Symptoms, signs, n.e.c. (3.4%)
Outer regional	Symptoms, signs, n.e.c. (4.9%)	Diseases of the respiratory system (4.7%)	Injury, poisoning and external causes (4.6%)
Remote	Injury, poisoning and external causes (5.9%)	Infectious and parasitic diseases (5.8%)	Diseases of the skin (5.7%)
Very remote	Diseases of the nervous system (8.3%)	Diseases of the respiratory system (7.8%)	Diseases of the skin (7.1%)

Source: AIHW analysis of National Hospital Morbidity Database

A third series of more detailed univariate analysis looked at the association between discharge against medical advice and other variables such as age, sex, average length of stay and diagnosis subcategories.

This analysis showed that Indigenous males were more likely to be discharged from hospital against medical advice than Indigenous females (3% compared with 2% of hospitalisations). The disparity between Indigenous and other Australians in the proportion of hospitalisations for which patients were discharged against medical advice was greater for females (ratio of 6) than males (ratio of 5).

The majority of hospitalisations for which Indigenous and other patients were discharged against medical advice were among those aged 25–44 years (51% of Indigenous hospitalisations and 35% of other Australian hospitalisations). Within each age group, the highest proportion of hospitalisations for which Indigenous and other patients were discharged from hospital against medical advice were among those aged 25–34 years (5.2% for Indigenous patients and around 0.7% for other patients). The greatest disparities between Indigenous and other Australians in the proportion of hospitalisations for which patients were discharged against medical advice were among those aged 25-34 years, 0–4 years and 35–44 years (ratios of 7.8, 7.4 and 6.6, respectively) (Figure 3.08.8; Table 3.08.13).



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.08.8: Proportion of separations for which patients were discharged from hospital against medical advice (excluding separations with a principal diagnosis of mental and behavioural disorders), by Indigenous status and age group, Australia, 2006–07 to 2007–08

Table 3.08.13: Proportion of separations for which patients were discharged from hospital against medical advice (excluding separations with a principal diagnosis of mental and behavioural disorders), by Indigenous status and age group, Australia, 2006–07 to 2007–08

	Indigenous		Other(a)		
Age groups (years)	No.	Per cent	No.	Per cent	Ratio(b)
0–4	632	1.6	1,291	0.2	7.4
5–14	222	1.0	664	0.2	6.1
15–24	2,320	4.6	7,175	0.8	5.8
25–34	3,090	5.2	9,298	0.7	7.8
35–44	3,443	4.0	8,926	0.6	6.6
45–54	2,064	2.1	7,941	0.5	4.5
55–64	756	0.8	6,538	0.3	2.8
65–74	200	0.4	4,836	0.2	2.1
75+	53	0.4	5,616	0.2	1.9

(a) ‘Other’ includes those for whom Indigenous status was not stated.

(b) Ratio—proportion of separations for other Australians divided by proportion for Indigenous Australians.

Notes

1. Excludes private hospitals in Tasmania, the Northern Territory and the Australian Capital Territory.
2. Other includes separations for non-Indigenous Australians and those for whom Indigenous status was not stated.
3. Data are based on state/territory of usual residence.
4. Care types 7.3, 9 & 10 (Newborn – unqualified days only; organ procurement; hospital boarder) excluded from analysis.

Source: AIHW National Hospital Morbidity Database.

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 (3.0 days compared with 2.6 days) (Table 3.08.14). Indigenous patients who were discharged from hospital against medical advice had a similar average length of stay to other patients (3.0 days). In comparison, Indigenous patients who were not discharged from hospital against medical advice had a lower average length of stay in hospital than other patients (2.6 days compared with 3.1 days).

Table 3.08.14: Average length of stay in hospital for patients who were discharged against medical advice (excluding diagnoses for mental and behavioural disorders) and not discharged against medical advice, by Indigenous status and sex, Australia, 2006–07 to 2007–08

	Discharged against medical advice					Not discharged against medical advice				
	Number of bed days		Average length of stay			Number of bed days		Average length of stay		
	Indig	Other(a)	Indig.	Other(a)	Ratio	Indig.	Other(a)	Indig.	Other(a)	Ratio
Males	19,144	90,773	3.0	3.0	1.0	595,068	19,866,256	2.8	3.0	0.9
Females	19,541	64,870	2.9	2.9	1.0	710,798	23,050,171	2.5	3.1	0.8
Persons	38,685	155,643	3.0	3.0	1.0	1,305,866	42,916,427	2.6	3.1	0.9

(a) ‘Other’ includes those for whom Indigenous status was not recorded.

Source: AIHW analysis of National Hospital Morbidity Database.

The most common diagnosis subcategories for which Indigenous patients were discharged from hospital against medical advice were injuries to the head, representing 7.3% of total hospitalisations for which Indigenous patients were discharged against medical advice, followed by infections of the skin and subcutaneous tissues (5.9%) and influenza and pneumonia (5.0%). These three diagnosis subcategories were the most common diagnosis subcategories for which both Indigenous males and Indigenous females were discharged from hospital against medical advice.

Indigenous patients were more likely to be discharged from hospital against medical advice than other patients for all of the top 15 most common diagnosis subcategories for which patients were discharged against medical advice. The greatest disparities were for episodic and paroxysmal disorders, influenza and pneumonia, and diseases of the gallbladder and biliary tract and pancreas (ratios of 7.3, 6.8 and 6.6, respectively).

Given the importance of all these factors, a further series of univariate and multivariate analyses were performed to examine the relative importance of selected variables in affecting the outcome of whether a person discharges against medical advice, and to see whether controlling for these factors eliminated the impact of Indigenous status. 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. Univariate analyses showed that females hospitalised for each principal diagnosis chapter were less likely to discharge against medical advice than males (odds ratios ranged from 0.54 for factors influencing health status to 0.60 for injury and poisoning).

Results from both the univariate and 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.

The principal diagnosis chapters of 'mental and behavioural disorders' and 'injury, poisoning and external causes' were the second and third most significant variables after Indigenous status that affected the outcome of discharge from hospital against medical advice. Patients within these categories were more likely to discharge against medical advice than patients hospitalised for other diagnoses.

Aside from other principal diagnosis chapters (factors influencing health status, injury, poisoning and external causes and symptoms, signs and n.e.c), sex was the next most significant variable, with males approximately twice as likely as females to take their own discharge. Aside from diseases of the respiratory system, age group was the next most significant variable.

Hospitalisation for mental and behavioural disorders was the most significant variable of all principal diagnosis chapters that increased the likelihood of being discharged against medical advice, followed by hospitalisations for injury, poisoning and external causes.

State/territory of usual residence of a patient paired with state/territory of hospital location was more significant in contributing to the outcome of whether a patient would discharge themselves from hospital than remoteness of usual residence paired with remoteness of hospital location. When the usual residence and hospital location variables were considered separately, results show that where a patient is hospitalised is more important than where a patient resides.

Given that the control variables did have a significant impact on the outcome variable, separate multivariate regressions were run for Indigenous and other Australians to test whether the impact of these variables was similar for both groups; for example, whether living in a remote area has the same effect for other Australians that it does for Indigenous Australians.

The findings demonstrate that there were general similarities in the impacts of sex, age, and remoteness for Indigenous and other Australians. Results for Indigenous Australians showed that females were less likely to discharge against medical advice than males (odds ratio of 0.81). Similarly, for other Australians, females were also less likely to discharge against medical advice (odds ratio of 0.62). For Indigenous Australians, the odds of discharge against medical advice for patients in the 20–24, 25–29, 30–34, 35–39 and 40–44 year age groups were between 10 and 12 times the odds for patients aged 75 years and over. These age groups were also associated with higher rates of discharge against medical advice for other Australians, but the odds ratios were much lower than for other Australians (between 3 and 4).

In general, for both Indigenous and other Australians, compared with patients with a usual residence in *Major cities* and who were hospitalised in *Major cities*, patients who were resident in Inner or *Outer regional*, *Remote* or *Very remote* areas and were hospitalised in *Remote* or *Very remote* areas were more likely to discharge against medical advice.

For Indigenous Australians, patients who were resident in *Very remote* areas and were hospitalised in *Remote* areas were most likely to discharge against medical advice (odds ratio of 3.57), followed by patients with residence in *Inner regional* areas who were hospitalised in *Very remote* areas (ratios of around 3.2)

For other Australians, patients who were resident in *Outer regional* areas and were hospitalised in *Remote* areas were most likely to discharge against medical advice (odds ratio of 2.6), followed by patients with residence in *Major cities* who were hospitalised in *Outer regional* areas (ratio of 2.5) and patients with residence in *Remote* areas who were hospitalised in *Very remote* areas (ratio of 2.4)

Results for Indigenous Australians showed that principal diagnosis was the most significant variable contributing to whether patients would discharge from hospital against medical advice. Age group was the second most significant variable contributing to whether Indigenous patients would discharge against medical advice—odds ratios were highest amongst those aged 25–44 years. Sex was the next most significant variable. Remoteness of usual residence/remoteness of hospital was the least significant variable affecting the outcome of discharge against medical advice for Indigenous Australians—odds ratios were highest among those residing in *Inner* or *Outer regional*, *Remote* or *Very remote* areas and hospitalised in *Remote* or *Very remote* areas.

In contrast, results for other Australians showed that sex was the most significant variable affecting the outcome of whether a patient would discharge from hospital against medical advice—odds ratios were lower for females compared with males. Principal diagnosis was the second most significant variable affecting the outcome of discharge from hospital against medical advice—mental and behavioural disorders had the highest odds ratio. Age group was the next most significant variable contributing to whether a patient would discharge from hospital against medical advice for other Australians, followed by remoteness of usual residence/remoteness of hospital.

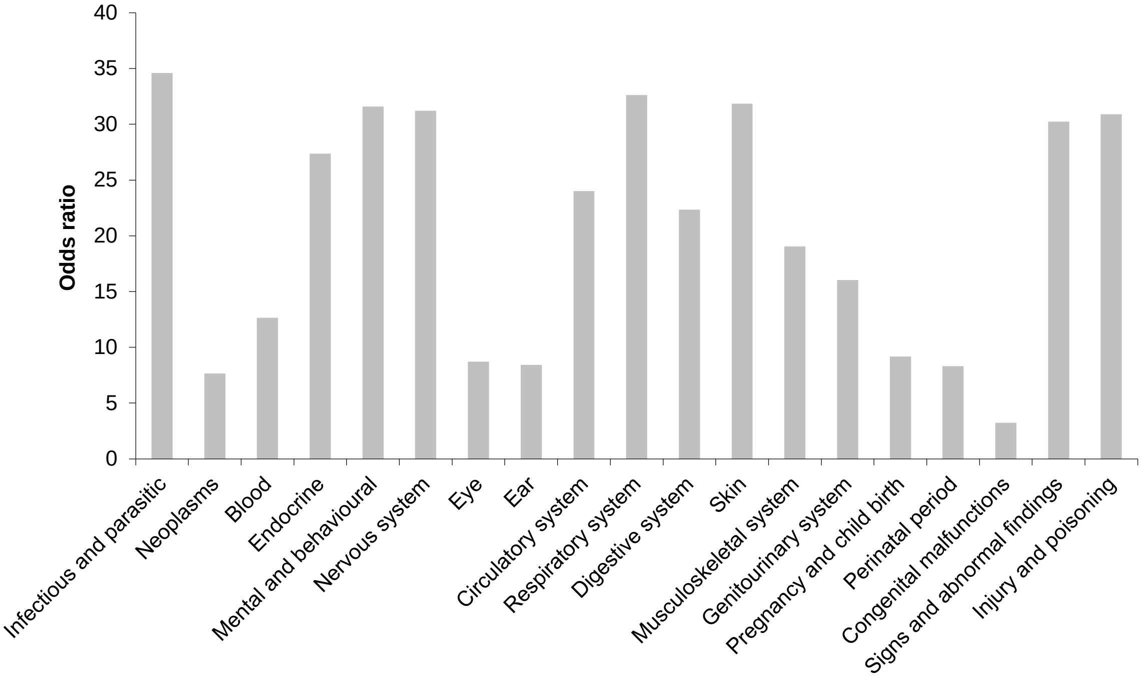
Table 3.08.15 and Figures 3.08.9a and 3.08.9b present the odds ratios of the principal diagnosis chapters for Indigenous Australians and other Australians. The results are relative to "factors affecting health status." For Indigenous Australians, the highest odds ratios are for infectious and parasitic diseases, diseases of the respiratory system, diseases of the skin, and mental and behavioural disorders. The lowest odds ratios are for congenital malformations, neoplasms, and certain conditions in perinatal period. For other Australians, the highest odds ratios are for mental and behavioural disorders, symptoms, signs and abnormal findings, and injury and poisoning. The lowest odds ratios are for diseases of the eye, congenital malformations, and neoplasms.

Table 3.08.15: The impact of principal diagnosis chapter on the likelihood of discharge against medical advice (relative to factors affecting health status): Indigenous Australians, 2006–07 to 2007–08

	Indigenous	Other[(a)]
	Odds ratio	
Infectious & parasitic	34.6	4.4
Respiratory system	32.6	4.5
Skin	31.9	3.8
Mental & behavioural	31.6	8.6
Nervous system	31.2	3.5
Injury & poisoning	30.9	5.9
Signs & abnormal findings	30.3	5.9
Endocrine	27.4	4.5
Circulatory system	24.0	3.9
Digestive system	22.4	2.1
Musculoskeletal system	19.1	1.5
Genitourinary system	16.0	1.6
Blood	12.7	1.9
Pregnancy & child birth	9.2	1.7
Eye	8.7	0.6
Ear	8.4	1.5
Perinatal period	8.3	2.0
Neoplasms	7.6	1.2
Congenital malfunctions	3.2	1.6

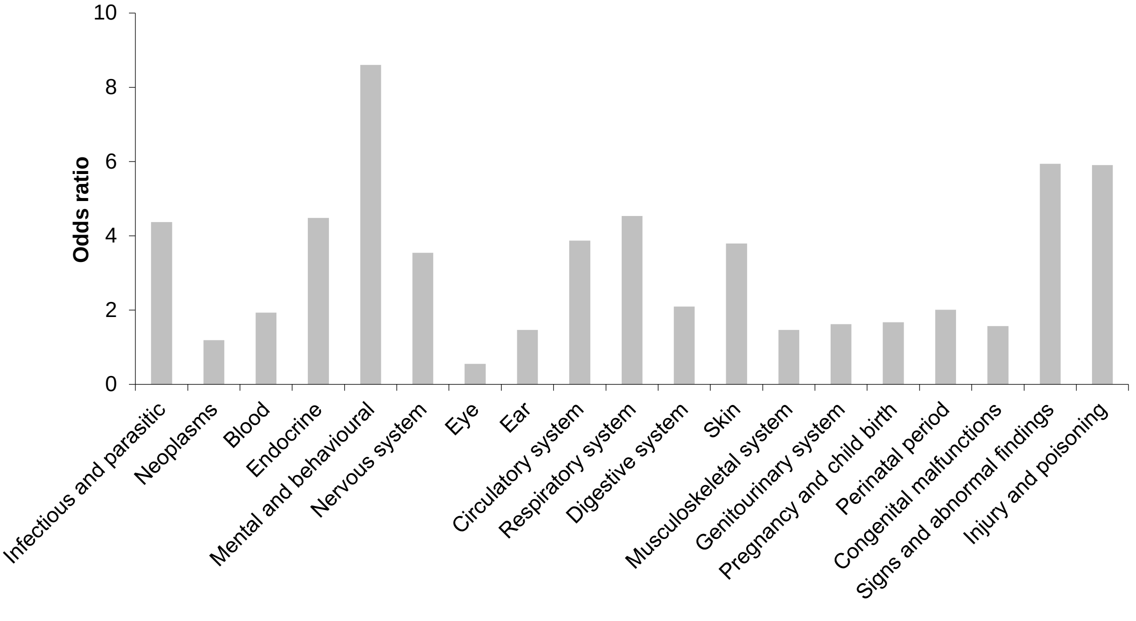
(a) 'Other' includes those for whom Indigenous status was not stated.

Source: AIHW National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.08.9a: The impact of principal diagnosis chapter on the likelihood of discharge against medical advice (relative to factors affecting health status): Indigenous Australians, 2006–07 to 2007–08



Source: AIHW analysis of National Hospital Morbidity Database

Figure 3.08.9b: The impact of principal diagnosis chapter on the likelihood of discharge against medical advice (relative to factors affecting health status): other Australians, 2006–07 to 2007–08

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

Hospital separations data

Separations

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.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%.

The following caveats have also 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of the jurisdictions not included.

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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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 2010 (ABS 2009).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

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 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

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 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 issues of 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. It is planned to repeat the NATSIHS at six yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

Bettering the Evaluation and Care of Health (BEACH) Survey

Information about encounters in general practice is available from the BEACH survey, which is conducted by the Australian General Practice Statistics and Classification Centre at the University of Sydney. 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. A more detailed explanation of the BEACH methods can be found in General practice activity in Australia 2008–09, (Britt et al 2009).

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). Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998–2008, (Britt H & Miller GC (eds) 2009, p101).

> “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 H 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."

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.3% of total GP encounters in the survey.

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 Australian Institute of Health and Welfare (AIHW) by state and territory health departments.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08—New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2007–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients, around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009b).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two year period from July 2006 to June 2008. An aggregate of two years of data has been used, because the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation, which is the episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in the change in the type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

Community mental health care

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. Information collected in the database is a nationally agreed set of common data elements collected by service providers based on the National Minimum Data Set for Community Mental Health Care.

In 2006-2007, 4.9% of service contacts of community mental health care services were for Aboriginal and Torres Strait Islander people.

The quality of Indigenous identification in this database varies by jurisdiction. In 2006–07, Queensland, Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory reported that the quality of their data was suitable for analysis.

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.

Residential mental health care

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. In 2006–07, there were no residential mental health care services in Queensland.

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.

AIHW Medical Labour Force Survey

The AIHW Medical Labour Force Survey is conducted by the state and territory health authorities. The questionnaire is administered by the medical boards (or councils) in each jurisdiction, in conjunction with the registration renewal process. The AIHW is the data custodian for this collection. The Medical Labour Force Survey is a census of all registered medical practitioners in each state and territory in Australia. The Medical Labour Force Survey has been conducted annually since 1993. Information on demographic details, main areas and specialty of work, qualifications and hours worked are collected from registered professionals. The data collected generally relate to the four weeks prior to the survey.

OATSIH Services Reporting (OSR) data collection

In 2008–09, the AIHW collected data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH-funded services include both Indigenous Community Controlled Health Organisations and non-community controlled health organisations. Note that the 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 OSR data collection which was established in 2008–09 uses a new set of counting rules that treat all auspice services as individual services which yields a larger numerator and denominator on which the rates are based. Although this change only marginally affects the aggregate rates, caution should be exercised when comparing rates based on earlier data collection periods.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services 81 (94%) responded to the OSR questionnaire, as well as five auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance use service.

Forty five (90%) out of 50 stand-alone substance use services as well as three auspiced services responded to the OSR questionnaire.3

Supported Accommodation Assistance Program National Data Collection

Indicator Introduction Section

The Supported Accommodation Assistance Program (SAAP) is a national program that provides temporary accommodation and support services to assist people who are homeless or at risk of being homeless, including women and children escaping domestic violence. SAAP funds non-government, community or local government agencies ranging from small stand-alone agencies with single outlets to agencies with multiple outlets.

The SAAP National Data Collection is a nationally consistent information system combining information from SAAP agencies and State/Territory and Commonwealth funding departments. The Australian Institute of Health and Welfare manages the SAAP National Data Collection. All non-government organisations funded under the program are required to participate in the SAAP National Data Collection.

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 data

Self-reported data from the 2004–05 NATSIHS on visiting a health professional for mental-health-related reasons are presented in Tables 3.09.1, 3.09.2a and 3.09.2b below.

- In 2004–05, approximately 12% of Indigenous Australians reported visiting a health professional about their feelings in the four weeks prior to survey (Table 3.09.1).
- 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 who reported visiting a professional about their feelings were in *Very remote* areas (14%) followed by *Inner regional* areas (13%) (Table 3.09.2a).
- A higher proportion of Indigenous Australians (20%) reported visiting an 'other health professional' than non-Indigenous Australians (13%) (Table 3.09.2b).

Table 3.09.1: Whether saw a doctor or health professional about feelings in last four weeks, Indigenous Australians, by state/territory, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust[a]
					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][d]	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.

(d) Total excludes persons whose state of origin is unknown.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 3.09.2a: Whether saw a doctor or health professional about feelings in last four weeks, Indigenous Australians,[(a)] by remoteness, 2004–05

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia[(a)]
			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)(e)]	65,915	43,047	46,086	17,160	35,177	207,384

(a) Persons aged 18 years and over who scored greater than one on at least one of the K5 (Kessler 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.

(e) Total excludes persons whose ASGC area is unknown.

Source: AIHW analysis of 2004–05 NATSIHS

Table 3.09.2b: 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

The AIHW Medical Labour Force Survey collected information on the number of psychiatrists in Australia.

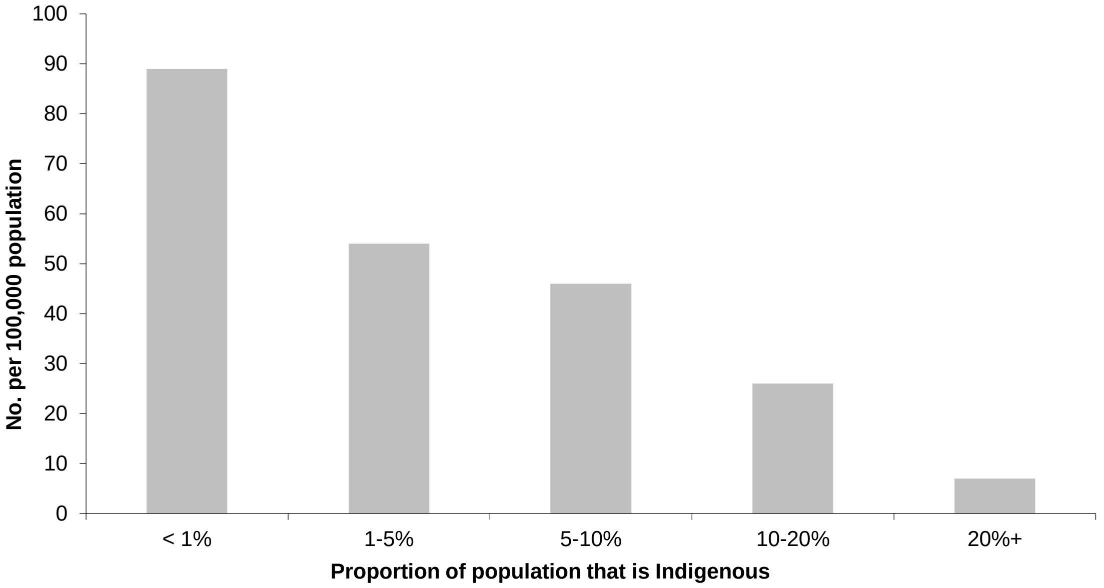
- In 2007, there were 2,803 full-time equivalent (FTE) employed psychiatrists and 1,005 FTE employed psychiatrists in training in Australia. Psychiatrists (including psychiatrists-in-training) made up 5.4% of all employed medical practitioners in Australia (AIHW 2010).
- There were 18 FTE psychiatrists per 100,000 population in Australia. The rate ranged from 13 FTE per 100,000 in the Western Australia to 23 per 100,000 in Victoria. Tasmania had a relatively low rate of FTE psychiatrists (15 per 100,000 population).
- 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 (4 per 100,000). In 2007, 88.1% 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 2010).

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 2002, 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 2006b).

- 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) (Figure 3.09.1).



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.

Figure 3.09.1: FTE employed psychologists per 100,000 population, by proportion of Indigenous population living in an area, 2002

Table 3.09.3: FTE employed psychologists per 100,000 population, by proportion of Indigenous population living in an area, 2002

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

Public psychiatric hospitals

Information on the number of public psychiatric hospitals in Australia is available from the National Public Hospital Establishment Database.

- In 2007–08, there were 16 public psychiatric hospitals in Australia with 2,156 available beds. The majority of these 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 3.09.4).
- Among jurisdictions, New South Wales reported the highest number of available beds in public psychiatric hospitals (1,024), although South Australia had the highest number of available beds per 100,000 population (22.5).
- In 2007–08, there were 141 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 (51 and 30, respectively) (Table 3.09.5). The majority of public acute hospitals with specialised psychiatric units or wards were located in *Major cities* (66.7% or 94 hospitals).

Table 3.09.4: Public psychiatric hospitals[(a)] and available beds, by remoteness area and state[(b)], 2007–08

	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	769	154	192	245	357	. .	. .	. .	1,717
Inner regional	255	. .	157	. .	. .	. .	. .	. .	412
Outer regional	. .	. .	27	. .	. .	. .	. .	. .	27
Remote and Very remote	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total all regions	**1,024**	**154**	**376**	**245**	**357**	**. .**	**. .**	**. .**	**2,156**
Available beds per 100,000 population									
Major cities	15.3	3.9	7.7	16.3	31.0	. .	. .	. .	11.9
Inner regional	18.2	. .	17.1	. .	. .	. .	. .	. .	9.9
Outer regional	. .	. .	4.2	. .	. .	. .	. .		1.4
Remote and Very remote	. .	. .	. .	. .	. .	. .	. .	. .	. .
Total all regions	**14.8**	**2.9**	**9.0**	**11.6**	**22.5**	**. .**	**. .**	**. .**	**10.2**

(a) These figures differ from Australian hospital statistics 2007-08 (AIHW 2009b) 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 2007, 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 3.09.5: Public acute hospitals with psychiatric units or wards[(a)] and available beds, by Remoteness Area, states and territories, 2007-08

	NSW	Vic	Qld	WA[(b)]	SA	Tas	ACT	NT	Total
Public acute hospitals with psychiatric units or wards									
Major Cities	35	23	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	. .	. .	2	. .	. .	. .	. .	1	3
Total all regions	**51**	**30**	**27**	**15**	**8**	**6**	**2**	**2**	**141**
Available psychiatric beds									
Major Cities	1,077	863	701	350	243	. .	70	. .	3,304
Inner Regional	311	187	194	59	. .	108	. .	. .	859
Outer Regional	12	12	126	16	. .	20	. .	26	212
Remote and Very Remote	. .	. .	12	. .	. .	. .	. .	8	20
Total all regions	**1,400**	**1,062**	**1,033**	**425**	**243**	**128**	**70**	**34**	**4,395**
Available psychiatric beds per 100,000 population									
Major Cities	21.5	22.1	28.0	23.2	21.1	. .	20.6	. .	22.9
Inner Regional	22.2	17.8	21.1	21.9	. .	33.9	. .	. .	20.7
Outer Regional	2.6	4.7	19.9	8.2	. .	12.1	. .	22.0	10.6
Remote and Very Remote	. .	. .	8.7	. .	. .	. .	. .	8.3	4.1
Total all regions	**20.3**	**20.3**	**24.6**	**20.1**	**15.3**	**26.0**	**20.5**	**15.8**	**20.9**

. . Not applicable.

(a) These figures differ from Australian hospital statistics 2007-08 (AIHW 2009b) due to differences in definitions and jurisdictional reporting.

(b) Includes three 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 2007, 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 2009b.

Hospitalisations

- For the two year period July 2006 to June 2008, there were 608,690 hospitalisations from mental health-related conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 22,594 (3.7%) of which were hospitalisations of Aboriginal and Torres Strait Islander people.
- Mental health-related conditions were responsible for 4.3% of all hospitalisations of Aboriginal and Torres Strait Islander Australians (see indicator 1.16).

Hospitalisations by state/territory

Table 3.09.6 presents hospitalisations for a principal diagnosis of mental health-related conditions in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, for the two year period from July 2006 to June 2008.

- Over the period from July 2006 to June 2008, 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 over twice the rate of other males and Indigenous females were hospitalised for mental health-related conditions at 1.5 times the rate of other females.

- In South Australia, Indigenous Australians were hospitalised for mental health-related conditions at around four times the rate of other Australians, and in New South Wales, Western Australia and the Northern Territory Indigenous Australians were hospitalised at around twice the rate of other Australians. In Queensland and Victoria the rate ratios were around 1.5.
- In the Northern Territory, both Indigenous and other Australians were hospitalised for mental health-related conditions at low rates in comparison to hospitalisation rates in New South Wales, Victoria, Queensland, Western Australia and South Australia.

Table 3.09.6: 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 2006 to June 2008[(a)(b)(c)]

	Indigenous				Other[(d)]				
	Number	No. per 1,000[(e)]	LCL 95%[(f)]	UCL 95%[(g)]	Number	No. per 1,000[(e)]	LCL 95%[(f)]	UCL 95%[(g)]	Ratio[(h)]
NSW									
Males	4,925	38.8	37.6	40.0	98,861	14.7	14.6	14.8	2.6*
Females	3,771	27.4	26.5	28.3	99,591	14.4	14.3	14.4	1.9*
Persons	8,696	32.8	32.0	33.5	198,458	14.5	14.4	14.6	2.3*
Vic									
Males	645	21.6	19.8	23.4	65,903	12.8	12.7	12.9	1.7*
Females	947	33.4	31.2	35.7	115,079	21.4	21.2	21.5	1.6*
Persons	1,592	27.7	26.3	29.1	180,982	17.1	17.0	17.2	1.6*
Qld									
Males	2,561	21.3	20.4	22.3	53,276	12.8	12.7	13.0	1.7*
Females	2,072	16.3	15.5	17.1	59,061	14.4	14.2	14.5	1.1*
Persons	4,633	18.7	18.1	19.4	112,337	13.6	13.5	13.7	1.4*
WA									
Males	2,002	31.7	30.1	33.3	23,947	11.6	11.5	11.8	2.7*
Females	1,907	29.3	27.9	30.7	32,028	15.7	15.5	15.8	1.9*
Persons	3,909	30.4	29.3	31.5	55,975	13.6	13.5	13.7	2.2*
SA									
Males	1,069	44.1	41.3	47.0	17,299	11.2	11.0	11.3	3.9*
Females	1,126	43.0	40.4	45.6	19,430	11.7	11.5	11.9	3.7*
Persons	2,195	43.6	41.7	45.5	36,729	11.5	11.4	11.6	3.8*
NT									
Males	888	15.8	14.6	17.1	1,001	6.4	6.0	6.9	2.5*
Females	681	10.7	9.8	11.6	614	4.5	4.1	4.9	2.4*
Persons	1,569	13.1	12.4	13.9	1,615	5.5	5.2	5.8	2.4*
NSW, Vic, Qld, WA, SA, NT[(i)]									
Males	**12,090**	**28.7**	**28.1**	**29.3**	**260,287**	**13.2**	**13.1**	**13.2**	**2.2***
Females	**10,504**	**23.5**	**23.0**	**23.9**	**325,803**	**16.1**	**16.0**	**16.1**	**1.5***
Persons	**22,594**	**26.0**	**25.6**	**26.3**	**586,096**	**14.6**	**14.6**	**14.6**	**1.8***
Tas									
Males	108	6.8	5.5	8.2	4,395	9.8	9.5	10.1	0.7*
Females	146	8.6	7.1	10.1	4,871	10.0	9.7	10.3	0.9
Persons	254	7.7	6.7	8.7	9,266	9.9	9.7	10.1	0.8*
ACT									
Males	42	12.3	7.1	17.6	1,744	5.2	4.9	5.4	2.4*
Females	53	13.3	8.7	17.9	1,891	5.5	5.3	5.8	2.4*
Persons	95	12.6	9.2	16.0	3,635	5.4	5.2	5.5	2.4*

(continued)

Table 3.09.6 (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 2006 to June 2008(a)(b)(c)

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

(a) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006); 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, Z5.

(b) Financial year reporting.

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

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(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, Tas and ACT,. Directly age-standardised using the Australian 2001 standard population in five year age groups to 65+ for Tasmania and the ACT.

(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio—Indigenous: other.

(i) 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.

Note: Person numbers and rates include hospitalisations for which sex was not stated.

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 setting 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.

Data for 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 2006 to June 2008 are presented in Table 3.09.7 and Figure 3.09.2.

- Between July 2006 and June 2008, there were 3,207 ambulatory-equivalent mental health-related hospitalisations among Indigenous Australians (919 with specialised psychiatric care and 2,288 without specialised psychiatric care).
- Over the same period there were 19,385 non-ambulatory-equivalent mental health-related separations among Indigenous Australians (8,785 with specialised psychiatric care and 10,600 without specialised psychiatric care).
- Rates of ambulatory-equivalent mental health-related hospitalisations were lower for Indigenous Australians than other Australians (rate ratio of 0.7). This was particularly the case for ambulatory-equivalent separations with specialised psychiatric care. The rate of these hospitalisations per 1,000 Aboriginal and Torres Strait Islander people was 0.2 times the rate for other Australians. In contrast, the rate of ambulatory-equivalent separations without specialised psychiatric care per 1,000 Indigenous people was almost double that for other 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 other Australians (rate ratio of 2.4). The rate of such hospitalisations with specialised psychiatric care among Indigenous Australians was around 1.8 times that of other Australians. The rate of non-ambulatory-equivalent separations among Indigenous Australians without specialised psychiatric care was over three times that of other Australians.

Table 3.09.7: Ambulatory-equivalent and non-ambulatory-equivalent mental health-related hospitalisations, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008[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	506	0.9	0.8	1.0	0.3*	413	1.0	0.9	1.1	0.2*	919	1.0	0.9	1.0	0.2*
Other[i]	61,928	3.0	3.0	3.1		102,681	5.1	5.1	5.1		164,609	4.1	4.0	4.1	
Without specialised psychiatric care															
Indigenous	1,169	2.8	2.7	3.0	2*	1,119	2.4	2.3	2.6	1.8*	2,288	2.6	2.5	2.7	1.9*
Other[i]	27,586	1.4	1.4	1.4		27,112	1.4	1.3	1.4		54,698	1.4	1.4	1.4	
Total Indigenous	**1,675**	**3.7**	**3.5**	**3.9**	**0.8***	**1,532**	**3.4**	**3.2**	**3.6**	**0.5***	**3,207**	**3.6**	**3.4**	**3.7**	**0.7***
Total other[i]	**89,514**	**4.4**	**4.4**	**4.5**		**129,793**	**6.4**	**6.4**	**6.5**		**219,307**	**5.4**	**5.4**	**5.4**	
Non-ambulatory-equivalent															
With specialised psychiatric care															
Indigenous	4,801	10.6	10.2	10.9	2.1*	3,984	8.5	8.2	8.8	1.5*	8,785	9.5	9.3	9.7	1.8*
Other[i]	97,786	5.0	4.9	5.0		111,486	5.5	5.5	5.6		209,273	5.3	5.2	5.3	
Without specialised psychiatric care															
Indigenous	5,614	14.4	14.0	14.8	3.8*	4,986	11.5	11.1	11.8	2.8*	10,600	12.9	12.6	13.1	3.3*
Other[i]	72,985	3.8	3.7	3.8		84,463	4.1	4.1	4.1		157,453	3.9	3.9	3.9	
Total Indigenous	**10,415**	**25.0**	**24.4**	**25.5**	**2.9***	**8,970**	**20.0**	**19.6**	**20.5**	**2.1***	**19,385**	**22.4**	**22.0**	**22.7**	**2.4***
Total other[i]	**170,771**	**8.7**	**8.7**	**8.8**		**195,949**	**9.6**	**9.6**	**9.7**		**366,726**	**9.2**	**9.2**	**9.2**	

(continued)

Table 3.09.7 (continued): Ambulatory-equivalent and non-ambulatory-equivalent mental health-related hospitalisations, by Indigenous status and sex, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008(a)(b)(c)(d)

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

(a) Data exclude record with missing mental health flag and private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006); 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.

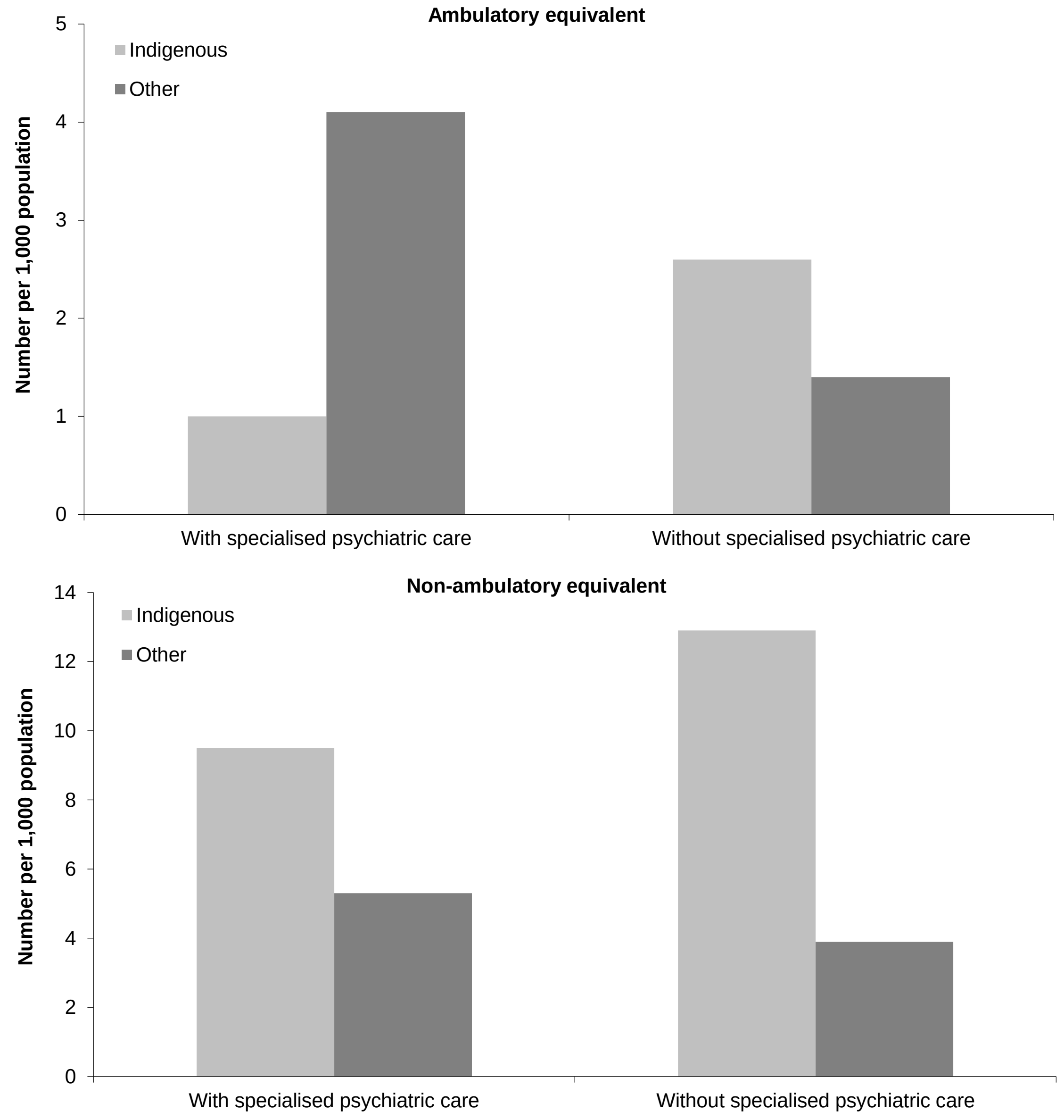
(f) LCL = lower confidence limit.

(g) UCL = upper confidence limit.

(h) Rate ratio—Indigenous: other.

(i) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.09.2: Ambulatory-equivalent and non-ambulatory-equivalent mental health-related hospitalisation rates, by Indigenous status, NSW, Vic, Qld, WA, SA and NT, July 2006 to June 2008

Average length of stay

Table 3.09.8 presents the average length of stay and total number of bed days for non-ambulatory-equivalent mental health-related hospitalisations for Indigenous and other Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.

- In the period from July 2006 to June 2008, the average length of stay in hospital for non-ambulatory-equivalent mental health-related hospitalisations was lower for Indigenous Australians than other Australians (11.2 days compared with 13.2 days).
- The average length of stay for non-ambulatory-equivalent mental health-related hospitalisations with specialised psychiatric care was longer for Indigenous than other Australians (20.9 days compared with 18.6 days). The average length of stay for non-ambulatory-equivalent mental health-related hospitalisations without specialised psychiatric care psychiatric care was 3.2 days for Indigenous Australians and 6.1 days for other Australians.
- For both Indigenous and other Australians, the total number of bed days was higher for non-ambulatory-equivalent separations with specialised psychiatric care than without specialised psychiatric care.

Table 3.09.8: 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 2006 to June 2008[(a)(b)(c)(d)]

	Indigenous			Other[(e)]			Total		
	Males	**Females**	**Persons**	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
					Patient days				
With specialised psychiatric care	122,489	61,150	183,639	1,962,749	1,922,722	3,885,527	2,085,238	1,983,872	4,069,166
Without specialised psychiatric care	19,109	14,786	33,895	416,295	541,889	958,231	435,404	556,675	992,126
Total	**141,598**	**75,936**	**217,534**	**2,379,044**	**2,464,611**	**4,843,758**	**2,520,642**	**2,540,547**	**5,061,292**
					Average length of stay (overnight)				
With specialised psychiatric care	25.5	15.3	20.9	20.1	17.2	18.6	20.3	17.2	18.7
Without specialised psychiatric care	3.4	3	3.2	5.7	6.4	6.1	5.5	6.2	5.9
Total	**13.6**	**8.5**	**11.2**	**13.9**	**12.6**	**13.2**	**13.9**	**12.4**	**13.1**

(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 fifth edition (National Centre for Classification in Health 2006); 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) ‘Other’ includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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 2001–02 to 2007–08—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 so they were included as part of the current period analysis (2004–05 to 2007–08), and a separate time series analyses.

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 (2001–02 to 2007–08)

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for mental health-related conditions over the seven year period 2001–02 to 2007–08 are presented in Table 3.09.9a and Figure 3.09.3a.

- In Queensland, Western Australia, South Australia and the Northern Territory, there were significant increases in hospitalisation rates for mental health-related conditions among Indigenous males during the period 2001–02 to 2007–08. The fitted trend implies a 16% increase in the rate over the period.
- There were significant declines in hospitalisation rates for mental health-related conditions among other Australians over the same period, with an average yearly decline in the rate of around 0.2 per 1,000. This is equivalent to an 8.7% decline in the rate over the period.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period 2001–02 to 2007–08 (8.5% increase in the rate ratio and 11% 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 other Australians for mental health-related conditions over the period 2001–02 to 2007–08.

Table 3.09.9a: Age-standardised hospitalisation rates, rate ratios and rate differences for mental health-related conditions, Qld, WA, SA and NT combined, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006-07	2007-08	Annual change[(b)]	% change over period[(c)]
Indigenous separations									
Males	2,835	2,844	2,838	2,819	2,944	3,144	3,306	76*	16.0*
Females	2,424	2,581	2,615	2,699	2,654	2,618	2,818	46*	11.4*
Persons	5,259	5,426	5,453	5,518	5,598	5,762	6,124	122*	13.9*
Other Australian separations									
Males	44,320	42,695	42,641	42,040	41,943	46,051	45,927	387	5.2
Females	50,127	52,444	53,252	54,063	52,700	52,560	52,556	249	3.0
Persons	94,447	95,141	95,893	96,103	94,643	98,611	98,483	636*	4.0*
Indigenous number per 1,000									
Males	24.5	23.9	23.3	22.8	23.6	24.0	24.7	0.0	1.0
Females	19.7	20.5	20.3	20.3	19.8	18.7	20.1	–0.1	–3.2
Persons	22.0	22.1	21.7	21.5	21.6	21.3	22.3	0.0	–0.9
Other Australian[(d)] number per 1,000									
Males	12.6	12.0	11.7	11.3	11.0	11.8	11.4	–0.2*	–8.3*
Females	14.1	14.5	14.4	14.4	13.7	13.4	13.1	–0.2*	–8.8*
Persons	13.4	13.2	13.1	12.9	12.4	12.6	12.3	–0.2*	–8.7*
Rate ratio[(e)]									
Males	1.9	2.0	2.0	2.0	2.1	2.0	2.2	0.03*	10.3*
Females	1.4	1.4	1.4	1.4	1.4	1.4	1.5	0.0	6.0
Persons	1.6	1.7	1.7	1.7	1.7	1.7	1.8	0.02*	8.5*

(continued)

Table 3.09.9a: (continued) Age-standardised hospitalisation rates, rate ratios and rate differences for mental health-related conditions, Qld, WA, SA and NT combined, 2001–02 to 2007–08[(a)]

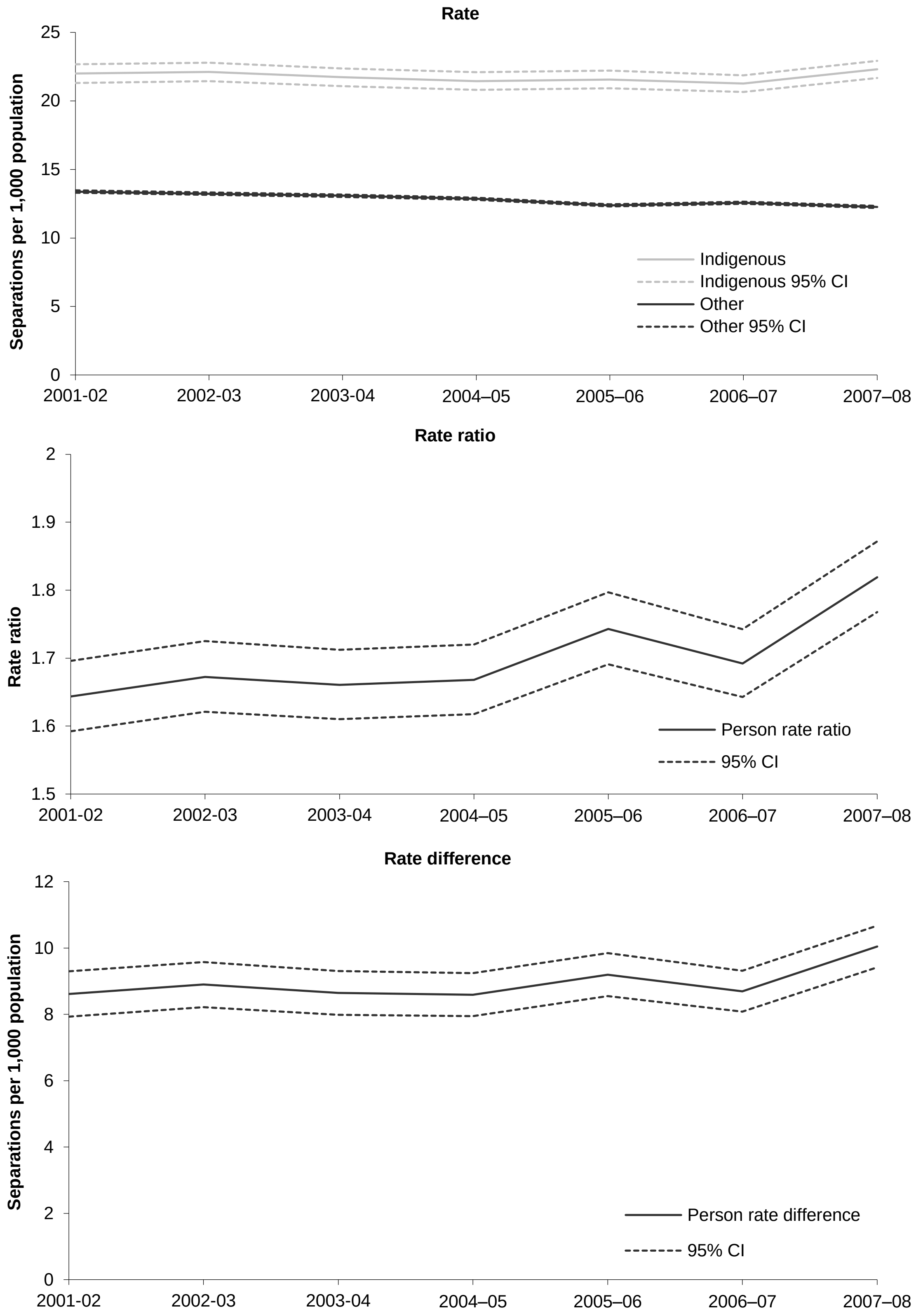
	2001–02	2002–03	2003–04	2004–05	2005–06	2006-07	2007-08	Annual change[(b)]	% change over period[(c)]
Rate difference[(f)]									
Males	11.9	12.0	11.6	11.5	12.6	12.3	13.3	0.2*	10.8*
Females	5.6	6.0	5.9	5.8	6.0	5.4	7.0	0.1	10.7
Persons	8.6	8.9	8.6	8.6	9.2	8.7	10.0	0.2	11.1

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 2001–02 and 2007–08 based on the average annual change over the period.
(d) Includes hospitalisations for non-Indigenous Australians and those for whom Indigenous status was not stated.
(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.
(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other 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 3.09.3a: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from mental health-related conditions, Qld, WA, SA and NT combined, 2001–02 to 2007–08

Hospitalisations of mental health-related conditions (2004–05 to 2007–08)

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for mental health-related conditions over the four year period 2001–02 to 2004–05 are presented in Table 3.09.9b and Figure 3.09.3b.

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, there were significant increases in hospitalisation rates for mental health-related conditions among Indigenous males during the period 2001–02 to 2004–05. The average yearly increase in the rate was 0.9 per 1,000, which is equivalent to a 10% increase over the period. There were no significant changes in hospitalisation rates for mental health-related conditions among other Australians over the same period.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians males over the period 2004–05 to 2007–08 (9.5% increase in the rate ratio and 19% increase in the rate difference for males over the period). This reflects both a relative and absolute increase in the gap between hospitalisation rates of Indigenous and other Australians males for mental health-related conditions over the period 2004–05 to 2007–08.

Table 3.09.9b: Age-standardised hospitalisation rates, rate ratios and rate differences for mental health-related conditions, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08(a)

	2004–05	2005–06	2006–07	2007–08	Annual change(b)	% change over period(c)
Indigenous separations						
Males	5,055	5,504	5,823	6,089	342*	20.3*
Females	4,571	4,579	4,764	5,102	178*	11.7*
Persons	9,626	10,083	10,587	11,191	520*	16.2*
Other Australian separations						
Males	118,154	118,212	123,404	124,615	2,458*	6.2*
Females	149,285	152,292	153,227	156,202	2,169*	4.4*
Persons	267,440	270,505	276,631	280,820	4,627*	5.2*
Indigenous number per 1,000						
Males	25.9	27.3	28.0	28.5	0.9*	10.0*
Females	22.1	21.1	21.6	22.8	0.2	3.3
Persons	23.9	24.1	24.6	25.6	0.5*	6.8*
Other Australian(d) number per 1,000						
Males	12.5	12.3	12.6	12.5	0.0	0.5
Females	15.4	15.4	15.2	15.3	0.0	–0.9
Persons	13.9	13.9	13.9	13.9	–0.01	–0.3
Rate ratio(e)						
Males	2.1	2.2	2.2	2.3	0.1*	9.5*
Females	1.4	1.4	1.4	1.5	0.0	4.2
Persons	1.7	1.7	1.8	1.8	0.04*	7.1*
Rate difference(f)						
Males	13.4	15.0	15.4	16.0	0.8*	18.9*
Females	6.8	5.7	6.3	7.6	0.3	12.9
Persons	10.0	10.2	10.7	11.7	0.8*	16.7*

* Represents results with statistically significant increases or decreases at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 2004–05 and 2007–08 based on the average annual change over the period.

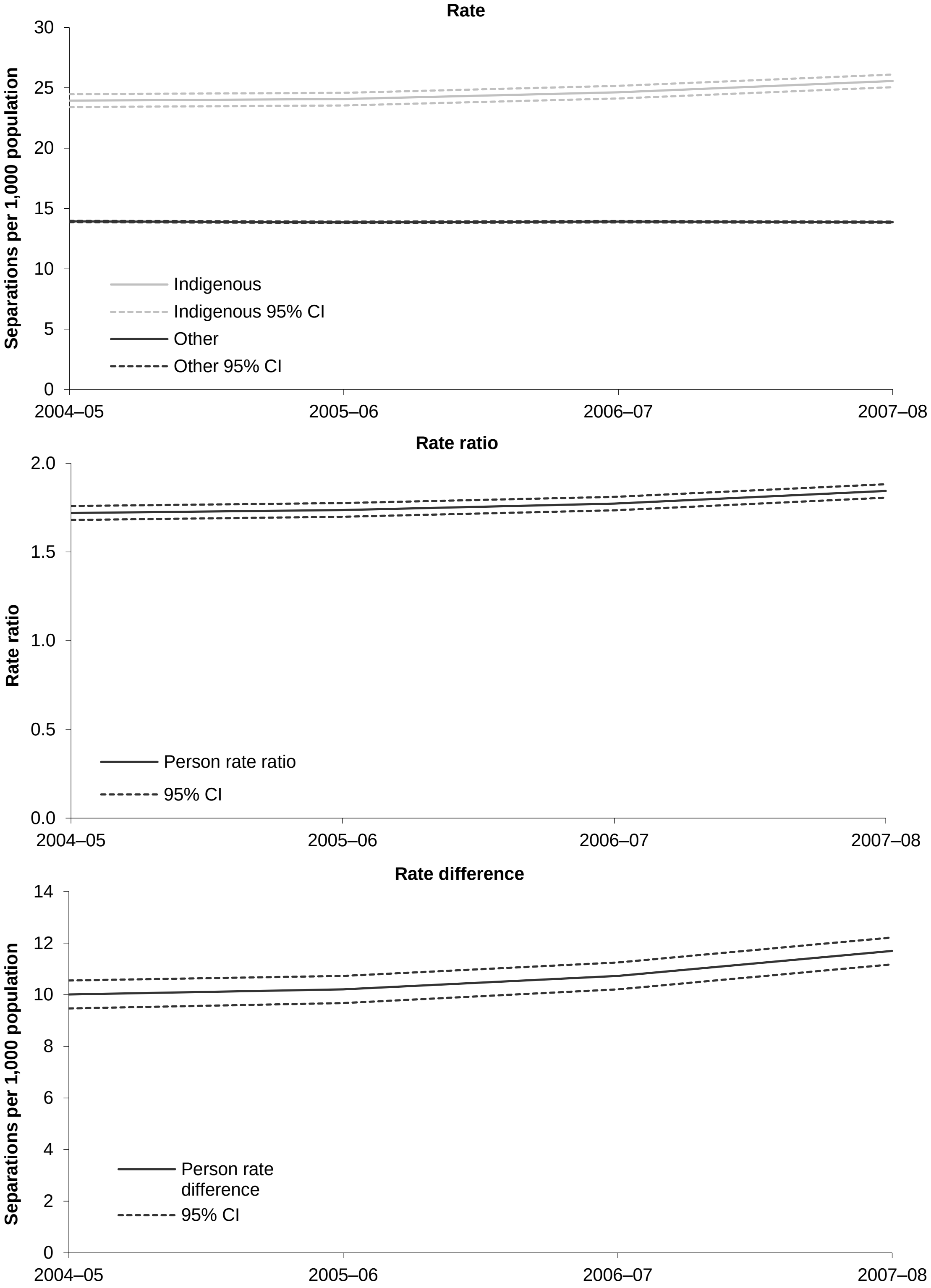
(d) Includes hospitalisations for non-Indigenous Australians and those for whom Indigenous status was not stated.

(e) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other 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 3.09.3b: 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 2007–08

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 a specialised mental health service provider(s) for patients/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/client in question (AIHW 2010a).

- In 2007–08, there were 6,374,267 clients of community mental health care services, of which 362,429 service contacts (6.0%) were for Aboriginal and/or Torres Strait Islander people (Table 3.09.10).
- There were more service contacts per 1,000 population for Aboriginal and Torres Strait Islander people than for other Australians (736 per 1,000 and 272 per 1,000, respectively) (Table 3.09.10).

Contacts by age and sex

- In 2007–08, compared with other Australians, a higher proportion of Indigenous people in younger age groups had contacts with mental health services. The proportions were lower in the older age groups, which is due, in part, to 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). For example, 22% and 24% of service contacts for Indigenous Australian males and females were for clients aged between 15 and 24 years compared with 15% and 17% of service contacts for other Australian males and females of the same age (Table 3.09.10).
- In the older age groups, there were lower proportions of service contacts for Indigenous Australian males and females aged 65 years or more (both 1%) than for other Australian males (7%) and females (14%). This may reflect in part the younger age structure of the Indigenous population—life expectancy of Indigenous males and females at birth is estimated at only 67.2 years and 72.9 years, respectively, compared with 78.7 and 82.6 years for non-Indigenous males and females (ABS 2009).
- In 2007–08, Indigenous males and females had higher rates of community mental health care service contacts across the majority of age groups, with the exception of females aged 65 years and over. Differences were most marked in the 25–34 and 35–44 year age groups where Indigenous males and females were between 2.7 and 3.8 times as likely to be clients of community mental health care services as other Australians in these age groups (Table 3.09.10).

Table 3.09.10: Community mental health care service contacts, by Indigenous status, sex and age group, 2007–08[(a)]

	Indigenous			Other[(b)]			
Sex and age group	Number	Per cent	No. per 1,000[(c)]	Number	Per cent	No. per 1,000[(c)]	Ratio[(d)]
Males							
Less than 15 yrs	18,272	8.0	183.3	244,966	7.7	122.1	1.5
15–24	50,032	22.0	939.4	481,655	15.1	327.6	2.9
25–34	77,919	34.2	2,143.4	825,490	26.0	570.6	3.8
35–44	55,000	24.2	1,730.7	698,677	22.0	463.2	3.7
45–54	17,724	7.8	788.2	472,503	14.9	330.0	2.4
55–64	6,392	2.8	525.2	239,169	7.5	204.0	2.6
65 and over	1,904	0.8	271.7	212,115	6.7	168.2	1.6
Total[(e)(f)]	**227,593**	**100.0**	**939.9**	**3,179,809**	**100.0**	**310.8**	**3.0**
Females							
Less than 15 yrs	10,978	8.1	115.3	167,339	6.2	87.9	1.3
15–24	31,808	23.6	624.5	464,150	17.1	332.2	1.9
25–34	37,859	28.1	1,020.0	478,671	17.7	334.0	3.1
35–44	33,285	24.7	958.1	537,780	19.9	352.4	2.7
45–54	13,980	10.4	578.5	436,819	16.1	299.9	1.9
55–64	4,746	3.5	353.5	253,441	9.4	215.5	1.6
65 and over	1,911	1.4	202.1	364,822	13.5	240.0	0.8
Total[(e)(f)]	**134,712**	**100.0**	**544.7**	**2,706,724**	**100.0**	**258.4**	**2.1**
Grand Total[(e)(f)]	**362,429**	**100.0**	**735.7**	**6,011,838**	**100.0**	**271.6**	**2.7**

(a) These data should be interpreted with caution because of likely under-identification of Indigenous Australians.

(b) 'Other' includes service contacts for non-Indigenous clients and those for whom Indigenous status was not stated.

(c) Number per 1,000 population based on estimated resident population as at 31 December 2007.

(d) Rate ratio—Indigenous: other.

(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 2007–08, the proportion of service contacts for clients of community mental health services who identified themselves as being of Aboriginal and/or Torres Strait Islander origin ranged from 1.7% for Victoria to 31% for the Northern Territory (Table 3.09.11).

Table 3.09.11: Community mental health care service contacts per 1,000 population, by Indigenous status and state and territory, 2007-- 08

	NSW[(a)]	Vic[(a)]	Qld	WA	SA[(a)]	Tas	ACT	NT	Australia[(a)]
Indigenous	170,247	29,410	94,153	28,831	20,681	3,525	4,423	11,159	362,429
Non-Indigenous	1,602,002	1,691,539	1,066,035	508,389	388,682	120,633	179,059	21,081	5,577,420
Not stated	300,191	15,507	2,369	17,338	47,579	23,543	23,985	3,906	434,418
Total	**2,072,440**	**1,736,456**	**1,162,557**	**554,558**	**456,942**	**147,701**	**207,467**	**36,146**	**6,374,267**
				Number per 1,000 population[(b)]					
Indigenous	1,231	943	679	412	729	194	1,077	172	737
Other Australians[(c)]	284	327	266	256	287	305	593	157	294
Ratio[(d)]	4.3	2.9	2.6	1.6	2.5	0.6	1.8	1.1	2.5
Total	**304**	**331**	**280**	**262**	**295**	**300**	**598**	**161**	**304**

(a) 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.

(b) Rates were directly age-standardised using the Australian 2001 standard population.

(c) 'Other Australians' includes service contacts for non-Indigenous clients and those for whom Indigenous status was not stated.

(d) Rate ratio—Indigenous: other.

Source: AIHW analysis of National Community Mental Health Care 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 2007–08, there were 3,222 clients of residential mental health care services. 87 service contacts (2.7%) were for Indigenous people (Table 3.09.12).

Table 3.09.12: Residential mental health care service contacts per 10,000 population, by Indigenous status and state and territory, 2007–08

	NSW	Vic[(a)]	Qld	WA	SA[(a)]	Tas	ACT	NT	Total
Indigenous	27	31	n.a.	7	6	12	n.p.	n.p.	87
Non-Indigenous	278	1448	n.a.	233	179	750	72	n.p.	2,962
Not stated	0	19	n.a.	0	7	145	n.p.	0	173
Total	**305**	**1,498**	**n.a.**	**240**	**192**	**907**	**75**	**5**	**3,222**
					Number per 10,000 population(b)				
Indigenous	1.8	10.3	. .	n.p.	n.p.	15.4	n.p.	n.p.	1.8
Other Australians(c)	0.6	1.9	. .	0.9	0.8	12.8	2.1	0.5	1.2
Ratio(d)	3.0	5.4	. .	n.p.	n.p.	1.2	n.p.	n.p.	1.5
Total	**0.6**	**2.0**	**. .**	**0.9**	**0.8**	**14.7**	**2.3**	**0.5**	**1.2**

(a) 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.

(b) Rates were directly age-standardised using the Australian 2001 standard population.

(c) 'Other Australians' includes service contacts for non-Indigenous clients and those for whom Indigenous status was not stated.

(d) Rate ratio—Indigenous: other.

Source: AIHW analysis of National Residential Mental Health Care Database.

General practitioner encounters

Information about general practitioner encounters is available from the BEACH survey. Data for the five year BEACH reporting period April 2004–March 2005 to April 2008–March 2009 are presented in Table 3.09.13. Mental health-related problems (psychological problems) were the fourth most common type of problems managed at GP encounters with Indigenous patients during this period. The other four most common types of problems managed at GP encounters with Indigenous patients were respiratory conditions, circulatory conditions, endocrine and metabolic problems, and musculoskeletal conditions.

- In the period April 2004–March 2005 to April 2008–March 2009 there were 6,137 GP encounters with Indigenous patients recorded in the survey, at which 9,305 problems were managed. Of these, 9.7% (901) were mental health-related problems (Table 3.09.13).
- After adjusting for differences in age distribution, mental health-related problems were managed at GP encounters with Indigenous patients at a similar rate to encounters among other patients.

Table 3.09.13: Mental health-related problems[(a)] managed by general practitioners, by Indigenous status of the patient, BEACH years April 2004 March 2005 to April 2008–March 2009[(b)(c)]

	Number		Per cent of total problems		Crude rate (no per 100 encounters)						Age-standardised rate (no. per 100 encounters)[(d)]		
Problem managed	**Indigenous**	**Other[(e)]**	**Indigenous**	**Other[(e)]**	**Indigenous**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Other[(e)]**	**95% LCL[(f)]**	**95% UCL[(g)]**	**Indigenous**	**Other[(e)]**	**Ratio[(h)]**
Mental health-related conditions[(i)]	901	58,291	9.7	8.0	14.7	12.1	17.3	12.1	11.9	12.4	14.1	12.0	1.2

(a) Classified according to ICPC-2 codes (Classification Committee of the World Organization of Family Doctors (WICC) 1998).Combined financial year data for five years.

(b) Data from five combined BEACH years April 2004–March 2005 to April 2008–March 2009 inclusive.

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

(d) Directly age-standardised rate (no. per 100 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 Indigenous:other.

(i) ICPC–2 codes: P01–P13, P15–P20, P22–P25, P27–P29, P70–P82, P85–P86, P98–P99.

Source: AIHW analysis of BEACH survey of general practice, AGPSCC.

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, 2010b).

- In 2008–09, there were 109,000 client contacts with emotional and social wellbeing staff or psychiatrists. Of the 197 Aboriginal and Torres Strait Islander primary health care services reporting, 97% (192) of the 197 reported that social and emotional wellbeing issues were experienced by their clients.

The OSR also collects information on mental health programs run by Indigenous primary health care services.

- In 2008–09, 188 (97%) of the 205 services that reported data in the OSR provided mental health or social and emotional wellbeing programs to clients.

Additional information

In 2007–08, 1.2% of 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 nearly five times the rate for non-Indigenous Australians (Table 3.09.14) (AIHW 2010a).

Table 3.09.14: Supported Accommodation Assistance Program clients with mental health-related closed support periods by Indigenous status, 2007–08

	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	1,621	11.2	312.4	2,131	10.6	416.3
Non-Indigenous Australians	12,887	88.8	63.1	18,002	89.4	88
Total number	**15,215**	**100**	**72.7**	**22,509**	**100**	**107.3**

(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 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 are directly age-standardised

Source: Supported Accommodation Assistance Program Client Collection.

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*, *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. 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, but the extent of this undercount is not measurable.

National Hospital Morbidity Data

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.

In all states and territories, the proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009).

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. Based on an analysis of a sample of data conducted in 2010, an estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08 (AIHW 2010c). In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data were of acceptable quality (AIHW 2010c). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data in all states and territories. Results from this assessment indicate that all hospitals in New South Wales, Victoria, Queensland, Western Australia and South Australia and public hospitals in the Northern Territory have adequate Indigenous identification (80% or higher overall levels of Indigenous identification in public hospitals only) in their separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also 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.
- Interpretation of time series analysis should take into account the possible contribution of changes over time in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.
- Bias may have been introduced due to the sampling method of hospitals used in the study. Hospitals with high proportions of Indigenous separations were used in the study to ensure sufficient numbers of Indigenous people were included in the study. Proportions of Indigenous separations should therefore not be taken to represent the NHMD overall.
- Hospitalisation data for these six jurisdictions are not necessarily representative of other 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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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 2010 (ABS 2009).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

National Community Mental Health Care Database

The quality of the Indigenous identification in this database varies by jurisdiction and should be interpreted with caution.

The number of service contacts per 1,000 population for Aboriginal and Torres Strait Islander people varies among the states and territories.

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. For a number of jurisdictions, the NCMHCD data reported for the 'both Aboriginal and Torres Strait Islander' category are suspected to be affected by misinterpretation of the category to include non-Aboriginal and Torres Strait Islander people (for example, Maori and South Sea Islanders) and use of the category as an 'Indigenous, not further specified'.

However, they believe that there are quality issues regarding the coding of more specific details (that is, 'Aboriginal', 'Torres Strait Islander', 'Both Aboriginal and Torres Strait Islander'). Queensland, Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory reported that the quality of their data was suitable for analysis. South Australia indicated that there has been limited analysis of the quality of Indigenous status data. Therefore, the quality of the data is uncertain at this stage.

All state and territory health authorities provided information on the quality of the data for the NCMHCD 2006–2007. The Northern Territory estimates that there could be a deficit of between 25 and 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.

Residential Mental Health Care

The quality of the Indigenous identification in this database varies by jurisdiction.

The number 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 or different patterns of service use by Indigenous and non-Indigenous persons.

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. Only Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory considered their Indigenous status data of acceptable quality.

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 2007 (AIHW 2009a).

OATSIH Service 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 2010b).

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.

Midway through the 2008-2009 reporting period, SAAP was discontinued and replaced by the National Affordable Housing Agreement (NAHA). This resulted in some changes in the way the jurisdictions administer the agencies. The number of funded agencies and the number of agencies that were required to participate in the collection decreased. This was a contributing factor in the decrease in the number of support periods in 2008-2009. As a result of these changes, the number of support periods and the estimated number of clients in 2008-2009 cannot be directly compared with the number of support periods and clients in 2007-2008

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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3.10 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 Australian Bureau of Statistics (ABS) Census of Population and Housing is conducted by the ABS at 5-yearly intervals, with 2006 being the most recent, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question and it is asked 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but this was replaced by the Australian and New Zealand Standard Classification of Occupations for the 2006 Census.

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 3.10.1 below.

- In 2006, there were 5,536 Indigenous Australians employed in health-related occupations, which represented 1% of the total health workforce.

Health workforce by occupation

- During the period 1996 to 2006 the number of Indigenous health workers employed in all 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 1736 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, which include midwives, (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, 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.
- The number per 10,000 head of population of both Indigenous and non-Indigenous health workers in all health occupations combined increased between 1996, 2001 and 2006, with the greatest increase observed between 2001 and 2006 for both the Indigenous and non-Indigenous population (Figure 3.10.1).

Table 3.10.1: Employed persons aged 15+, by health-related occupation[(a)] and Indigenous status, Australia, 1996, 2001 and 2006

Occupation[(a)]	1996	2001	2006	Period linear per cent change[(b)]	Number per 10,000 2006[(c)] Indigenous	Number per 10,000 2006[(c)] Non-Indigenous	Rate difference (per 10,000)[(d)]
Aboriginal and Torres Strait Islander health worker	**667**	**853**	**966**	**44.8***	**21.5**	**n.a.**	**n.a.**
Nurse	**1,258**	**1,123**	**1,449**	**15.2***	**32.3**	**121.1**	**88.8**
Registered nurse[(e)]	640	832	1,111	73.6*	24.7	94.5	69.8
Nurse managers and nursing clinical director	20	38	56	180.0*	1.2	7.2	6.0
Midwife	27	40	50	85.2*	1.1	6.7	5.6
Enrolled and mothercraft nurse	564	202	215	–61.9*	4.8	10.5	5.7
Nurse educator and researcher	7	11	17	142.9*	0.4	2.1	1.7
Medical practitioner	**61**	**90**	**101**	**65.6***	**2.2**	**30.2**	**28.0**
Generalist medical practitioner	41	57	82	100*	1.8	19.7	17.9
General medical practitioner[(f)]	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 practitioner[(g)]	20	33	19	–0.5	0.4	10.5	10.1
Allied health professional	**179**	**274**	**441**	**146.4***	**9.8**	**36.0**	**26.2**
Dietician	n.p.	18	7	n.p.	0.2	1.4	1.3
Optometrist	n.p.	n.p.	8	n.p.*	0.2	1.7	1.5
Psychologist[(h)]	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 Professional and Audiologist	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 professional[(i)]	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 hygienist, technician and therapist	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 professional	**164**	**185**	**638**	**289.0***	**14.2**	**22.4**	**8.2**
Medical imaging professional	7	14	19	171.4*	0.4	5.6	5.2
Pharmacist	6	10	9	50.0*	0.2	8.4	8.2
Occupational health and safety advisor	22	25	50	127.3*	1.1	3.7	2.6
Health promotion officer[(j)]	n.a.	n.a.	438	n.a.	9.8	1.9	–7.9

(continued)

Table 3.10.1 (continued): Employed persons aged 15+, by health-related occupation[(a)] and Indigenous status, Australia, 1996, 2001 and 2006

Occupation[(a)]	1996	2001	2006	Period linear per cent change[(b)]	Number per 10,000 2006[(c)] Indigenous	Number per 10,000 2006[(c)] Non-Indigenous	Rate difference (per 10,000)[(d)]
Environmental health officer	122	114	98	–19.7*	2.2	2.1	–0.1
Other health diagnostic and promotion professional[(k)]	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 manager[(l)]	21	n.p.	17	19.0*	2.9	4.6	1.6
Nursing support worker and personal care worker[(m)]	579	808	974	68.2*	21.7	31.0	9.3
Ambulance officers and paramedic	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[(n)]	166	n.p.	475	186.1*	8.0	31.0	23.0
Total health-related occupations[(o)]	**3,371**	**4,004**	**5,536**	**64.2***	**123.3**	**297.8**	**174.6**

* represents results that are statistically significant

(a) Occupation as defined by the Australian and New Zealand Classification of Occupations (ANZSCO). Health workforce defined by the client.

(b) 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.

(c) Number 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.

(d) Rate difference is non-Indigenous rate minus the Indigenous rate.

(e) Both 2001 and 2006 figures include midwifery and nursing professional n.f.d.

(f) Generalist medical practitioner includes general medical practitioner and resident medical practitioner, and specialist physician (general medicine).

(g) The 2006 figure includes anaesthetist, pathologist, psychologist, neurosurgeon, medical practitioner n.f.d. The 2001 figure includes emergency medical specialist, obstetrician and gynaecologist, pathologist, radiologist, psychiatrist, surgeon (general), medical practitioner n.f.d., and 1996 figure includes specialist medical practitioner.

(h) 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.

(i) 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.

(j) 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.

(k) 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.

(l) 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.

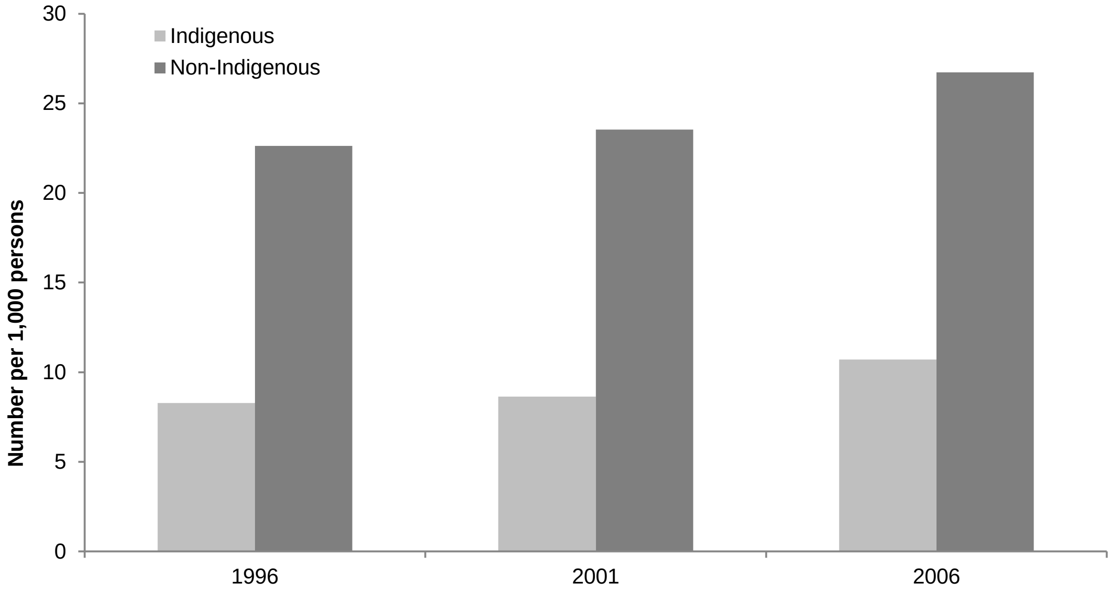
(m) Nursing support worker and personal care worker includes therapy aide, in 2006 includes hospital orderly, which in 2001 and 1996 was grouped with nursing assistant and personal care assistant occupations because there was no such a category.

(n) 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.

(o) 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.



Source: ABS and AIHW analysis of 1996, 2001 and 2006 Census data.

Figure 3.10.1: Indigenous and non-Indigenous health workforce numbers per 1,000 persons, 1996, 2001 and 2006

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 55–64 years (0.7%) (Table 3.10.2; Figure 3.10.2).
- Indigenous females represented a higher proportion of the health workforce than Indigenous males across all age groups (Table 3.10.3).
- The highest number of people employed in the total health workforce was aged 45–54 years. Females represented over three-quarters (76%) of the total health workforce (Table 3.10.2).

Table 3.10.2: 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	Total
Indigenous health workforce[(b)]						
			Number			
Male	131	333	447	358	132	1,401
Female	462	910	1,226	1,087	397	4,082
Total	**593**	**1,243**	**1,673**	**1,445**	**529**	**5,483**
			Proportion of Indigenous health workforce (%)[(c)]			
Male	2.4	6.0	8.1	6.5	2.4	25.6
Female	8.3	16.4	22.1	19.6	7.2	74.4
Total	**10.7**	**22.5**	**30.2**	**26.1**	**9.6**	**100.0**
			Proportion of total health workforce (%)[(d)]			
Male	1.9	1.2	1.3	1.0	0.6	1.1
Female	1.3	1.0	1.1	0.9	0.7	1.0
Total	**1.4**	**1.1**	**1.2**	**0.9**	**0.7**	**1.0**
Total health workforce						
			Number			
Male	6,909	27,714	34,913	36,361	20,995	126,892
Female	35,002	89,645	108,429	121,526	54,324	408,926
Total	**41,911**	**117,359**	**143,342**	**157,887**	**75,319**	**535,818**
			Proportion of total health workforce (%)[(e)]			
Male	1.3	5.1	6.4	6.6	3.8	23.7
Female	6.4	16.3	19.8	22.2	9.9	76.3
Total	**7.6**	**21.4**	**26.1**	**28.8**	**13.7**	**100.0**

(a) Occupation as defined by the Australian and New Zealand Classification of Occupations (ANZSCO). Health workforce defined by the client.

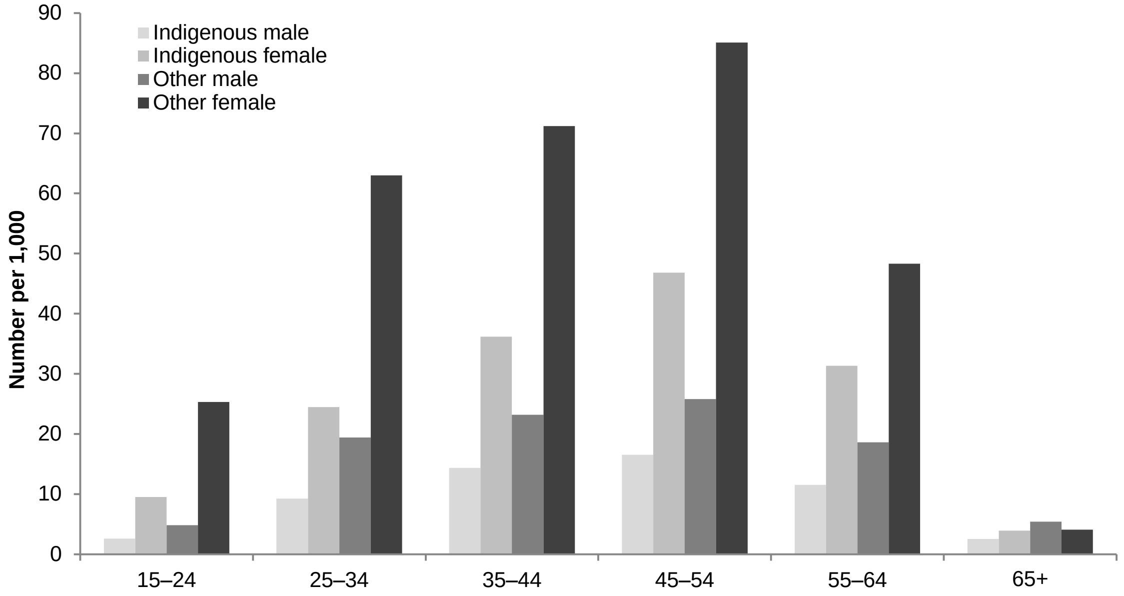
(b) Includes Aboriginal, Torres Strait Islander, and Both Aboriginal and Torres Strait Islander, employed in health-related occupations as defined by the client.

(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.



Source: ABS and AIHW analysis of 2006 Census data.

Figure 3.10.2: Indigenous and other Australian health workforce age-standardised numbers, by age and sex, per 1,000 population, 2006

Table 3.10.3: Indigenous and other Australian health workforce age-standardised numbers, 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

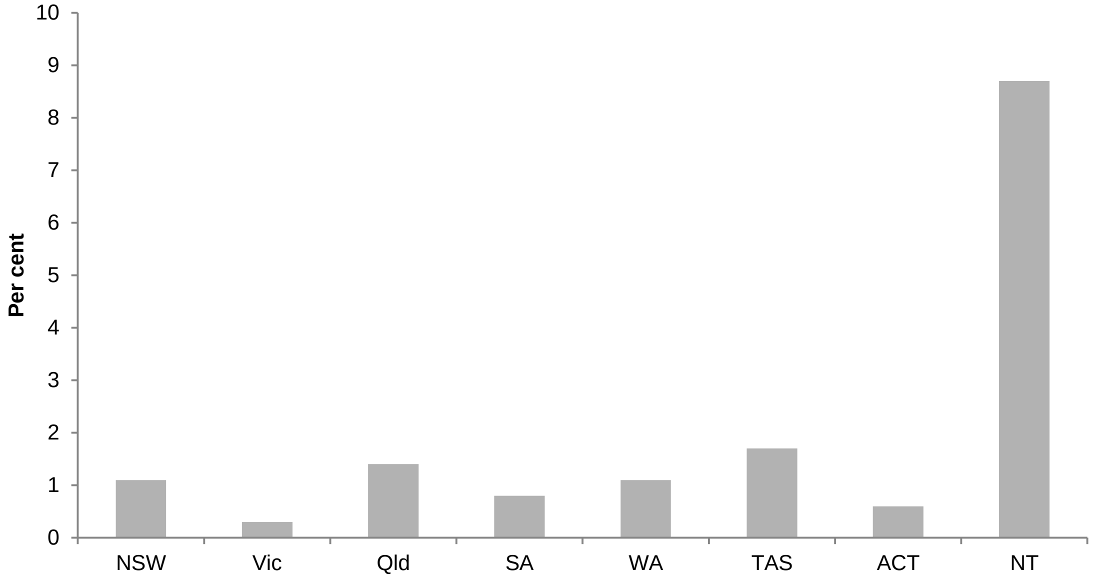
- In 2006, the Northern Territory had the highest proportion of Indigenous persons in the health workforce (9%), and Victoria had the lowest (0.3%) (Table 3.10.4; Figure 3.10.3). The proportion of Indigenous people in the health workforce was below the proportion of the population who were Indigenous in all states and territories.
- 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 3.10.4).

Table 3.10.4: Employed persons aged 15+, by Indigenous status, health-related occupation(a) and state/territory of usual residence

	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

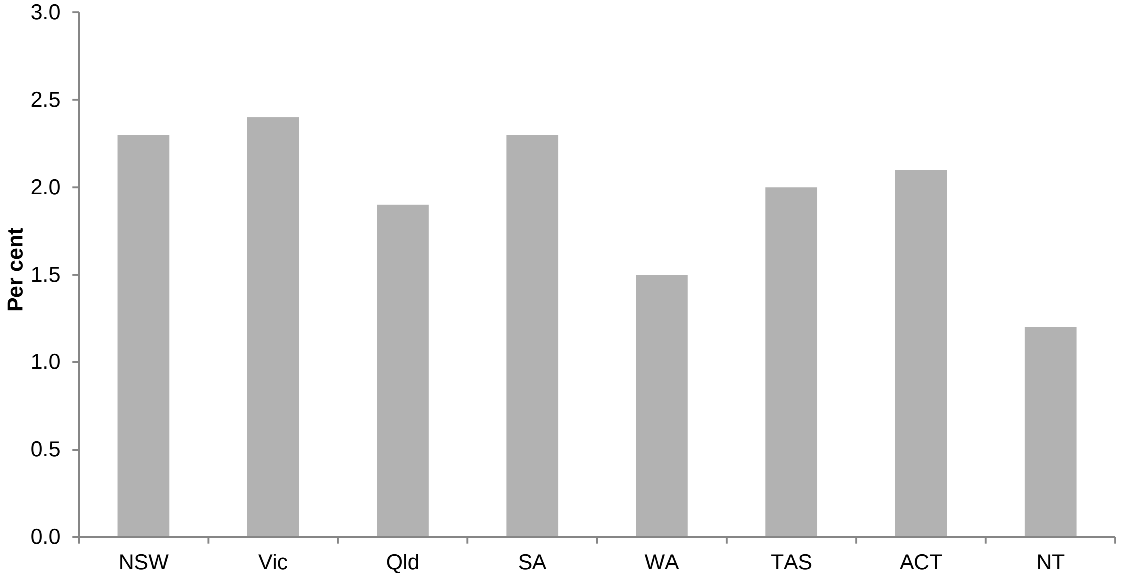
(a) Occupation as defined by the Australian and New Zealand Classification of Occupations (ANZSCO). Health workforce defined by the client.

Source: ABS and AIHW analysis of 2006 Census data.



Source: ABS and AIHW analysis of 2006 Census data.

Figure 3.10.3: Indigenous health workforce as a proportion of total health workforce, by state/territory, 2006



Source: ABS and AIHW analysis of 2006 Census data.

Figure 3.10.4: Indigenous health workforce as a proportion of the Indigenous population aged 15+, by state/territory, 2006

Time series analyses

Tables 3.10.5a, 3.10.5b and 3.10.5c show the proportion of the Australian health workforce who are Indigenous persons 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). However, as in 1996 and 2001 a significantly greater proportion of Indigenous Australians were employed as Aboriginal and Torres Strait Islander health workers (95.5%). Unlike 1996 and 2001, Indigenous Australians represented 11.2% of health promotion officers. It is likely that this difference is due to changes in classification (Table 3.10.5a).
- In 2001, there were approximately 3,998 Indigenous Australians employed in health-related occupations, representing 0.9% of the total health workforce. A similar pattern to 1996 was observed with the highest proportion of Indigenous health workers employed as Aboriginal and Torres Strait Islander Health Workers (93.2%) (Table 3.10.5b).
- 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 3.10.5c).
- During 1996, 2001 and 2006, the largest number of Indigenous health workers were within the 35–44 year age group. In all three years, the proportion of health workers who were Indigenous was highest among those aged 35–44 years and lowest among those aged 65+ years (Table 3.10.6).
- In 2006, Indigenous females represented a higher proportion of the health workforce than Indigenous males across all age groups, equal to around three-quarters (74%) of the total Indigenous health workforce. Females also represented a higher proportion of health workers is 2001 and 1996 (Table 3.10.6).
- A similar pattern is evident for all persons in the health workforce; in 2006, 2001 and 1996, approximately three-quarters of the total health workforce were female (Table 3.10.7).

Table 3.10.5a: 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**

(continued)

Table 3.10.5a (continued): Employed persons aged 15+, by Indigenous status and health-related occupation(a), Australia, 2006.

(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 3.10.5b: Employed persons aged 15+, by Indigenous status and health-related occupation[(a)], Australia, 2001

Health-related occupation[(m)]	Indigenous	Non-Indigenous	Not Stated	Total	Proportion who were Indigenous
		Number			Per cent
349311 Aboriginal and Torres Strait Islander health worker	853	59	3	915	93.2
129213 Medical administrator	61	3,652	8	3,721	1.6
251411 Clinical psychologist	19	7,519	32	7,570	0.3
254313 Environmental health officer	114	3,172	16	3,302	3.5
Other health diagnostic and promotion professional[(b)]	57	20,982	83	21,122	0.3
238511 Physiotherapist	29	10,192	27	10,248	0.3
Dental worker[(c)]	156	25,592	126	25,874	0.6
Other health therapy professional[(d)]	77	22,569	105	22,751	0.3
231111 General medical practitioner	44	28,988	97	29,129	0.2
Other medical practitioner[(e)]	39	14,418	66	14,523	0.3
232411 Registered midwife	40	11,574	35	11,649	0.3
Registered nurse[(f)]	832	148,349	755	149,936	0.6
Nurse educators and researcher[(g)]	11	2,596	7	2,614	0.4
Nurse manager and clinical director[(h)]	38	9,997	34	10,069	0.4
341111 Enrolled nurse	202	19,198	98	19,498	1.0
Nursing support and personal care worker[(i)]	793	49,380	482	50,655	1.6
Ambulance officer and paramedic[(j)]	83	6,597	26	6,706	1.2
Other health occupation[(k)]	550	61,283	238	62,071	0.9
Total	**3,998**	**446,117**	**2,238**	**452,353**	**0.9**

(continued)

Table 3.10.5b (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 ASCO V2 codes 239979,239311,238411,238211,238213,238215.

(c) Includes 639111,349211,349213,349215,349200,238111,238113.

(d) Includes 238711,239411,238311,238611,238811,239911,349411,639513.

(e) Includes 231181,231225,231215,231217,231223,231227,231229,231231,231200.

(f) Includes 232000, 232311, 232511, 232611.

(g) Includes 232211, 232213.

(h) Includes 232111, 129211.

(i) Includes 631411, 631413.

(j) Includes 349111, 349113

(k) 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 3.10.5c: Employed persons aged 15+, by Indigenous status and health-related occupation[(a)], Australia, 1996

Health-related occupation(a)	Indigenous	Non Indigenous	Not stated	Total	Indigenous Proportion
			Number		Per cent
349311 Aboriginal and Torres Strait Islander health worker	669	36	0	705	94.9
129213 Medical administrator	21	1,888	11	1,920	1.1
251411 Clinical psychologist	13	5,221	21	5,255	0.2
254313 Environmental health officer	122	4,979	29	5,130	2.4
Other health diagnostic and promotion professional(b)	19	18,983	71	19,073	0.1
238511 Physiotherapist	16	8,844	36	8,896	0.2
Dental worker(c)	146	23,065	101	23,312	0.6
Other health therapy professional(d)	53	17,546	99	17,698	0.3
Generalist medical practitioner(e)	29	26,271	101	26,401	0.1
Other medical practitioners(f)	32	17,502	76	17,610	0.2
232411 Registered midwife	27	10,842	33	10,902	0.2
Registered nurse(g)	640	139,614	818	141,072	0.5
Nurse educator and researcher(h)	5	2,052	6	2,063	0.2
Nurse managers and clinical directors(i)	20	9,242	52	9,314	0.2
341111 Enrolled nurse	564	23,868	135	24,567	2.3
Nursing support and personal care worker(j)	569	41,758	320	42,647	1.3
Ambulance officer and paramedic(k)	49	5,878	32	5,959	0.8
Other health occupation(m)	377	47,450	219	48,046	0.8
Total health-related occupations	**3,371**	**405,039**	**2,160**	**410,570**	**0.8**

(continued)

Table 3.10.5c (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 ASCO V2 codes 239979,239311,238411,238211,238213,238215,239913,129200,239915.
(c) Includes 639111, 349211,349213,349215,38111,238113.
(d) Includes 238711,238713,239400,239411,239413,239479,238311,238611,238811,239911,349411,639513.
(e) Includes 231100,231111.
(f) Includes 231181, 2312(all).
(g) Includes 232311, 232511, 232611.
(h) Includes 232211, 232213.
(i) Includes 232111, 129211.
(j) Includes 631411, 631413.

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 3.10.6: 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 3.10.7: 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 and nurses

- According to the Australian Indigenous Doctors' Association, there are currently an estimated 140 Indigenous doctors in Australia (AIDA 2009). This represents only about 0.2% of the medical profession—well below the proportion (2.5%) of the Australia population that is Indigenous. To increase the rate of Indigenous doctors working in Australia to be equivalent to the rate of non-Indigenous doctors, the Australian Medical Association in 2004 estimated that around 928 more doctors need to be trained (AMA 2004). In 2009 there were 137 Indigenous medical students: this represents of 0.9% of all medical students (AIDA 2009).
- In 2008, there were an estimated 78,909 medical practitioners working in medicine in Australia (AIHW 2010a). There were also an estimated 312,736 employed nurses, 1,598 (0.6%) of whom were Aboriginal or Torres Strait Islander Australians (AIHW 2010b).

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 2007–08, a total of 281 full-time equivalent (FTE) doctors were employed by Indigenous primary health-care services. The majority of doctors, nurses, allied health professionals and dentists employed by Indigenous primary health-care services were non-Indigenous. Most traditional healers, Aboriginal health workers, sexual health workers, Bringing them Home counsellors, environmental health workers, Indigenous 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 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).

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 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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3.11 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 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the Healthy for Life (HfL) data collection and the OATSIH Services Reporting (OSR) 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 2008–09, compliance analysis was able to be completed for 84 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.

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 population 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 6 years, with the next survey planned for 2013.

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 peoples. 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. For the reporting period ending June 2009 reporting period, 72 HfL services submitted data to the AIHW.

OATSIH Services Reporting (OSR) data collection

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH funded services include both Indigenous Community Controlled Health Organisations and non-community controlled health organisations. Note that the 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 OSR data collection which was established in 2008–09 uses a new set of counting rules which treat all auspice services as individual services which yields a larger numerator and denominator on which the rates are based. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates based on earlier data collection periods.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services 81 (94%) responded to the OSR questionnaire, as well as 5 auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance use service.

Forty five (90%) out of 50 stand-alone substance use services as well as 3 auspiced services responded to the OSR questionnaire.

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.

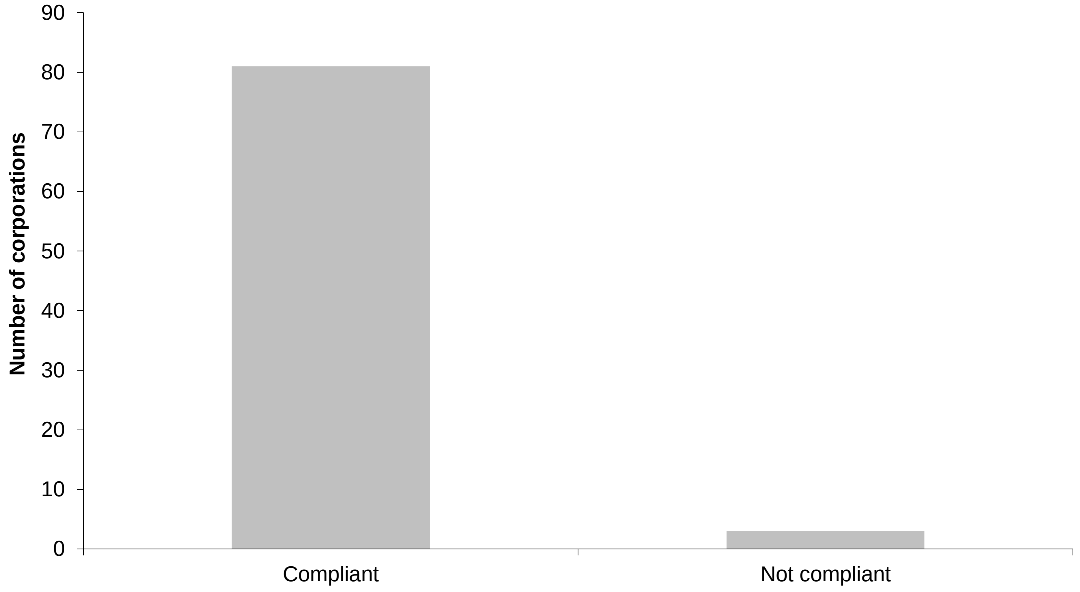
- In 2008–09, compliance analysis was able to be completed for 84 companies incorporated under the CATSI Act and registered with ORIC. Of these 81, 96% were found to be compliant with providing these key documents (Table 3.11.1; Figure 3.11.1).
- Over the period 2000–01 to 2008–09, the proportion of 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 3.11.2).

Table 3.11.1: Number and proportion of health corporations incorporated under the CATSI Act 2006 by compliance, 2008–09

	Number	Proportion
Compliant	81	96.4
Not compliant	3	3.6
Total	**84**	**100.0**

Note: Excludes two deregistered companies and four companies unable to be matched for compliance analysis.

Source: AIHW analysis of the Office of the Registrar of Indigenous Corporations unpublished data.



Note: Excludes two deregistered companies and four companies unable to be matched for compliance analysis.

Source: AIHW analysis of the Office of the Registrar of Indigenous Corporations unpublished data.

Figure 3.11.1: Total number of health corporations incorporated under CATSI Act 2006 by compliance, 2008–09

Table 3.11.2: Number and proportion of health corporations incorporated under the ACA or CATSI Act by compliance, 2000–01 to 2008–09

	Number of corporations	Fully or partially compliant		Not fully or partially compliant	
	Number	**Number**	**Per cent**	**Number**	**Per cent**
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

Source: AIHW analysis of the Office of the Registrar of Indigenous Corporations unpublished data.

OATSIH Service Reporting (OSR) data

- In 2008–09, there were approximately 4,540 full-time equivalent (FTE) staff in Indigenous primary health-care services, 2,980 (66%) health staff and 1,433 (32%) administration and support staff. The majority of both health and administration staff were Indigenous (53% and 60%, respectively) (Table 3.11.3).
- In 2008–09, the majority of Indigenous primary health-care services had governing committees/boards that met regularly (86%), had detailed income and expenditure statements presented to them on at least two occasions (95%), consisted only of Indigenous members (77%), or received training (77%) (Table 3.11.4).
- In 2008–09, 40% of Indigenous primary health-care services had representatives on external boards (for example, hospitals); 57% participated in regional planning forums and 77% were involved in committees on health (for example, steering groups) (Table 3.11.5).

Table 3.11.3: Number and proportion of staff in Indigenous primary health-care services, by type of staff and Indigenous status, 2008–09

	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	1550.6	56.1	861.2	60.1	65.2	53.8	2477.0	57.4
Non-Indigenous	1187.4	43.0	567.4	39.6	42.6	35.2	1797.5	41.6
Unknown Indigenous status	26.5	1.0	3.4	0.2	13.3	11.0	43.2	1.0
Total	**2764.5**	**100.0**	**1431.9**	**100.0**	**121.2**	**100.0**	**4317.6**	**100.0**
Visiting staff								
Indigenous	36.1	16.8	0.5	100.0	2.8	39.4	39.3	17.7
Non-Indigenous	159.1	74.0	0.0	0.0	4.2	59.1	163.3	73.4
Unknown Indigenous status	19.9	9.2	0.0	0.0	0.1	1.4	20.0	9.0
Total	**215.0**	**100.0**	**0.5**	**100.0**	**7.1**	**100.0**	**222.6**	**100.0**
Paid and visiting staff								
Indigenous	1586.7	53.3	861.7	60.2	68.0	53.0	2516.3	55.4
Non-Indigenous	1346.5	45.2	567.4	39.6	46.8	36.5	1960.8	43.2
Unknown Indigenous status	46.4	1.6	3.4	0.2	13.4	10.5	63.2	1.4
Total	**2979.6**	**100.0**	**1432.5**	**100.0**	**128.2**	**100.0**	**4540.3**	**100.0**

Source: AIHW OSR data collection.

Table 3.11.4: Number and proportion of governing committee/board use, Aboriginal and Torres Strait Islander primary health-care services, 2008–09

	No.	Per cent
Governing committee or board met regularly	173	85.6
Income and expenditure statements were presented to committee or board on at least two occasions	169	94.9
All of the governing committee or board members were Aboriginal and/or Torres Strait Islander	136	76.8
Governing committee or board received training	137	77.4
Total number of services	**202**	. .

Source: AIHW OSR data collection.

Table 3.11.5: Number and proportion of Aboriginal and Torres Strait Islander primary health-care services participating in mainstream processes, 2008–09

	No.	Per cent
Representation on external boards (e.g. hospitals)	81	40.3
Participation in regional planning forums (e.g. under the framework agreements)	115	57.2
Involvement in committees on health (e.g. steering groups)	154	76.6
Total number of services	**201**	. .

Source: AIHW OSR data collection.

Drug and Alcohol Service Reporting data

- In 2008–09, 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 (57%), or received training (71%) (Table 3.11.6).

Table 3.11.6: Number and proportion of governing committee/board use, Aboriginal and Torres Strait Islander substance-use services, 2008–09

	No.	Per cent
Governing committee or board met regularly	44	97.8
Income and expenditure statements were presented to committee or board on at least two occasions	45	100
All of the governing committee or board members were Aboriginal and/or Torres Strait Islander	25	56.8
Governing committee or board received training	32	71.1
Total number of services	**45**	. .

Source: AIHW OSR data collection.

Self-reported data

Barriers to accessing health-service providers

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 3.11.7a).

- 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 3.11.7b).
- 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 3.11.7b).
- 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 3.11.7b).

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 3.11.7a).
- 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 3.11.7a).
- In Western Australia, 34% of Indigenous Australians felt that they had experienced discrimination within the last 12 months when to accessing to health services. In contrast, only 9% of Indigenous Australians in Tasmania felt that they had been discriminated against.

Table 3.11.7a: 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(b)	29,376	5,750	21,983	14,529	4,200	3,414	613	16,211	96,075
Total has problems accessing selected services(c)	*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 3.11.7b: 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 barrier to accessing health services was 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 3.11.8a).
- 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 3.11.8b).

Table 3.11.8a: 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[(b)]			
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(c)	*100.0*	*100.0*	*100.0*
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.

(b) Proportions of those who experienced barriers to accessing services.

(c) Components may add to greater than the total because respondents can choose more than one category.

Source: AIHW analysis of 2008 NATSISS.

Table 3.11.8b: 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 3.11.9a). 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 those in remote areas 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 3.11.9b).

Table 3.11.9a: 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	**156,052.2**	**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	*100.0*	*100.0*	*100.0*
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 analysis of 2008 NATSISS.

Table 3.11.9b: 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 2007, 30 June 2008 and 30 June 2009, the most common formal mechanism for input into planning was via meetings of reference groups or other advisory committees (86%, 90% and 84%, respectively) (Table 3.11.10).
- 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 (83%, 82% and 80%, respectively).
- Over the same periods, the most common formal mechanism for assessing client satisfaction or dissatisfaction was a complaints mechanism (85%, 90% and 78%, respectively).

Services funded through the HfL program undertook quality improvement activities. Data for these activities are available for the reporting periods ending 30 June 2007, 30 June 2008 and 30 June 2009 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 2007 and 30 June 2009 this ranged from 56% to 72% of services), child health (ranging from 59% to 76% of services) and chronic disease (ranging from 70% to 81% of services) (Table 3.11.11).
- Health service data were used to review quality in maternal health (ranging from 61% to 68% of services), child health (ranging from 63% to 75% of services) and chronic disease (ranging from 70% to 78% 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 78% of services), child health (ranging from 74% to 80% of services) and chronic disease (ranging from 78% to 85% of services).

Table 3.11.10: Service population involvement in service planning and feedback, reporting periods ending 30 June 2007, 30 June 2008 and 30 June 2009

HfL services had strategies to involve their service population in service planning and feedback that included:	Jun-07			Jun-08			Jun-09		
	Per cent			Per cent			Per cent		
	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)	86.4	5.1	8.5	89.6	6.0	4.5	83.8	4.1	12.2
b. Input received at an Annual General Meeting	61.0	30.5	8.5	67.2	26.9	6.0	67.6	17.6	14.9
c. Other	35.6	13.6	50.8	31.3	20.9	47.8	35.1	23.0	41.9
2. Formal mechanisms for dissemination of health service performance information									
a. A current formal communication strategy	57.6	27.1	15.3	71.6	19.4	9.0	67.6	17.6	14.9
b. Verbal and/or written report(s) presented at an Annual General Meeting	69.5	13.6	16.9	76.1	9.0	14.9	71.6	10.8	17.6
c. Verbal and/or written reports(s) presented at other meeting(s)	83.1	3.4	13.6	82.1	6.0	11.9	79.7	5.4	14.9
d. Health service newsletter(s)	49.2	42.4	8.5	61.2	31.3	7.5	59.5	28.4	12.2
e. ‘Column’ in the newsletter(s) of other agencies	32.2	55.9	11.9	35.8	50.7	13.4	41.9	41.9	16.2
f. Ad hoc information on our health service website	32.2	52.5	15.3	43.3	43.3	13.4	43.2	41.9	14.9
g. Other	22.0	25.4	52.5	19.4	29.9	50.7	16.2	31.1	52.7
3. Formal mechanisms for assessing client satisfaction									
a. Client satisfaction survey	55.9	32.2	11.9	53.7	35.8	10.4	52.7	31.1	16.2
b. Client focus group(s)	42.4	40.7	16.9	53.7	35.8	10.4	45.9	37.8	16.2
c. Suggestions box	44.1	44.1	11.9	70.1	19.4	10.4	64.9	18.9	16.2
d. Complaints mechanism	84.7	1.7	13.6	89.6	1.5	9.0	78.4	4.1	17.6

Source: AIHW Healthy for Life data collection.

Table 3.11.11: Quality improvement, reporting periods ending 30 June 2007, 30 June 2008 and 30 June 2009

	Jun-07			Jun-08			Jun-09		
HfL services undertook quality improvement activities in relation to maternal and child health and chronic disease prevention and care that included:	**Per cent yes**	**Per cent no**	**Per cent no response**	**Per cent yes**	**Per cent no**	**Per cent no response**	**Per cent yes**	**Per cent no**	**Per cent no response**
1. Participation in formal quality improvement processes that involve repeated cycles of plan–do–study–act (PDSA)									
a. Maternal health	55.9	32.2	11.9	71.6	28.4	0.0	67.1	23.3	9.6
b. Child health	59.3	28.8	11.9	76.1	23.9	0.0	70.3	20.3	9.5
c. Chronic disease	74.6	16.9	8.5	80.6	19.4	0.0	70.3	20.3	9.5
d. Other	30.5	32.2	37.3	34.3	34.3	31.3	39.2	33.8	27.0
2. Quality improvement strategies included in current business plan	61.0	1.7	37.3	63.6	9.1	27.3	64.9	5.4	29.7
3. Health service data used to review quality									
a. Maternal health	61.0	8.5	30.5	65.7	20.9	13.4	67.6	8.1	24.3
b. Child health	62.7	6.8	30.5	74.6	11.9	13.4	68.9	8.1	23.0
c. Chronic disease	69.5	1.7	28.8	77.6	9.0	13.4	71.6	6.8	21.6
d. Other	22.0	22.0	55.9	23.9	26.9	49.3	31.1	28.4	40.5
4. Staff participation in interpretation of health service data and service planning/goal setting									
a. Maternal health	78.0	10.2	11.9	74.6	19.4	6.0	75.7	5.4	18.9
b. Child health	79.7	10.2	10.2	79.1	16.4	4.5	74.3	6.8	18.9
c. Chronic disease	84.7	5.1	10.2	85.1	10.4	4.5	78.4	4.1	17.6
d. Other	30.5	27.1	42.4	29.9	29.9	40.3	40.5	25.7	33.8

Source: AIHW Healthy for Life data collection.

Aboriginal and Torres Strait Islander representation on health/hospital boards

Information on Aboriginal and Torres Strait Islander representation on health/hospital boards is available from the states and territories. Data presented below come from the *National summary of the 2003 and 2004 jurisdictional reports against the Aboriginal and Torres Strait Islander Health Performance Indicators* (SCATSIH & SIMC 2006).

New South Wales

In New South Wales, health service boards have the overall responsibility for the strategic direction and operational efficiency of the organisation, the protection of its assets and the quality of its services. The boards guide and direct, establish policies, chart the course of their respective organisations and act as advocates for their organisations in the local communities.

The boards are subject to the direction and control of the Minister except in relation to the context of a report or recommendation.

In 2002–03, 17 out of the 80 health service boards in New South Wales had at least one Indigenous member. In 2003–04, this fell to 6 out of 62. There were fewer boards/committees in 2003–04 because of the dissolution of 18 area health service boards in August 2004.

The *Health Services Act 1997* and the *Ambulance Service Act 1990* do not make provision for the make-up of membership on health service boards, so Aboriginal and Torres Strait Islander membership is not mandated. However, it should be noted that the constitution of the soon to be appointed area health service councils, which will replace the 18 dissolved area health service boards, states that 'at least one member must be a person who has expertise, knowledge or experience in relation to Aboriginal health'.

Victoria

The functions of the board of a public hospital, denominational hospital or multi-purpose service are to oversee and manage the hospital and to ensure that the services provided by the hospital comply with the requirements of the *Health Services Act 1988* and the objectives of the hospital. Public hospitals must have a board of management of between six and 12 persons, whose names are submitted by the board and appointed by the Minister.

Metropolitan health services must have a board of management of between six and nine persons appointed by the Governor in Council on the recommendation of the Minister. The Minister must ensure that the board includes at least one person who is able to reflect the perspectives of users of health services and that women and men are adequately represented. Members of the boards of denominational public hospitals are not appointed by the Minister.

Information on the structure of health/hospital boards is not routinely collected by the Department of Human Services in Victoria, and there is no requirement for the hospital and community health centres to record the Indigenous status of board members. Available data show that six of the 84 health boards in Victoria reported Aboriginal and Torres Strait Islander representation in 2002–02 and 2003–04.

Individual boards no longer exist in the Melbourne metropolitan regions. In no case is Indigenous membership mandatory, although some hospitals seek a representative from the local Aboriginal cooperative/community organisation and encourage members of minority groups when advertising opportunities for board appointments.

Opportunities also exist for community members to participate in hospital advisory committees. Information on the membership of these committees is not collected by the Department of Human Services.

Queensland

Queensland Health is divided into three zones containing 38 health service districts. Each district has a district health service council. The role of the District Health Service Council is to work in cooperation with the relevant health service district to ensure that the needs of the community are represented and reflected in the health services provided, and to monitor the performance of the district against a service agreement. The council should act as a direct link between the public and Queensland Health.

District health service councils facilitate community input into the planning, delivery, monitoring, and evaluation of hospital and community-based health services. The councils are established in legislation, with a direct reporting relationship to the Minister, and consist of up to 10 members with equitable community representation. Members are not elected, but are appointed by the Governor-in-Council. A term as member is for a period of 3 to 4 years. All district health service councillors are ministerial appointments. There is no requirement mandated by the terms of reference for Indigenous representation, nor is there a requirement for appointees to record Indigenous status. However, currently there are 26 Indigenous members serving on 11 of the district health service councils.

Western Australia

Health service boards are established under the Hospital and Health Services Act 1927 and derive their functions and responsibilities from the Act. The boards are responsible for the control, management and maintenance of the hospital and for providing health services as approved by the Minister under an Australian Government—state agreement.

In 2002–03, all existing hospital boards were disbanded. In 2003–04, 17 new district health advisory councils (DHACs) were established, 15 of which had Aboriginal and Torres Strait Islander members. The 17 DHACs have been established to achieve diverse representation from the community and have input into service planning, plus propose creative and community-based ideas for improving service access and quality.

South Australia

There were 73 incorporated hospitals and health centres under the South Australian Health Commission, at 30 June 2003. Information is available on 38 boards that have provision within the hospital's constitution for a ministerial nomination. In the 2002–03 and 2003–04 financial years, 13 health/hospital boards in the Hills Mallee Southern, Eyre, Northern and Far Western, Riverland and Mid-North regions of South Australia reported Aboriginal and Torres Strait Islander membership.

Tasmania

Tasmania does not have regional health or hospital boards. Services are administered by the Department of Health and Human Services.

Australian Capital Territory

All board/committee members are asked if they wish to identify their Aboriginal or Torres Strait Islander status at the time of initial appointment. However, some members may choose not to do so. The representation may, therefore, be higher than recorded. In 2002–03, four members of the 10 health boards and committees identified as Aboriginals and/or Torres Strait Islanders. In 2003–04, five members of the 14 boards and committees identified as Indigenous Australians.

In February 2002, the ACT Government announced a review of the structural and governance arrangements for the health and community care system. As a result of the review, the ACT Health and Community Care Board was abolished, and legislation to formally repeal the purchaser/provider arrangements in health was passed by the ACT Legislative Assembly in December 2002. The health portfolio has been restructured into a simplified model, and the ACT Health Council established to provide a consultative mechanism involving health consumers and professionals in ACT health policy and planning processes. There was Aboriginal and Torres Strait Islander representation on the Council in both 2002–03 and 2003–04.

Northern Territory

Under the *Hospital Management Boards Act 2001*, each public hospital in the Northern Territory is to have a board of eight members, five of whom are to be appointed by the Minister. Although the Act does not require hospitals to have Indigenous people on the boards, all Northern Territory hospitals make every effort to include Aboriginal members.

The Northern Territory has a wide array of representative health groups, many of which include Aboriginal representation and some of which require a majority of Aboriginal members. Examples of this latter group are the Northern Territory Aboriginal Ear Health Committee and the Northern Territory Aboriginal Eye Health Committee.

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.

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 under-coverage when all other known sources of under-coverage 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 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.

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).

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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3.12 Access to services by types of service 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)

Indigenous Australians have poorer health status (measured in terms of life expectancy, mortality rates and morbidity) than non-Indigenous Australians, and therefore have a greater need for healthcare.

Data sources

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 NATSIHS collected information from 10,439 Indigenous Australians. 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 issues of 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. It is planned to repeat the NATSIHS at six-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 6 years, with the next survey planned for 2013.

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.

Community Housing and Infrastructure Needs Survey (CHINS)

The 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. In addition to the survey instrument and methodology testing conducted prior to the 2006 CHINS, aggregate data from the 2006 CHINS have been compared with that collected in 2001 CHINS. The survey collected information on all Aboriginal and Torres Strait Islander communities throughout Australia. The ABS conducted the 2006 CHINS on behalf of, and with full funding from, the Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA). 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 that 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 of fewer than 50 people.

In the 2006 CHINS, a community questionnaire collected detailed infrastructure information from all discrete Indigenous communities with a reported usual population of 50 persons or more, as well as for communities that had a reported usual population of fewer than 50 persons but which were not administered by a larger discrete Indigenous community or Resource Agency (375 communities). The 812 other communities had reported usual populations of fewer than 50 persons and were asked a subset of questions from the community questionnaire form, the short community questionnaire (ABS 2007).

Results from this survey were published in August 2007. FaHCSIA and the ABS jointly hold the CHINS data.

Census of Population and Housing

The ABS Census of Population and Housing is conducted by the ABS at five-yearly intervals, with 2006 being the most recent, and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question and it is asked for each household member.

Although the Census data are adjusted for under-count 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 1996 and 2001 Census used the Australian Standard Classification of Occupations, but this was replaced by the Australian and New Zealand Standard Classification of Occupations for the 2006 Census.

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 Australian Institute of Health and Welfare (AIHW) by state and territory health departments.

Data are presented for the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08: New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

In the period 2006–08, there were 276,000 hospital separations (episodes of care for admitted patients) for Aboriginal and Torres Strait Islander patients: around 3.5% of all separations. The proportion of separations of Aboriginal and Torres Strait Islander persons was higher in public hospitals (5.4% or 256,425 separations) compared with private hospitals (0.6% or 20,015 separations). Of all Aboriginal and Torres Strait Islander separations, nearly 93% occurred in public hospitals (AIHW 2009a).

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the ‘other’ category. This is to enable consistency across jurisdictions, because public hospitals in some states and territories do not have a category for the reporting of ‘not stated’ or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period from July 2006 to June 2008. An aggregate of two years of data has been used, as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient’s episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term ‘hospitalisation’ has been used to refer to a separation, which is an episode of admitted patient care. This can include a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in the change in the type of care (for example, from acute to rehabilitation). ‘Separation’ also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

General practitioner data

The DoHA holds data on the number of GPs in Australia by remoteness area and Statistical Local Area (SLA).

Care must be taken in using and interpreting the data provided. There are two 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 populations, 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 understatement of the number of FTEs 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 SLAs in the first group with far more people per doctor than several SLAs in the second group.

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 Medicare Australia.

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 in 2002, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. There were 210,351 people who had identified as Aboriginal and/or Torres Strait Islander in this database at January 2009: around 41% of the estimated Aboriginal and Torres Strait Islander population (AIHW 2010c). The number of people who have identified as Aboriginal and/or Torres Strait Islander has steadily increased from 47,200 people in August 2004.

To date, the database has not been analysed to estimate the numbers of people who have identified themselves as non-Indigenous, or those who have either not responded to the question or have not been presented with an opportunity to respond to the question.

AIHW Medical Labour Force surveys

The AIHW runs a number of surveys of the health labour force, including the Pharmacy Labour Force Survey. 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. In 2003, the survey was conducted in all jurisdictions except the Northern Territory. The response rate to the survey was 76.3%

There is currently no data source for statistics on not filling prescriptions because of cost for Indigenous Australians. This will be recommended for inclusion in the next NATSIHS.

OATSIH Services Reporting (OSR) Data Collection

In 2008–09, the AIHW collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH-funded services include both Indigenous Community Controlled Health Organisations and non-community controlled health organisations. Note that the 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 OSR data collection, which was established in 2008–09, uses a new set of counting rules that treat all auspice services as individual services, which yields a larger numerator and denominator on which the rates are based. Although this change affects the aggregate rates only marginally, caution should be exercised when comparing rates based on earlier data collection periods.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services, 81 (94%) responded to the OSR questionnaire, as well as five auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance use service.

Forty-five (90%) out of 50 stand-alone substance use services, as well as three auspiced services, responded to the OSR questionnaire.

Health expenditure data

The report on expenditures on health services for Aboriginal and Torres Strait Islander people is produced every three years. The latest report covers expenditure for the 2006–07 financial year and was published in the AIHW report *Expenditures on health for Aboriginal and Torres Strait Islander people 2006–07* (AIHW 2009a).

There are a number of difficulties in reporting on this measure, including the issue of under-identification of Indigenous Australians in health databases (such as for hospital separations). Although adjustments are made to the data to allow for under-identification, the adjusted estimates may be an overestimate or underestimate of actual health service use and expenditure by Indigenous people.

Expenditure on care for Aboriginal and Torres Strait Islander people amounted to $2,910 million in 2006–07. This was equivalent to 3.3% of the national expenditure on health care. In 2006–07, the average expenditure per person on health care was $5,569 for Aboriginal and Torres Strait Islander people. For non-Indigenous people, the average expenditure per person was $4,247. The ratio of Indigenous to non-Indigenous expenditure per person was 1.3. For the Australian Government schemes of Medicare and the Pharmaceutical Benefits Scheme (PBS), total benefits paid per Aboriginal and Torres Strait Islander person were 59% of the amount spent on non-Indigenous people.

There may also be some limitations associated with the scope and definition of health expenditures. Further, there may be inconsistencies in reporting and categorisation of expenditure on health goods and services across data providers.

The attribution of expenditure to Indigenous people, either on an overall population or per capita basis, should be treated with caution because it is an estimate (AIHW 2009a).

Expenditure is a measure of met need. Indigenous Australians have a significantly poorer health status (measured in terms of life expectancy, mortality rates and morbidity) than non-

Indigenous Australians. It could therefore be expected that per capita investment of health resources to achieve equality for Aboriginal and Torres Strait Islanders should be higher than for other Australians.

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).

There is currently no national data source on palliative care that occurs in the community (that is non-admitted care). However, a national minimum data set for community based palliative care is currently being explored by the AIHW.

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.

National Aboriginal and Torres Strait Islander Social Survey data

Data from the 2008 NATSISS is presented in Tables 3.12.1 to 3.12.4.

- 30% of Indigenous persons 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 3.12.1 shows that the Indigenous people in the Northern Territory (40%) had the highest rate of problems accessing services. The rate was lowest in South Australia (24%).
- Table 3.12.2 reports data on problems accessing services for Indigenous persons 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 Table 3.12.2 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. 33% of females reported they had problems accessing services, compared with 27% of males (Table 3.12.3).
- Of Indigenous persons 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 3.12.4).

Table 3.12.1: Problems accessing services, Indigenous persons 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								
ATSI 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 3.12.2: Problems accessing services, Indigenous persons 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			
ATSI 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 3.12.3: Problems accessing services, Indigenous persons 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			
ATSI 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 3.12.4 Problems accessing services, Indigenous persons 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						
ATSI 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.

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 3.12.5–3.12.13.

- In 2004–05, approximately 42% of Indigenous Australians had accessed health care in the last 12 months (Table 3.12.5).
- 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 3.12.5).
- In 2004–05, a higher proportion of Indigenous females had accessed health care in the last two weeks (45%) than Indigenous males (38%) (Table 3.12.8).
- 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 3.12.9).
- 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 3.12.10).
- In non-remote areas of Australia, Indigenous Australians accessed health care at similar rates to non-Indigenous Australians (46% compared with 43%) (Table 3.12.11).
- Between 2001 and 2004–05, there was little change in the proportion of Indigenous and non-Indigenous Australians accessing health care (Table 3.12.12).

Access to health care by selected health characteristics

- 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 3.12.6).
- Indigenous Australians aged 15 years and over with fair/poor health status were twice as likely as non-Indigenous Australians to have visited casualty in the last 12 months.
- 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 3.12.7).

Access to health care by selected population characteristics

- In 2004–05, approximately 62% of Indigenous Australians who spoke a language other than English at home accessed health services compared with 51% of Indigenous Australians who spoke English at home (Table 3.12.13).
- Indigenous Australians in the lowest quintile of equivalent household income were more likely to have accessed health care than those in the highest quintile (48% compared with 41%). These proportions were similar for non-Indigenous Australians.
- A higher proportion of Indigenous Australians with private health insurance accessed health services than Indigenous Australians without private health cover (54% compared with 48%). This was particularly the case with consulting a dentist (9% compared with 3%), and consulting other health professionals (24% compared with 17%).
- A higher proportion of Indigenous Australians who accessed health care felt they were treated worse than non-Indigenous people (67%) than those who felt they were treated the same or better than non-Indigenous people (50%).

Table 3.12.5: Accessing health care, by Indigenous status and age group, 2004–05

Accessing health care(a)	0–14		15–24		25–34		35–44		45–54		55 and over		Total		Total (age-standardised)(e)	
	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								
Admitted to hospital	12*	9*	16*	12*	19	18	18*	13*	19*	14*	31*	21*	16	15	20*	15*
Visited casualty/outpatients	3*	2*	5*	2*	6*	2*	4*	2*	7*	2*	9*	4*	5	3	6*	3*
Doctor consultation (GP and/or specialist)	16	15	15	17	19	20	24*	20*	28*	23*	43*	37*	20	23	25*	23*
Dental consultation(b)	5*	7*	3*	6*	3	4	3*	5*	4(c)	6	4(c)	6	4	6	4*	6*
Consultation with other health professionals	13*	9*	13	11	23*	15*	22*	14*	23*	14*	25*	17*	17	13	20*	13*
Total accessing health care(d)	**35**	**33**	**36**	**36**	**47***	**42***	**45***	**39***	**50***	**43***	**66***	**57***	**42**	**42**	**47***	**42***
Total not accessing health care	**65**	**67**	**64**	**64**	**53***	**58***	**55***	**61***	**50***	**57***	**34***	**43***	**58**	**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	19,292.4	474.3	19,292.4

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

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

(d) Components may not add to total because persons may have reported more than one type of action.

(e) Totals are directly age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 3.12.6: 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**	**Indig.**	**Non-Indig.**	**Rate ratio**	**Indig.**	**Non-Indig.**	**Rate ratio**
					Per cent				
Admitted to hospital	17	14	1.2*	30	27	1.1	22	16	1.3*
Visited casualty/outpatients	4	2	2.1*	11	6	2.0*	6	3	2.5*
Doctor consultation (GP and/or specialist)	22	21	1.0	40	42	0.9	27	24	1.1*
Dental consultation	3	6	0.6*	4(b)	6	0.7	3	6	0.6*
Consultation with other health professional	20	13	1.5*	28	22	1.3*	22	15	1.5*
Total accessing health care(c)	**44**	**41**	**1.1**	**64**	**62**	**1.0**	**51**	**45**	**1.1***
Total not accessing health care	**56**	**59**	**0.9**	**36**	**38**	**1.0**	**49**	**55**	**0.9***
Total number	229,335	13,079,626	. .	64,236	2,452,751	. .	293,641	15,532,377	. .

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(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) 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 3.12.7: 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								
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

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons..

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

(c) Persons aged two 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 3.12.8: 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 3.12.9: 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 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) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Persons aged two 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 3.12.10: Accessing health care, by Indigenous status and remoteness, 2004–05

	Major cities			Inner regional			Outer regional			Remote			Very remote(a)			Australia		
Accessing health care(b)	**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**
Per cent																		
Admitted to hospital	17.1	14.3	1.2	21.3	15.7	1.4*	17.9	15.4	1.2	20.4	13.1	1.6*	23.6	n.a.	n.a.	19.6	14.7	1.3*
Visited casualty/outpatients	3.1	2.4	1.3	4.9	2.3	2.1*	7.6	3.5	2.2*	9.6	3.4	2.8*	6.7	n.a.	n.a.	5.7	2.5	2.3*
Doctor consultation (GP and/or specialist)	25.6	23.7	1.1	25.1	19.8	1.3*	26.1	20.8	1.3*	20.5	17.3	1.2	24.8	n.a.	n.a.	25.0	22.5	1.1*
Dental consultation(c)	4.0	6.2	0.7*	3.8	6.1	0.6*	3.6	5.0	0.7	3.2(d)	6.3(d)	0.5	3.3	n.a.	n.a.	3.7	6.0	0.6*
Consultation with other health professional	14.1	12.9	1.1	19.5	14.1	1.4*	16.1	14.8	1.1	19.0	13.0	1.5	35.0	n.a.	n.a.	19.9	13.4	1.5*
Total accessing health care(e)	**43.8**	**42.7**	**1.0**	**48.2**	**41.0**	**1.2***	**45.2**	**40.6**	**1.1**	**48.3**	**39.2**	**1.2***	**55.1**	**n.a.**	**n.a.**	**47.5**	**42.1**	**1.1***
Not accessing/not stated	**56.2**	**57.3**	**1.0**	**51.8**	**59.0**	**0.9***	**54.8**	**59.4**	**0.9**	**51.7**	**60.8**	**0.9**	**44.9**	**n.a.**	**n.a.**	**52.5**	**57.9**	**0.9***
Total number ('000)	144.2	13,095.4	. .	95.6	3,904.4	. .	108.5	2,061.8	. .	41.3	n.a.	. .	84.7	n.a.	. .	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 two weeks except hospital admissions (in last 12 months).

(c) Persons aged two 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 3.12.11: Accessing health care, by Indigenous status (non-remote only), 2004–05

Accessing health care[(a)]	Indigenous	Non-Indigenous	Ratio
	Per cent		
Admitted to hospital	18.5	14.7	1.3*
Visited casualty	1.7	0.9	1.9*
Visited outpatients	4.0	1.8	2.2*
Visited day clinic	2.4	2.5	1.0
Doctor consultation (GP)	23.5	19.6	1.2*
Specialist consultation	5.2	5.3	1.0
Dental consultation[(b)]	3.9	6.0	0.6*
Consultation with other health professional	16.2	13.4	1.2*
Total accessing health care[(c)]	**45.6**	**42.5**	**1.1***
Not accessing/not stated	**54.4**	**57.5**	**0.9***
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 two weeks except hospital admissions (in last 12 months).

(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.

Note: Data have been age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 3.12.12: Accessing health care, by Indigenous status, 2001 and 2004–05

	2001			2004–05		
Accessing health care[(a)]	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio
	%	%		%	%	
Admitted to hospital	19	12	1.6*	20	15	1.3*
Visited casualty/outpatients	6	3	2.2*	6	3	2.3*
Doctor consultation (GP and/or specialist)	26	25	1.1	25	23	1.1*
Dental consultation[(b)]	5	6	0.7*	4	6	0.6*
Consultation with other health professional	15	13	1.2	20	13	1.5*
Total accessing health care[(c)]	**46**	**42**	**1.1***	**47**	**42**	**1.1***
Did not access health care	**54**	**58**	**0.9***	**53**	**58**	**0.9***
Total number	374,354	18,545,583	. .	474,310	19,292,387	. .

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(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.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement), 2004–05 NATSIHS and 2004–05 NHS.

Table 3.12.13: Accessing health care, by selected population characteristics and Indigenous status, 2004–05

	Language spoken at home [(a)]		Equivalent income of household		Index of disparity		Location		Private health insurance[(b)]		Treatment when seeking health care[(c)]			
Accessing health care[(d)]	**English**	**Other than English**	**1st quintile**	**5th quintile**	**1st quintile**	**5th quintile**	**Remote**	**Non-remote**	**With private cover**	**Without private cover**	**Worse**	**The same or better**	**Other[(e)]**	**Total**
							Per cent							
							Indigenous							
Admitted to hospital	22*	28*	24*	14	22*	18[(f)]	23*	19*	19	21*	40	21	14	20*
Casualty, outpatients	7*	6*[(f)]	8*	3	6*	4[(g)]	8*	5*	3[(f)]	6*	13[(f)]	6	3[(f)]	6*
Consulted GP/specialist	29*	30*	22*	21	25	25[(f)]	23*	26*	28	28	31	26	18	25
Consulted dentist[(h)]	4*	3*	2*[(f)]	4*	3	10[(g)]	3	4*	9[(f)]	3	3[(g)]	3	3[(f)]	4*
Consulted OHP[(i)]	19*	42*	19*	17	22*	21[(f)]	30*	16*	24	17*	40	22	17	20*
Total accessing services[(j)]	51*	62*	48	41	50*	51	53*	45*	54	48*	67	50	37	47*
Did not access services	49*	38*	52	59	50*	49	47*	55*	46*	52*	33	50	63	53*
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
							Non-Indigenous							
Admitted to hospital	17*	14*	17*	15	15*	15	13*	n.a.	16	17*	n.a.	n.a.	n.a.	15*
Casualty, outpatients	3*	3*	4*	2	3*	2	3[(f)]*	n.a.	2	3*	n.a.	n.a.	n.a.	3*
Consulted GP/specialist	25*	29*	28*	19	26	21	17*	n.a.	23	26	n.a.	n.a.	n.a.	23*
Consulted dentist[(h)]	6*	6*	5*	8*	5	8	6[(f)]	n.a.	7	4	n.a.	n.a.	n.a.	6*
Consulted OHP[(i)]	15*	9*	13*	14	12*	15	13*	n.a.	16	13*	n.a.	n.a.	n.a.	13*
Total accessing services[(j)]	45*	45*	46	41	43*	43	39*	n.a.	46	43*	n.a.	n.a.	n.a.	42*
Did not access services	55*	55*	54	59	57*	57	61*	n.a.	54*	57*	n.a.	n.a.	n.a.	58*
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**n.a.**	**100**	**100**	**n.a.**	**n.a.**	**n.a.**	**100**

(continued)

Table 3.12.13 (continued): Accessing health care, by selected population characteristics and Indigenous status, 2004–05

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Persons aged 18 years and over.
(b) Persons aged 15 years and over in non-remote areas.
(c) Includes 'not stated' responses.
(d) Health-related actions in last two weeks except hospital admissions (in last 12 months).
(e) ‘Other’ includes 'only encountered Indigenous people', 'did not seek health care in the last 12 months', refusal, not stated,’ don't know/not sure’.
(f) Estimate has a relative standard error of between 25% and 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) Persons aged two years and over.
(i) OHP: other health professional.
(j) 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.

Time since last consulted a doctor or dentist

- In 2004–05, after adjusting for differences in age structure, approximately 36% of Indigenous people reported that it had been two years or more since their last dental consultation. This compared with 29% of non-Indigenous people (Table 3.12.14).
- Approximately 25% of Indigenous people reported it had been two weeks or less since their last visit to a doctor (GP or specialist) compared with 23% of non-Indigenous people, and for 26% of Indigenous people it had been two weeks to three months since their last doctor consultation compared with 28% of non-Indigenous people.
- 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 3.12.14: Time since last consulted a dentist or doctor, by Indigenous status, 2001 and 2004–05

	2001			2004–05		
	Indigenous	**Non-Indigenous**	**Rate ratio**	**Indigenous**	**Non-Indigenous**	**Rate ratio**
				Per cent		
Dentist/dental professional						
Less than 6 months	22	30	0.7	20	29	0.7
6 months to less than 2 years	26	34	0.8	29	37	0.8
2 years or more	43	31	1.4	36	29	1.2
Never	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	25	23	1.1
2 weeks to three months	26	29	0.9	26	28	0.9
3 months to 6 months	13	16	0.8	14	17	0.8
6 months to 12 months	12	14	0.8	14	16	0.9
12 months to 2 years	19	16	1.2	19	16	1.2
Never	2	—	6.5	1	—	—
Total[(a)]	**100**	**100**	. .	**100**	**100**	. .

(a) Includes 'time since last consultation' not known.

Note: Data are age-standardised.

Source: ABS 2006.

Indigenous persons who did not access health care when needed and why

Table 3.12.15 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 people 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 people in remote areas of Australia.
- 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 people 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 people aged 0–14 years.
- The most common reasons why Indigenous people 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 people 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 people did not go to another health professional when needed was cost (28%) and too busy (26%).
- The most common reasons why Indigenous people 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 people living in remote areas reported transport/ distance as a reason for not accessing health services than Indigenous people in non-remote areas.

Table 3.12.15: Indigenous persons 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 3.12.15 (continued): Indigenous persons 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 3.12.15 (continued): Indigenous persons 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 3.12.16 and 3.12.17.

- In 2004–05, approximately 15% of Indigenous persons 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 3.12.16).
- 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 3.12.17).
- 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 3.12.16: Indigenous persons 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	15.0
No	82.0
Not stated/not known	3.0[(c)]
Total	100.0
Total number	**72,801**
Specialist[(b)]	
Yes	37.0
No	62.0
Not stated/not known	1.0[(c)]
Total	100.0
Total number	**13,724**
Other health professional[(d)]	
Yes	17.0
No	80.0
Not stated/not known	2.0[(c)]
Total[(e)]	100.0
Total number	**54,327**

(a) Last consultation in the two weeks before 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 3.12.17: Private health insurance (non-remote areas only), by Indigenous status, 2004–05

	Indigenous	Non-Indigenous	Ratio
		Per cent	
Whether currently covered by private health insurance			
With private health insurance	15.0	51.0	0.3*
Without private health insurance	83.0	49.0	1.7*
Not stated/not known	2.0[(a)]	—	—
Total[(b)]	**100.0**	**100.0**	. .
Total number	**213,422**	**15,344,756**	. .
Reasons for private health insurance			
Security or protection or peace of mind	43.0	42.0	1.0
Shorter wait for treatment or concerned over public hospital waiting lists	20.0	22.0	0.9
Provides benefits for ancillary services or extras	18.0	22.0	0.8
Allows treatment as private patient in hospital	16.0	21.0	0.8
Always had it or parents pay it or condition of job	16.0	23.0	0.7*
Choice of doctor	14.0	20.0	0.7*
Has condition that requires treatment	11.0	8.0	1.4
Elderly or getting older or likely to need treatment	8.0[(a)]	6.0	1.3*
To gain government benefits or avoid extra Medicare levy	7.0	10.0	0.7
Lifetime cover or avoid age surcharge	6.0[(a)]	5.0	1.2
Other financial reasons	4.0[(a)]	4.0	1.0
Other reason	7.0[(a)]	6.0	1.2
Total[(b)]	**100.0**	**100.0**	. .
Total number	**28,843**	**7,847,957**	. .
Reasons not covered by private health insurance			
Cannot afford it/too expensive	65.0	64.0	1.0
Medicare cover sufficient	19.0	14.0	1.4*
Pensioner/Veteran's Affairs/health concession card	8.0	6.0	1.3
Not high priority/previously included in parents' cover	6.0	7.0	0.9
Lack of value for money/not worth it	6.0	11.0	0.5*
Do not need medical care/in good health/have no dependants	5.0	12.0	0.4
Disillusionment about having to pay out-of-pocket costs/gap fees	2.0	4.0	0.5*
Prepared to pay cost of private treatment from own resources	—[(a)]	1.0	—
Will not pay Medicare levy and private health insurance premium	1.0[(a)]	3.0	0.3*
High risk category	—[(a)]	—	—
Other	7.0	7.0	1.0
Total[(b)]	**100.0**	**100.0**	. .
Total numbers	**180,376**	**7,432,057**	. .

* Represents results with 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 3.12.18).
- 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 3.12.18: 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.

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 3.12.19), 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 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 3.12.19: 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.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
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 3.12.20).
- 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 3.12.20).
- 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 3.12.20).
- 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 3.12.20: 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 3.12.21).
- Approximately half (49%) of communities with access to a medical emergency air service were located 250 kilometres or more from the nearest hospital.

Table 3.12.21: 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	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
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).

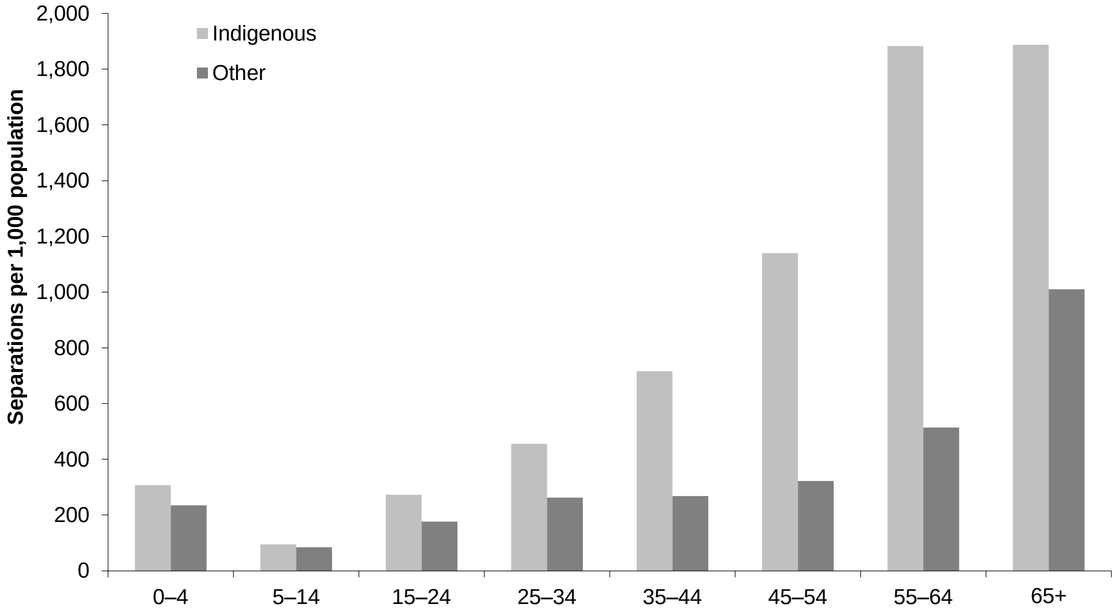
Hospitalisations

- In the 2-year period July 2006 to June 2008 there were a total of 14,870,671 hospitalisations in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory. Of these, 524,469 or 3.5% were hospitalisations of Indigenous Australians.

An analysis of hospitalisations, excluding those for routine dialysis, are presented in Indicator 1.02.

Hospitalisations by age group

- For the period 2006–07 to 2007–08, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined had higher hospitalisation rates than other Australians across all age groups (Figure 3.12.1; Tables 3.12.22a and 22b).
- The greatest difference in rates occurred in the 45–54 and 55–64 year age groups, where Indigenous Australians were hospitalised at almost four times the rate of other Australians in these age groups.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.12.1: Age-specific hospitalisation rates, by Indigenous status and age group, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008

Table 3.12.22a: Age-specific hospitalisation rates, by Indigenous status and age group, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008

	Indigenous		Other Australians		
Age group	Number	Number per 1,000	Number	Number per 1,000	Ratio
0–4	38,233	307.1	574,738	234.5	1.3
5–14	23,701	95.3	425,401	84.6	1.1
15–24	54,049	272.4	965,105	176.7	1.5
25–34	64,459	455.9	1,443,149	262.1	1.7
35–44	91,027	716.0	1,558,267	268.1	2.7
45–54	101,311	1,139.9	1,768,214	322.1	3.5
55–64	91,988	1,883.6	2,277,025	514.4	3.7
65+	59,701	1,887.6	5,334,303	1,009.9	1.9

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.12.22b: Age-specific hospitalisation rates (excluding dialysis), by Indigenous status and age group, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008

	Indigenous		Other Australians		
Age group	Number	Number per 1,000	Number	Number per 1,000	Ratio
0–4	38,227	307.0	574,160	234.3	1.3
5–14	23,591	94.9	423,898	84.3	1.1
15–24	51,653	260.4	945,893	173.2	1.5
25–34	51,515	364.4	1,390,970	252.6	1.4
35–44	49,740	391.3	1,442,132	248.1	1.6
45–54	38,208	429.9	1,562,803	284.7	1.5
55–64	26,556	543.8	1,951,446	440.9	1.2
65+	24,161	763.9	4,399,983	833.0	0.9

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by state/territory

Tables 3.12.23a and 23b presents hospitalisations for all diagnoses for the two-year period July 2006 to June 2008 for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory.

- Over the period July 2006 to June 2008, Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised at more than twice the rate of other Australians.
- In the period July 2006 to June 2008, Indigenous Australians in Victoria were hospitalised at a slightly higher rate (1.3) than other Australians. Indigenous Australians in New South Wales and Queensland were hospitalised at 1.6 times and 2.1 times the rate of other Australians. In Western Australia and South Australia, Indigenous Australians were hospitalised at around three times the rate of other Australians, although in the Northern Territory, Indigenous Australians were hospitalised at six times the rate of other Australians (Table 3.12.23a, 23b).

Table 3.12.23a: Hospitalisations, by Indigenous status, sex and state/territory, Australia, July 2006 to June 2008(a)(b)(c)(d)(e)

	Indigenous				Other Australians(f)				
	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)
NSW									
Males	50,994	519.8	514.1	525.4	2,158,660	318.2	317.8	318.7	1.6*
Females	57,945	502.0	497.2	506.7	2,408,457	330.1	329.7	330.5	1.5*
Persons	108,939	507.3	503.7	510.9	4,567,161	322.4	322.1	322.7	1.6*
Vic									
Males	8,121	333.4	324.6	342.3	1,961,755	381.3	380.8	381.9	0.9*
Females	14,435	642.1	630.2	653.9	2,208,562	397.6	397.1	398.1	1.6*
Persons	22,556	497.3	489.7	504.8	4,170,334	386.5	386.1	386.9	1.3*
Qld									
Males	59,027	756.2	748.1	764.4	1,397,985	349.5	348.9	350.1	2.2*
Females	73,303	767.4	760.7	774.1	1,555,371	372.3	371.7	372.9	2.1*
Persons	132,330	757.4	752.3	762.5	2,953,359	359.0	358.6	359.4	2.1*
WA									
Males	46,166	1,114.2	1,101.0	1,127.4	676,745	337.2	336.4	338.0	3.3*
Females	62,379	1,237.6	1,226.7	1,248.5	738,912	355.2	354.4	356.1	3.5*
Persons	108,545	1,161.7	1,153.5	1,169.8	1,415,658	343.8	343.2	344.3	3.4*
SA									
Males	17,404	1,023.8	1,006.0	1,041.6	564,029	346.2	345.2	347.1	3.0*
Females	22,345	1,136.1	1,119.7	1,152.6	618,504	357.8	356.9	358.7	3.2*
Persons	39,749	1,079.3	1,067.3	1,091.3	1,182,550	349.1	348.4	349.7	3.1*
NT									
Males	47,019	1,275.4	1,261.1	1,289.7	29,149	231.9	228.8	235.1	5.5*
Females	65,331	1,525.8	1,512.6	1,539.0	28,005	227.3	224.3	230.4	6.7*
Persons	112,350	1,409.9	1,400.3	1,419.5	57,155	229.5	227.3	231.7	6.1*
NSW, Vic, Qld, WA, SA and NT combined(k)									
Males	**228,731**	**774.2**	**770.2**	**778.2**	**6,788,323**	**344.5**	**344.3**	**344.8**	**2.2***
Females	**295,738**	**857.8**	**854.3**	**861.4**	**7,557,811**	**360.5**	**360.3**	**360.8**	**2.4***
Persons	**524,469**	**813.7**	**811.1**	**816.4**	**14,346,217**	**350.2**	**350.1**	**350.4**	**2.3***
Persons Adjusted(l)	**587,405**	**870.7**	**868.1**	**873.4**	**14,283,281**	**335.0**	**334.8**	**335.1**	**2.6***
Tas									
Males	2,322	244.5	232.1	256.8	92,054	186.0	184.7	187.2	1.3*
Females	3,096	213.0	204.2	221.8	98,125	192.8	191.5	194.0	1.1*
Persons	5,418	226.2	218.8	233.5	190,181	188.7	187.8	189.6	1.2*

(continued)

Table 3.12.23a (continued): Hospitalisations, by Indigenous status, sex and state/territory, NSW, Vic, Qld, WA, SA and NT, Tas and ACT, July 2006 to June 2008[(a)(b)(c)(d)(e)]

	Indigenous				Other Australians[(f)]				
	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)]
ACT									
Males	1,448	881.8	815.0	948.5	62,019	209.4	207.7	211.1	4.2*
Females	1,054	360.5	330.4	390.5	60,487	183.4	181.9	184.9	2.0*
Persons	2,502	599.1	565.0	633.3	122,506	194.7	193.6	195.8	3.1*
Australia[(l)]									
Males	**233,864**	**756.6**	**752.7**	**760.5**	**7,072,074**	**344.9**	**344.6**	**345.1**	**2.2***
Females	**301,187**	**834.4**	**830.9**	**837.8**	**7,869,122**	**360.6**	**360.3**	**360.9**	**2.3***
Persons	**535,051**	**792.9**	**790.3**	**795.4**	**14,941,812**	**350.5**	**350.3**	**350.6**	**2.3***

* 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 fifth edition (National Centre for Classification in Health 2006).

(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 75+. Age standardised rates for Tasmania and the Australian Capital Territory have been calculated using the direct method, age standardised by five year age group to 65+.

(f) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio = Indigenous:other.

(k) 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.

(l) These jurisdictions hospitalisation numbers and rates have been adjusted for Indigenous under-identification using a national adjustment factor of 1.12. This factor was derived from a study undertaken by the AIHW between 2006 and 2008 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. The national adjustment factor excludes Tasmania and the Australian Capital Territory, as the levels of Indigenous identification in these jurisdictions were not considered acceptable for analysis purposes. By applying this factor, the number of Indigenous hospitalisations was increased by 12% and these additional hospitalisations then subtracted from the number of hospitalisations for Other Australians.

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

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) are excluded from the analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.12.23b: Hospitalisations (excluding dialysis), by Indigenous status, sex and jurisdiction, July 2006 to June 2008[a][b][c][d][e]

	Indigenous				Other Australians[f]				
	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]
NSW									
Males	35,052	305.4	301.2	309.6	1,844,989	272.3	271.9	272.7	1.1*
Females	45,051	358.0	354.1	362.0	2,192,140	302.2	301.8	302.6	1.2*
Persons	80,103	331.5	328.6	334.4	4,037,167	286.2	285.9	286.5	1.2*
Vic									
Males	6,461	249.3	241.7	257.0	1,622,650	315.3	314.8	315.8	0.8*
Females	9,456	345.6	337.6	353.5	2,018,106	364.8	364.3	365.3	0.9*
Persons	15,917	298.3	292.8	303.8	3,640,773	338.6	338.2	338.9	0.9*
Qld									
Males	34,901	363.7	358.4	369.1	1,225,357	305.5	304.9	306.0	1.2*
Females	48,794	431.7	426.8	436.5	1,434,670	344.2	343.6	344.7	1.3*
Persons	83,695	397.4	393.8	400.9	2,660,030	323.6	323.2	324.0	1.2*
WA									
Males	23,343	442.3	434.7	450.0	573,703	285.0	284.3	285.7	1.6*
Females	31,396	530.2	523.2	537.2	675,894	326.0	325.2	326.8	1.6*
Persons	54,739	484.1	479.0	489.1	1,249,598	303.7	303.2	304.3	1.6*
SA									
Males	9,050	448.7	437.0	460.5	482,559	297.5	296.7	298.3	1.5*
Females	12,209	521.7	511.0	532.4	569,016	331.7	330.8	332.6	1.6*
Persons	21,259	484.8	477.0	492.7	1,051,592	312.7	312.1	313.3	1.6*
NT									
Males	20,197	414.7	406.9	422.5	26,476	206.7	203.8	209.7	2.0*
Females	27,741	480.2	473.5	486.8	25,657	204.8	202.0	207.7	2.3*
Persons	47,938	445.8	440.9	450.8	52,134	206.8	204.8	208.9	2.2*
NSW, Vic, Qld, WA, SA and NT[k]									
Males	**129,004**	**358.0**	**355.4**	**360.7**	**5,775,734**	**293.1**	**292.8**	**293.3**	**1.2***
Females	**174,647**	**427.1**	**424.7**	**429.5**	**6,915,483**	**331.4**	**331.2**	**331.7**	**1.3***
Persons	**303,651**	**392.3**	**390.5**	**394.0**	**12,691,294**	**310.9**	**310.7**	**311.0**	**1.3***
Persons Adjusted[l]	**340,089**	**420.0**	**418.3**	**421.8**	**12,654,856**	**297.7**	**297.6**	**297.9**	**1.4***

(continued)

Table 3.12.23b (continued): Hospitalisations (excluding dialysis), by Indigenous status, sex and jurisdiction, July 2006 to June 2008(a)(b)(c)(d)(e)

Tas									
Males	1,708	129.0	121.3	136.8	77,416	157.1	156.0	158.2	0.8*
Females	2,776	185.1	176.9	193.39	86,743	172.8	171.6	174.0	1.1*
Persons	4,484	158.0	152.3	163.67	164,161	164.6	163.8	165.4	1.0*
ACT									
Males	597	205.4	179.0	231.7	42,400	140.2	138.9	141.6	1.5*
Females	715	242.5	215.2	269.8	50,565	152.4	151.0	153.7	1.6*
Persons	1,312	224.5	205.4	243.7	92,965	146.0	145.0	146.9	1.5*
Australia unadjusted(m)									
Males	132,522	351.7	349.1	354.2	6,022,754	293.6	293.4	293.8	1.2*
Females	179,413	419.9	417.6	422.2	7,203,197	331.6	331.3	331.8	1.3*
Persons	311,935	385.6	383.9	387.3	13,226,546	311.2	311.1	311.4	1.2*

* 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 fifth edition (National Centre for Classification in Health 2006).

(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 group 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) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous: other.

(k) 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.

(l) These jurisdictions hospitalisation numbers and rates have been adjusted for Indigenous under-identification using a national adjustment factor of 1.12. This factor was derived from a study undertaken by the AIHW between 2006 and 2008 that 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. The national adjustment factor excludes Tasmania and the Australian Capital Territory, because the levels of Indigenous identification in these jurisdictions were not considered acceptable for analysis purposes. By applying this factor, the number of Indigenous hospitalisations was increased by 12% and these additional hospitalisations then subtracted from the number of hospitalisations for Other Australians.

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

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) are excluded from the analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Hospitalisations by remoteness

Hospitalisation rates for hospitalisations with a primary diagnosis related to alcohol abuse in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined are presented by Australian Standard Geographical Classification (ASGC) in Tables 3.12.24a and 3.12.24b, covering the period July 2007 to June 2009.

- Indigenous Australians in all remoteness areas were more likely to be hospitalised for these conditions 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.
- Rates of hospitalisations per 1,000 population were highest for Indigenous people living in *Remote* areas, at 1503 per 1,000. The rate was highest for other Australians who lived in *Major cities*, at 376 per 1,000. The lowest rates were observed in *Major cities* for Indigenous people (618 per 1,000) and *Remote* areas for other Australians (321 per 1,000).
- Indigenous people were hospitalised for these conditions at a rate of 4.7 times that of other Australians in *Remote* areas of Australia. In *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a rate of 1.6 times that of other Australians. Nationally, the rate was 2.5 times.

Table 3.12.24a: Age-standardised hospitalisations by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT combined, July 2007 to June 2009[a][b][c][d][e][f]

	Indigenous				Other Australians[g]				
	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Number	No. per 1,000[h]	LCL 95%[i]	UCL 95%[j]	Ratio[k]
Major cities	122,280	617.7	613.5	621.9	10,449,880	375.9	375.7	376.1	1.6*
Inner regional	81,638	657.0	651.6	662.4	2,913,425	369.0	368.6	369.4	1.8*
Outer regional[l]	149,526	1203.5	1196.4	1210.6	1,269,506	355.1	354.4	355.7	3.4*
Remote	92,156	1502.5	1491.3	1513.7	158,417	321.1	319.5	322.7	4.7*
Very remote	110,248	1043.8	1043.8	1043.8	52,392	332.9	332.9	332.9	3.1*
Total[m]	**556,554**	**912.5**	**909.7**	**915.3**	**14,853,403**	**370.8**	**370.7**	**371.0**	**2.5***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio–Indigenous: other.

(l) Includes remote Victoria.

(m) Total includes hospitalisations where ASGC is missing.

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) are excluded from the analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.12.24b: Hospitalisations (excluding dialysis), by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other Australians(g)				
	Number	No. per 1,000(h)	LCL 95%(i)	UCL 95%(j)	Number	No. per 1,000(h)	LCL 95%(i)	UCL 95%(j)	Ratio(k)
Major cities	75,935	323.6	320.7	326.6	9,120,768	328.5	328.3	328.7	0.99
Inner regional	58,105	397.7	393.7	401.7	2,622,335	335.2	334.8	335.6	1.2*
Outer regional(l)	73,634	468.1	464.0	472.2	1,162,367	326.9	326.3	327.5	1.4*
Remote(m)	48,192	641.4	634.5	648.3	152,883	310.3	308.7	311.9	2.1*
Very remote	60,714	461.9	454.5	469.3	50,785	323.6	322.7	324.5	1.4*
Total(n)	**317,285**	**424.2**	**422.4**	**426.0**	**13,118,754**	**328.7**	**328.5**	**328.9**	**1.3***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(c) Financial year reporting.

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

(e) Age standardised rates 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) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio Indigenous: other.

(l) Includes remote Victoria.

(m) Excludes remote Victoria.

(n) Total includes hospitalisations where ASGC is missing.

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) are excluded from the analysis.
3. Data are age standardised.

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 2001–02 to 2007–08: 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 (2006–07 to 2007–08), and as a separate time series analyses.

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period 2001–02 to 2007–08 are presented in Tables 3.12.25 and 3.12.25b and Figures 3.12.2a and 3.12.2b.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous

Australians during the 7-year period from 2001–02 to 2007–08. The fitted trend implies an average yearly increase in the rate of around 37 per 1,000 which is equivalent to a 26% increase in the rate over this period.

- There were also significant increases in hospitalisation rates among other Australians during the same period, with an average yearly increase in the rate of 3.0 per 1,000 for other Australian persons. This is equivalent to a 5.1% increase in the rate over this period.
- There were significant increases in the hospitalisation rate ratios and rate differences between Indigenous and other Australians. The fitted trend implies an average yearly increase of 0.1 in the rate ratio (20% increase over the period) and 34 per 1,000 in the hospitalisation rate differences between Indigenous and other Australians over this period (40% increase). This indicates a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other 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 3.12.25a: Age-standardised hospitalisation rates, rate ratios and rate differences, Qld, WA, SA and NT combined, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006-07	2007-08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Persons	143,537	150,555	161,735	171,102	183,514	189,538	203,436	9,980*	41.7*
Other Australian[(d)] separations									
Persons	2,158,072	2,404,634	2,476,359	2,550,026	2,641,338	2,750,101	2,858,621	105,627*	29.4*
Indigenous number per 1,000									
Persons	864.4	896.9	945.5	973.2	1,027.7	1,038.4	1,087.6	37.0*	25.7*
Other Australian[(d)] number per 1,000									
Persons	349.6	350.3	352.9	353.4	357.5	362.8	367.6	3.0*	5.1*
Rate ratio[(e)]									
Persons	2.5	2.6	2.7	2.8	2.9	2.9	3.0	0.1*	19.6*
Rate difference[(f)]									
Persons	514.8	546.5	592.7	619.8	670.2	675.5	719.9	34.0*	39.6*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2001–02 to 2007–08.

(a) 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 were determined using linear regression analysis.

(c) Per cent change between 2001–02 and 2007–08 were based on the average annual change over the period.

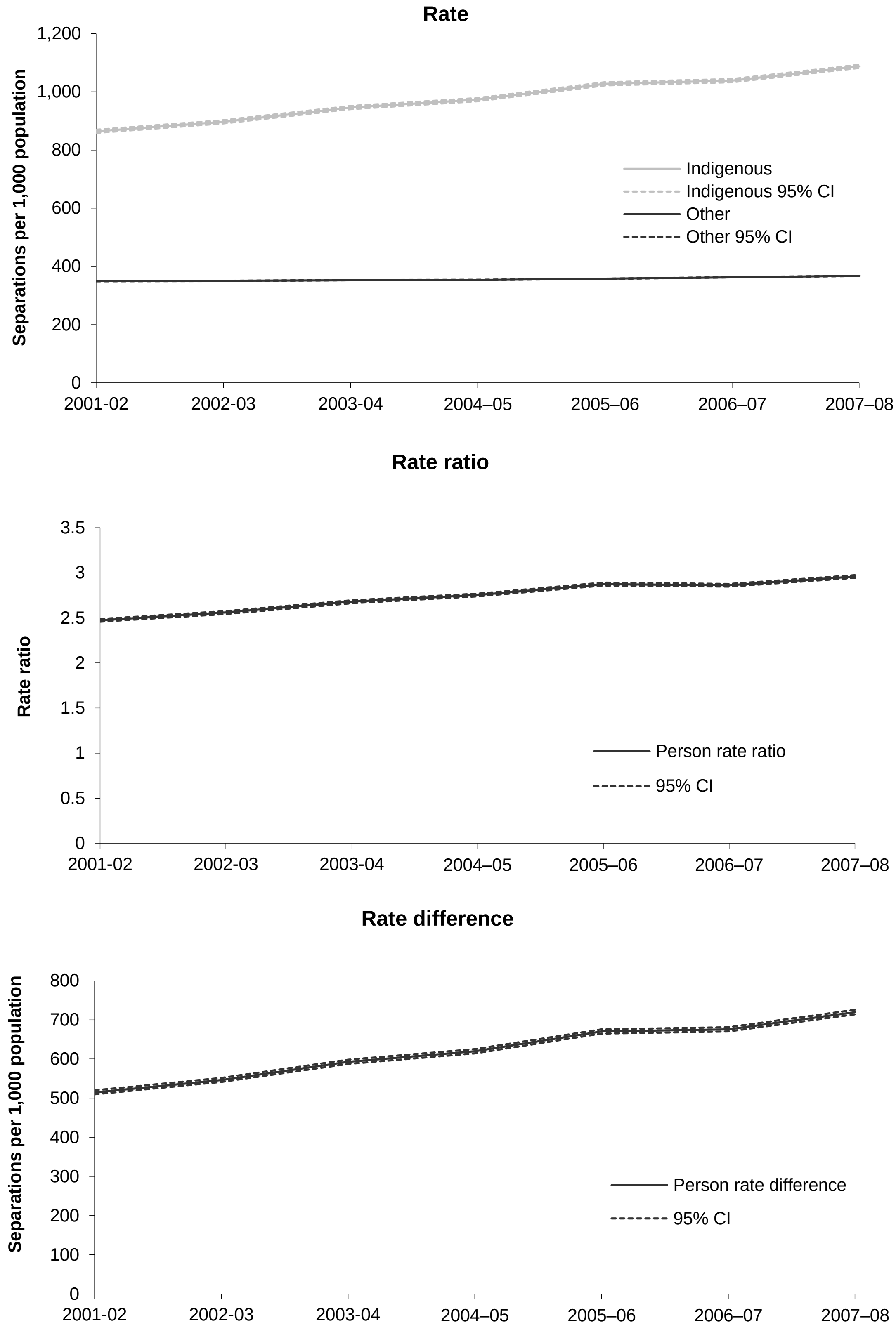
(d) 'Other Australian' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

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

Note: Rates have been directly age-standardised using the Australian 2001 standard population.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.12.2a: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians, Qld, WA, SA and NT combined, 2001–02 to 2007–08

Table 3.12.25b: Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), Qld, WA, SA and NT, 2001–02 to 2007–08[(a)]

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations									
Persons	90,406	90,347	93,259	94,132	98,934	100,932	106,699	2,704.4*	17.9
Other Australian separations									
Persons	2,158,072	2,185,931	2,234,881	2,286,922	2,358,447	2,460,922	2,552,467	66,311.9*	18.4
Indigenous rate (separations per 1,000)									
Persons	422.3	418.3	427.5	415.4	430.6	425.1	445.3	3.1*	4.3
Other Australian[(d)] rate (separations per 1,000)									
Persons	307.7	304.8	304.7	304.8	306.8	312.1	315.5	1.4*	2.8
Rate ratio[(e)]									
Persons	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	1.5
Rate difference[(f)]									
Persons	114.7	113.6	122.8	110.6	123.8	113.0	129.8	1.6	8.5

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1998–99 to 2007–08.

(a) 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 were determined using linear regression analysis.

(c) Per cent change between 1998–99 and 2007–08 were based on the average annual change over the period.

(d) 'Other Australian' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

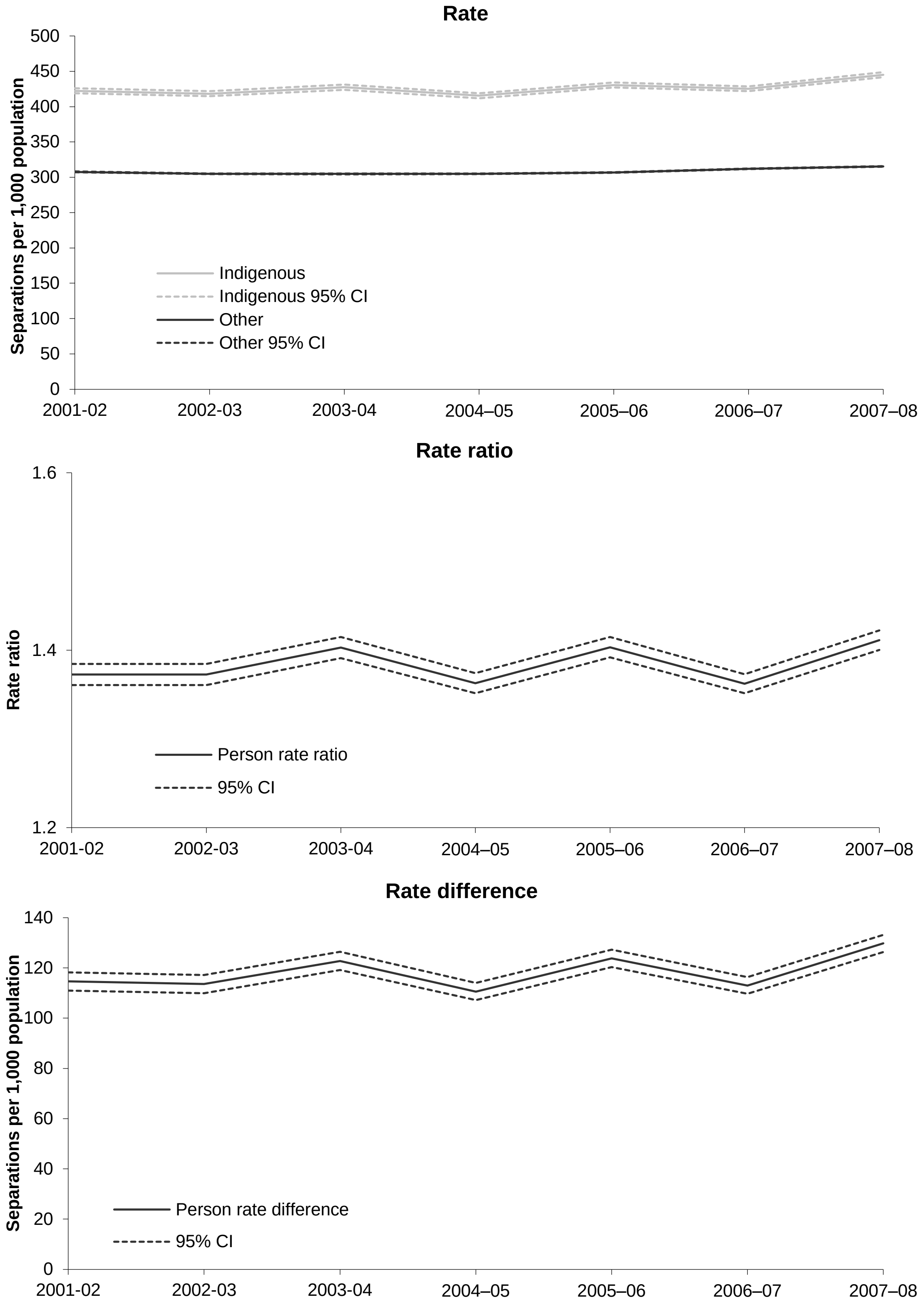
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

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

Notes

1. Rates have been directly age-standardised using the 2001 Australian standard population.
2. Population estimates are based on the 2006 Census.
3. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) are included in analysis because of changes in coding since earlier years.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.12.2b: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians (excluding dialysis), Qld, WA, SA and NT combined, 2001–02 to 2007–08

Table 3.12.26a: Age-standardised hospitalisation rates, rate ratios and rate differences, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08(a)

	2004–05	2005–06	2006-07	2007-08	Annual change(b)	Per cent change over period(c)
Indigenous separations						
Persons	224,716	243,106	253,175	271,294	14,980*	20.0*
Other Australian(d) separations						
Persons	6,533,363	6,782,353	7,050,063	7,296,154	255,608*	11.7*
Indigenous number per 1,000						
Persons	729.7	778.4	795.4	831.5	32.2*	13.2*
Other Australian(d) number per 1,000						
Persons	335.7	342.0	348.1	352.4	5.6*	5.0*
Rate ratio(e)						
Persons	2.2	2.3	2.3	2.4	0.1*	7.8*
Rate difference(f)						
Persons	394.0	436.3	447.3	479.1	26.6*	20.3*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 2004–05 to 2007–08.

(a) 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 were determined using linear regression analysis.

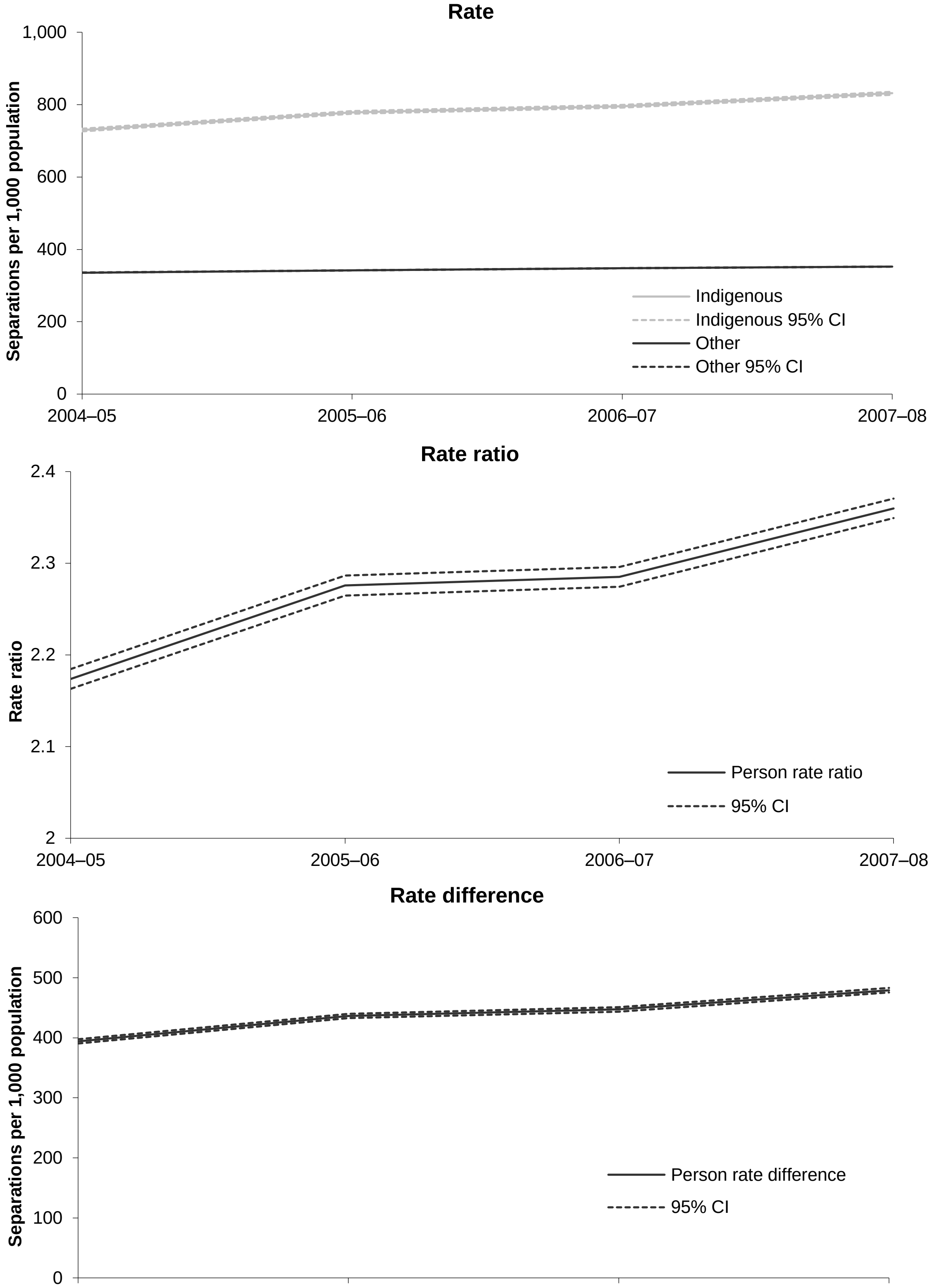
(c) Per cent change between 2004–05 and 2007–08 were based on the average annual change over the period.

(d) 'Other Australian' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

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

Note: Rates have been directly age-standardised using the Australian 2001 standard population.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.12.3a: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians, NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08

Table 3.12.26b: Age-standardised hospitalisation rates, rate ratios and rate differences (excluding dialysis), NSW, Vic, Qld, WA, SA and NT combined, 2004–05 to 2007–08[(a)]

	2004–05	2005–06	2006–07	2007–08	Annual change[(b)]	Per cent change over period[(c)]
Indigenous separations						
Persons	134,380	142,953	147,876	155,830	6,927.3*	15.5
Other Australian separations						
Persons	5,833,321	6,020,478	6,248,098	6,452,856	208,622.5*	10.7
Indigenous rate (separations per 1,000)						
Persons	366.0	381.5	384.2	400.4	10.6*	8.7
Other Australian[(d)] rate (separations per 1,000)						
Persons	300.4	304.4	309.4	312.7	4.2*	4.2
Rate ratio[(e)]						
Persons	1.2	1.3	1.2	1.3	0*	4.3
Rate difference[(f)]						
Persons	65.6	77.1	74.8	87.6	6.4*	29.1

* 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. 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 2007–08 based on the average annual change over the period.

(d) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

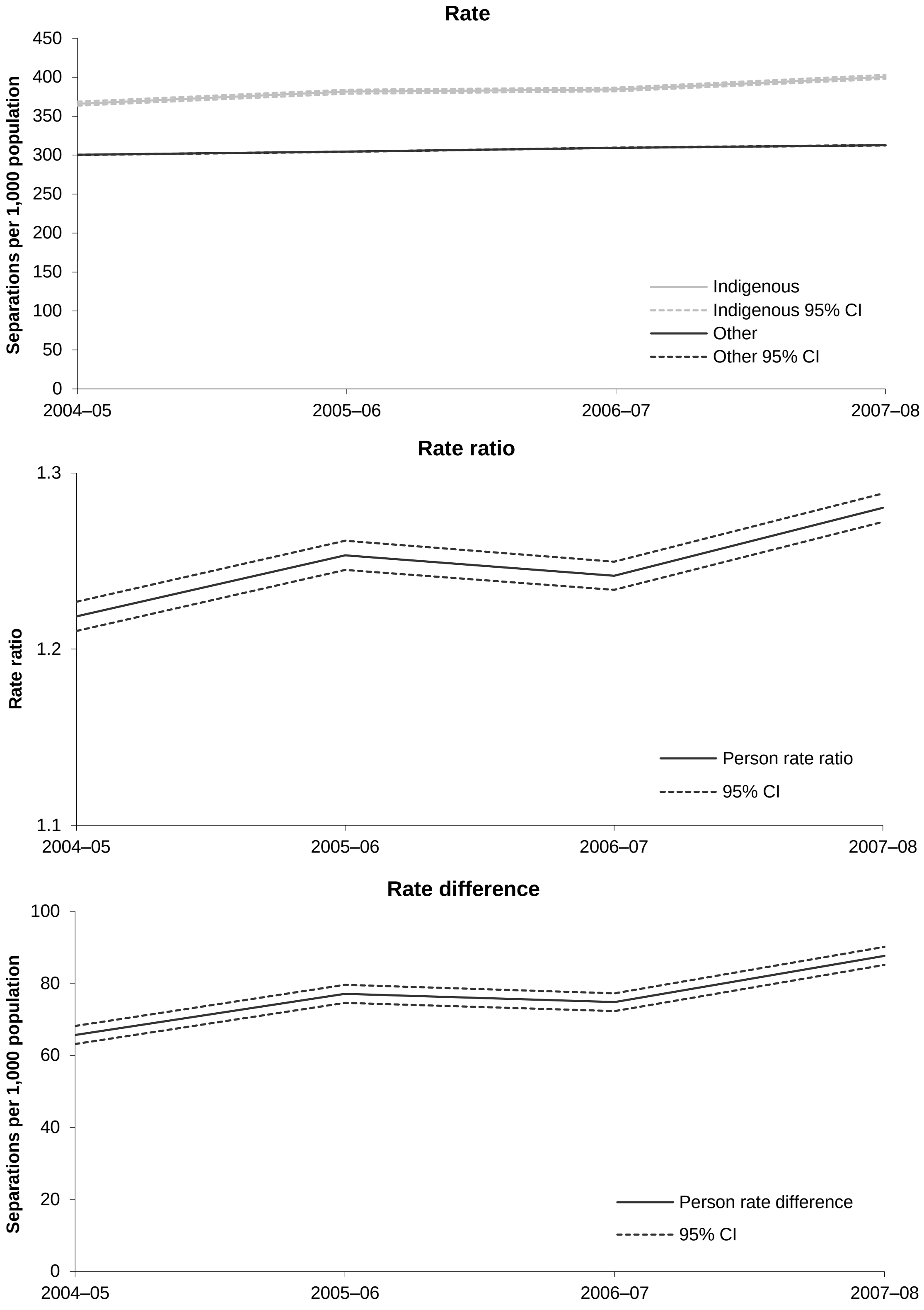
(e) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

(f) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other 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) included in analysis because of changes in coding since earlier years.

Source: AIHW analysis of National Hospital Morbidity Database.



Source: AIHW analysis of National Hospital Morbidity Database.

Figure 3.12.3b: Hospitalisation rates, rate ratios and rate differences (excluding dialysis) between Indigenous and other Australians, NSW, Vic, Qld, WA, SA and NT, 2004–05 to 2007–08

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 3.12.27 and 3.12.28.

Hospitalisations for the two-year period July 2006 to June 2008 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 1.4 times the rate of other Australians.

- Over the period July 2006 to June 2008, Indigenous Australians in Western Australia were hospitalised for palliative care at about twice the rate of other Australians. In Victoria, Indigenous females were hospitalised for palliative care at higher rates than other females although Indigenous males were hospitalised at lower rates than other males. In the Northern Territory, Indigenous Australians were hospitalised for palliative care at lower rates than other Australians. The number of hospitalisations for palliative care for Indigenous persons in most jurisdictions was very small and thus the rates should be interpreted with caution (Table 3.12.27).

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 3.06.28, covering the period July 2007 to June 2009. Due to the small numbers of hospitalisations of Indigenous people recorded in theses jurisdictions, however, caution should be exercised when interpreting these rates.

- Indigenous Australians in all ASGC areas were more likely to be hospitalised for palliative care 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 for *Major cities*.
- Rates of hospitalisations for palliative care per 1,000 population were highest for Indigenous people living in *Inner regional* areas, at 1.0 per 1,000. The rate was highest for other Australians who lived in *Major cities*, at 0.6 per 1,000. The lowest rates were observed in *Very remote* areas for Indigenous people (0.5 per 1,000) and *Remote* and *Very remote* areas for other Australians (both 0.3 per 1,000).
- Indigenous people were hospitalised for palliative care at a rate of 2.1 times that of other Australians in *Remote* and *Very remote* areas of Australia. In *Major cities*, where the lowest ratio was observed, Indigenous Australians were hospitalised at a similar rate to that of other Australians. For all ASGC areas combined, the rate was significantly higher, at 1.3 times.

Table 3.12.27: Hospitalisations for palliative care, by Indigenous status, sex and state/territory, NSW, Vic, Qld, WA, SA, and NT, July 2006 to June 2008[a][b][c][d]

	Indigenous				Other Australians[e]				
	Number[e]	No. per 1,000 [f]	LCL 95%[g]	UCL 95%[h]	Number[e]	No. per 1,000[f]	LCL 95%[g]	UCL 95%[h]	Ratio[i]
NSW									
Males	79	1.5	1.1	1.9	9,867	1.5	1.4	1.5	1.0
Females	60	0.8	0.6	1.1	8,220	1.0	1.0	1.0	0.8
Persons	139	1.1	0.9	1.3	18,087	1.2	1.2	1.2	0.9
Vic									
Males	6	0.4	0.1	0.7	6,130	1.2	1.2	1.2	0.3*
Females	21	1.2	0.7	1.8	5,200	0.8	0.8	0.9	1.5
Persons	27	0.8	0.5	1.2	11,330	1.0	1.0	1.0	0.8
Qld									
Males	65	1.5	1.0	1.9	4,638	1.2	1.2	1.2	1.2
Females	80	1.3	1.0	1.6	3,513	0.8	0.8	0.8	1.6*
Persons	145	1.4	1.1	1.6	8,151	1.0	1.0	1.0	1.4*
WA									
Males	124	4.6	3.6	5.6	3,909	2.1	2	2.2	2.2*
Females	81	2.3	1.7	2.9	3,140	1.4	1.4	1.5	1.6*
Persons	205	3.3	2.8	3.8	7,049	1.7	1.7	1.8	1.9*
SA									
Males	20	1.4	0.6	2.1	1,672	1.0	0.9	1.0	1.4
Females	12	0.7	0.3	1.2	1,325	0.7	0.6	0.7	1.1
Persons	32	1.0	0.6	1.4	2,997	0.8	0.8	0.8	1.3
NT									
Males	52	2.2	1.4	2.9	310	3.7	3.2	4.2	0.6*
Females	52	1.5	1.0	1.9	163	2.3	1.9	2.7	0.7*
Persons	104	1.8	1.4	2.2	473	3.1	2.7	3.4	0.6*
NSW, Vic, Qld, WA, SA and NT									
Males	**346**	**1.9**	**1.6**	**2.1**	**26,526**	**1.4**	**1.4**	**1.4**	**1.4***
Females	**306**	**1.3**	**1.1**	**1.4**	**21,561**	**0.9**	**0.9**	**0.9**	**1.4***
Persons	**652**	**1.5**	**1.4**	**1.7**	**48,087**	**1.1**	**1.1**	**1.1**	**1.4***
Tas									
Males	n.p.	n.p.	n.p.	n.p.	319	0.6	0.5	0.7	n.p.
Females	n.p.	n.p.	n.p.	n.p.	303	0.5	0.4	0.6	n.p.
Persons	7	0.4	0.1	0.8	622	0.5	0.5	0.6	0.8
ACT									
Males	n.p.	n.p.	n.p.	n.p.	369	1.4	1.3	1.5	n.p.
Females	n.p.	n.p.	n.p.	n.p.	263	0.8	0.7	0.9	n.p.
Persons	n.p.	n.p.	n.p.	n.p.	632	1.1	1.0	1.2	n.p.

(continued)

Table 3.12.27 (continued): Hospitalisations for palliative care, by Indigenous status, sex and state/territory, NSW, Vic, Qld, WA, SA, and NT, July 2006 to June 2008

* 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. Data exclude private hospitals in the Northern Territory, Tasmania and the Australian Capital Territory.

(b) Categories are based on the (ICD-10-AM) fifth edition (National Centre for Classification in Health 2006).

(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. Data for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for these six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio—Indigenous:other.

Source: AIHW analysis of National Hospital Morbidity Database.

Table 3.12.28: Hospitalisations for palliative care, per 1,000 population by Indigenous status and remoteness, NSW, Vic, Qld, WA, SA and NT, July 2007 to June 2009[(a)(b)(c)(d)(e)(f)]

	Indigenous				Other Australians[(g)]				
	Number	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Number	No. per 1,000[(h)]	LCL 95%[(i)]	UCL 95%[(j)]	Ratio[(k)]
Major cities	83	0.7	0.5	0.8	16,704	0.6	0.6	0.6	1.1
Inner regional	91	1.0	0.8	1.3	4,844	0.5	0.5	0.6	1.9*
Outer regional[(l)]	81	0.9	0.7	1.1	2,023	0.5	0.5	0.5	1.7*
Remote[(m)]	29	0.7	0.4	1.0	161	0.3	0.3	0.4	2.1*
Very remote	47	0.5	0.3	0.8	34	0.3	0.2	0.3	2.1*
Missing	0	. .	. .	. .	8	. .	. .	. .	. .
Total[(n)]	**331**	**0.8**	**0.7**	**0.9**	**23,774**	**0.6**	**0.6**	**0.6**	**1.3***

* 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.

(b) Categories are based on the ICD-10-AM fifth edition (National Centre for Classification in Health 2006).

(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) 'Other Australians' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

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

(i) LCL = lower confidence limit.

(j) UCL = upper confidence limit.

(k) Rate ratio—Indigenous: other.

(l) Includes remote Victoria.

(m) Excludes remote Victoria.

(n) Total includes hospitalisations where ASGC is missing.

Notes

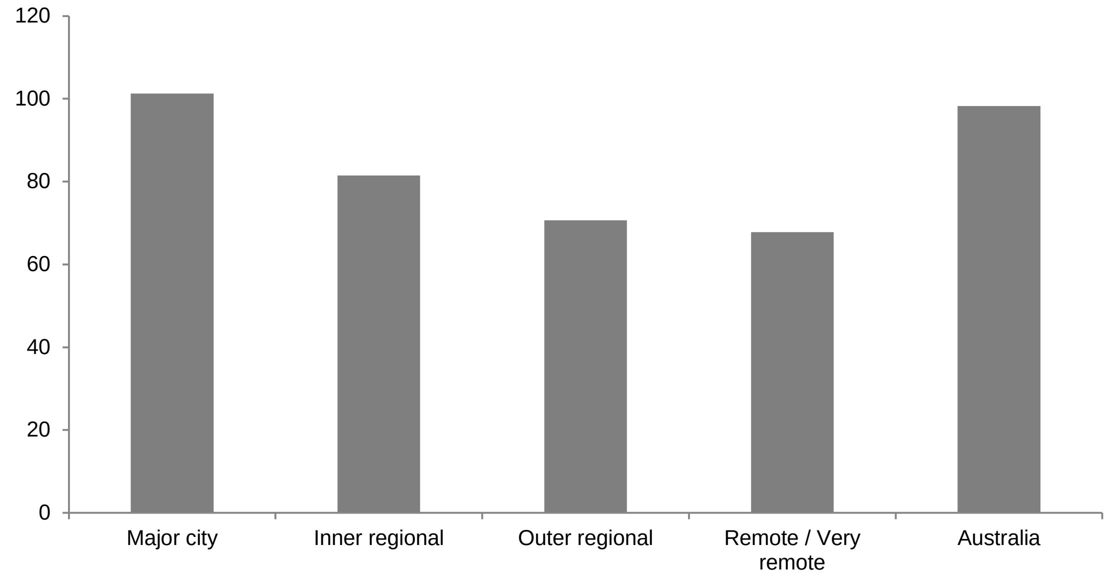
1. Rates for Indigenous are calculated using the 2006 population estimates based on the 2006 Census (Series B).
2. Care types 7.3, 9 and 10 (newborn – unqualified days only; organ procurement; hospital boarder) are excluded from the analysis.

Source: AIHW analysis of National Hospital Morbidity Database.

General practitioners

Information on the number of GPs working in Australia is available from the DoHA. Data in Table 3.12.29 and Figure 3.12.4 present the number of full-time equivalent GPs per 100,000 population by ASGC remoteness areas.

- In 2008, there were 20,334 GPs registered and working in Australia. 71% of these GPs practiced in *Major cities*, where approximately 68% of the population resided. Around 332, or 1.6%, practiced in *Remote* and *Very remote* areas, where 2.4% of the Australian population resided.
- The number of GPs per 100,000 head of population was greatest in *Major cities* (101 per 100,000) and lowest in *Remote* and *Very remote* areas (68 per 100,000).



Source: DoHA 2010

Figure 3.12.4: Number of full-time equivalent GPs per 1,000 population, by remoteness, 2008

Table 3.12.29: Number of FTE GPs, and number per 100,000 population, by remoteness, 2008

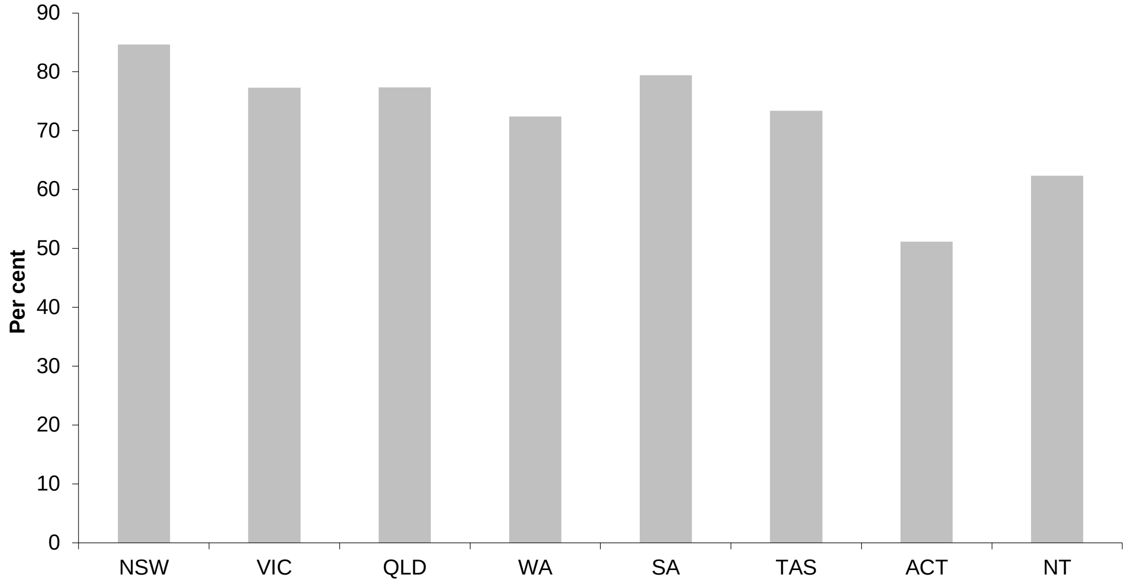
	Major cities	Inner regional	Outer regional	Remote / Very remote	Not stated	Australia
Number of GPs	14,347	3,326	1,386	332	942	20,334
GPs per 100,000	101.3	81.5	70.7	67.8	. .	98.2

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 2008–09, approximately 79% of general practitioner attendances were bulk billed. This ranged from 51% in the Australian Capital Territory to 85% in New South Wales (Table 3.12.30; Figure 3.12.5).



Source: AIHW analysis of Medicare data.

Figure 3.12.5: Proportion of GP attendances that were bulk billed, by state/territory, 2008–09

Table 3.12.30: Proportion of GP attendances that were bulk billed, by state/territory, 2008–09

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Per cent bulk billed	84.7	77.3	77.3	72.4	79.4	73.4	51.1	62.3	79.2

Source: AIHW analysis of Medicare data.

Health labour force

Information on the health labour force is available from the AIHW labour force surveys, which collect data on health-related occupations including medical practitioners, nurses and midwives, psychologists, physiotherapists, podiatrists, pharmacists, dentists and occupational therapists. In the absence of centralised national mailing lists for each profession, most of these surveys rely on the various state and territory registration boards to administer survey questionnaires as part of the registration renewal process.

The AIHW uses the data collected in each of these surveys to derive estimates of the total health labour force for each occupation. Survey responses are weighted to match available registration data provided by state/territory registration boards to account for non-response. Weighted data were not available from the Occupational Therapy Labour Force Survey and thus are not presented here. Data from the Pharmacists Labour Force Survey are presented in measure 3.13—Access to prescription medicines.

Clinical medical practitioners

Information on medical practitioners in Australia is collected through the AIHW Medical Labour Force Survey of which the most recently published data are for 2008. The survey includes all practitioners registered with the medical board in each state and territory, but excludes those practitioners who registered for the first time in the survey year. The response to the Medical Labour Force Survey in 2008 represented an estimated 69.9% of the medical registrations in all jurisdictions.

- In 2008, there were 64,117 employed clinical medical practitioners in Australia. The rate of FTE employed clinical medical practitioners in Australia was 341 per 100,000. Clinical medical practitioners are comprised of primary care practitioners (38%), specialists (35%), specialists-in-training (14%) and hospital non-specialists (12%) (Table 3.12.31; Figure 3.12.6; AIHW 2010a).
- The greatest disparity among one group of clinicians was observed among specialists, where there were five times the rate of specialists present in *Major cities* than in *Remote* and *Very remote* areas (132 and 23 per 100,000, respectively). *Major cities* had double the rate of specialists as *Inner regional* areas (64 per 100,000), which had the second highest rate.
- The rate of primary care clinicians was greater in *Remote* and *Very remote* areas than in *Major cities* (112 and 105 per 100,000), and was also greater than the Australian rate (108 per 100,000). Rates for all other occupations were greater in *Major cities* than in *Remote* and *Very remote* areas.

Table 3.12.31: Full-time employed medical practitioners by main occupation and geographic region of main job, 2008

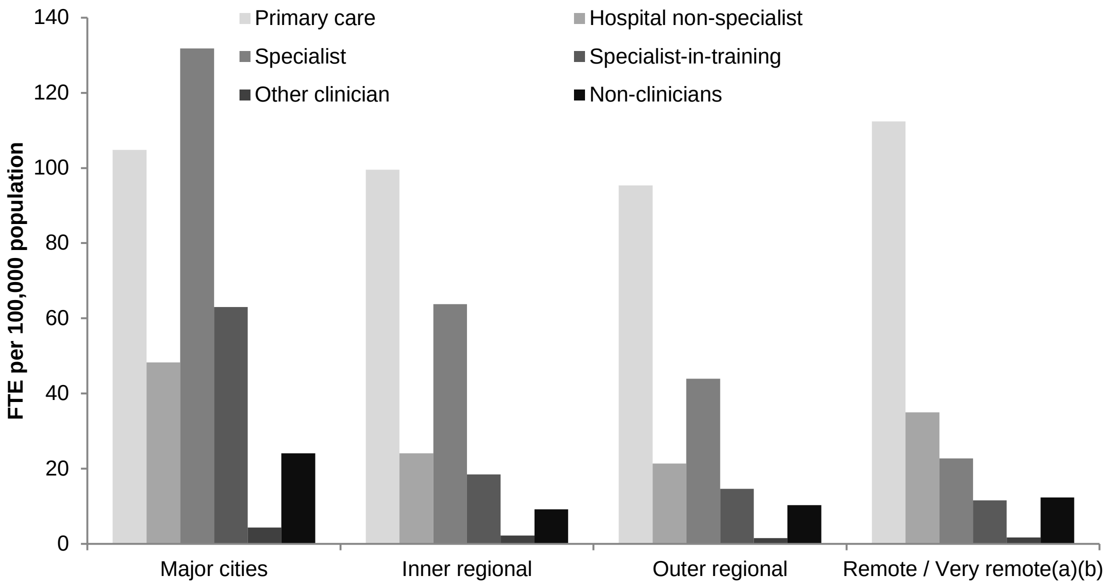
	Region of main job					
Main occupation	**Major cities**	**Inner regional**	**Outer regional**	**Remote / Very remote**[(a)(b)]	**Not stated**	**Australia**
	Full-time equivalent number per 100,000 population					
	Persons					
Clinicians	352.5	208.0	176.8	183.4	. .	320.6
Primary care	*104.8*	*99.5*	*95.4*	*112.4*	. .	*107.9*
Hospital non-specialist	*48.3*	*24.1*	*21.4*	*35.0*	. .	*43.3*
Specialist	*131.8*	*63.8*	*43.9*	*22.7*	. .	*114.5*
Specialist-in-training	*63.0*	*18.5*	*14.6*	*11.6*	. .	*50.7*
Other clinician	*4.3*	*2.2*	*1.5*	*1.7*	. .	*3.9*
Non-clinicians	24.1	9.2	10.3	12.3	. .	20.7
Total	**376.2**	**217.4**	**186.9**	**195.5**	**. .**	**341.1**

(a) Care should be taken when interpreting 2008 figures for Remote/Very remote areas because of the relatively small number of employed medical practitioners who stated that their main job was located in this region.

(b) Includes migratory zones.

Note: FTE is based on 40 hours per week.

Sources: AIHW Medical Labour Force Survey, 2008; unpublished ABS estimated resident population data.



(a) Care should be taken when interpreting 2008 figures for Remote/Very remote areas because of the relatively small number of employed medical practitioners who stated that their main job was located in this region.

(b) Includes migratory zones.

Note: FTE is based on 40 hours per week.

Sources: AIHW Medical Labour Force Survey, 2008; unpublished ABS estimated resident population data.

Figure 3.12.6: Full-time employed medical practitioners by main occupation and geographic region of main job, 2008

Nurses and midwives

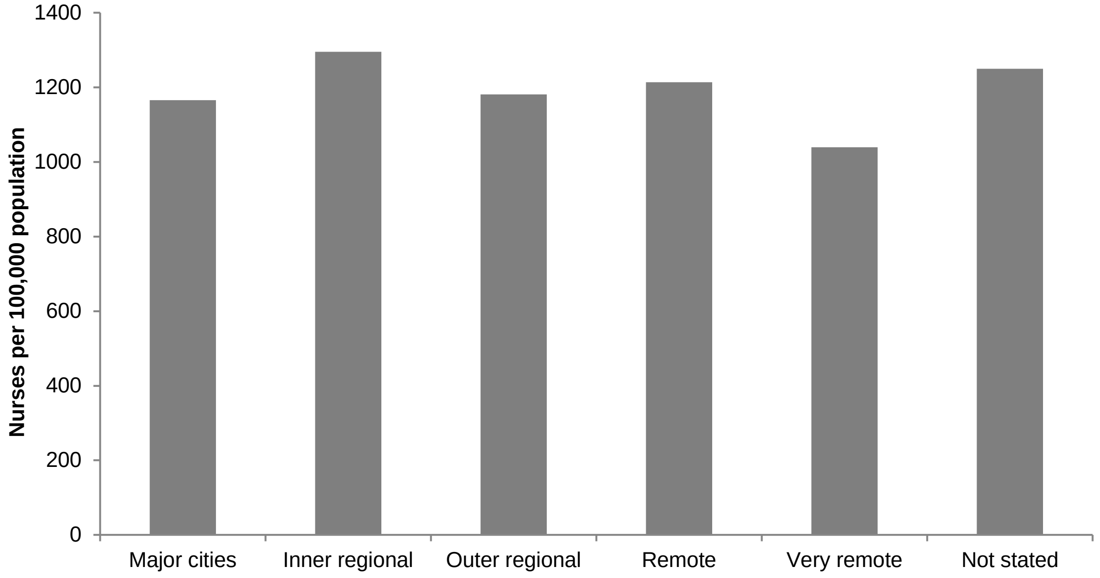
Information on nurses and midwives in Australia is available from the AIHW Nursing and Midwifery Labour Force Survey. The latest survey was conducted in 2008. The scope of the survey is all nurses who were registered or enrolled with the nursing/midwifery board in each state or territory at the time of the survey. Coverage excludes nurses who registered or enrolled for the first time in the 12 months before the survey. Response to the Nursing and Midwifery Labour Force Survey in 2008 represented an estimated 46.6% of the nursing registrations and enrolments in all jurisdictions. Estimates for some jurisdictions should be interpreted with caution because of the low response rates.

- There were more nurses per 100,000 population in *Inner regional* areas than any other remoteness area (1,295 per 100,000). *Very remote* areas had the lowest rate of nurses per 100,000 population, followed by *Major cities* (1,039 and 1166 per 100,000, respectively) (Table 3.12.32; Figure 3.12.7).

Table 3.12.32: Number of employed registered and enrolled nurses, by remoteness, 2008

	Major cities	Inner regional	Outer regional	Remote	Very remote	Not stated	Australia
Number	168,261	53,811	23,545	3,856	1,739	12,120	263,331
Nurses per 100,000 population	1166	1295	1181	1214	1039	. .	1250

Source: Nursing and Midwifery Labour Force Survey 2008



Source: Nursing and midwifery labour force 2008

Figure 3.12.7: Number of employed registered and enrolled nurses, by remoteness, 2008

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

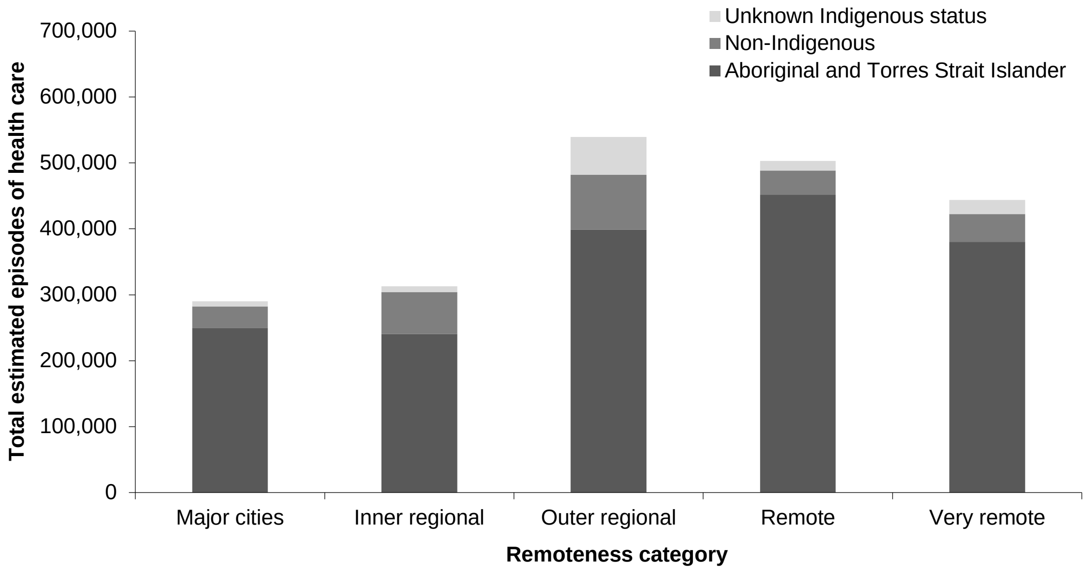
Episodes of health care

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.

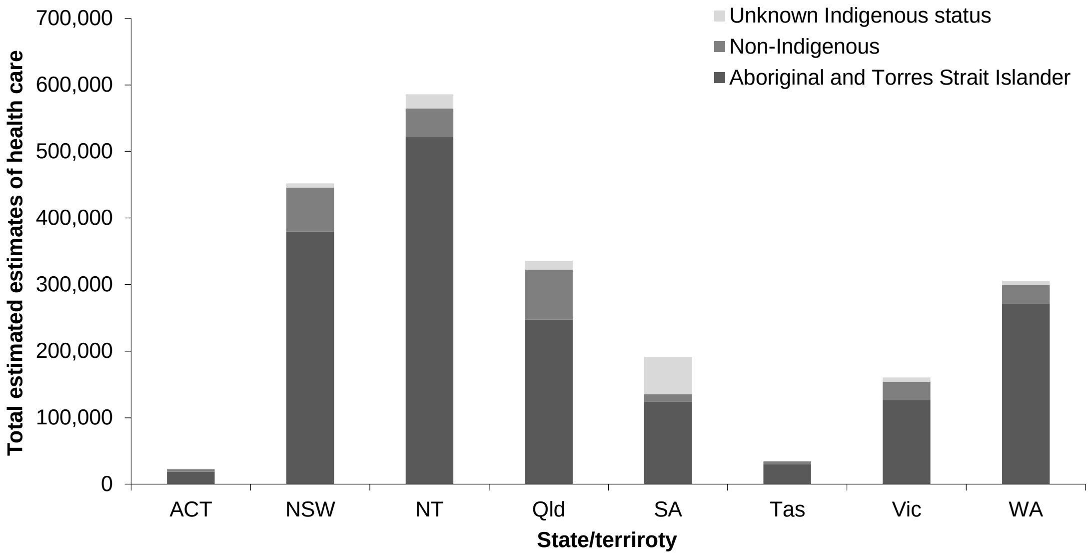
Figures 3.12.8 and 3.12.9 and Tables 3.12.33 and 3.12.34 show the total estimated number of episodes of health care provided by respondent Indigenous primary health-care services by remoteness area in each state and territory.

- In 2008–09, 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 *Outer regional* areas.



Source: AIHW OSR data collection.

Figure 3.12.8: Total episodes of health care provided by respondent primary health-care services, by remoteness and Indigenous status, 2008–09



Source: AIHW OSR data collection.

Figure 3.12.9: Total episodes of health care provided by respondent primary health-care services, by state/territory and Indigenous status, 2008–09

Table 3.12.33: Total episodes of health care provided by respondent Aboriginal and Torres Strait Islander primary health-care services, by remoteness and Indigenous status, 2008–09

	Major cities	Inner regional	Outer regional	Remote	Very remote	Total
Aboriginal and Torres Strait Islander	249,716	240,863	398,804	451,778	380,535	1,721,696
Non-Indigenous	32,491	63,606	83,299	36,691	41,779	257,866
Unknown Indigenous status	7,748	8,491	57,215	14,350	21,528	109,332
Total	**289,955**	**312,960**	**539,318**	**502,819**	**443,842**	**2,088,894**

Source: AIHW OSR data collection.

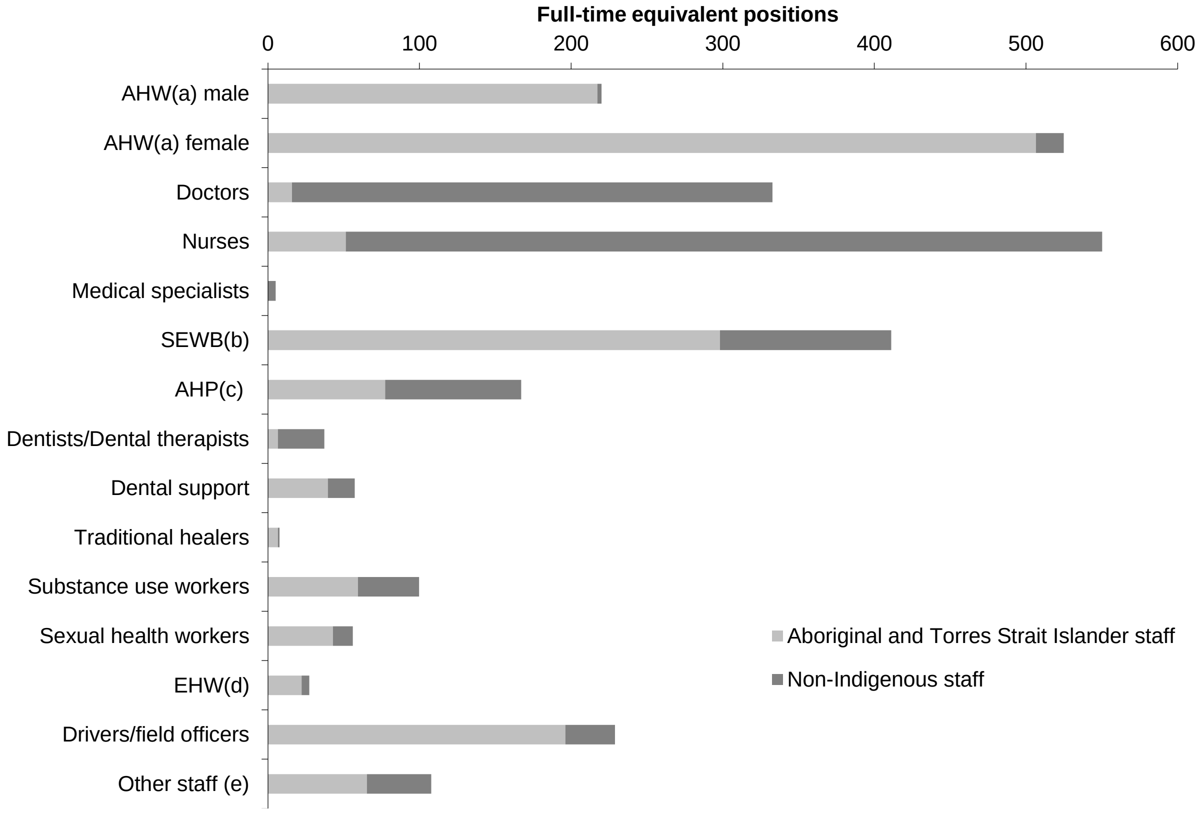
Table 3.12.34: Total episodes of health care provided by respondent Aboriginal and Torres Strait Islander primary health-care services, by state/territory and Indigenous status, 2008–09

	ACT	NSW	NT	Qld	SA	Tas	Vic	WA	Total
Aboriginal and Torres Strait Islander	19,120	379,972	522,802	247,542	124,546	29,849	126,702	271,163	1,721,696
Non-Indigenous	3,882	65,934	41,676	74,945	10,893	4,667	27,517	28,352	257,866
Unknown Indigenous status	214	6,241	21,536	13,177	55,830	179	5,958	6,197	109,332
Total	**23,216**	**452,147**	**586,014**	**335,664**	**191,269**	**34,695**	**160,177**	**305,712**	**2,088,894**

Source: AIHW OSR data collection.

Health staff

- At June 2009, a total of 333 FTE doctors and 550 FTE nurses were employed by Indigenous primary health-care services. The majority of doctors, nurses, allied health professionals and dentists were non-Indigenous (95%, 91%, 50% and 83%, 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 (Figure 3.12.10; Table 3.12.35).



(a) AHW — Aboriginal health worker

(b) SEWB — Social and emotional wellbeing staff (includes counsellors, social workers and psychologists).

(c) AHP — allied health professionals.

(d) EHW — environmental health workers.

(e) Other staff unable to be categorised due to inadequate job description.

Source: AIHW OSR data collection

Figure 3.12.10: Number of full-time equivalent health staff employed by respondent Aboriginal and Torres Strait Islander primary health-care services, by Indigenous status, 2008-09

Table 3.12.35: Number of full-time equivalent health staff employed by respondent Aboriginal and Torres Strait Islander primary health-care services, by Indigenous status, 2008-09

	Aboriginal and Torres Strait Islander staff	Non-Indigenous staff	Unknown status	Total FTE
AHW[(a)] male	217.4	2.7	0.0	220.1
AHW[(a)] female	506.5	18.4	0.0	524.9
Doctors	15.8	317.0	0.0	332.8
Nurses	51.3	498.9	0.0	550.2
Medical specialists	0.0	5.2	0.0	5.2
SEWB[(b)]	298.1	113.1	11.2	422.4
AHP[(c)]	77.3	89.8	14.2	181.4
Dentists/Dental therapists	6.5	30.8	0.0	37.3
Dental support	39.5	17.7	0.0	57.2
Traditional healers	6.6	1.0	0.0	7.6
Substance use workers	59.4	40.2	0.0	99.6
Sexual health workers	42.8	13.2	0.0	56.0
EHW[(d)]	22.3	5.0	0.0	27.3
Drivers/field officers	196.1	32.9	1.0	230.0
Other staff [(e)]	65.2	42.6	13.3	121.2

(a) AHW — Aboriginal health worker.

(b) SEWB — Social and emotional wellbeing staff (includes counsellors, social workers and psychologists).

(c) AHP — allied health professionals.

(d) EHW — environmental health workers.

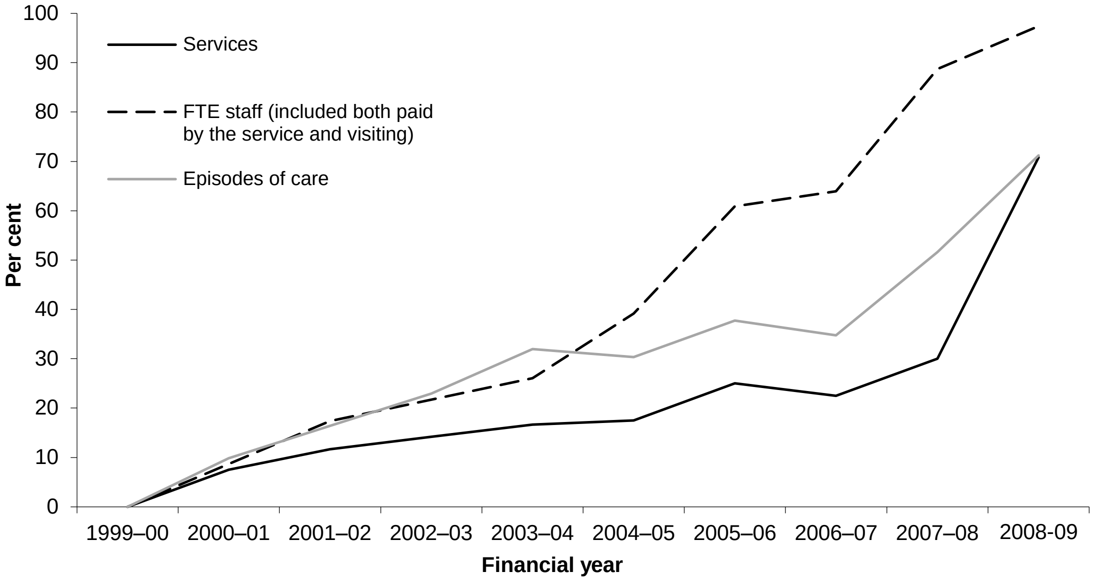
(e) Other staff unable to be categorised because of inadequate job description.

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 data collections, first SAR then OSR, in any year in the period 1999–00 to 2008–09.

- Over the period 1999–00 to 2008–09, there has been a rise of 71% in the number of Aboriginal and Torres Strait Islander primary health-care services (Figure 3.12.11; Table 3.12.36).
- Over the same period, there was a steady increase of 71% in the total estimated episodes of health care provided to Indigenous and non-Indigenous.
- There was a 97% rise in full-time equivalent staff employed by Indigenous primary health-care services between 1999–00 and 2008–09.



Notes

1. Eligible services only for 2007–08 services.
2. The 2008–09 OSR data counts all auspice services individually, therefore caution should be exercised when comparing rates with earlier data collection periods.

Source: AIHW OSR data collection.

Figure 3.12.11: Cumulative per cent changes to Aboriginal and Torres Strait Islander primary health-care services, 1999–00 to 2008–09

Table 3.12.36: Cumulative per cent changes to Aboriginal and Torres Strait Islander primary health-care services, 1999–00 to 2008–09

	1999–00	2000–01	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09
Services	0.0	7.5	11.7	14.2	16.7	17.5	25.0	22.5	30	70.8
FTE staff (included both paid by the service and visiting)	0.0	8.7	17.4	21.7	26.1	39.1	60.9	63.9	88.7	97.4
Episodes of care	0.0	9.8	16.4	23.0	32.0	30.3	37.7	34.8	51.6	71.2

Note: Only eligible services were included for 2007–08 collection. The 2008–09 OSR data counts all auspice services individually, therefore caution should be exercised when comparing rates with earlier data collection periods

Source: AIHW OSR data collection.

Programs/activities provided

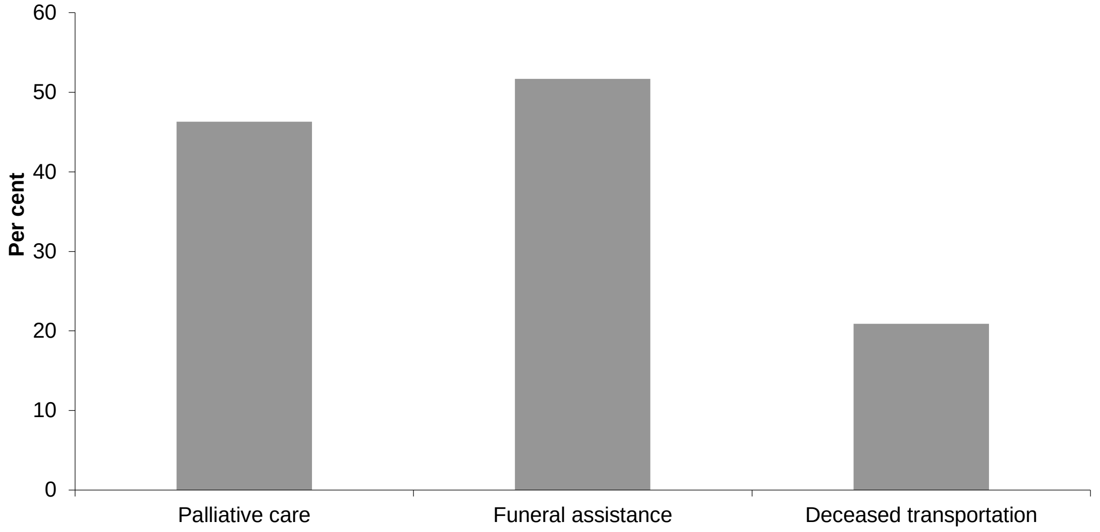
Aboriginal and Torres Strait Islander primary health-care services offer a range of programs and activities to support their communities.

Drug and alcohol programs

- In 2008–09, 89% (183) of the 205 services that reported in the OSR provided alcohol and other drug programs.

Palliative care, funeral assistance and deceased transportation

- In 2008–09, the majority (52%) of Indigenous primary health-care services reported in the OSR provided funeral assistance, although just under half (46%) provided palliative care and one in five (21%) provided transportation for the deceased (Figure 3.12.12; Table 3.12.37).



Note: 201 of the 205 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health-related activities. The percentages in this figure are calculated as a proportion of these 201 services.

Source: AIHW OSR data collection.

Figure 3.12.12: Proportion of Aboriginal and Torres Strait Islander primary health-care services providing palliative care, funeral assistance and transportation for the deceased, 2008–09

Table 3.12.37: Proportion of Aboriginal and Torres Strait Islander primary health-care services providing palliative care, funeral assistance and transportation for the deceased, 2008–09

Services	Per cent[(a)]
Palliative care	46.3
Funeral assistance	51.7
Deceased transportation	20.9

(a) 201 of the 205 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health-related activities. The percentages in this table are calculated as a proportion of these 201 services.

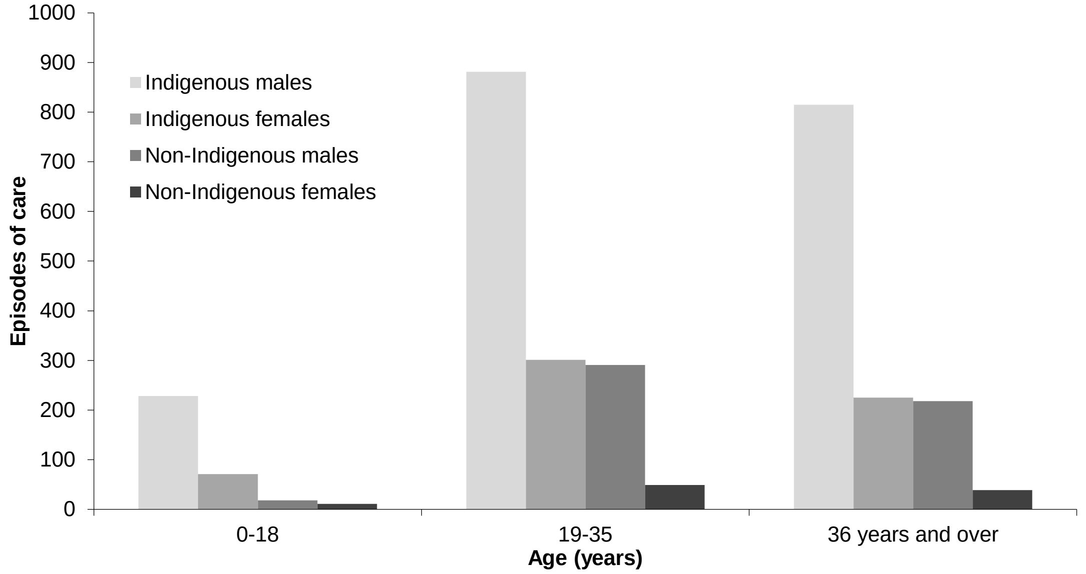
Source: AIHW OSR data collection.

Drug and alcohol services

Episodes of care

Data on the type of episodes of care provided by services reporting to the OSR collection are presented below.

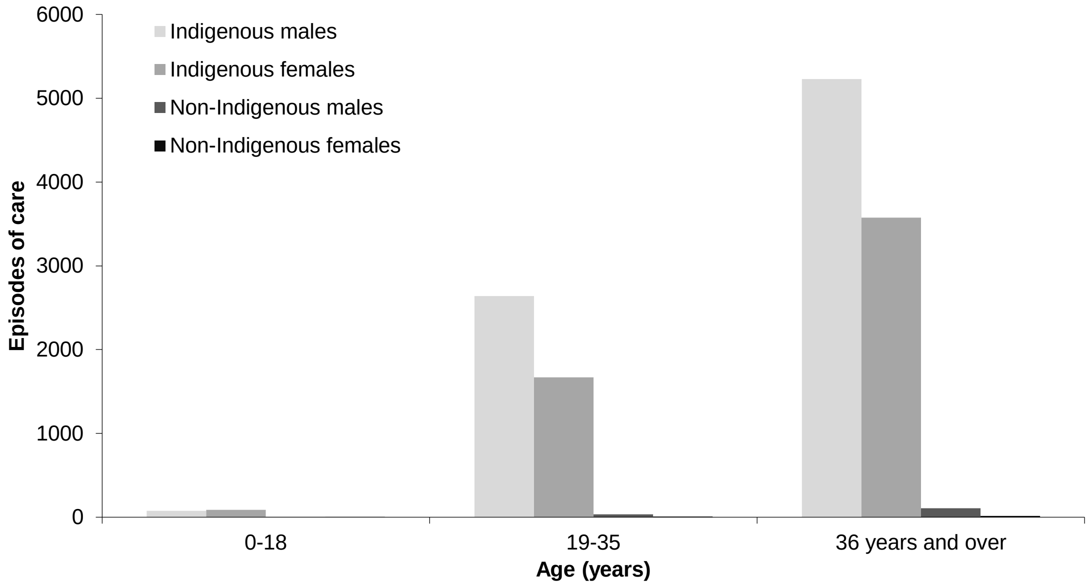
- In 2008–09, 3,409 residential treatment/rehabilitation episodes of care were provided to Indigenous and non-Indigenous clients by Aboriginal and Torres Strait Islander substance-use disorder specific services. Approximately 82% (2,781) of these episodes were provided to Indigenous clients.
- Three out of four (72%) of the residential treatment/rehabilitation episodes of care in 2008–09 were provided to males. Indigenous males aged 19 years and over represented just over half (57 %) of recipients of residential treatment/rehabilitation episodes of care (Figure 3.12.13).



Source: AIHW OSR data collection.

Figure 3.12.13: Residential treatment/rehabilitation episodes of care by Indigenous status, age and gender 2008–09

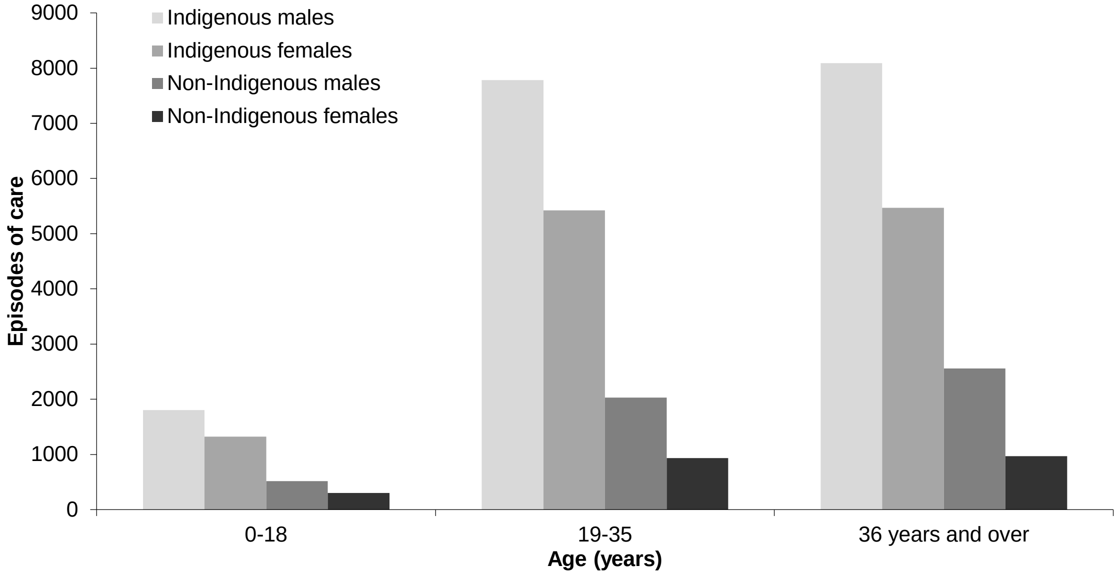
- In 2008–09, there were approximately 14,278 sobering-up/residential respite/short-term care episodes of care provided to Indigenous and non-Indigenous clients by Aboriginal and Torres Strait Islander substance-use disorder specific services. Almost all (99%, 14,096) of these episodes were provided to Indigenous clients.
- Across all age groups, the majority of sobering-up/residential respite/short-term episodes of care were provided to males. Indigenous males aged 36 years and over represented the largest group (37%, 5,230) of recipients of sobering-up/residential respite/short-term episodes of care (Figure 3.12.14).



Source: AIHW OSR data collection.

Figure 3.12.14: Sobering-up/residential respite/short-term episodes of care by Indigenous status, age and gender 2008–09

- In 2008–09, 44,712 other episodes of care, such as non-residential care, were provided to Indigenous and non-Indigenous clients by Aboriginal and Torres Strait Islander substance-use disorder specific services. Over three-quarters (84%, 37,409) of these episodes were provided to Indigenous clients.
- Across all age groups the majority of other episodes of care were provided to males. Indigenous males aged 19 years and over represented the largest group (36%, 15,872) of recipients of other care episodes of care (Figure 3.12.15; Table 3.12.38).



Source: AIHW OSR data collection.

Figure 3.12.15: Non-residential/follow-up/aftercare episodes of care by Indigenous status, age and gender, 2008-09

Table 3.12.38: Residential treatment/rehabilitation, sobering-up/residential respite and other episodes of care at DASR services by Indigenous status, age and gender, 2008–09

	0–18				19–35				36 years and over				Unknown age		Unknown Indigenous status
	Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous		Non-Indigenous		Indigenous	Non-Indigenous	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total	Total	Total
Residential treatment/ rehabilitation episodes of care	228	71	18	11	881	301	291	49	815	225	218	39	260	2	224
Sobering-up/ residential respite episodes of care	77	89	2	3	2640	1670	35	8	5230	3574	107	15	816	12	0
Non-residential/follow-up/aftercare episodes of care	1,805	1,322	514	299	7,784	5,421	2,031	931	8,088	5,471	2,560	968	7,371	147	5,466

Note: Thirty of the 45 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. Twenty-nine services provided valid data for the number of non-residential/follow-up/aftercare episodes of care.

Source: AIHW OSR data collection.

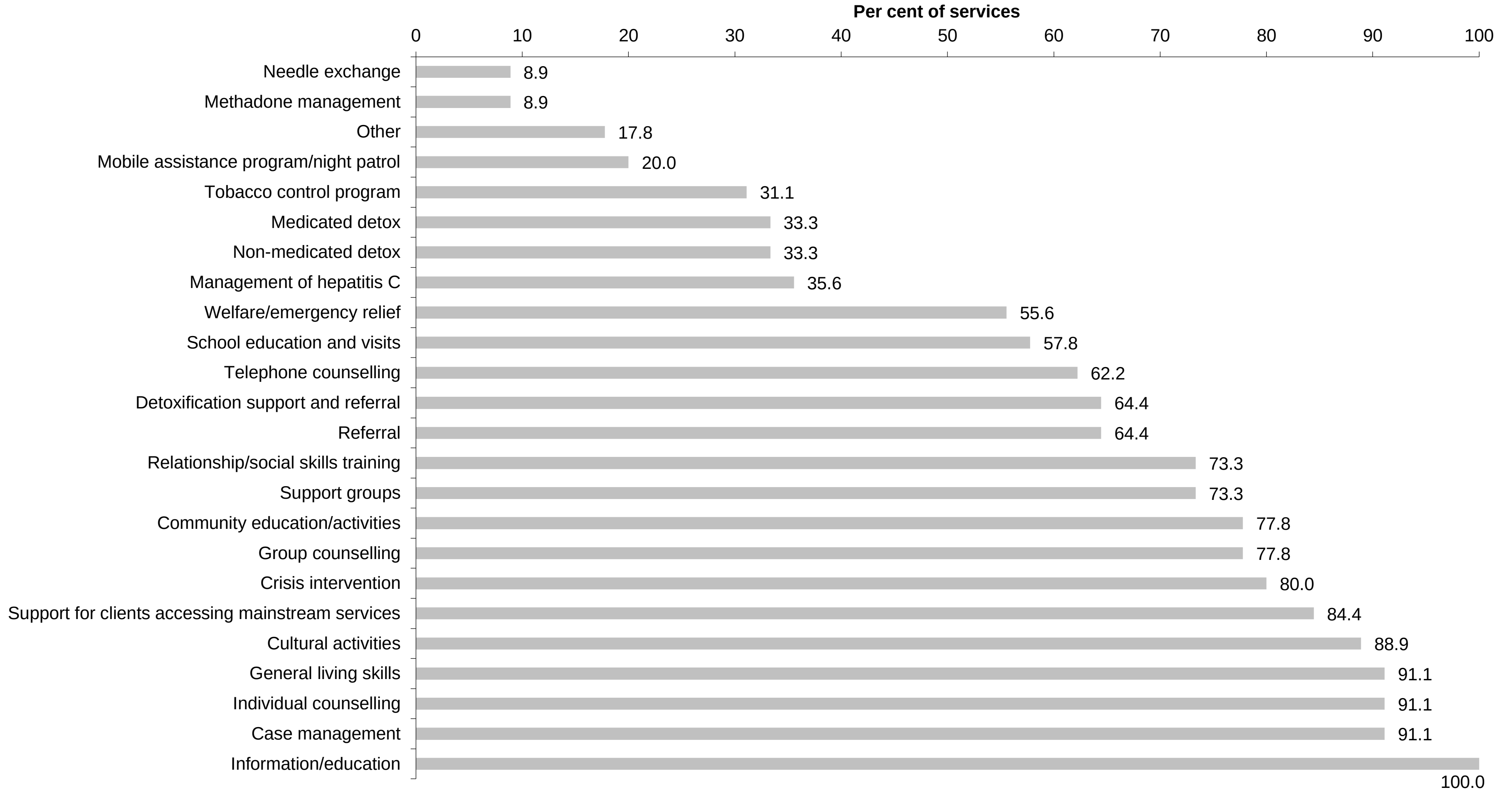
Programs/activities provided

Aboriginal and Torres Strait Islander substance-use disorder specific 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.

Programs and activities

Figure 3.12.16 presents the proportion of services reported in the OSR data collection that provided selected programs and activities in 2008–09.

- In 2008–09, information/education was the most common type of program or activity provided by services (100%), followed by general living skills, individual counselling and case management (all 91%). The least common types of program or activity provided were needle exchange and methadone maintenance, which were both offered by 9% of services.



(a) All of the 45 respondent Aboriginal and Torres Strait Islander substance use services provided valid data about activities the service provided to address substance use disorders.

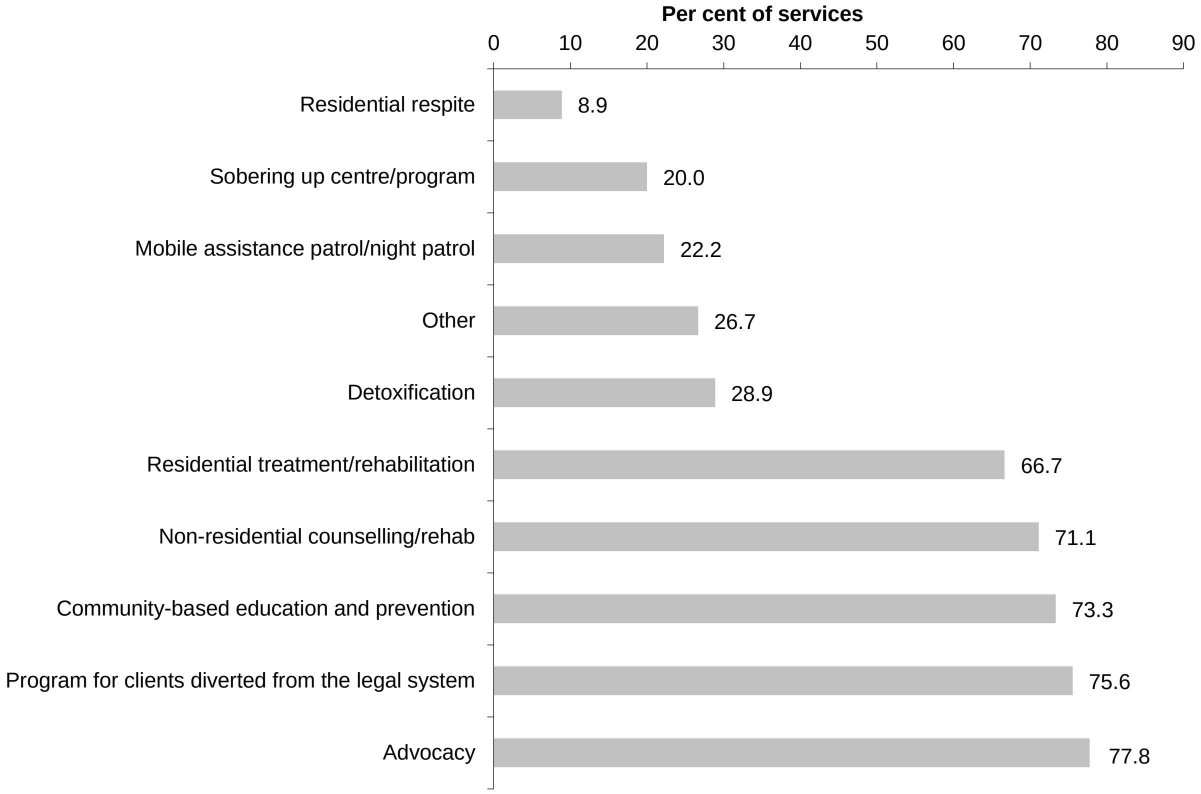
Source: AIHW OSR data collection.

Figure 3.12.16: Proportion[(a)] of Aboriginal and Torres Strait Islander substance-use disorder specific services providing specific programs/activities, 2008-09

Program information

The OSR collection also collected information on program information delivered by Aboriginal and Torres Strait Islander substance-use disorder specific services.

- In 2008–09, the most common types of program information provided by Indigenous substance-use disorder specific services were advocacy (78%) and program information for clients diverted from the legal system (76%) (Figure 3.12.17).
- Information on mobile assistance patrols (22%), sobering up centres and programs (20%) and residential respite (9%) was the least likely to be provided.



Note: All of the 45 respondent Aboriginal and Torres Strait Islander substance use services provided valid data about programs provided to address substance use issues

Source: AIHW OSR data collection.

Figure 3.12.17: Proportion of Aboriginal and Torres Strait Islander substance-use disorder specific services providing specific program information, 2008–09

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 2009a). 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 2006–07 was estimated at $2,976 million (Table 3.12.39). About 59% of this was for two areas of expenditure—services provided to admitted patients in public hospitals ($1,124 million) and community health services ($620 million).

- On a per person basis, estimated expenditure on health and high care aged care for Aboriginal and Torres Strait Islander people averaged $5,696, compared with $4,557 for non-Indigenous people—a ratio of 1.25:1.
- Per person expenditure on community health services for Indigenous Australians was over six and a half 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 Indigenous high-care residential aged care was 41% of non-Indigenous per person expenditure, and 27% for aids and appliances. Expenditure on medications for Indigenous Australians was less than half that for non-Indigenous people.

Table 3.12.39: Total expenditure on health and residential aged care for Indigenous and non-Indigenous people, by type of health good or service, current prices, 2006–07

	Total expenditure ($ million)			Expenditure per person ($)		
Health good or service type	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Hospitals	1,483.1	33,687.6	4.2	2,838.3	1,654.6	1.72
Public hospital services[(a)]	1,450.9	26,565.3	5.2	2,776.6	1,304.8	2.13
Admitted patient services[(b)]	1,123.5	20,817.0	5.1	2,150.0	1,022.4	2.10
Non-admitted patient services	327.4	5,748.3	5.4	626.5	282.3	2.22
Private hospitals[(c)]	32.3	7,122.3	0.5	61.7	349.8	0.18
Patient transport	115.9	1,672.4	6.5	221.8	82.1	2.70
Medical services	220.8	16,544.5	1.3	422.6	812.6	0.52
Community health services	620.1	3,706.3	14.3	1,186.7	182.0	6.52
Other professional services	22.3	3,250.8	0.7	42.8	159.7	0.27
Dental services	72.9	7,676.2	1.3	139.5	278.8	0.50
Medications	129.4	12,481.0	1.0	247.5	613.0	0.40
Aids and appliances	21.0	3,004.6	0.7	40.3	147.6	0.27
Public health	110.9	1,700.2	6.1	212.2	83.5	2.54
Research	32.1	2,317.0	1.4	61.5	113.8	0.54
Health administration	75.7	2,294.0	3.2	144.8	112.7	1.29
Other health services (n.e.c.) [(d)]	5.5	141.9	3.7	10.5	7.0	1.51
Total health	**2,909.7**	**86,476.4**	**3.3**	**5,568.5**	**4,247.3**	**1.31**
High-care residential aged care	66.7	6,305.1	1.0	127.6	309.7	0.41
Total health and high-care residential aged care	**2,976.4**	**92,781.5**	**3.1**	**5,696.1**	**4,557.0**	**1.25**

(a) Excludes dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

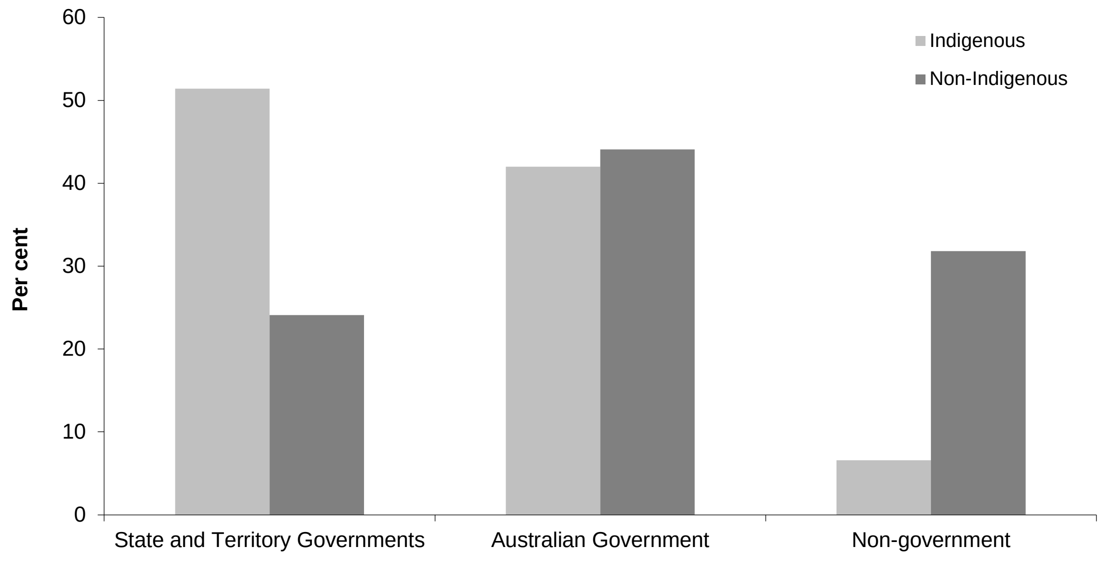
(b) Admitted patient expenditure estimates allow for Aboriginal and Torres Strait Islander under-identification, except for Tasmania.

(c) Includes state/territory government expenditure for services provided for public patients in private hospitals ($249.5 million).

(d) Other health services (not elsewhere classified) include expenditure on health services such as family planning.

Source: AIHW 2009a (Health expenditure database).

- Governments provided an estimated 93% of the funding used to pay for Aboriginal and Torres Strait Islander health care during 2006–07 (Figure 3.12.18; Table 3.12.40).
- The share of funding provided by both the state and territory governments and the non-government sector for Indigenous Australians was quite different from their respective shares for non-Indigenous people. The states and territories provided over half (51%) of the funding for Indigenous people, compared with 24% for non-Indigenous Australians. Non-government sources, on the other hand, provided a much lower share (6.6%) of the funding for services for Indigenous people than for non-Indigenous people (32%). The Australian Government's funding was similar for both groups—42% for Indigenous Australians and 44% for non-Indigenous people.
- The share of the three main funding sources of Indigenous health services expenditure has varied little from 1995–96 to 2004–05 (Figure 3.12.19).



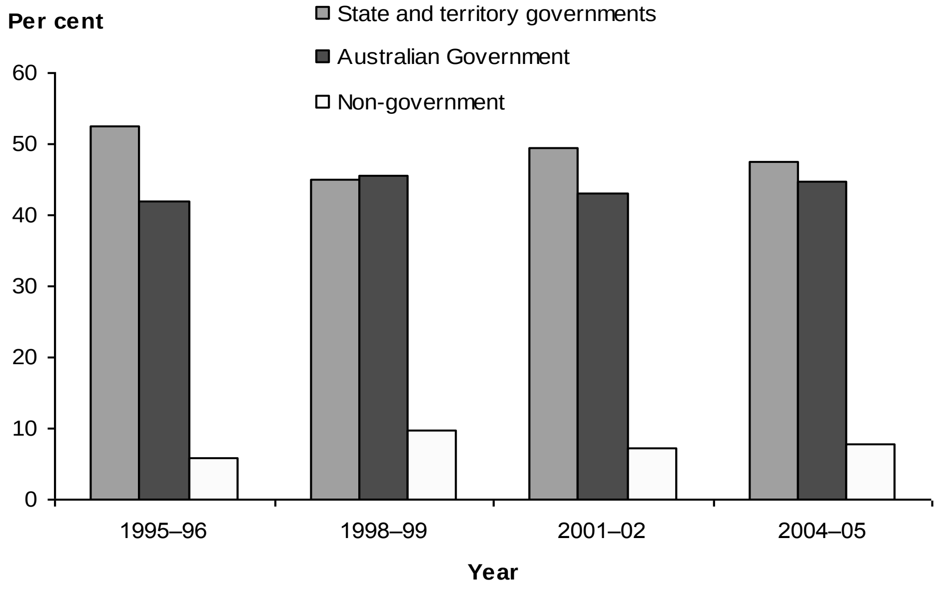
Source: AIHW 2009a.

Figure 3.12.18: Funding of expenditure on health for Indigenous and non-Indigenous people, by broad source of funds, 2006–07

Table 3.12.40: Funding of expenditure on health for Indigenous and non-Indigenous people, by broad source of funds, 2006–07

	Indigenous	Non-Indigenous
State and territory governments	51.4	24.1
Australian Government	42.0	44.1
Non-government	6.6	31.8

Source: AIHW 2009a.



Source: AIHW 2008.

Figure 3.12.19: Funding of Indigenous health services 1995–96 to 2004–05, (current prices)

Note: Calculations for the years 1995–96 to 2004–05 include high-care residential aged care, calculations for years from 2006–07 onwards exclude high-care residential aged care.

Additional information

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 Indigenous persons involved in health-related professions can also affect use of health services by Indigenous people.

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 2008, households with Indigenous persons 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 2.16.7).
- 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 3.12.41).

Table 3.12.41: 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 persons are statistically significant for these categories.

(a) Total includes those who never go out/housebound

Sources: 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 Indicator 2.16—Transport.

Affordability

Data on the financial stress of Indigenous Australians were collected in the 2008 NATSISS.

- In 2008, about half (46%) 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.
- 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 people 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 2010, 74% of medical services were bulk-billed (DoHA 2010). 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.

Cultural barriers

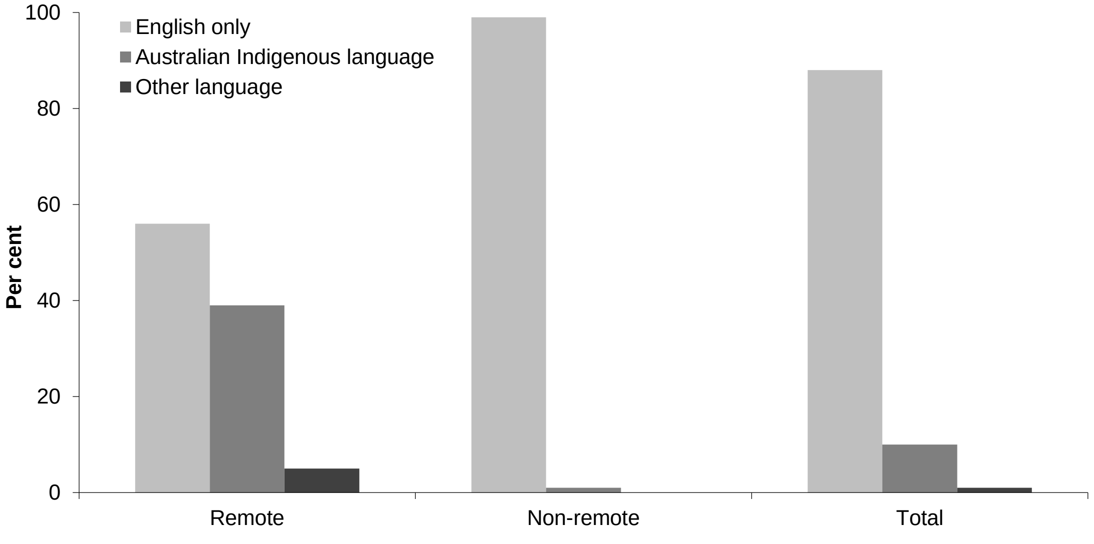
Measurement of the accessibility of health services involves factors other than the distance people must travel and the financial costs incurred (Ivers et al. 1997). Many Indigenous persons or communities do not have adequate access to either culturally appropriate services or to other suitable arrangements 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 2002 and 2008 NATSISS.

Language

- 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 3.12.20; Table 3.12.42).

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).



Source: AIHW analysis of 2008 NATSISS.

Figure 3.12.20: Main language spoken at home, Indigenous Australians, 2008

Table 3.12.42: 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 3.12.43).
- Indigenous persons living in remote areas were more likely to report experiencing difficulty (18%) than those in non-remote areas of Australia (6%) (Table 3.12.43).
- 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 3.12.43: 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 NATSIS

Discrimination

The 2008 NATSISS collected information about feelings of discrimination experienced by Indigenous people when contacting service providers and in other situations. In total, 73% of Indigenous people did not feel they had been discriminated against in the 12 months preceding the survey (Table 3.12.44).

- 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 3.12.44).
- 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%).

Table 3.12.44: 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.

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.

Additional MBS Analysis

MBS services claimed

- During 2009-10 a similar rates of service claims were made by Indigenous (13,220 per 1,000 people) and non-Indigenous (13,358 per 1,000) Australians. The largest number of claims for both Indigenous and non-Indigenous Australians were made for non-referred GP (6,059 and 5,402 per 1,000 population respectively) (Table 3.12.45a).
- In 2009-10 there was a 8.9% difference between fees charged and benefits paid for all MBS services claimed among Indigenous Australians. This compares to a 21% difference between all fees charged and benefits paid by non-Indigenous Australians for all MBS services claimed (Table 3.12.45b).
- The largest difference between fees charged and benefits paid, during the same period, for both Indigenous and non-Indigenous Australians was for other MBS items (equal to a 23% and 38% difference respectively). This was followed by specialist's claims where the difference between fees charged and benefits paid was 20% for Indigenous Australians and 31% for non-Indigenous Australians (Table 3.12.45b).

Table 3.12.45a: MBS services by selected categories claimed, by Indigenous status, Australia, 2009–10

	No. of Services		Age standardised services per 1,000 Population		
MBS Services Claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate difference**
Non-Referred GP	**2,738,411**	**121,002,775**	**6,059.38**	**5,401.63**	**657.75**
A Level	66,961	3,311,943	163.69	146.28	17.41
B Level	1,787,808	87,392,850	3,861.03	3,911.58	–50.55
C Level	276,484	10,022,494	701.47	441.65	259.82
D Level	36,170	949,241	96.08	41.86	54.22
Indigenous Health Check	47,162	. .	92.71	. .	. .
4 yr Health Chk**	682	19,911	—	—	—
Other Health Assessment	2,441	492,578	10.68	21.15	–10.47
GPMP	23,927	1,088,272	75.63	46.74	28.89
TCA	18,680	867,164	59.67	37.24	22.43
Other	200,566	9,463,766	420.84	428.87	–8.03
Practice Nurse/AHW	277,530	7,394,556	577.58	326.26	251.32
Allied Health	**145,567**	**10,166,257**	**404.02**	**447.47**	**–43.45**
Allied Health	25,961	2,628,937	91.42	113.05	–21.63
Allied Health AHW	640	. .	1.53	. .	. .
Dental	77,343	4,622,571	230.20	199.24	30.96
Psychologist	41,623	2,914,749	80.87	135.18	–54.31
Specialist	**201,118**	**21,534,930**	**561.96**	**939.43**	**–377.47**
Specialist In	*16,046*	*3,597,363*	*61.14*	*153.54*	*–92.40*
Specialist Out	*185,072*	*17,937,567*	*500.82*	*785.89*	*–285.07*
Specialist consult (A3)	83,650	9,906,079	248.29	431.65	–183.36
Spec Con In	2,822	538,745	n.a.	n.a.	n.a.
Spec Con Out	80,828	9,367,334	n.a.	n.a.	n.a.
Consult Physician	*93,453*	*9,278,076*	*257.06*	*402.30*	*–145.24*
Con Phys In	10,617	2,726,336	n.a.	n.a.	n.a.
Con Phys Out	82,836	6,551,740	n.a.	n.a.	n.a.
Psychiatrist	*18,780*	*1,939,941*	*44.62*	*87.38*	*–42.76*
Psyc In	2,482	295,667	n.a.	n.a.	n.a.
Psyc Out	16,299	1,644,273	n.a.	n.a.	n.a.
Other Specialist	*5,234*	*410,835*	*11.99*	*18.10*	*–6.11*
Other Spec In	125	36,615	n.a.	n.a.	n.a.
Other Spec Out	5,109	374,220	n.a.	n.a.	n.a.

(continued)

Table 3.12.45a (continued): MBS services by selected categories claimed, by Indigenous status, Australia, 2009–10

	No. of Services		Age standardised services per 1,000 Population		
MBS Services Claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Rate difference**
Pathology	**1,757,572**	**101,960,543**	**4,667.43**	**4,449.46**	**217.97**
Path In	41,124	10,133,355	163.80	431.47	–267.67
Path Out	1,716,448	91,827,188	4,503.63	4,017.99	485.64
Misc Diagnostics	**58,287**	**4,980,013**	**187.03**	**214.21**	**–27.18**
Misc Diag In	1,804	411,597	8.06	17.25	–9.19
Misc Diag Out	56,483	4,568,416	178.97	196.96	–17.99
Imaging	**265,866**	**17,887,280**	**674.77**	**789.03**	**–114.26**
Imag In	5,797	1,295,098	25.20	54.82	–29.62
Imag Out	260,068	16,592,183	649.57	734.21	–84.64
Other MBS items	**249,612**	**25,452,685**	**665.37**	**1,116.82**	**–451.45**
Other MBS In	45,317	8,939,595	141.46	388.07	–246.61
Other MBs Out	204,295	16,513,090	523.91	728.75	–204.84
Total	**5,416,433**	**302,984,483**	**13,219.96**	**13,358.05**	**–138.09**

* 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*).

** Category F: 4 yr Health Chk does not have a population to do calculations with as no 4-5 year old population available

Note: Rates are age standardised to Australian population as at 30 June 2001

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.45b: MBS services by selected categories claimed, fees charged and benefits paid, by Indigenous status, Australia, 2009–10

MBS Services Claimed	Indigenous			Non-Indigenous		
	Fess charged	Benefits paid	Per cent difference	Fess charged	Benefits paid	Per cent difference
Non-Referred GP	**118,559,723**	**114,463,286**	**3.5**	**5,397,918,259**	**4,831,489,517**	**10.5**
A Level	1,076,189	1,049,334	2.5	55,891,416	52,652,084	5.8
B Level	63,103,879	59,772,003	5.3	3,436,441,760	2,989,109,020	13
C Level	17,905,403	17,567,472	1.9	706,365,799	645,637,780	8.6
D Level	3,430,428	3,363,905	1.9	105,344,815	89,234,898	15.3
Indigenous Health Check	9,192,665	9,192,199	0	. .	. .	. .
4 yr Health Chk**	35,586	35,586	0	1,098,385	1,092,914	0.5
Other Health Assessment	373,105	372,630	0.1	92,035,021	91,914,898	0.1
GPMP	3,174,063	3,172,948	0	144,564,354	144,345,335	0.2
TCA	1,963,087	1,962,575	0	91,215,520	91,131,505	0.1
Other	14,812,724	14,490,640	2.2	678,379,536	640,887,326	5.5
Practice Nurse/AHW	3,373,264	3,364,409	0.3	86,700,984	85,603,342	1.3
Allied Health	**15,418,924**	**14,661,435**	**4.9**	**1,143,383,460**	**1,047,872,937**	**8.4**
Allied Health	1,468,657	1,351,119	8	148,250,087	135,619,211	8.5
Allied Health AHW	31,906	31,906	0	. .	. .	. .
Dental	9,611,977	9,446,124	1.7	650,667,255	630,478,408	3.1
Psychologist	4,306,384	3,832,287	11	344,466,117	281,775,319	18.2
Specialist	**19,867,024**	**15,833,432**	**20.3**	**2,237,147,536**	**1,546,071,005**	**30.9**
Specialist consult (A3)	6,616,450	4,444,264	32.8	871,005,824	511,646,319	41.3
Spec Con In	189,506	112,188	40.8	36,775,836	20,812,902	43.4
Spec Con Out	6,426,944	4,332,076	32.6	834,229,988	490,833,416	41.2

(continued)

Table 3.12.45b (continued): MBS services by selected categories claimed, fees charged and benefits paid, by Indigenous status, Australia, 2009–10

MBS Services Claimed	Indigenous		Per cent difference	Non-Indigenous		Per cent difference
	Fess charged	Benefits paid		Fess charged	Benefits paid	
Consult Physician	9,969,463	8,625,858	13.5	997,998,236	744,350,130	25.4
Con Phys In	1,092,330	673,058	38.4	275,450,102	169,020,000	38.6
Con Phys Out	8,877,133	7,952,800	10.4	722,548,134	575,330,130	20.4
Psychiatrist	2,782,408	2,389,388	14.1	312,012,827	255,268,559	18.2
Psyc In	337,081	219,632	34.8	39,687,040	25,828,060	34.9
Psch Out	2,445,327	2,169,757	11.3	272,325,788	229,440,500	15.7
Other Specialist	498,704	373,922	25	56,130,649	34,805,998	38
Other Spec In	15,350	8,152	46.9	3,889,089	2,088,021	46.3
Other Spec Out	483,354	365,770	24.3	52,241,561	32,717,977	37.4
Pathology	**34,185,288**	**33,348,073**	**2.4**	**2,184,854,521**	**1,979,340,542**	**9.4**
Path In	1,431,623	875,083	38.9	348,784,162	216,670,807	37.9
Path Out	32,753,665	32,472,989	0.9	1,836,070,359	1,762,669,735	4
Misc Diagnostics	**3,962,733**	**3,566,517**	**10**	**404,531,117**	**332,496,076**	**17.8**
Misc Diag In	268,212	180,331	32.8	50,075,424	31,572,152	37
Misc Diag Out	3,694,521	3,386,186	8.3	354,455,694	300,923,923	15.1
Imaging	**29,819,885**	**27,290,712**	**8.5**	**2,520,452,391**	**2,123,389,959**	**15.8**
Imag In	1,105,202	671,252	39.3	251,164,635	155,193,334	38.2
Imag Out	28,714,683	26,619,460	7.3	2,269,287,757	1,968,196,626	13.3
Other MBS items	**50,169,423**	**38,706,712**	**22.8**	**5,462,030,094**	**3,368,610,326**	**38.3**
Other MBS In	16,791,324	7,321,538	56.4	3,186,414,102	1,410,315,325	55.7
Other MBs Out	33,378,098	31,385,174	6	2,275,615,993	1,958,295,001	13.9
Total	**271,863,669**	**247,750,580**	**8.9**	**19,350,436,710**	**15,229,389,947**	**21.3**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

MBS services by age

- During 2009-10 for all MBS services claimed the greatest number of claims among Indigenous Australians was for those 55 years and over (age-standardised rate of 24,436 per 1,000 population). This was the equivalent of 56.2 million in fees charged and 49.6 million in benefits paid (Table 3.12.46b).
- Further, during the same period among non-Indigenous Australians, the greatest number of MBS claims were also made among those 55 years and over (age standardised rate of 26,933 per 1,000 population). This was equivalent to 9.404 million in fees charged and 7,476 million in benefits paid (Table 3.12.46b).
- Within the age ranges of 15-24 and 25-54 Indigenous Australians made a greater number of MBS claims than non-Indigenous Australians, however in age groups outside of this, 0-14 years and 55 years and over, a higher number of non-Indigenous claims were made than Indigenous (Table 3.12.46b).

Table 3.12.46a: MBS services by selected categories claimed, by Indigenous status and age group, 2009–10

	0–14		15–24		25–54		55 and over		Total	
MBS Services Claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Non-Referred GP	**743,233**	**16,690,706**	**441,897**	**10,585,791**	**1,150,106**	**43,429,708**	**403,174**	**50,296,568**	**2,738,410**	**121,002,776**
Allied Health	**16,414**	**594,948**	**16,451**	**751,146**	**76,370**	**3,637,440**	**36,331**	**5,182,724**	**145,567**	**10,166,257**
Specialist	**48,669**	**1,730,102**	**18,796**	**1,068,687**	**77,384**	**6,654,355**	**56,270**	**12,081,784**	**201,119**	**21,534,929**
Specialist – In	1,827	206,684	920	94,437	5,575	685,567	7,723	2,610,676	16,046	3,597,363
Specialist - Out	46,842	1,523,418	17,876	974,250	71,809	5,968,788	48,547	9,471,108	185,073	17,937,566
Pathology	**142,433**	**3,221,854**	**343,578**	**6,531,560**	**896,852**	**37,976,358**	**374,709**	**54,230,771**	**1,757,572**	**101,960,543**
Pathology - In	2,476	360,608	2,727	256,332	16,812	2,157,116	19,109	7,359,299	41,124	10,133,355
Pathology - Out	139,957	2,861,246	340,851	6,275,228	880,040	35,819,242	355,600	46,871,472	1,716,448	91,827,188
Misc Diagnostics	**8,323**	**349,013**	**4,436**	**158,012**	**25,662**	**1,228,772**	**19,866**	**3,244,216**	**58,287**	**4,980,013**
Misc Diagnostics - In	53	6,307	19	4,622	715	67,425	1,018	333,242	1,804	411,597
Misc Diagnostics - Out	8,270	342,706	4,417	153,390	24,947	1,161,347	18,848	2,910,974	56,483	4,568,416
Imaging	**32,487**	**1,113,544**	**52,384**	**1,368,859**	**127,199**	**6,969,401**	**53,795**	**8,435,477**	**265,865**	**17,887,281**
Imaging - In	272	46,506	367	32,080	1,783	235,653	3,375	980,859	5,797	1,295,098
Imaging - Out	32,215	1,067,038	52,017	1,336,779	125,416	6,733,748	50,420	7,454,618	260,068	16,592,183
Other MBS	**30,493**	**1,280,547**	**44,925**	**1,528,962**	**114,848**	**9,762,479**	**59,347**	**12,880,696**	**249,612**	**25,452,685**
Other MBS - In	3,506	384,431	5,382	452,772	21,240	3,078,584	15,189	5,023,808	45,317	8,939,595
Other MBS - Out	26,987	896,116	39,543	1,076,190	93,608	6,683,895	44,158	7,856,888	204,295	16,513,090
Total	**1,022,052**	**24,980,714**	**922,468**	**21,993,016**	**2,468,420**	**109,658,514**	**1,003,491**	**146,352,237**	**5,416,431**	**302,984,485**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.46b: MBS services by selected categories claimed, by Indigenous status and age group, age- standardised per 1,000 population, 2009–10

	0–14		15–24		25–54		55 and over		Total	
MBS Services Claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Non-Referred GP	**3,522.5**	**4,059.1**	**4,230.4**	**3,432.2**	**5,991.6**	**4,707.7**	**9,706.6**	**9,269.7**	**6,060.0**	**5,402.6**
Allied Health	**79.5**	**151.3**	**156.8**	**249.6**	**416.6**	**394.0**	**836.2**	**953.9**	**404.0**	**447.5**
Specialist	**230.7**	**420.0**	**179.8**	**348.4**	**413.1**	**721.3**	**1,406.2**	**2,227.5**	**562.0**	**939.4**
Specialist – In	8.6	48.4	8.7	30.6	30.5	74.1	204.0	486.7	61.1	153.5
Specialist - Out	222.1	371.6	171.1	317.9	382.6	647.2	1,202.2	1,740.8	500.8	785.9
Pathology	**683.2**	**792.4**	**3,283.6**	**2,106.3**	**4,666.7**	**4,121.0**	**9,253.6**	**9,980.2**	**4,667.4**	**4,449.5**
Pathology - In	11.7	85.7	25.6	83.1	89.1	233.7	540.9	1,365.7	163.8	431.5
Pathology - Out	671.5	706.6	3,257.9	2,023.3	4,577.7	3,887.4	8,712.7	8,614.5	4,503.6	4,018.0
Misc Diagnostics	**39.8**	**85.9**	**42.9**	**51.4**	**146.4**	**132.4**	**495.3**	**598.5**	**187.0**	**214.2**
Misc Diagnostics - In	0.3	1.5	0.2	1.5	4.1	7.3	28.1	61.7	8.1	17.3
Misc Diagnostics - Out	39.5	84.4	42.7	50.0	142.3	125.2	467.2	536.8	179.0	197.0
Imaging	**157.2**	**278.3**	**498.9**	**445.5**	**663.0**	**755.8**	**1,291.4**	**1,546.3**	**674.8**	**789.0**
Imaging - In	1.3	11.1	3.4	10.4	10.1	25.4	91.2	181.9	25.2	54.8
Imaging - Out	155.9	267.2	495.6	435.0	652.9	730.4	1,200.2	1,364.4	649.6	734.2
Other MBS	**146.5**	**321.6**	**429.7**	**495.1**	**590.0**	**1,061.5**	**1,447.3**	**2,357.1**	**665.4**	**1,116.8**
Other MBS - In	16.6	93.9	52.0	146.6	108.8	334.7	379.0	919.6	141.5	388.1
Other MBS - Out	129.8	227.6	377.8	348.5	481.2	726.8	1,068.3	1,437.5	523.9	728.8
Total	**4,859.3**	**6,108.7**	**8,822.0**	**7,128.4**	**12,887.3**	**11,893.9**	**24,436.6**	**26,933.2**	**13,220.6**	**13,359.0**

* 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*).

Note: Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.46c: MBS services by selected categories claimed, by Indigenous status and age group, fees charged ($ million), 2009–10

	0–14		15–24		25–54		55 and over		Total	
MBS Services Claimed	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Non-Referred GP	**28.7**	**639.3**	**18.7**	**459.5**	**52.2**	**2,037.4**	**18.8**	**2,261.8**	**118.4**	**5,398.0**
Allied Health	**1.8**	**73.0**	**1.8**	**94.4**	**7.9**	**412.3**	**3.9**	**563.7**	**15.4**	**1,143.4**
Specialist	**5.0**	**203.7**	**1.9**	**125.7**	**7.8**	**764.0**	**5.2**	**1,143.7**	**19.9**	**2,237.1**
Specialist – In	0.2	19.5	0.1	10.2	0.6	71.5	0.8	254.6	1.6	355.8
Specialist - Out	4.8	184.2	1.8	115.4	7.2	692.6	4.4	889.1	18.2	1,881.3
Pathology	**2.8**	**68.7**	**6.9**	**141.3**	**17.7**	**872.5**	**6.8**	**1,102.3**	**34.2**	**2,184.9**
Pathology - In	0.1	9.5	0.1	9.7	0.6	93.9	0.7	235.6	1.4	348.8
Pathology - Out	2.7	59.2	6.8	131.6	17.1	778.6	6.2	866.7	32.8	1,836.1
Misc Diagnostics	**0.5**	**20.2**	**0.2**	**11.6**	**1.8**	**116.9**	**1.4**	**255.8**	**4.0**	**404.5**
Misc Diagnostics - In	0.0	2.6	0.0	1.0	0.1	15.7	0.1	30.7	0.3	50.1
Misc Diagnostics - Out	0.4	17.6	0.2	10.6	1.7	101.2	1.3	225.1	3.7	354.5
Imaging	**2.5**	**89.7**	**4.7**	**139.4**	**14.8**	**967.7**	**7.8**	**1,323.7**	**29.8**	**2,520.5**
Imaging - In	0.0	5.3	0.1	5.1	0.4	47.8	0.7	192.9	1.1	251.2
Imaging - Out	2.5	84.3	4.6	134.3	14.5	919.8	7.2	1,130.8	28.7	2,269.3
Other MBS	**8.0**	**259.2**	**6.2**	**256.2**	**23.7**	**2,193.5**	**12.2**	**2,753.1**	**50.2**	**5,462.0**
Other MBS - In	1.0	103.5	1.7	154.3	8.3	1,138.5	5.9	1,790.1	16.8	3,186.4
Other MBS - Out	7.0	155.6	4.5	101.8	15.4	1,055.1	6.4	963.0	33.4	2,275.6
Total	**49.3**	**1,353.9**	**40.4**	**1,228.0**	**126.0**	**7,364.4**	**56.2**	**9,404.1**	**271.9**	**19,350.4**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.46d: MBS services by selected categories claimed, by Indigenous status and age group, benefits paid ($ million), 2009–10

	0–14		15–24		25–54		55 and over		Total	
MBS Services Claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Non-Referred GP	**28.2**	**594.3**	**18.0**	**405.8**	**50.0**	**1,749.4**	**18.1**	**2,082.2**	**114.3**	**4,831.6**
Allied Health	**1.7**	**63.0**	**1.7**	**84.1**	**7.5**	**363.3**	**3.8**	**537.6**	**14.7**	**1,047.9**
Specialist	**4.3**	**147.9**	**1.5**	**85.8**	**6.1**	**520.7**	**4.0**	**791.8**	**15.8**	**1,546.1**
Specialist – In	0.1	12.2	0.1	6.4	0.4	44.3	0.5	154.8	1.0	217.7
Specialist - Out	4.2	135.7	1.4	79.4	5.7	476.3	3.5	636.9	14.8	1,328.3
Pathology	**2.7**	**63.3**	**6.8**	**133.0**	**17.3**	**795.5**	**6.5**	**987.5**	**33.3**	**1,979.3**
Pathology - In	0.0	6.4	0.1	6.1	0.4	57.1	0.4	147.0	0.9	216.7
Pathology - Out	2.7	56.9	6.8	126.9	16.9	738.5	6.1	840.4	32.5	1,762.7
Misc Diagnostics	**0.4**	**16.1**	**0.2**	**9.8**	**1.6**	**95.8**	**1.3**	**210.9**	**3.6**	**332.5**
Misc Diagnostics - In	0.0	1.6	0.0	0.6	0.1	10.0	0.1	19.4	0.2	31.6
Misc Diagnostics - Out	0.4	14.6	0.2	9.1	1.5	85.7	1.2	191.5	3.4	300.9
Imaging	**2.4**	**78.0**	**4.3**	**118.3**	**13.4**	**778.0**	**7.2**	**1,149.0**	**27.3**	**2,123.4**
Imaging - In	0.0	3.6	0.0	3.1	0.2	28.5	0.4	120.0	0.7	155.2
Imaging - Out	2.4	74.4	4.3	115.2	13.2	749.5	6.8	1,029.0	26.6	1,968.2
Other MBS	**7.4**	**193.5**	**5.1**	**153.0**	**17.4**	**1,304.4**	**8.8**	**1,717.7**	**38.7**	**3,368.6**
Other MBS - In	0.5	44.8	0.8	61.9	3.5	480.5	2.6	823.1	7.3	1,410.3
Other MBS - Out	6.9	148.7	4.4	91.1	13.9	823.9	6.2	894.6	31.4	1,958.3
Total	**47.0**	**1,156.1**	**37.7**	**989.8**	**113.4**	**5,606.9**	**49.6**	**7,476.6**	**247.8**	**15,229.4**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

MBS services by ASGC

- The total number of MBS service claims among Indigenous people decreased with remoteness, such that the largest number of claims were within *Major Cities* (16,178 per 1,000 population) and the smallest number of claims were within *Very Remote* areas (9,549 per 1,000 population) (Table 3.12.47c).
- During 2009-10 the total number of MBS claims made by Indigenous people in *Major Cities* (16,178 per 1,000 population) was the equivalent of 116.6 million in fees charged and 103.1 million in benefits paid. This was compared to non-Indigenous people (14,105 per 1,000 population) whose claims in *Major Cities* were equal to 14,141.3 million in fees charged and 11,122.6 million in benefits paid (Table 3.12.47c).
- Within *Very Remote* areas the total number of MBS claims made by Indigenous people was 9,549 per 1,000 population, equivalent of 23.5 million in fees charged and 23.2 million in benefits paid. This was compared to non-Indigenous people (8,755 per 1,000 population) whose claims in *Very Remote* areas were equal to 50.0 million in fees charged and 37.8 million in benefits paid (Table 3.12.47c).
- Despite that in *Remote* areas Indigenous people made more MBS claims (10,157 per 1,000 population) than in *Very Remote* areas (9,549 per 1,00 population) there was a smaller amount of fees charged (15.6 million) and benefits paid (15.1 million) in *Remote* areas (Table 3.12.47c).

Table 3.12.47a: Indigenous MBS services by selected categories claimed by ASGC Remoteness, 2009–10

MBS Services Claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**1,113,511**	**620,187**	**562,295**	**177,628**	**264,639**	**2,738,260**
Allied Health	**79,636**	**41,609**	**20,452**	**2,306**	**1,548**	**145,551**
Specialist	**93,046**	**55,271**	**36,191**	**6,073**	**10,527**	**201,108**
Specialist – In	8,912	4,754	2,058	166	155	16,045
Specialist - Out	84,134	50,517	34,133	5,907	10,372	185,063
Pathology	**616,873**	**354,804**	**342,013**	**145,180**	**298,579**	**1,757,449**
Pathology - In	23,860	10,590	5,587	594	482	41,113
Pathology - Out	593,013	344,214	336,426	144,586	298,097	1,716,336
Misc Diagnostics	**23,867**	**14,492**	**11,171**	**3,414**	**5,333**	**58,277**
Misc Diagnostics - In	911	461	359	41	31	1,803
Misc Diagnostics - Out	22,956	14,031	10,812	3,373	5,302	56,474
Imaging	**115,258**	**67,403**	**52,784**	**13,604**	**16,794**	**265,843**
Imaging - In	3,229	1,661	755	95	58	5,798
Imaging - Out	112,029	65,742	52,029	13,509	16,736	260,045
Other MBS	**104,384**	**64,588**	**48,784**	**12,424**	**19,416**	**249,596**
Other MBS - In	25,238	11,940	6,344	801	991	45,314
Other MBS - Out	79,146	52,648	42,440	11,623	18,425	204,282
Total	**2,146,575**	**1,218,354**	**1,073,690**	**360,629**	**616,836**	**5,416,084**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.47b: Non-Indigenous MBS services by selected categories claimed by ASGC Remoteness, 2009–10

MBS Services Claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**86,952,144**	**22,739,049**	**9,789,314**	**1,151,517**	**325,654**	**120,957,678**
Allied Health	**8,030,422**	**1,623,304**	**467,953**	**33,881**	**7,421**	**10,162,981**
Specialist	**16,215,885**	**3,786,963**	**1,358,843**	**123,961**	**37,701**	**21,523,353**
Specialist – In	2,694,825	658,458	210,477	23,653	6,931	3,594,344
Specialist - Out	13,521,060	3,128,505	1,148,366	100,308	30,770	17,929,009
Pathology	**72,762,027**	**19,608,994**	**8,283,601**	**976,431**	**286,112**	**101,917,165**
Pathology - In	7,576,248	1,822,530	635,610	70,811	21,935	10,127,134
Pathology - Out	65,185,779	17,786,464	7,647,991	905,620	264,177	91,790,031
Misc Diagnostics	**3,575,955**	**973,400**	**380,774**	**37,035**	**10,671**	**4,977,835**
Misc Diagnostics - In	282,139	86,829	37,052	3,959	1,292	411,271
Misc Diagnostics - Out	3,293,816	886,571	343,722	33,076	9,379	4,566,564
Imaging	**12,794,126**	**3,455,577**	**1,425,776**	**158,601**	**45,522**	**17,879,602**
Imaging - In	927,318	258,516	94,252	10,686	3,496	1,294,268
Imaging - Out	11,866,808	3,197,061	1,331,524	147,915	42,026	16,585,334
Other MBS	**17,977,437**	**5,061,736**	**2,079,349**	**241,066**	**78,648**	**25,438,236**
Other MBS - In	6,518,451	1,671,179	642,881	75,581	25,504	8,933,596
Other MBS - Out	11,458,986	3,390,557	1,436,468	165,485	53,144	16,504,640
Total	**218,307,996**	**57,249,023**	**23,785,610**	**2,722,492**	**791,729**	**302,856,850**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.47c: Indigenous MBS services by selected categories claimed, age-standardised per 1,000 population state and territory, 2009–10

	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	**7,354.3**	**5,660.3**	**6,590.3**	**4,965.3**	**5,672.9**	**4,715.7**	**4,752.9**	**4,135.1**	**3,971.8**	**3,732.0**	**6,060.0**	**5,402.6**
Allied Health	**666.1**	**519.3**	**568.9**	**348.6**	**264.1**	**222.6**	**93.8**	**123.7**	**28.9**	**94.8**	**404.0**	**447.5**
Specialist	**861.2**	**1,044.9**	**713.3**	**782.0**	**426.2**	**623.2**	**189.9**	**439.2**	**185.4**	**426.0**	**562.0**	**939.4**
Specialist - In	121.7	172.3	79.4	128.2	28.8	92.2	5.1**	83.2	2.7**	78.3	61.1	153.5
Specialist - Out	739.5	872.6	633.9	653.8	397.4	531.0	184.8	356.0	182.7	347.7	500.8	785.9
Pathology	**5,228.6**	**4,665.5**	**4,665.2**	**4,110.3**	**4,087.8**	**3,868.8**	**4,242.2**	**3,464.5**	**4,681.3**	**3,001.6**	**4,667.4**	**4,449.5**
Pathology - In	327.4	483.8	190.8	353.4	90.8	276.8	18.7	246.7	9.1	239.1	163.8	431.5
Pathology - Out	4,901.2	4,181.7	4,474.5	3,757.0	3,997.0	3,592.0	4,223.6	3,217.8	4,672.1	2,762.4	4,503.6	4,018.0
Misc Diagnostics	**250.0**	**229.9**	**220.5**	**192.7**	**158.3**	**167.9**	**119.0**	**128.9**	**102.8**	**115.8**	**187.0**	**214.2**
Misc Diagnostics - In	15.9	17.9	8.3	16.2	5.4	15.5	1.8**	13.4	0.8**	13.9	8.1	17.3
Misc Diagnostics - Out	234.1	212.0	212.2	176.6	152.9	152.3	117.2	115.5	101.9	101.9	179.0	197.0
Imaging	**913.8**	**826.1**	**835.7**	**741.5**	**594.7**	**679.8**	**397.5**	**567.6**	**258.1**	**515.3**	**674.8**	**789.0**
Imaging - In	50.2	59.1	30.3	49.5	14.0	40.6	2.7**	36.9	1.2**	38.5	25.2	54.8
Imaging - Out	863.6	767.0	805.5	692.0	580.8	639.2	394.9	530.6	257.0	476.8	649.6	734.2
Other MBS	**904.4**	**1,159.0**	**827.7**	**1,066.1**	**554.4**	**976.0**	**362.0**	**851.7**	**321.0**	**869.3**	**665.4**	**1,116.8**
Other MBS - In	261.7	418.0	171.3	342.3	86.8	294.3	21.5**	264.6	16.4	282.9	141.5	388.1
Other MBS - Out	642.7	741.0	656.4	723.8	467.6	681.7	340.5	587.1	304.6	586.4	523.9	728.8
Total	**16,178.1**	**14,104.9**	**14,421.6**	**12,206.5**	**11,758.4**	**11,253.9**	**10,157.2**	**9,710.7**	**9,549.2**	**8,754.8**	**13,220.6**	**13,359.0**

* 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*).

** Number is rounded to one decimal place.

Note: Rates are age-standardised to Australian 2001 population.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.47d: Indigenous MBS services by selected categories claimed, fees charged ($ million), ASGC Remoteness, 2009–10

MBS Services Claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**47.8**	**26.3**	**24.3**	**8.3**	**11.7**	**118.4**
Allied Health	**8.7**	**4.2**	**2.1**	**0.2**	**0.2**	**15.4**
Specialist	**9.9**	**5.3**	**3.2**	**0.5**	**0.9**	**19.9**
Specialist – In	0.9	0.5	0.2	0.0	0.0	1.6
Specialist - Out	9.0	4.8	3.0	0.5	0.9	18.2
Pathology	**12.6**	**7.1**	**6.5**	**2.6**	**5.3**	**34.2**
Pathology - In	0.8	0.4	0.2	0.0	0.0	1.4
Pathology - Out	11.8	6.8	6.3	2.6	5.3	32.8
Misc Diagnostics	**1.8**	**1.0**	**0.7**	**0.2**	**0.2**	**4.0**
Misc Diagnostics - In	0.1	0.1	0.1	0.0	0.0	0.3
Misc Diagnostics - Out	1.7	1.0	0.6	0.2	0.2	3.7
Imaging	**13.1**	**7.8**	**5.8**	**1.4**	**1.8**	**29.8**
Imaging - In	0.6	0.3	0.2	0.0	0.0	1.1
Imaging - Out	12.5	7.5	5.6	1.4	1.7	28.7
Other MBS	**22.5**	**12.5**	**9.4**	**2.3**	**3.4**	**50.2**
Other MBS - In	9.5	4.2	2.4	0.3	0.3	16.8
Other MBS - Out	13.0	8.3	7.0	2.0	3.1	33.4
Total	**116.5**	**64.3**	**51.9**	**15.6**	**23.5**	**271.8**

* 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).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.47f: Non-Indigenous MBS services by selected categories claimed fees charged ($ million), state and territory, 2009–10

MBS Services Claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**3,900.0**	**1,002.7**	**426.5**	**51.4**	**15.3**	**5,395.8**
Allied Health	**923.4**	**166.9**	**48.1**	**3.8**	**0.9**	**1,143.0**
Specialist	**1,721.9**	**368.7**	**129.1**	**12.3**	**3.8**	**2,235.8**
Specialist – In	270.1	62.9	19.7	2.2	0.7	355.5
Specialist - Out	1,451.9	305.8	109.4	10.1	3.1	1,880.3
Pathology	**1,571.3**	**413.7**	**172.5**	**20.3**	**6.0**	**2,183.8**
Pathology - In	259.8	62.6	22.8	2.6	0.8	348.5
Pathology - Out	1,311.5	351.2	149.7	17.6	5.2	1,835.2
Misc Diagnostics	**293.6**	**77.4**	**29.5**	**2.9**	**0.9**	**404.3**
Misc Diagnostics - In	35.3	9.6	4.5	0.5	0.2	50.0
Misc Diagnostics - Out	258.3	67.8	25.1	2.4	0.7	354.3
Imaging	**1,802.9**	**490.4**	**197.3**	**22.2**	**6.6**	**2,519.3**
Imaging - In	180.9	48.8	18.4	2.2	0.7	251.0
Imaging - Out	1,621.9	441.6	179.0	20.0	5.8	2,268.3
Other MBS	**3,928.4**	**1,034.7**	**427.7**	**51.4**	**16.6**	**5,458.7**
Other MBS - In	2,303.9	598.5	242.4	29.5	9.9	3,184.3
Other MBS - Out	1,624.4	436.2	185.3	21.8	6.7	2,274.4
Total	**14,141.3**	**3,554.5**	**1,430.7**	**164.2**	**50.0**	**19,340.7**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.47g: Indigenous MBS services by selected categories claimed, benefits paid ($ million), ASGC Remoteness, 2009–10

MBS Services Claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**46.0**	**25.0**	**23.5**	**8.2**	**11.7**	**114.3**
Allied Health	**8.2**	**4.1**	**2.0**	**0.2**	**0.1**	**14.7**
Specialist	**7.5**	**4.2**	**2.7**	**0.5**	**0.9**	**15.8**
Specialist – In	0.6	0.3	0.1	0.0	0.0	1.0
Specialist - Out	6.9	3.9	2.6	0.5	0.9	14.8
Pathology	**12.1**	**6.9**	**6.4**	**2.6**	**5.3**	**33.3**
Pathology - In	0.5	0.2	0.1	0.0	0.0	0.9
Pathology - Out	11.6	6.6	6.3	2.6	5.3	32.5
Misc Diagnostics	**1.6**	**0.9**	**0.6**	**0.1**	**0.2**	**3.6**
Misc Diagnostics - In	0.1	0.1	0.1	0.0	0.0	0.2
Misc Diagnostics - Out	1.6	0.9	0.6	0.1	0.2	3.4
Imaging	**11.8**	**7.1**	**5.3**	**1.3**	**1.7**	**27.3**
Imaging - In	0.4	0.2	0.1	0.0	0.0	0.7
Imaging - Out	11.4	6.9	5.2	1.3	1.7	26.6
Other MBS	**15.8**	**9.8**	**7.8**	**2.1**	**3.3**	**38.7**
Other MBS - In	4.0	1.9	1.1	0.1	0.2	7.3
Other MBS - Out	11.8	7.9	6.7	1.9	3.1	31.4
Total	**103.1**	**58.0**	**48.3**	**15.1**	**23.2**	**247.7**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.47h: Non-Indigenous MBS services by selected categories claimed benefits paid ($ million), state and territory, 2009–10

MBS Services Claimed	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Non-Referred GP	**3,511.2**	**886.0**	**374.8**	**44.9**	**13.0**	**4,829.8**
Allied Health	**846.1**	**153.2**	**44.0**	**3.5**	**0.8**	**1,047.5**
Specialist	**1,191.4**	**253.4**	**89.4**	**8.4**	**2.6**	**1,545.2**
Specialist – In	165.3	38.5	12.0	1.4	0.4	217.6
Specialist - Out	1,026.0	215.0	77.4	7.0	2.2	1,327.6
Pathology	**1,423.6**	**373.5**	**157.2**	**18.7**	**5.5**	**1,978.4**
Pathology - In	162.1	38.6	13.8	1.6	0.5	216.5
Pathology - Out	1,261.5	334.9	143.4	17.1	5.0	1,761.9
Misc Diagnostics	**242.1**	**63.5**	**23.7**	**2.3**	**0.7**	**332.4**
Misc Diagnostics - In	22.0	6.2	2.9	0.3	0.1	31.6
Misc Diagnostics - Out	220.1	57.3	20.8	2.0	0.6	300.8
Imaging	**1,518.5**	**415.1**	**165.7**	**18.0**	**5.2**	**2,122.5**
Imaging - In	111.4	30.7	11.3	1.3	0.4	155.1
Imaging - Out	1,407.1	384.5	154.4	16.7	4.8	1,967.4
Other MBS	**2,389.8**	**662.1**	**272.8**	**32.0**	**10.1**	**3,366.7**
Other MBS - In	1,015.3	270.3	106.8	12.7	4.3	1,409.4
Other MBS - Out	1,374.5	391.8	166.0	19.2	5.8	1,957.3
Total	**11,122.6**	**2,806.9**	**1,127.6**	**127.6**	**37.8**	**15,222.5**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

MBS services by gender

- During 2009-10 a comparable number of MBS claims were made among Indigenous (15,970 per 1,000 population) and non-Indigenous (15,563 per 1,000 population) females. This was equal to 168 million in fees charged and 152 million in benefits paid among Indigenous females, and 11,338 million in fees charged and 8,881 in benefits paid among non-Indigenous females (Table 3.12.48b).
- During the same period there was also a comparable number of MBS claims made among Indigenous (10,428 per 1,000 population) and non-Indigenous (11,121 per 1,000 population) males, however these claims were substantially lower than for females. This was equal to 104 million in fees charged and 95 million in benefits paid among Indigenous males, and 8,013 million in fees charges and 6,348 million in benefits paid among non-Indigenous males (Table 3.12.48b).

Table 3.12.48a: MBS services by selected categories claimed by Indigenous status, gender, 2009–10

	Males		Females		Persons	
MBS Services Claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Non-Referred GP	**1,115,360**	**51,585,617**	**1,623,050**	**69,417,159**	**2,738,410**	**121,002,776**
Allied Health	**58,829**	**4,217,765**	**86,738**	**5,948,492**	**145,567**	**10,166,257**
Specialist	**87,830**	**9,443,082**	**113,288**	**12,091,848**	**201,119**	**21,534,929**
Specialist – In	6,275	1,618,878	9,770	1,978,486	16,046	3,597,363
Specialist - Out	81,555	7,824,204	103,518	10,113,362	185,073	17,937,566
Pathology	**572,002**	**41,485,063**	**1,185,570**	**60,475,480**	**1,757,572**	**101,960,543**
Pathology - In	16,533	4,845,470	24,591	5,287,885	41,124	10,133,355
Pathology - Out	555,469	36,639,593	1,160,979	55,187,595	1,716,448	91,827,188
Misc Diagnostics	**26,297.00**	**2,428,728.00**	**31,989.00**	**2,551,286.00**	**58,287.00**	**4,980,013.00**
Misc Diagnostics - In	921	230,490	883	181,107	1,804	411,597
Misc Diagnostics - Out	25,376	2,198,238	31,106	2,370,179	56,483	4,568,416
Imaging	**93,615**	**7,079,922**	**172,250**	**10,807,359**	**265,865**	**17,887,281**
Imaging - In	2,418	655,149	3,379	639,949	5,797	1,295,098
Imaging - Out	91,197	6,424,773	168,871	10,167,410	260,068	16,592,183
Other MBS	**82,776**	**10,901,947**	**166,836**	**14,550,738**	**249,612**	**25,452,685**
Other MBS - In	15,880	4,018,879	29,437	4,920,716	45,317	8,939,595
Other MBS - Out	66,896	6,883,068	137,399	9,630,022	204,295	16,513,090
Total	**2,036,710**	**127,142,123**	**3,379,722**	**175,842,361**	**5,416,431**	**302,984,485**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.48b: MBS services by selected categories claimed by Indigenous status, age-standardised per 1,000 population, gender, 2009–10

	Males		Females		Persons	
MBS Services claimed	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**	**Indig.**	**Non-Indig.**
Non-Referred GP	**4,973.3**	**4,602.1**	**7,129.9**	**6,190.6**	**6,060.0**	**5,402.6**
Allied Health	**335.6**	**371.0**	**471.4**	**522.7**	**404.0**	**447.5**
Specialist	**483.9**	**817.9**	**638.9**	**1,059.1**	**562.0**	**939.4**
Specialist - In	48.1	136.3	74.0	170.6	61.1	153.5
Specialist - Out	435.8	681.6	564.8	888.6	500.8	785.9
Pathology	**3,451.1**	**3,560.7**	**5,864.9**	**5,324.5**	**4,667.4**	**4,449.5**
Pathology - In	148.1	405.6	179.2	456.9	163.8	431.5
Pathology - Out	3,302.9	3,155.1	5,685.7	4,867.5	4,503.6	4,018.0
Misc Diagnostics	**171.0**	**208.3**	**202.8**	**220.0**	**187.0**	**214.2**
Misc Diagnostics - In	8.0	19.2	8.1	15.4	8.1	17.3
Misc Diagnostics - Out	163.0	189.2	194.7	204.6	179.0	197.0
Imaging	**496.1**	**620.1**	**850.7**	**955.4**	**674.8**	**789.0**
Imaging - In	21.3	54.8	29.1	54.8	25.2	54.8
Imaging - Out	474.8	565.3	821.6	900.6	649.6	734.2
Other MBS	**516.6**	**940.5**	**811.8**	**1,290.4**	**665.4**	**1,116.8**
Other MBS - In	112.0	343.6	170.5	431.9	141.5	388.1
Other MBS - Out	404.7	596.9	641.3	858.5	523.9	728.8
Total	**10,427.5**	**11,120.6**	**15,970.3**	**15,562.7**	**13,220.6**	**13,359.0**

* 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*).

Note: Rates are age standardised to Australian population as at 30 June 2001.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.48c: MBS services by selected categories claimed by Indigenous status, gender, fees charged ($ million), 2009–10

	Males		Females		Persons	
MBS Services Claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Non-Referred GP	**47.9**	**2,252.8**	**70.6**	**3,145.3**	**118.4**	**5,398.0**
Allied Health	**6.3**	**480.6**	**9.1**	**662.7**	**15.4**	**1,143.4**
Specialist	**8.8**	**970.1**	**11.1**	**1,267.1**	**19.9**	**2,237.1**
Specialist – In	0.6	157.7	1.0	198.1	1.6	355.8
Specialist - Out	8.2	812.3	10.1	1,069.0	18.2	1,881.3
Pathology	**10.9**	**872.3**	**23.3**	**1,312.5**	**34.2**	**2,184.9**
Pathology - In	0.6	161.7	0.9	187.1	1.4	348.8
Pathology - Out	10.4	710.6	22.4	1,125.5	32.8	1,836.1
Misc Diagnostics	**1.8**	**198.1**	**2.2**	**206.5**	**4.0**	**404.5**
Misc Diagnostics - In	0.1	29.3	0.1	20.8	0.3	50.1
Misc Diagnostics - Out	1.6	168.8	2.0	185.7	3.7	354.5
Imaging	**10.7**	**1,046.3**	**19.1**	**1,474.2**	**29.8**	**2,520.5**
Imaging - In	0.5	129.7	0.6	121.4	1.1	251.2
Imaging - Out	10.2	916.5	18.5	1,352.7	28.7	2,269.3
Other MBS	**17.4**	**2,192.4**	**32.8**	**3,269.6**	**50.2**	**5,462.0**
Other MBS - In	6.0	1,406.9	10.8	1,779.5	16.8	3,186.4
Other MBS - Out	11.5	785.5	21.9	1,490.2	33.4	2,275.6
Total	**103.8**	**8,012.5**	**168.0**	**11,337.9**	**271.9**	**19,350.4**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.48d: MBS services by selected categories claimed by Indigenous status, gender, Benefits paid ($ million), 2009–10

	Males		Females		Persons	
MBS Services Claimed	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Non-Referred GP	**46.3**	**2,025.3**	**68.1**	**2,806.3**	**114.3**	**4,831.6**
Allied Health	**6.0**	**445.2**	**8.7**	**602.7**	**14.7**	**1,047.9**
Specialist	**7.1**	**675.2**	**8.7**	**870.9**	**15.8**	**1,546.1**
Specialist – In	0.4	96.0	0.6	121.7	1.0	217.7
Specialist - Out	6.8	579.1	8.1	749.2	14.8	1,328.3
Pathology	**10.6**	**784.4**	**22.7**	**1,194.9**	**33.3**	**1,979.3**
Pathology - In	0.3	100.7	0.5	116.0	0.9	216.7
Pathology - Out	10.3	683.7	22.2	1,078.9	32.5	1,762.7
Misc Diagnostics	**1.6**	**161.3**	**2.0**	**171.2**	**3.6**	**332.5**
Misc Diagnostics - In	0.1	18.5	0.1	13.0	0.2	31.6
Misc Diagnostics - Out	1.5	142.8	1.9	158.1	3.4	300.9
Imaging	**9.9**	**897.1**	**17.3**	**1,226.3**	**27.3**	**2,123.4**
Imaging - In	0.3	79.8	0.4	75.4	0.7	155.2
Imaging - Out	9.6	817.3	17.0	1,150.9	26.6	1,968.2
Other MBS	**13.8**	**1,359.4**	**24.9**	**2,009.3**	**38.7**	**3,368.6**
Other MBS - In	2.6	632.7	4.7	777.6	7.3	1,410.3
Other MBS - Out	11.2	726.7	20.2	1,231.6	31.4	1,958.3
Total	**95.3**	**6,347.8**	**152.4**	**8,881.6**	**247.8**	**15,229.4**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

MBS services by State

- During 2009-10 the largest number of all MBS service claims made among Indigenous Australians (age standardised rate of 16,059 per 1,000 population) and non-Indigenous Australians (age standardised rate of 14,419 per 1,000 population) was in New South Wales (Table 3.12.49c).
- During the same period, this was equal to 103 million in fees charged and 93 million in benefits paid among Indigenous Australians in New South Wales. For non-Indigenous Australians, this was equal to 6,946 million in fees charged and New South Wales and 5,553 million in benefits paid, also in New South Wales.
- During 2009-10 the smallest number of all MBS service claims made among Indigenous Australians (age standardised rate of 10,654 per 1,000 population) was in the Western Australia. This was equal to 26 million in fees charged and 24 million in benefits paid (Table 3.12.49c).
- During the same period, the smallest number of all MBS service claims made among non-Indigenous Australians (age standardised rate of 8,312 per 1,000 population) was in the Northern Territory. This was equal to 81 million in fees charged and 60 million in benefits paid (Table 3.12.49d).

Table 3.12.49a: Indigenous MBS services by selected categories claimed, state and territory, 2009–10

MBS Services Claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	AUS
Non-Referred GP	**940,147**	**223,567**	**759,118**	**291,349**	**172,808**	**104,010**	**23,455**	**223,806**	**2,738,260**
Allied Health	**78,084**	**14,135**	**33,125**	**6,116**	**6,713**	**4,710**	**784**	**1,884**	**145,551**
Specialist	**94,917**	**22,010**	**38,022**	**9,858**	**12,463**	**11,714**	**2,207**	**9,916**	**201,107**
Specialist – In	6,010	2,368	4,003	901	1,218	916	82	546	16,044
Specialist - Out	88,907	19,642	34,019	8,957	11,245	10,798	2,125	9,370	185,063
Pathology	**557,394**	**125,850**	**389,419**	**235,242**	**95,698**	**56,904**	**14,449**	**282,493**	**1,757,449**
Pathology - In	18,486	5,460	8,226	3,704	2,813	1,544	261	619	41,113
Pathology - Out	538,908	120,390	381,193	231,538	92,885	55,360	14,188	281,874	1,716,336
Misc Diagnostics	**24,009**	**5,671**	**14,123**	**4,588**	**2,870**	**2,019**	**490**	**4,506**	**58,276**
Misc Diagnostics - In	588	225	628	91	115	74	41	41	1,803
Misc Diagnostics - Out	23,421	5,446	13,495	4,497	2,755	1,945	449	4,465	56,473
Imaging	**109,750**	**23,949**	**62,211**	**23,656**	**15,232**	**12,682**	**2,312**	**16,050**	**265,842**
Imaging - In	2,772	654	1,021	433	449	333	44	90	5,796
Imaging - Out	106,978	23,295	61,190	23,223	14,783	12,349	2,268	15,960	260,046
Other MBS	**90,741**	**23,994**	**64,561**	**22,319**	**13,993**	**14,844**	**2,221**	**16,923**	**249,596**
Other MBS - In	15,785	5,837	11,918	3,900	2,982	2,928	641	1,323	45,314
Other MBS - Out	74,956	18,157	52,643	18,419	11,011	11,916	1,580	15,600	204,282
Total	**1,895,042**	**439,175**	**1,360,580**	**593,128**	**319,775**	**206,884**	**45,919**	**555,579**	**5,416,082**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.49b: Non-Indigenous MBS services by selected categories claimed, state and territory, 2009–10

MBS Services Claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	AUS
Non-Referred GP	**42,164,882**	**30,272,669**	**24,364,581**	**10,196,257**	**9,316,811**	**2,636,424**	**1,507,114**	**498941**	**120,957,679**
Allied Health	**4,383,630**	**2,857,255**	**1,426,793**	**489,454**	**775,474**	**137,814**	**76,315**	**16,248**	**10,162,983**
Specialist	**7,769,859**	**5,962,692**	**3,644,969**	**1,577,922**	**1,778,038**	**461,357**	**265,503**	**63,015**	**21,523,355**
Specialist – In	878,050	1,146,440	903,730	259,669	289,432	81,238	28,473	7312	3,594,344
Specialist - Out	6,891,809	4,816,252	2,741,239	1,318,253	1,488,606	380,119	237,030	55,703	17,929,011
Pathology	**35,886,068**	**25,830,895**	**19,190,180**	**9,360,044**	**7,643,440**	**2,036,711**	**1,489,090**	**480,738**	**101,917,166**
Pathology - In	3,798,930	2,608,939	1,843,963	866,907	720,210	159,922	109,820	18443	10,127,134
Pathology - Out	32,087,138	23,221,956	17,346,217	8,493,137	6,923,230	1,876,789	1,379,270	462,295	91,790,032
Misc Diagnostics	**1,926,273**	**1,287,616**	**895,630**	**338,836**	**369,062**	**90,582**	**56,095**	**13,741**	**4,977,835**
Misc Diagnostics - In	110,545	106,810	124,186	23,985	34,497	6,733	3,659	856	411,271
Misc Diagnostics - Out	1,815,728	1,180,806	771,444	314,851	334,565	83,849	52,436	12,885	4,566,564
Imaging	**6,535,038**	**4,564,063**	**3,311,532**	**1,498,298**	**1,313,666**	**376,095**	**219,194**	**61,717**	**17,879,603**
Imaging - In	474,102	344,735	225,615	109,504	98,721	26,870	12,219	2,503	1,294,269
Imaging - Out	6,060,936	4,219,328	3,085,917	1,388,794	1,214,945	349,225	206,975	59,214	16,585,334
Other MBS	**8,487,480**	**6,168,557**	**5,506,422**	**2,362,006**	**1,865,619**	**592,081**	**332,358**	**123,714**	**25,438,237**
Other MBS - In	2,709,674	2,378,392	1,936,845	871,116	694,360	192,145	118,016	33,048	8,933,596
Other MBS - Out	5,777,806	3,790,165	3,569,577	1,490,890	1,171,259	399,936	214,342	90,666	16,504,641
Total	**107,153,228**	**76,943,747**	**58,340,107**	**25,822,816**	**23,062,111**	**6,331,063**	**3,945,668**	**1,258,114**	**302,856,854**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.49c: Indigenous MBS services by selected categories claimed, age-standardised per 1,000 population state and territory, 2009–10

MBS Services Claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	AUS
Non-Referred GP	**7,166.3**	**7,222.5**	**5,770.0**	**4,822.7**	**6,845.8**	**6,572.6**	**5,905.2**	**4,217.4**	**6,060.0**
Allied Health	**741.1**	**522.9**	**325.0**	**117.3**	**351.6**	**315.0**	**207.1**	**47.8**	**404.0**
Specialist	**885.6**	**851.6**	**377.7**	**210.5**	**683.6**	**837.2**	**804.8**	**212.1**	**562.0**
Specialist – In	77.6	127.6	53.5	30.3	97.2	59.6	36.2	9.2	61.1
Specialist - Out	808.0	724.0	324.2	180.2	586.4	777.6	768.6	202.9	500.8
Pathology	**5,202.5**	**4,900.5**	**3,677.5**	**4,557.6**	**4,671.0**	**4,308.1**	**4,666.0**	**5,527.8**	**4,667.4**
Pathology - In	244.2	296.7	117.8	98.5	229.8	151.1	113.2	14.0	163.8
Pathology - Out	4,958.3	4,603.8	3,559.7	4,459.1	4,441.2	4,157.0	4,552.8	5,513.8	4,503.6
Misc Diagnostics	**263.6**	**237.8**	**159.6**	**104.1**	**179.9**	**185.6**	**219.5**	**111.0**	**187.0**
Misc Diagnostics - In	8.2	15.7	11.1	2.7	9.3	6.8	16.8	1.0	8.1
Misc Diagnostics - Out	255.4	222.1	148.5	101.4	170.6	178.8	202.6	110.0	179.0
Imaging	**969.4**	**874.4**	**537.0**	**429.1**	**697.0**	**930.6**	**681.2**	**318.0**	**674.8**
Imaging - In	41.8	37.1	15.7	11.9	34.7	35.7	13.8	1.8	25.2
Imaging - Out	927.6	837.3	521.3	417.2	662.3	895.0	667.5	316.2	649.6
Other MBS	**830.4**	**906.0**	**608.1**	**412.3**	**709.2**	**1,092.2**	**746.8**	**359.3**	**665.4**
Other MBS - In	173.2	258.8	123.5	79.4	191.4	265.6	252.6	25.6	141.5
Other MBS - Out	657.1	647.2	484.7	332.9	517.8	826.6	494.3	333.8	523.9
Total	**16,059.0**	**15,515.6**	**11,454.9**	**10,653.5**	**14,138.0**	**14,241.3**	**13,230.5**	**10,793.4**	**13,220.6**

* 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*).

Note: Rates are age-standardised to Australian 2001 population.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.49d: Non-Indigenous MBS services by selected categories claimed, age-standardised per 1,000 population state and territory, 2009–10

MBS Services Claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	AUS
Non-Referred GP	**5,765.7**	**5,356.2**	**5,477.3**	**4,541.7**	**5,468.2**	**5,057.7**	**4,337.4**	**3,278.1**	**5,402.6**
Allied Health	**583.6**	**499.2**	**321.5**	**219.9**	**431.4**	**271.3**	**217.3**	**110.8**	**447.5**
Specialist	**1,031.6**	**1,033.2**	**808.3**	**696.2**	**990.8**	**848.0**	**776.4**	**435.2**	**939.4**
Specialist – In	113.9	193.6	198.4	114.8	151.4	141.7	86.9	55.4	153.5
Specialist - Out	917.7	839.5	609.9	581.4	839.4	706.3	689.5	379.9	785.9
Pathology	**4,773.7**	**4,462.1**	**4,257.2**	**4,126.0**	**4,295.0**	**3,741.5**	**4,278.9**	**3,163.9**	**4,449.5**
Pathology - In	489.6	440.5	403.4	380.3	378.7	273.0	325.3	135.2	431.5
Pathology - Out	4,284.1	4,021.6	3,853.8	3,745.7	3,916.3	3,468.5	3,953.6	3,028.7	4,018.0
Misc Diagnostics	**250.5**	**222.3**	**196.7**	**148.6**	**198.2**	**158.1**	**166.3**	**99.9**	**214.2**
Misc Diagnostics - In	14.0	17.8	26.9	10.4	17.8	11.3	11.1	6.6	17.3
Misc Diagnostics - Out	236.5	204.5	169.8	138.2	180.4	146.8	155.1	93.2	197.0
Imaging	**879.0**	**799.6**	**740.4**	**662.0**	**752.0**	**711.8**	**629.3**	**412.9**	**789.0**
Imaging - In	60.7	58.0	49.2	47.7	51.5	45.6	36.4	18.3	54.8
Imaging - Out	818.3	741.7	691.3	614.3	700.4	666.3	592.9	394.5	734.2
Other MBS	**1,134.6**	**1,077.2**	**1,222.4**	**1,041.2**	**1,060.9**	**1,097.8**	**954.5**	**811.5**	**1,116.8**
Other MBS - In	358.4	409.8	427.0	381.9	387.3	345.6	338.6	215.7	388.1
Other MBS - Out	776.2	667.5	795.4	659.2	673.6	752.2	615.9	595.8	728.8
Total	**14,418.7**	**13,449.7**	**13,023.7**	**11,435.6**	**13,196.4**	**11,886.1**	**11,360.1**	**8,312.3**	**13,359.0**

Note: Rates are age-standardised to Australian 2001 population.

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.49e: Indigenous MBS services by selected categories claimed, fees charged ($ million), state and territory, 2009–10

MBS Services Claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	AUS
Non-Referred GP	**40.6**	**9.9**	**31.8**	**12.7**	**7.5**	**4.2**	**1.1**	**10.7**	**118.4**
Allied Health	**8.5**	**1.4**	**3.3**	**0.6**	**0.7**	**0.5**	**0.1**	**0.2**	**15.4**
Specialist	**9.6**	**2.2**	**3.7**	**1.0**	**1.2**	**1.0**	**0.3**	**0.9**	**19.9**
Specialist – In	0.6	0.2	0.4	0.1	0.1	0.1	0.0	0.0	1.6
Specialist - Out	8.9	2.0	3.3	0.9	1.0	0.9	0.2	0.9	18.2
Pathology	**11.2**	**2.5**	**7.8**	**4.3**	**1.8**	**1.2**	**0.3**	**5.1**	**34.2**
Pathology - In	0.6	0.2	0.4	0.1	0.1	0.1	0.0	0.0	1.4
Pathology - Out	10.6	2.3	7.4	4.2	1.7	1.2	0.3	5.1	32.8
Misc Diagnostics	**1.9**	**0.4**	**0.9**	**0.3**	**0.2**	**0.1**	**0.1**	**0.2**	**4.0**
Misc Diagnostics - In	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3
Misc Diagnostics - Out	1.8	0.3	0.8	0.3	0.2	0.1	0.1	0.2	3.7
Imaging	**12.6**	**2.8**	**6.7**	**2.6**	**1.6**	**1.5**	**0.3**	**1.8**	**29.8**
Imaging - In	0.5	0.1	0.2	0.1	0.1	0.1	0.0	0.0	1.1
Imaging - Out	12.1	2.6	6.4	2.5	1.5	1.5	0.3	1.7	28.7
Other MBS	**18.2**	**4.7**	**12.8**	**4.8**	**3.0**	**2.8**	**0.6**	**3.3**	**50.2**
Other MBS - In	6.4	1.8	4.2	1.5	1.0	1.1	0.3	0.5	16.8
Other MBS - Out	11.7	2.9	8.6	3.3	2.0	1.7	0.3	2.8	33.4
Total	**102.5**	**23.9**	**67.0**	**26.3**	**15.9**	**11.4**	**2.7**	**22.1**	**271.8**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.49f: Non-Indigenous MBS services by selected categories claimed fees charged ($ million), state and territory, 2009–10

MBS Services Claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	AUS
Non-Referred GP	**1,862.8**	**1,381.9**	**1,053.1**	**458.7**	**417.1**	**115.4**	**80.1**	**26.7**	**5,395.8**
Allied Health	**521.0**	**313.1**	**148.9**	**53.0**	**81.0**	**14.3**	**9.8**	**1.8**	**1,143.0**
Specialist	**830.0**	**608.2**	**385.6**	**168.5**	**166.0**	**41.3**	**30.2**	**5.9**	**2,235.8**
Specialist – In	87.2	115.9	86.4	26.5	28.5	7.7	2.8	0.7	355.5
Specialist - Out	742.8	492.3	299.2	142.0	137.6	33.6	27.5	5.3	1,880.3
Pathology	**765.8**	**543.3**	**438.8**	**202.0**	**147.3**	**44.4**	**32.4**	**9.7**	**2,183.8**
Pathology - In	118.5	89.3	71.9	35.0	22.5	6.2	4.3	0.8	348.5
Pathology - Out	647.3	454.0	366.9	166.9	124.9	38.2	28.1	8.9	1,835.2
Misc Diagnostics	**157.7**	**97.0**	**76.4**	**31.3**	**28.5**	**7.0**	**5.3**	**1.2**	**404.3**
Misc Diagnostics - In	13.3	13.2	13.5	4.0	4.6	0.9	0.3	0.2	50.0
Misc Diagnostics - Out	144.4	83.8	62.9	27.3	23.8	6.1	5.0	1.0	354.3
Imaging	**919.3**	**636.7**	**455.5**	**231.3**	**179.6**	**50.7**	**36.3**	**9.9**	**2,519.3**
Imaging - In	84.6	66.9	48.4	25.2	18.0	5.0	2.5	0.5	251.0
Imaging - Out	834.8	569.8	407.1	206.0	161.6	45.8	33.8	9.4	2,268.3
Other MBS	**1,888.9**	**1,307.7**	**1,122.4**	**522.8**	**387.1**	**120.6**	**83.8**	**25.4**	**5,458.7**
Other MBS - In	1,079.6	761.9	665.6	319.9	222.6	69.6	51.8	13.3	3,184.3
Other MBS - Out	809.3	545.8	456.8	202.9	164.5	51.1	32.0	12.1	2,274.4
Total	**6,945.6**	**4,887.9**	**3,680.7**	**1,667.6**	**1,406.6**	**393.8**	**277.9**	**80.6**	**19,340.7**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.49g: Indigenous MBS services by selected categories claimed, benefits paid ($ million), state and territory, 2009–10

MBS Services Claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	AUS
Non-Referred GP	**39.4**	**9.5**	**30.7**	**12.3**	**7.3**	**3.8**	**0.9**	**10.4**	**114.3**
Allied Health	**8.2**	**1.3**	**3.1**	**0.6**	**0.7**	**0.5**	**0.1**	**0.2**	**14.7**
Specialist	**7.6**	**1.8**	**2.9**	**0.7**	**1.0**	**0.8**	**0.2**	**0.9**	**15.8**
Specialist – In	0.4	0.1	0.2	0.1	0.1	0.1	0.0	0.0	1.0
Specialist - Out	7.2	1.6	2.6	0.7	0.9	0.8	0.2	0.8	14.8
Pathology	**10.9**	**2.4**	**7.4**	**4.3**	**1.7**	**1.1**	**0.3**	**5.2**	**33.3**
Pathology - In	0.4	0.1	0.2	0.1	0.1	0.0	0.0	0.0	0.9
Pathology - Out	10.5	2.3	7.2	4.2	1.7	1.1	0.3	5.2	32.5
Misc Diagnostics	**1.7**	**0.3**	**0.8**	**0.2**	**0.2**	**0.1**	**0.0**	**0.2**	**3.6**
Misc Diagnostics - In	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
Misc Diagnostics - Out	1.6	0.3	0.7	0.2	0.2	0.1	0.0	0.2	3.4
Imaging	**11.6**	**2.5**	**6.1**	**2.3**	**1.5**	**1.3**	**0.2**	**1.7**	**27.3**
Imaging - In	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.7
Imaging - Out	11.3	2.4	6.0	2.3	1.4	1.3	0.2	1.7	26.6
Other MBS	**13.6**	**3.5**	**10.0**	**3.8**	**2.3**	**2.1**	**0.4**	**3.0**	**38.7**
Other MBS - In	2.7	0.8	1.9	0.6	0.5	0.5	0.1	0.3	7.3
Other MBS - Out	11.0	2.7	8.1	3.2	1.9	1.6	0.3	2.7	31.4
Total	**93.1**	**21.3**	**61.1**	**24.2**	**14.6**	**9.8**	**2.1**	**21.5**	**247.7**

* 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*).

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

Table 3.12.49h: Non-Indigenous MBS services by selected categories claimed, benefits paid ($ million), state and territory, 2009–10

MBS Services Claimed	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	AUS
Non-Referred GP	**1,715.7**	**1,232.7**	**933.3**	**390.9**	**377.8**	**100.7**	**58.8**	**19.9**	**4,829.8**
Allied Health	**485.4**	**284.0**	**134.5**	**44.9**	**76.4**	**13.1**	**7.8**	**1.4**	**1,047.5**
Specialist	**572.4**	**429.6**	**256.7**	**110.0**	**123.1**	**29.6**	**19.4**	**4.3**	**1,545.2**
Specialist – In	54.3	70.3	53.0	16.2	17.0	4.8	1.7	0.4	217.6
Specialist - Out	518.1	359.3	203.7	93.9	106.2	24.8	17.7	3.9	1,327.6
Pathology	**702.3**	**492.1**	**386.7**	**181.3**	**138.4**	**38.4**	**29.8**	**9.4**	**1,978.4**
Pathology - In	75.9	56.5	42.4	19.7	15.1	3.8	2.7	0.5	216.5
Pathology - Out	626.4	435.6	344.3	161.6	123.3	34.6	27.1	8.9	1,761.9
Misc Diagnostics	**132.9**	**82.1**	**59.3**	**23.0**	**24.3**	**5.7**	**4.1**	**1.0**	**332.4**
Misc Diagnostics - In	8.4	8.4	8.7	2.4	2.8	0.6	0.2	0.1	31.6
Misc Diagnostics - Out	124.5	73.7	50.7	20.7	21.4	5.1	3.9	0.8	300.8
Imaging	**800.0**	**536.2**	**385.4**	**174.1**	**150.4**	**43.1**	**26.0**	**7.3**	**2,122.5**
Imaging - In	54.6	42.5	27.9	13.5	11.6	3.1	1.5	0.3	155.1
Imaging - Out	745.4	493.7	357.5	160.6	138.8	40.0	24.5	7.0	1,967.4
Other MBS	**1,143.9**	**832.4**	**687.6**	**311.4**	**252.5**	**78.5**	**44.7**	**15.7**	**3,366.7**
Other MBS - In	447.5	365.1	291.3	140.2	108.5	31.8	19.1	5.8	1,409.4
Other MBS - Out	696.4	467.3	396.3	171.2	144.0	46.7	25.6	9.9	1,957.3
Total	**5,552.6**	**3,889.2**	**2,843.5**	**1,235.7**	**1,142.8**	**309.2**	**190.5**	**58.9**	**15,222.5**

Source: Medicare Financing & Analysis Branch, Department of Health & Ageing.

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, 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).

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).

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, such as 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.

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 210,351 people who had identified as Aboriginal and/or Torres Strait Islander in this database at January 2009: around 41% of the estimated Aboriginal and Torres Strait Islander population (AIHW 2010c). The number of people who have identified as Aboriginal and/or Torres Strait Islander has steadily increased from 47,200 people since 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, because 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.

- Because 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 covered by the adjustment methodology.

National Hospital Morbidity data

Hospital separations data

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.

The proportion of Aboriginal and Torres Strait Islander separations in public hospitals increased over the 11-year period 1996–97 to 2007–08, from 3.7% to 5.4%. In private hospitals, it stayed around 0.2% to 0.3% until 2003–04, when there was a modest increase to 0.5%.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

'Not stated' responses to the Indigenous status question were around 1% in public hospitals and 4% in private hospitals in 2007–08. This is a reduction from 1998–99 when 2% of responses in public hospitals and 8% of responses in private hospitals had a 'not stated' Indigenous status (AIHW 2009a).

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. An estimated 89% of Indigenous patients were correctly identified in Australian public hospital admission records in 2007–08. In other words, 11% of Indigenous patients were not identified, and the 'true' number of hospital admissions for Indigenous persons was about 12% higher than reported.

For several years, Queensland, South Australia, Western Australia and the Northern Territory reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007a). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 (80% or higher overall levels of Indigenous identification in public hospitals only) in their hospital separations data. For Tasmania and the Australian Capital Territory, the levels of Indigenous identification were not considered acceptable for analysis purposes. It has therefore been recommended that reporting of Indigenous hospital separations data be limited to information from New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory, individually or in aggregate. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also been recommended for analysis of hospitalisation data from selected jurisdictions (AIHW 2010d):

- Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently there is 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 for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.
- Hospitalisation data for these six jurisdictions are not necessarily representative of the jurisdictions not included.

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.

Remoteness areas

There were 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 by remoteness areas, in aggregate, across states and territories. However, the sample size was insufficient to allow assessment of the quality of Indigenous identification by remoteness area within jurisdictions.

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 2010* (ABS 2009).

Data sources for injury emergency episodes

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. This data set includes the standard Indigenous status question but does not include injury coding (for example, ICD-10). The Injury Surveillance National Minimum Data Set includes injury coding (components of ICD-10) but does not include demographic details such as Indigenous status. Therefore, there is currently no national minimum data set containing both Indigenous status and injury coding.

General Practitioner data

Care must be taken in using and interpreting the data provided. There are two 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. 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 FTE 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.

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 2007* (AIHW 2009b).

OATSIH Services Reporting (OSR) Data Collection

The data were collected using the OSR questionnaire, 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 2010e).

Health Expenditure Data

Health expenditure data are 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 major 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).

Quality of data on Indigenous service use

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 2009a).

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

This report 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 Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07 (AIHW 2009a).

There has also been a change in the method for estimating MBS and PBS expenditure. The method involves the use of Medicare Voluntary Indigenous Identifier (VII) data to estimate expenditure on medical 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).

This change may have contributed to the increase in estimated MBS and PBS expenditure reported in 2006–07 compared with 2004–05.

Palliative care data

Data on palliative care are sourced from the Admitted Patient Palliative Care National Minimum Data Set (NMDS). This includes Aboriginal and or Torres Strait Islander status and allows all the items within the data set to be analysed against this status. The NMDS is a component of the hospitals morbidity collection. Hospital data on palliative care is likely to include similar data quality problems to those outlined in the hospital separations data section above.

Sourcing data from an admitted patient NMDS means that there is a lack of national data on palliative care that occurs in the community (that is, non-admitted care). This is an obvious gap given the emphasis within palliative care on providing patients and their families with choices about their settings of care (AIHW 2007b). Also, and similar to other health sectors and services provided through hospitals, palliative care has a number of data quality issues, including a lack of consistency around definitions.

For example the term 'palliative'—what it is and who provides it. In response to this, the Australian Government funds:

- the AIHW to manage palliative care data development issues. This work has had a number of outcomes, including the development and piloting of a palliative care community data set specification that contained Aboriginal and Torres Strait Islander status. The recommendations from this work are being considered by the Palliative Care Intergovernmental Forum. Definitions agreed from the work will be provided to the Health Data Standards Committee for inclusion in the National Health Data Dictionary.
- the University of Wollongong to head a collaboration of four universities to develop and manage a voluntary, service level, quality improvement initiative called the Palliative Care Outcomes Collaboration (PCOC). This initiative has developed a data set including clinical assessment items, and a methodology that allows routine collection and reporting of the data set to support the quality initiative. At this stage, it is estimated that around 50% of services submit data to the PCOC database. There is an Indigenous data item included in the data set that allows analysis across all the data set variables but, to date, the numbers of Indigenous clients in the limited sample are negligible.

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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3.13 Access to prescription medicines

This measure has two components:

- **Pharmaceutical Benefits Scheme expenditure per capita for Indigenous Australians**
- **Not filling prescriptions because of cost.**

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 2006–07 (AIHW 2009),* was released in 2009.

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 underestimate 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).

AIHW Pharmacists Labour Force Survey

The AIHW runs a number of surveys of the health labour force including the Pharmacy Labour Force Survey. 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. In 2003, the survey was conducted in all jurisdictions except the Northern Territory. The response rate to the survey was 76.3%

There is currently no data source for statistics on not filling prescriptions because of cost for Indigenous Australians. This will be recommended for inclusion in the next NATSIHS.

Analyses

Pharmaceuticals expenditure

- Expenditure on medications provided by the Australian Government for Aboriginal and Torres Strait Islander people in 2006–07 was estimated at $93.6 million, which represented 1.4% of total expenditure on pharmaceuticals in Australia by the Australian Government (Table 3.13.1). Non-government expenditure on pharmaceuticals for Indigenous people was estimated at $35.8 million, which represented 0.6% of total expenditure on pharmaceuticals by non-government organisations.
- The majority of expenditure on these pharmaceuticals was for benefit-paid pharmaceuticals ($87.9 million of Australian Government expenditure and $4.7 million of non-government expenditure).
- Per capita expenditure on pharmaceuticals by the Australian Government for 2006–07 was estimated at $179 for Indigenous people and $316 for non-Indigenous people—a ratio of 0.57:1. Per capita non-government expenditure on pharmaceuticals was estimated at $69 for Indigenous people and $298 for non-Indigenous people—a ratio of 0.23:1.

Table 3.13.1: Total and per person expenditure (current prices) on pharmaceuticals by the Australian Government and non-government organisations, by Indigenous status, 2006–07

	Total expenditure ($ million)			Expenditure per person ($)		
	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Australian Government						
Benefit-paid pharmaceuticals[(a)]	87.9	5,868.7	1.5	168.2	288.2	0.58
Other pharmaceuticals	5.6	555.2	1.0	10.8	27.3	0.40
Total pharmaceuticals	**93.6**	**6,423.9**	**1.4**	**179.0**	**315.5**	**0.57**
Non-government						
Benefit-paid pharmaceuticals[(a)]	4.7	1,272.2	0.4	8.9	62.5	0.14
Other pharmaceuticals	31.1	4,784.8	0.6	59.6	235.0	0.25
Total pharmaceuticals	**35.8**	**6,057.0**	**0.6**	**68.5**	**297.5**	**0.23**
Total						
Benefit-paid pharmaceuticals[(a)]	92.6	7,140.9	1.3	177.2	350.7	0.51
Other pharmaceuticals	36.8	5,340.1	0.7	70.4	262.3	0.27
Total pharmaceuticals	**129.4**	**12,481.0**	**1.0**	**247.5**	**613.0**	**0.40**

(a) Includes the repatriation pharmaceutical benefits scheme as well as the PBS.

Source: AIHW 2009.

PBS expenditure

- In 2006–07, benefits to Indigenous Australians through the Pharmaceutical Benefits Scheme were estimated at $92 million. Pharmaceutical benefits expenditures per person for Indigenous Australians were 60% of the non-Indigenous average (Table 3.13.2). The average per person share of expenditure on mainstream pharmaceutical benefits was also lower, at 45%.
- 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 2006–07 on drugs dispensed under this Act was $23 million. The estimated ratio of Indigenous to non-Indigenous expenditure per person under the scheme was 258:1.

Table 3.13.2: Total and per person expenditures through the Pharmaceutical Benefits Scheme, by Indigenous status, 2006–07[(a)]

	Total expenditure ($ million)			Expenditure per person ($)		
Pharmaceutical benefits	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**	**Indigenous**	**Non-Indigenous**	**Ratio**
Mainstream PBS	63.0	5,414.0	1.2	120.6	265.9	0.45
Section 100[(b)]	23.0	3.5	86.9	43.9	0.2	258.1
Other PBS special supply	5.6	492.1	1.1	10.7	24.2	0.44
Total PBS benefits[(b)(c)]	**91.5**	**5,909.5**	**1.5**	**175.2**	**290.2**	**0.60**

(a) Includes only DoHA expenditure.

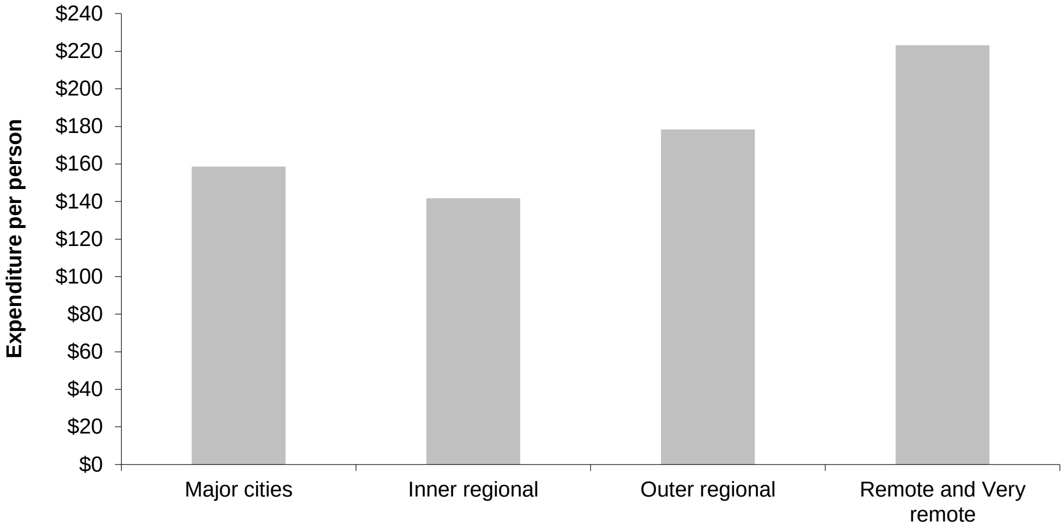
(b) Excludes RPBS.

(c) Excludes highly specialised drugs dispensed from public and private hospitals.

Source: AIHW 2009.

PBS expenditure by remoteness

- In 2006–07, PBS pharmaceutical expenditures on Indigenous people were greater in *Remote* and *Very remote* areas, where the Section 100 arrangements apply, ($223 per person) than in *Major cities* ($159 per person) (Figure 3.13.1; Table 3.13.3).



Note: PBS expenditure includes expenditure on Section 100 pharmaceuticals ($19.4 million in 2006–07). Almost all of this expenditure occurs in Remote and Very remote areas.

Source: AIHW 20010. Expenditure on health for Aboriginal and Torres Strait Islander people 2008–09: An analysis by remoteness and disease. Cat. no. HWE 49. Canberra: AIHW.

Figure 3.13.1: Estimated average health expenditures per person on pharmaceutical benefits, for Aboriginal and Torres Strait Islander people, by remoteness, 2006–07

Table 3.13.3: Estimated average health expenditures per person on pharmaceutical benefits, for Aboriginal and Torres Strait Islander people, by remoteness, 2006–07

	Expenditure per person ($)				
	Major cities	Inner regional	Outer regional	Remote and Very remote	All regions
Indigenous	158.6	141.8	178.3	223.2	175.2
Non-Indigenous	285.1	319.3	284.2	200.1	290.2

Note:

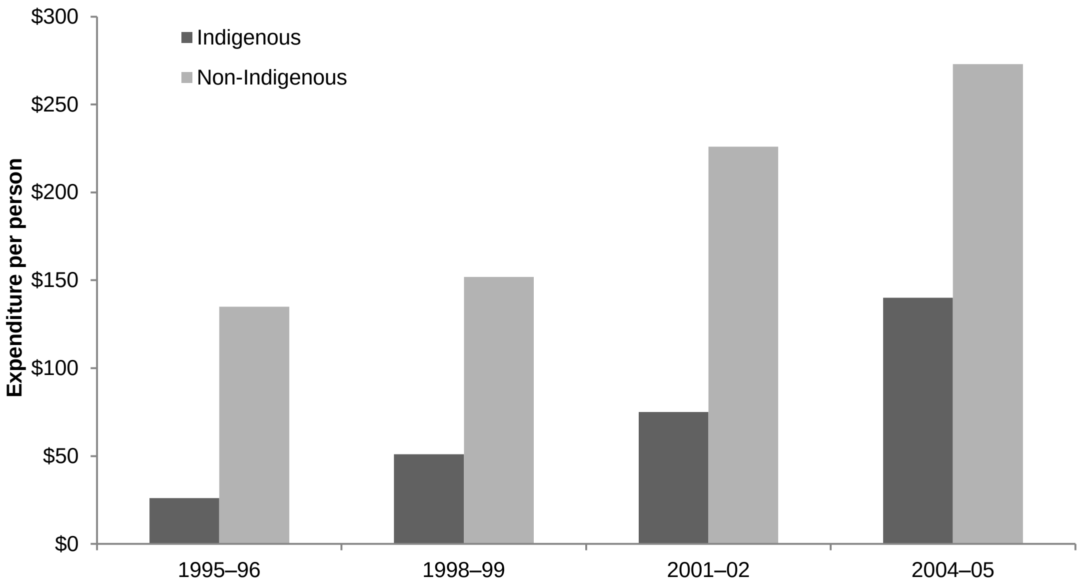
1. PBS expenditure includes expenditure on Section 100 pharmaceuticals and other PBS special supply. Almost all of this expenditure occurs in Remote and Very Remote areas.
2. Excludes RPBS, methadone, co-payments and highly specialised drugs dispensed from public and private hospitals.

Source: AIHW 2010.

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 2004–05 dollars.

- The estimates of average expenditure per person for the Indigenous population by the Australian Government on the PBS between 1995–96 and 1998–99 almost doubled from an estimated $26 in 1995–96 to $51 in 1998–99.
- Expenditure increased by another 48% between 1998–99 and 2001–02 (from $51 to $75) and by another 86% between 2001–02 and 2004–05 (from $75 to $140).
- The Indigenous to non-Indigenous expenditure ratios were higher in 2004–05 than in 1995–96 (0.51 compared with 0.19) (Figure 3.13.2; Table 3.13.4).



Notes

1. Does not include RPBS benefits for veterans.
2. The 1995–96 estimate for Indigenous Australians is based on the revised price estimate of $9.3 million for PBS benefits for Indigenous Australians in 1995–96 (AIHW 2001: 42), down from $9.8 million (Deeble et al. 1998:21). That revision reduced the current price per person estimate from $26.64 to $25.28.
3. There were substantial changes in estimating methods between the first (1995–96) and second (1998–99) Aboriginal and Torres Strait Islander health expenditure reports.

Source: AIHW 2008.

Figure 3.13.2: Average PBS health expenditure (constant prices) per person by the Australian Government, 1995–96, 1998–99, 2001–02 and 2004–05

Table 3.13.4: Average PBS health expenditure (constant prices) per person by the Australian Government, 1995–96, 1998–99, 2001–02 and 2004–05

	Indigenous	Non-Indigenous	Ratio
1995–96	26	135	0.19
		Break in time series	
1998–99	51	152	0.33
2001–02	75	226	0.33
2004–05	140	273	0.51

Notes

1. Does not include RPBS benefits for veterans.
2. The 1995–96 estimate for Indigenous Australians is based on the revised price estimate of $9.3 million for PBS benefits for Indigenous Australians in 1995–96 (AIHW 2001), down from $9.8 million (Deeble et al. 1998). That revision reduced the current price per person estimate from $26.64 to $25.28.
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Source: AIHW 2008.

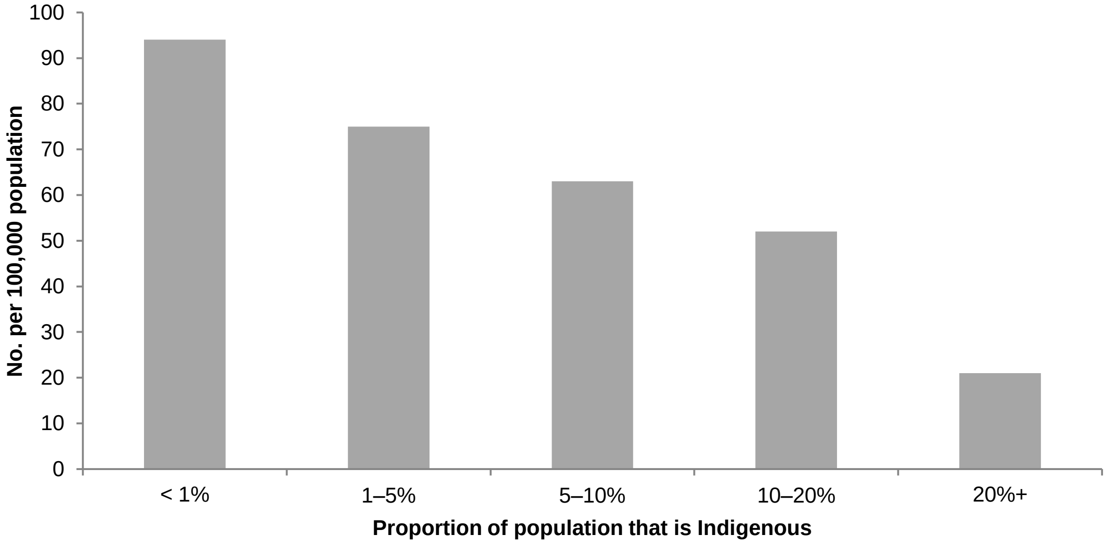
Pharmacy labour force

Information on pharmacists in Australia is available from the AIHW Pharmacy Labour Force Survey. The population for the survey is 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. In 2003, the survey was conducted in all jurisdictions except the Northern Territory. 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 (AIHW 2003).

Response to the Pharmacy Labour Force Survey in 2003 represented 71.5% 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.

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 86 per 100,000.
- 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 3.13.3 and Table 3.13.5).



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 3.13.3: FTE employed pharmacists per 100,000 population, by areas of low through to high proportions of Indigenous population, 2003

Table 3.13.5: 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

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).

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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.

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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3.14 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 is conducted by the AIHW Australian General Practice Statistics and Classification Unit. 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. A more detailed explanation of the BEACH methods can be found in General practice activity in Australia 2008–09, (Britt et al 2009).

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). Further detailed analyses of this issue are covered in General practice in Australia, heath priorities and policies 1998–2008, (Britt H & Miller GC (eds) 2009, p101).

> "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 H 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."

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 2004–05 to 2008–09, during which there were 6,137 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.3% of total GP encounters in the survey.

OATSIH Services Reporting (OSR) Data Collection

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH funded services include both Indigenous Community Controlled Health Organisations and non-community controlled health organisations. Note that the 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 OSR data collection which was established in 2008–09 uses a new set of counting rules which treat all auspice services as individual services which yields a larger numerator and denominator on which the rates are based. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates based on earlier data collection periods.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services 81 (94%) responded to the OSR questionnaire, as well as five auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance use service.

45 (90%) out of 50 stand-alone substance use services as well as three auspiced services responded to the OSR questionnaire.

Medicare data

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 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. There were 210,351 people who had identified as Aboriginal and/or Torres Strait Islander in this database at January 2009: around 41% of the estimated Aboriginal and Torres Strait Islander population (AIHW 2010a). There has been a rapid expansion in the number of enrollees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

To date, the database has not been analysed to estimate the numbers of people who have identified themselves as non-Indigenous, or those who have either not responded to the question or have not been presented with an opportunity to respond to the question.

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.

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.

In 2006–07 to 2007–08, there were 10,815,704 episodes of care provided by emergency departments, 467,115 (4.3%) of which were for patients identified as Aboriginal or Torres Strait Islanders.

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.

- Over the BEACH reporting period April 2004–March 2005 to April 2008–March 2009, around 99% of GPs surveyed worked in practices with after-hours arrangements in place. For 21% of GPs, the practice had its own after-hours arrangements; 9.3% of GPs had cooperative arrangements with other practices regarding after-hours care; 29% employed a deputising service for after-hours patient care, 10% referred to another service for after-hours patient care and 2.4% had other after-hours arrangements.

The BEACH survey also collected information on GP encounters with Indigenous patients and other patients. Table 3.14.1 and Figure 3.14.1 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 2004–March 2005 to April 2008–March 2009, 95% of encounters with Indigenous patients, and 99% of encounters with other patients, were with GPs with after-hours arrangements (Table 3.14.1).
- At approximately 39% of GP encounters with Indigenous patients, the GP visited had their own after-hours arrangements for patient care; for 12% the GP had cooperative arrangements with other practices; for 20% the GP employed a deputising service for after-hours patient care; for 31% the GP referred to another service for after-hours care;

and for 9% the GP had other after-hours arrangements in place. For 5% of encounters with Indigenous patients, the GP visited had no after-hours arrangements in place (Table 3.14.1).

- The proportion of encounters with GPs at practices that referred to another service for after-hours patient care was higher for encounters with Indigenous patients than for encounters with other patients (31 per 100 compared with 17 per 100, respectively). Fewer encounters with Indigenous patients were with GPs at practices that employed a deputising service for after-hours patient care (20 per 100 encounters) than other patient encounters (20 compared with 51 per 100) (Table 3.14.1; Figure 3.14.1).

Table 3.14.1: GP encounters by whether the GP has after-hours arrangements, by Indigenous status, BEACH years April 2004–March 2005 to April 2008–March 2009(a)

	Number		Number per 100 encounters			Number per 100 encounters			
After-hours arrangements	**Indigenous**	**Other**	**Indigenous**	**LCI**	**UCI**	**Other**	**LCI**	**UCI**	**Ratio**
Practice does its own	2,362	158,738	38.6	30.9	46.2	33.3	32.0	34.6	1.2
Cooperative with other practices	750	73,650	12.3	8.5	16.0	15.5	14.4	16.5	0.8
Deputising service	1,228	242,672	20.1	15.1	25.0	50.9	49.5	52.3	0.4*
Referral to other services	1,885	79,415	30.8	22.9	38.7	16.7	15.6	17.7	1.9*
Other arrangement	519	20,181	8.5	3.8	13.1	4.3	3.7	4.8	2.0
Total after-hours arrangements(a)	*5,843*	*470,557*	*95.4*	*91.2*	*99.7*	*98.7*	*98.4*	*99.1*	*1.0*
No after-hours arrangements	279	6,021	4.6	0.3	8.8	1.3	0.9	1.6	3.6
Total encounters	**6,137**	**480,263**	**100.0**	. .	. .	**100.0**	. .	. .	. .

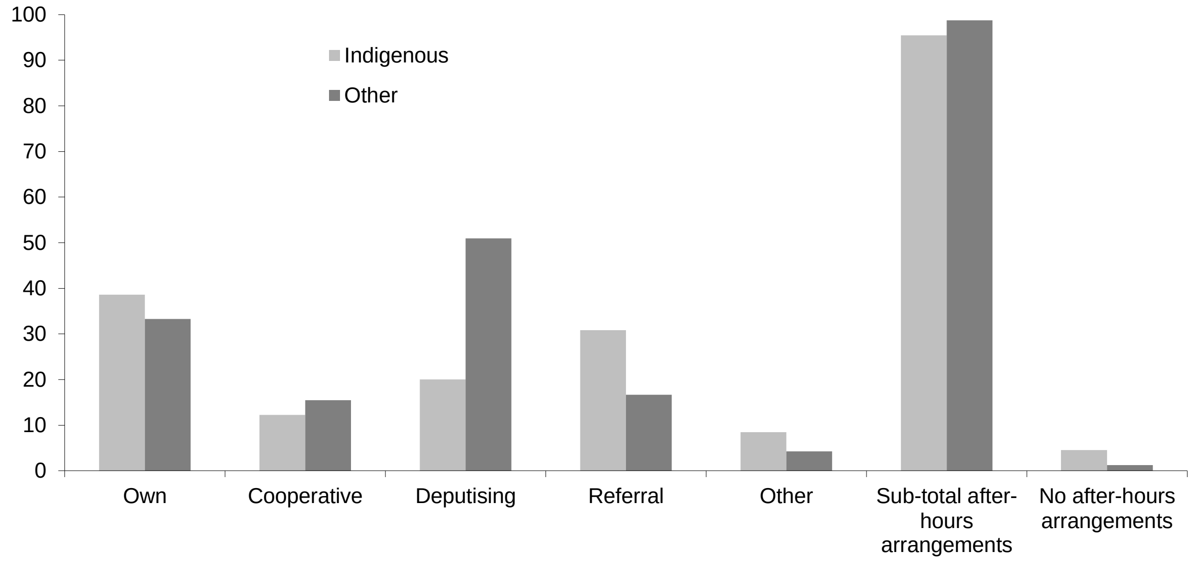
* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Data from five combined BEACH years April 2004–March 2005 to April 2008–March 2009 inclusive.

(b) Subtotal is less than the sum of the components as GPs can have more than one type of after-hours arrangement.

(c) There were 3,700 encounters with after-hours arrangements missing (15 with Indigenous patients and 3,685 with Other patients).

Source: AIHW analysis of BEACH survey of general practice, AGPSCC.



Source: AIHW analysis of BEACH survey of general practice survey, AGPSCC.

Figure 3.14.1: Rate of GP encounters, by whether the GP has after-hours arrangements in place, by Indigenous status of the patient, BEACH years April 2004–March 2005 to April 2008–March 2009

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.

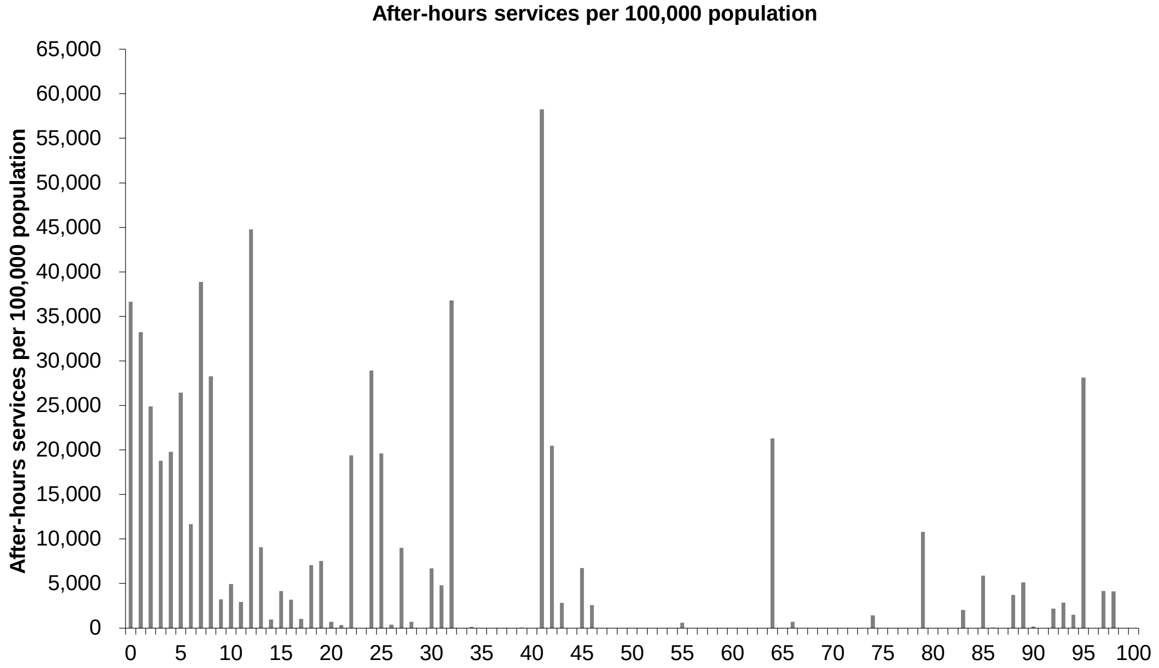
Data in Figure 3.14.2 present the number of after-hours services provided by full-time equivalent GPs per 100,000 population by areas of low through to high proportions of Indigenous people in the population. Using population data from the 2001 Census, Statistical Local Areas (SLAs) were grouped according 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 2008–09, there were approximately 16,000 full-time equivalent GPs working in Australia who provided 5,951,000 after-hours services to patients.
- Across Australia, the rate of after-hours services provided by GPs was around 28,752 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 3.14.2).

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.



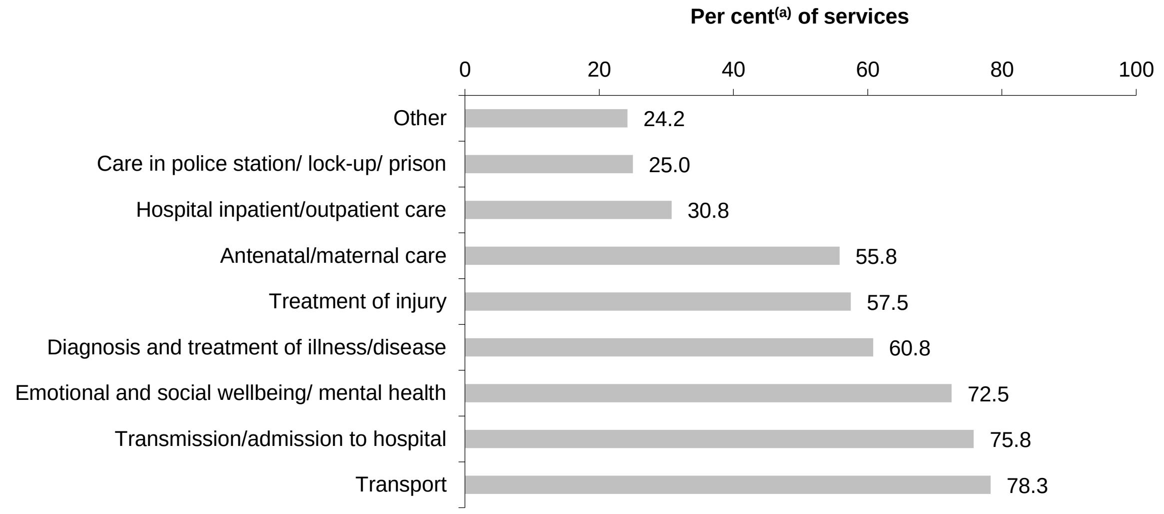
Source: AIHW analysis of Medicare Database.

Figure 3.14.2: Rate of after-hours services provided by FTE GPs in areas of low through to high proportions of Indigenous people in the population, 2008–09

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 2008–09 OSR database.

- The most common types of service provided outside of normal operating hours by Indigenous primary health-care services were transport (78%) and transfer or admission to hospital (76%) (Figure 3.14.3; Table 3.14.2).



(a) 120 Aboriginal and Torres Strait Islander primary health-care services provided information on the type of after-hours care their service provided. The percentages in this figure are calculated as a proportion of these 120 services.

Source: AIHW OSR data collection.

Figure 3.14.3: Proportion of services that provided care outside of normal operating hours, by type of service, 2008-09

Table 3.14.2: 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, 2008–09

Provider of after-hours services	No. services	Per cent
Provided after-hours services(a)	120	59.7
Did not provide after-hours services(a)	81	40.3
Type of after-hour service(b)		
Transport	*94*	*78.3*
Transmission/admission to hospital	*91*	*75.8*
Emotional and social wellbeing/ mental health	*87*	*72.5*
Diagnosis and treatment of illness/disease	*73*	*60.8*
Treatment of injury	*69*	*57.5*
Antenatal/maternal care	*67*	*55.8*
Hospital inpatient/outpatient care	*37*	*30.8*
Care in police station/ lock-up/ prison	*30*	*25.0*
Other	*29*	*24.2*
Provided after-hours services(b)	***120***	***100.0***
Not stated whether provide after-hours services	4	. .
Reported whether provide after-hours services	201	. .
Total primary health care services	205	. .

(a) 201 of the 205 Aboriginal and Torres Strait Islander primary health-care services provided information on whether the service provides after-hours care . These percentages are calculated as a proportion of these 201 services.

(b) 120 of the 201 Aboriginal and Torres Strait Islander primary health-care services provided information on the type of after-hours care their service provided. The percentages in the table above are calculated as a proportion of these 120 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 2006–07 to 2007–08, there were 10,815,704 episodes of care provided by emergency departments, 467,115 (4.3%) of which were for patients identified as Aboriginal or Torres Strait Islander (Table 3.14.3).
- In 2006–07 to 2007–08, there were 6,438,775 episodes of care provided by emergency departments for triage categories 4 (semi-urgent) and 5 (non-urgent), of which 302,457 (4.7%) were for patients identified as Indigenous (Table 3.14.4).
- In 2006–07 to 2007–08, there were 5,143,214 episodes of care provided after-hours in emergency departments, of which 225,182 (4.4%) were for patients identified as Indigenous. Around half of all presentations to emergency departments by Indigenous and non-Indigenous patients were for after-hours care (48% and 47%, respectively) (Table 3.14.5).
- 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 3.14.5).
- In 2006–07 to 2007–08, there were 2,969,906 episodes of care provided after-hours in emergency departments for triage categories 4 (semi-urgent) and 5 (non-urgent), of which 139,703 (4.7%) 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 3.14.6).
- 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, 15% were on Sundays and 11% were before 8 am or after 1 pm on Saturdays (Table 3.14.6).
- The proportion of presentations to emergency departments after hours by Indigenous patients varied by jurisdiction, the Australian Capital Territory had the highest proportion (51%) and Tasmania the lowest (46%) (Figure 3.14.4; Table 3.14.7a). The Australian Capital Territory also had the highest proportion (49%) of Indigenous presentations to emergency departments after hours for semi-urgent and non-urgent triage categories and Queensland the lowest (44%) (Figure 3.14.5; Table 3.14.7b).

Table 3.14.3: Non-admitted patient emergency care episodes by time of day and Indigenous status, Australia, 2006–07 to 2007–08

	Number			Per cent		
Time	Indigenous	Non-Indigenous	Not stated	Indigenous	Non-Indigenous	Not stated
00:00	13,099	244,254	12,233	2.8	2.5	2.8
01:00	10,687	201,526	10,325	2.3	2.0	2.4
02:00	8,699	171,446	8,693	1.9	1.7	2.0
03:00	7,224	150,516	7,528	1.5	1.5	1.7
04:00	5,825	133,764	6,761	1.2	1.3	1.6
05:00	4,960	126,769	6,166	1.1	1.3	1.4
06:00	5,668	156,274	7,136	1.2	1.6	1.6
07:00	9,044	256,561	10,899	1.9	2.6	2.5
08:00	17,413	436,142	16,637	3.7	4.4	3.8
09:00	24,935	592,925	23,443	5.3	6.0	5.4
10:00	28,720	647,184	26,049	6.1	6.5	6.0
11:00	28,918	637,943	26,900	6.2	6.4	6.2
12:00	27,070	599,614	25,467	5.8	6.0	5.9
13:00	26,477	583,883	24,942	5.7	5.9	5.8
14:00	26,113	574,262	24,560	5.6	5.8	5.7
15:00	26,401	553,350	23,840	5.7	5.6	5.5
16:00	26,926	558,664	24,336	5.8	5.6	5.6
17:00	27,091	549,479	23,928	5.8	5.5	5.5
18:00	27,796	549,244	24,083	6.0	5.5	5.6
19:00	27,498	547,737	23,979	5.9	5.5	5.5
20:00	26,543	510,465	22,550	5.7	5.1	5.2
21:00	23,551	445,822	20,009	5.0	4.5	4.6
22:00	20,122	380,841	17,486	4.3	3.8	4.0
23:00	16,335	307,157	14,817	3.5	3.1	3.4
Total	**467,115**	**9,915,822**	**432,767**	**100.0**	**100.0**	**100.0**

(continued)

Table 3.14.3 (continued): Non-admitted patient emergency care episodes by time of day and Indigenous status, Australia, 2006–07 to 2007–08

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 78% of records for 2006–07 and for 2007–08. Therefore these data will only cover a subset of after-hours emergency episodes of care.
3. The identification of Indigenous patients is not considered complete and the level of completeness varies among jurisdictions. It is considered acceptable only for Western Australia and the Northern Territory.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 3.14.4: Non-admitted patient emergency care episodes for triage categories 4 (semi-urgent) and 5 (non-urgent) by time of day and Indigenous status, Australia, 2006–07 to 2007–08

	Number			Per cent		
Time	Indigenous	Non-Indigenous	Not stated	Indigenous	Non-Indigenous	Not stated
00:00	7,424	128,397	6,232	2.5	2.2	2.5
01:00	5,937	104,582	5,150	2.0	1.8	2.1
02:00	4,797	88,073	4,334	1.6	1.5	1.8
03:00	3,998	76,491	3,739	1.3	1.3	1.5
04:00	3,121	66,978	3,273	1.0	1.1	1.3
05:00	2,708	63,997	2,971	0.9	1.1	1.2
06:00	3,389	84,985	3,655	1.1	1.4	1.5
07:00	6,224	165,069	6,599	2.1	2.8	2.7
08:00	13,072	304,273	10,922	4.3	5.2	4.4
09:00	18,536	403,243	15,020	6.1	6.8	6.1
10:00	20,536	418,095	16,123	6.8	7.1	6.5
11:00	20,029	393,751	15,968	6.6	6.7	6.5
12:00	18,156	358,205	14,640	6.0	6.1	5.9
13:00	17,618	348,715	14,335	5.8	5.9	5.8
14:00	17,456	345,818	14,231	5.8	5.9	5.8
15:00	17,471	333,050	14,007	5.8	5.7	5.7
16:00	17,115	331,292	13,975	5.7	5.6	5.7
17:00	17,254	321,392	13,626	5.7	5.5	5.5
18:00	17,644	317,859	13,454	5.8	5.4	5.5
19:00	17,288	317,361	13,699	5.7	5.4	5.6
20:00	16,536	292,262	12,663	5.5	5.0	5.1
21:00	14,536	250,679	10,871	4.8	4.3	4.4
22:00	12,062	209,351	9,188	4.0	3.6	3.7
23:00	9,550	166,063	7,662	3.2	2.8	3.1
Total	**302,457**	**5,889,981**	**246,337**	**100.0**	**100.0**	**100.0**

(continued)

Table 3.14.4 (continued): Non-admitted patient emergency care episodes for triage categories 4 (semi-urgent) and 5 (non-urgent) by time of day and Indigenous status, Australia, 2006–07 to 2007–08

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 78% of records for 2006–07 and for 2007–08. Therefore these data will only cover a subset of after-hours emergency episodes of care.
3. The identification of Indigenous patients is not considered complete and the level of completeness varies among jurisdictions. It is considered acceptable only for Western Australia and the Northern Territory.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 3.14.5: Non-admitted patient emergency care episodes after-hours[(a)], by Indigenous status, 2006–07 to 2007–08

	Number				**Per cent**			
Time of presentation	**Indigenous**	**Non-Indigenous**	**Not stated**	**Total**	**Indigenous**	**Non-Indigenous**	**Not stated**	**Total**
On Sundays	67,883	1,542,960	68,484	1,679,327	14.5	15.6	15.8	15.5
Before 8 am or after 1 pm on Saturday	50,889	1,040,499	48,246	1,139,634	10.9	10.5	11.1	10.5
After-hours[(a)] weekday	106,410	2,119,772	98,071	2,324,253	22.8	21.4	22.7	21.5
Total after-hours	*225,182*	*4,703,231*	*214,801*	*5,143,214*	*48.2*	*47.4*	*49.6*	*47.6*
Between 8 am and 1 pm on Saturday	16,884	400,113	16,380	433,377	3.6	4.0	3.8	4.0
Between 8 am and 8 pm on a weekdays	225,049	4,812,478	201,586	5,239,113	48.2	48.5	46.6	48.4
Not after-hours	*241,933*	*5,212,591*	*217,966*	*5,672,490*	*51.8*	*52.6*	*50.4*	52.4
Total	**467,115**	**9,915,822**	**432,767**	**10,815,704**	**100.0**	**100.0**	**100.0**	**100.0**

(a) After-hours is defined by the MBS definition (excluding consideration of public holidays): on Sunday, before 8 am or after 1 pm on a Saturday, or at any time other than 8 am to 8 pm 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 78% of records for 2006–07 and for 2007–08. Therefore these data will only cover a subset of after-hours emergency episodes of care.
3. The identification of Indigenous patients is not considered complete and the level of completeness varies among jurisdictions. It is considered acceptable only for Western Australia and the Northern Territory.
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 3.14.6: Non-admitted patient emergency care episodes after-hours[a] for triage categories 4 (semi-urgent) and 5 (non-urgent), by Indigenous status, 2006–07 to 2007–08

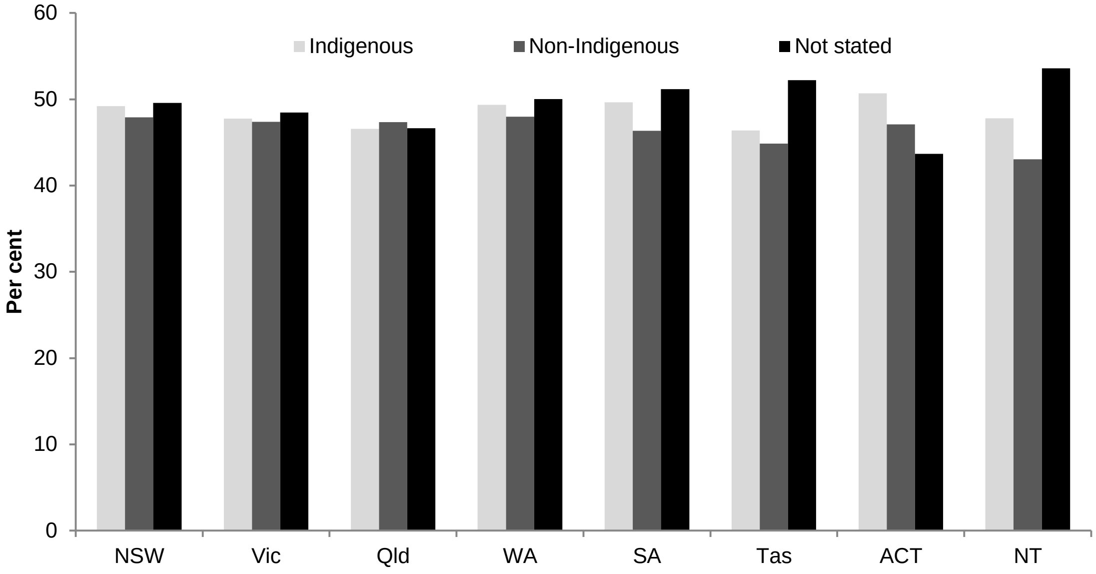
	Number				Per cent			
Time of presentation	**Indigenous**	**Non-Indigenous**	**Not stated**	**Total**	**Indigenous**	**Non-Indigenous**	**Not stated**	**Total**
On Sundays	44,407	945,232	40,676	1,030,315	14.7	16.0	16.5	16.0
Before 8 am or after 1 pm on Saturday	31,866	605,237	26,767	663,870	10.5	10.3	10.9	10.3
After-hours[a] weekday	63,430	1,160,704	51,587	1,275,721	21.0	19.7	20.9	19.8
Total after-hours	139,703	2,711,173	119,030	2,969,906	46.2	46.0	48.3	46.1
Between 8 am and 1 pm on Saturday	11,969	258,158	10,146	280,273	4.0	4.4	4.1	4.4
Between 8 am and 8 pm on a weekdays	150,785	2,920,650	117,161	3,188,596	49.9	49.6	47.6	49.5
Not after-hours	*162,754*	*3,178,808*	*127,307*	*3,468,869*	*53.8*	*54.0*	*51.7*	*53.9*
Total	**302,457**	**5,889,981**	**246,337**	**6,438,775**	**100.0**	**100.0**	**100.0**	**100.0**

(a) After-hours is defined by the MBS definition (excluding consideration of public holidays): on Sunday, before 8 am or after 1 pm on a Saturday, or at any time other than 8 am to 8 pm 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 78% of records for 2006–07 and for 2007–08. Therefore these data will only cover a subset of after-hours emergency episodes of care.
3. The identification of Indigenous patients is not considered complete and the level of completeness varies among jurisdictions. It is considered acceptable only for Western Australia and the Northern Territory.
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.

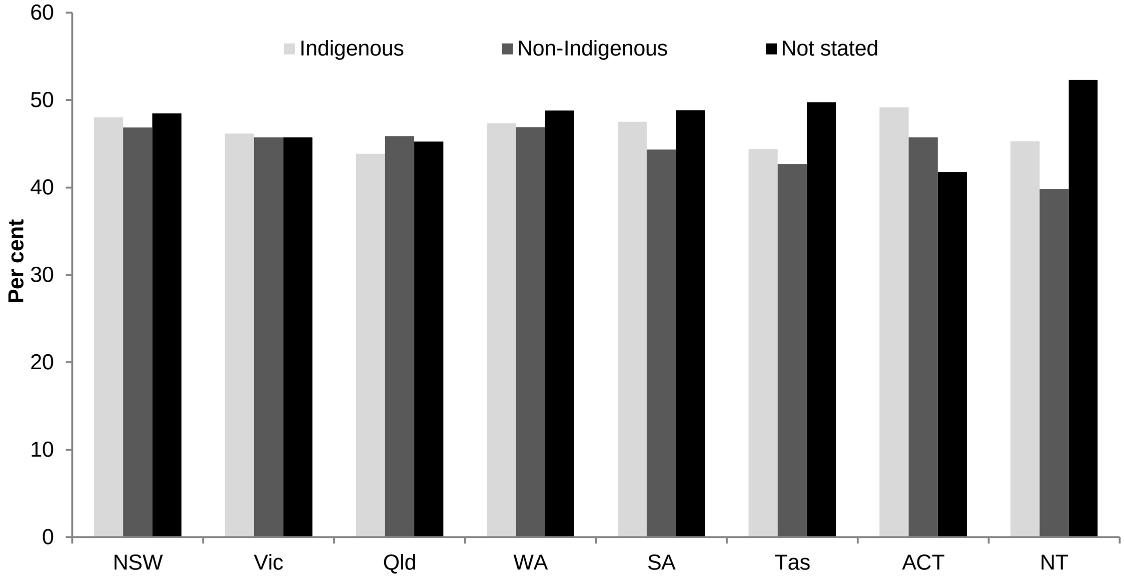


Notes

1. After hours is defined by the MBS definition (excluding consideration of public holidays): on Sunday, before 8am or after 1pm on a Saturday, or at any time other than 8am to 8pm on a weekday.
2. Caution should be used in the interpretation of these data because the identification of Indigenous patients is not considered to be complete and completeness varies among the jurisdictions.
3. The quality of Indigenous identification is considered acceptable for the purpose of analysis only for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only).
4. 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.
5. The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 78% of records for 2006–07 to 2007–08. Therefore this data will only cover a subset of after-hours emergency episodes of care.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Figure 3.14.4: Proportion of presentations to emergency departments which were after hours, by Indigenous status of the patient and state/territory, 2006–07 to 2007–08



Notes

1. After hours is defined by the MBS definition (excluding consideration of public holidays): on Sunday, before 8am or after 1pm on a Saturday, or at any time other than 8am to 8pm on a weekday.
2. Caution should be used in the interpretation of these data because the identification of Indigenous patients is not considered to be complete and completeness varies among the jurisdictions.
3. The quality of Indigenous identification is considered acceptable for the purpose of analysis only for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only).
4. 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.
5. The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 78% of records for 2006–07 to 2007–08. Therefore this data will only cover a subset of after-hours emergency episodes of care.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Figure 3.14.5: Proportion of presentations to emergency departments which were after hours for triage categories 4 (semi-urgent) and 5 (non-urgent), by Indigenous status and state/territory, 2006–07 to 2007–08

Table 3.14.7a: Proportion of presentations to emergency departments that were after-hours, by Indigenous status of the patient and state/territory, 2006–07 to 2007–08

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
After-hours presentations					**Number**				
Indigenous	56,940	14,806	48,452	41,889	7,926	3,830	1,683	49,657	225,183
Non-Indigenous	1,666,352	1,238,419	804,306	444,504	297,343	102,114	88,582	61,611	4,703,231
Not stated	120,449	4,232	15,904	36,501	31,882	4,014	1,445	374	214,801
Total	1,843,741	1,257,457	868,662	522,894	337,151	109,958	91,710	111,642	5,143,215
Total emergency department presentations					**Number**				
Indigenous	115,763	31,001	104,034	84,887	15,959	8,258	3,321	103,892	467,115
Non-Indigenous	3,477,501	2,613,040	1,698,134	926,790	641,573	227,542	188,124	143,118	9,915,822
Not stated	242,975	8,735	34,096	72,956	62,312	7,687	3,308	698	432,767
Total	3,836,239	2,652,776	1,836,264	1,084,633	719,844	243,487	194,753	247,708	10,815,704
	Proportion of after-hours presentations out of all presentations to ED (per cent)								
Indigenous	49.2	47.8	46.6	49.3	49.7	46.4	50.7	47.8	48.2
Non-Indigenous	47.9	47.4	47.4	48.0	46.3	44.9	47.1	43.0	47.4
Not stated	49.6	48.4	46.6	50.0	51.2	52.2	43.7	53.6	49.6
Total	48.1	47.4	47.3	48.2	46.8	45.2	47.1	45.1	47.6

Notes:

1. After-hours is defined by the MBS definition (excluding consideration of public holidays): on Sunday, before 8 am or after 1 pm on a Saturday, or at any time other than 8 am to 8 pm on a weekday.
2. Caution should be used in the interpretation of these data because the identification of Indigenous patients is not considered to be complete and completeness varies among the jurisdictions
3. The quality of Indigenous identification is considered acceptable for the purpose of analysis only for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only).
4. 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.
5. The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 78% of records for 2006–07 to 2007–08. Therefore these data will only cover a subset of after-hours emergency episodes of care.

Source: AIHW analysis of National Non-admitted Patient Emergency Department Care Database.

Table 3.14.7b: Proportion of presentations to emergency departments that were after-hours for triage categories 4 (semi-urgent) and 5 (non-urgent), by Indigenous status and state/territory, 2006–07 to 2007–08

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
After-hours presentations					**Number**				
Indigenous	36,937	9,923	28,948	26,605	3,982	2,285	988	30,035	139,703
Non-Indigenous	981,615	753,759	417,873	262,142	149,485	57,136	51,275	37,888	2,711,173
Not stated	70,983	2,028	6,758	20,361	15,835	1,963	853	249	119,030
Total	1,089,535	765,710	453,579	309,108	169,302	61,384	53,116	68,173	2,969,907
Total emergency department presentations					**Number**				
Indigenous	76,888	21,497	66,005	56,199	8,381	5,147	2,009	66,331	302,457
Non-Indigenous	2,094,426	1,647,782	911,018	558,760	337,018	133,829	112,077	95,071	5,889,981
Not stated	146,388	4,434	14,927	41,711	32,413	3,946	2,042	476	246,337
Total	2,317,702	1,673,713	991,950	656,670	377,812	142,922	116,128	161,878	6,438,775
	Proportion of after-hours presentations out of all presentations to ED (per cent)								
Indigenous	48.0	46.2	43.9	47.3	47.5	44.4	49.2	45.3	46.2
Non-Indigenous	46.9	45.7	45.9	46.9	44.4	42.7	45.7	39.9	46.0
Not stated	48.5	45.7	45.3	48.8	48.9	49.7	41.8	52.3	48.3
Total	47.0	45.7	45.7	47.1	44.8	42.9	45.7	42.1	46.1

Notes:

1. After-hours is defined by the MBS definition (excluding consideration of public holidays): on Sunday, before 8 am or after 1 pm on a Saturday, or at any time other than 8 am to 8 pm on a weekday.
2. Caution should be used in the interpretation of these data because the identification of Indigenous patients is not considered to be complete and the level of completeness varies among the jurisdictions.
3. The quality of Indigenous identification is considered acceptable for the purpose of analysis only for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (public hospitals only).
4. 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.
5. The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 78% of records for 2006–07 to 2007–08. Therefore these data will only cover a subset of after-hours emergency episodes of care.

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 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. 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, but the extent of this undercount is not measurable.

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).

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

210,351 people who had identified as Aboriginal and/or Torres Strait Islander in this database at January 2009: around 41% of the estimated Aboriginal and Torres Strait Islander population (AIHW 2010a). There has been a rapid expansion in the number of enrollees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

National Minimum Data Set—non-admitted patient emergency department care

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.

The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 78% of records for 2006–07 and for 2007–08. Therefore these data will only cover a subset of after-hours emergency episodes of care.

The identification of Indigenous patients is not considered complete and varies among jurisdictions. It is considered acceptable only for Western Australia and the Northern Territory. This coverage estimate is likely to overestimate the level of coverage for Indigenous occasions of service because proportionally more Indigenous Australians live in rural and remote areas. Therefore these data may not be indicative of the level of use of emergency department services by Indigenous people nationally (AIHW 2008).

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.

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 2008).

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 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 (NATSIHS)

The 2004–05 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 3.15.1).
- 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 3.15.1; Figure 3.15.1).
- Similar proportions of Indigenous males and females reported they usually went to the same GP or medical service (90% and 91%, respectively) (Table 3.15.2).
- 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 3.15.2).

Table 3.15.1: Types of regular health care used by Indigenous Australians, by age, 2004–05

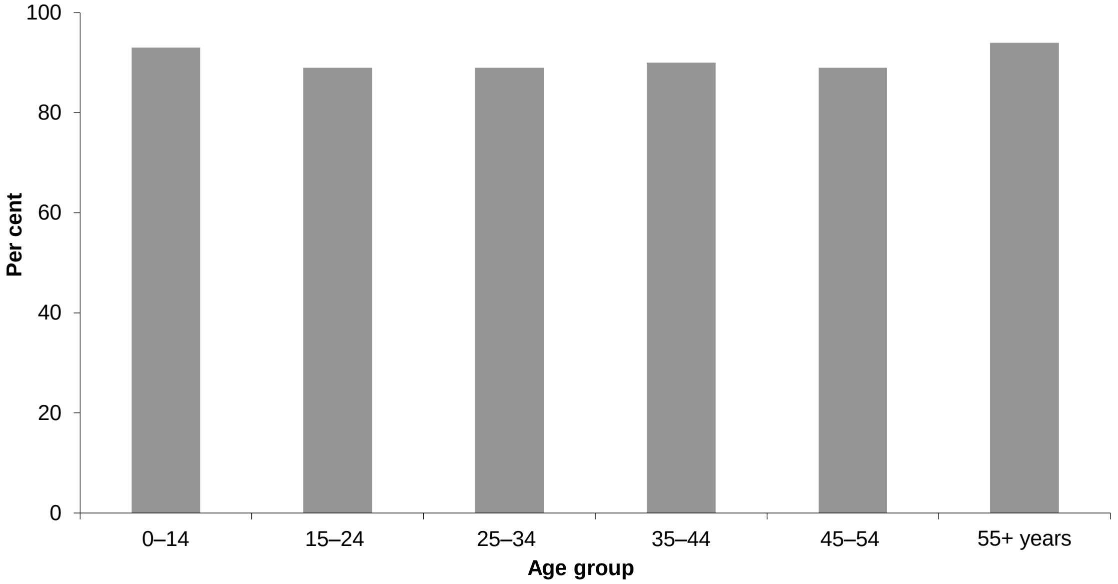
	0–14 years	15–24 years	25–34 years	35–44 years	44–54 years	55 years and over	Total
				Per cent			
Where usually go if problem with health							
Doctor/GP (outside AMS/ hospital)	62	62	54	56	61	62	60
Aboriginal medical service	30	28	33	31	30	30	30
Hospital	7	6	8	6	7	7	7
Don't seek health care	1(a)	2	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.



Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Figure 3.15.1: Whether Indigenous Australians usually go to the same GP/medical service, by age group, 2004–05

Table 3.15.2: Types of regular health care used by Indigenous Australians, by sex, 2004–05

	Male	Female	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 3.15.3).
- 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 3.15.3).
- 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 3.15.4; Figure 3.15.2).

Table 3.15.3: 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.

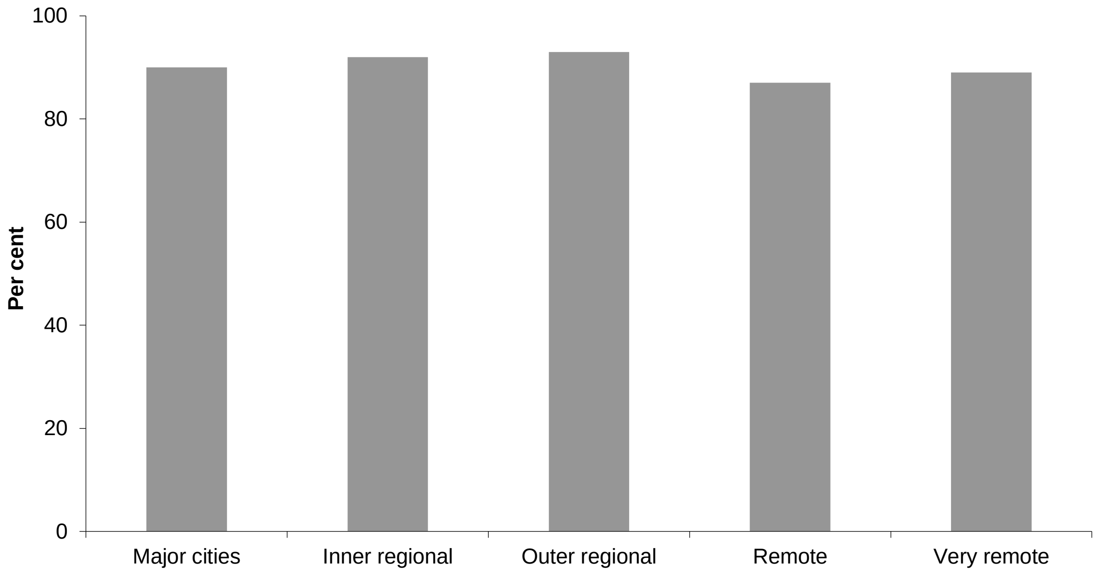
Table 3.15.4: Types of regular health care used by Indigenous Australians, by remoteness, 2004–05

	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 3.15.2: 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 3.15.5).
- 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 3.15.6).

Table 3.15.5: 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 3.15.6: 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 3.15.7).
- 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 3.15.7: 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[(d)(a)]	**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[(d)(a)]	**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[(e)(f)(a)]	**100**	**100**	**100**
Total number[(f)(a)]	**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[(e)(f)(a)]	**100**	**100**	**100**
Total number[(f)(a)]	**36,239**	**4,088**	**40,373**

(continued)

Table 3.15.7 (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 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat. no. 4715.0. Canberra: ABS

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3.16 Care planning for clients with 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 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the OATSIH Services Reporting (OSR) data collection and the Healthy for Life (HfL) 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.

National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)

The 2004–05 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 issues of 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. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

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 peoples. 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. For the reporting period ending June 2009, 72 HfL services submitted data to the AIHW.

OATSIH Services Reporting (OSR)

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH funded services include both Indigenous Community Controlled Health Organisations and non-community controlled health organisations. Note that the 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 OSR data collection which was established in 2008–09 uses a new set of counting rules which treat all auspice services as individual services which yields a larger numerator and denominator on which the rates are based. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates based on earlier data collection periods.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services 81 (94%) responded to the OSR questionnaire, as well as 5 auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance use service.

Forty five (90%) out of 50 stand-alone substance use services as well as 3 auspiced services responded to the OSR questionnaire.

Analyses

OATSIH Services Reporting (OSR) data

The 2008–09 OSR collected all data items relevant to care planning. The 2004–05 and 2005–06 SAR reports did not collect information on four relevant data items (services where the hospital regularly provides or facilitates information on the condition of the patient who has been admitted; services where the hospital regularly provides or facilitates information to a patient's family on the condition of the patient who has been admitted; discharge planning for Indigenous patients is well coordinated between the hospital and the service; and services that provide or facilitate antenatal shared care arrangements). These data were re-instated in the 2006–07 SAR.

Data presented below are from the 2008–09 OSR collection.

- In 2008–09, 91% of Indigenous primary health-care services provided care planning, 78% provided or facilitated shared care arrangements for the management of people with chronic conditions, 74% used clinical practice guidelines, 73% provided antenatal shared-care arrangements and a further 73% maintained a health register (Table 3.16.1; Figure 3.16.1).

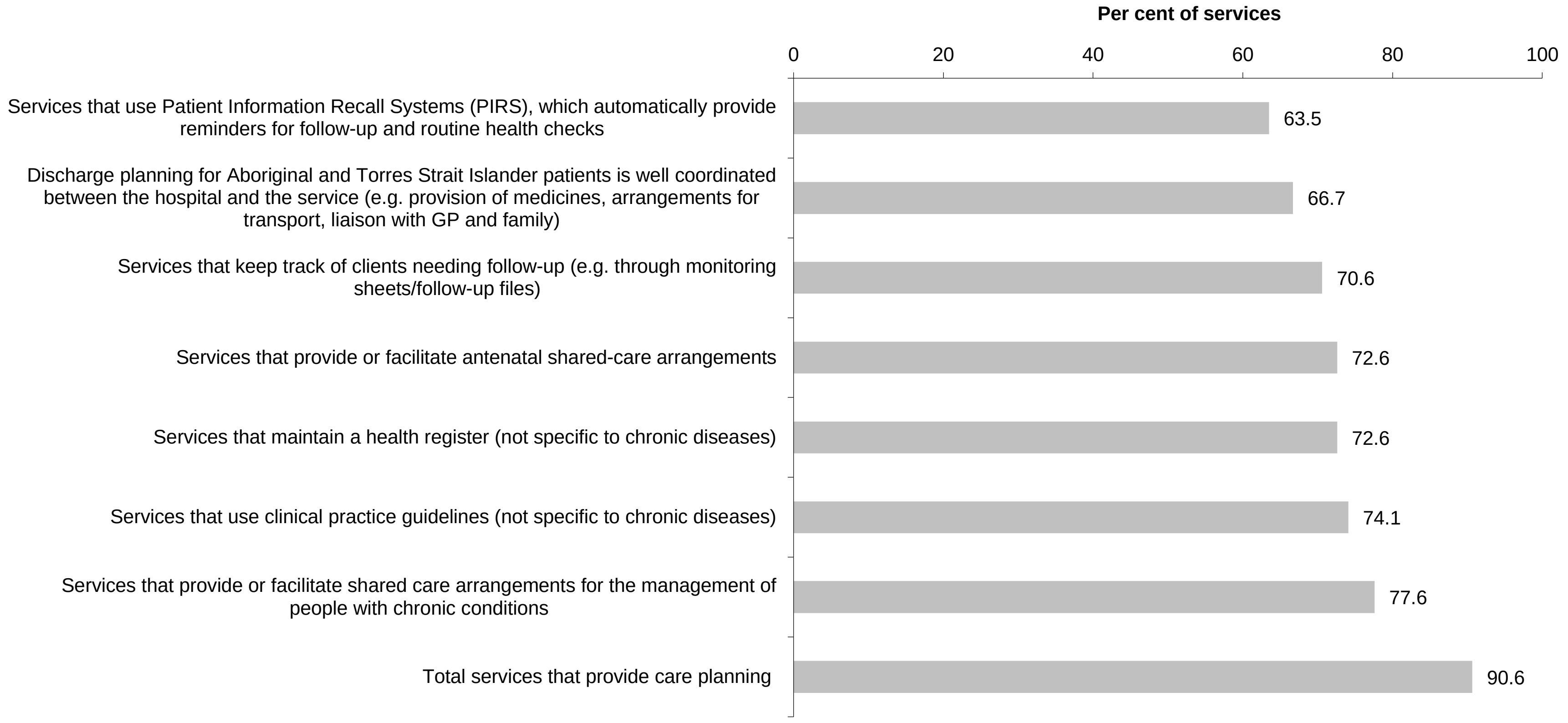
Table 3.16.1: Number and proportion of respondent Aboriginal and Torres Strait Islander primary health-care services that provide care planning, 2008–09

	No.	Per cent
Services that provide or facilitate shared care arrangements for the management of people with chronic conditions	156	77.6[(a)]
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)	134	66.7
Services that provide or facilitate antenatal shared-care arrangements	146	72.6
Services that keep track of clients needing follow-up (e.g. through monitoring sheets/follow-up files)	142	70.6
Services that maintain a health register (not specific to chronic diseases)	146	72.6
Services that use clinical practice guidelines (not specific to chronic diseases)	149	74.1
Services that use Patient Information Recall Systems (PIRS), which automatically provide reminders for follow-up and routine health checks	129	63.5
Total services that provide care planning(b)	***184***	***90.6***
Total services	**203**	

(a) 201 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.

(b) Total services that provide at least one of the activities listed.

Source: AIHW OSR data collection.



Notes

1. Total includes services that provide at least one of the activities listed
2. 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 3.16.1: Proportion of respondent Aboriginal and Torres Strait Islander primary health-care services that provide care planning, 2008–09

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. Indigenous Australians were almost twice as likely as non-Indigenous Australians to report asthma as a long-term condition (Table 3.16.2).
- 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 3.16.2).
- 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 3.16.3).
- 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 3.16.4).

Table 3.16.2: 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			No.
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**
Non-Indigenous	**22.8**	**71.5**	**5.1**	**100.0**	**10.2**	**1,939,245**
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.

Table 3.16.3: Whether persons in non-remote areas have a written asthma action plan by Indigenous status and state/territory, 200405

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			No.
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	. .
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	. .
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	. .
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	. .
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	. .
Tasmania and ACT[(b)]						
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	. .
Northern Territory[(c)]						
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	. .	. .	. .	. .	. .	. .
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**	**. .**

(continued)

Table 3.16.3 (continued): Whether person(s) in non-remote areas have a written asthma action plan by Indigenous status and state/territory, 2004–05

(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) Due to confidentiality reasons Tasmania and ACT were combined into a single category.

(c) 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 3.16.4: 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		No.
Non-age-standardised				
Indigenous	91.8	8.2	100.0	14,682
Non-Indigenous	94.2	5.8	100.0	442,896
Age-standardised[(a)]				
Indigenous	90.8	9.2	100.0	. .
Non-Indigenous	94.9	5.1	100.0	. .
Rate ratio	1.0	1.8	. .	. .

(a) Totals are directly age-standardised using the 2001 Australian standard population.

Source: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Healthy for Life data

Chronic disease management plans (MBS item 721) General Practitioner Management Plan (GPMP)

From 1 July 2005, the Australian Government introduced chronic disease management Medicare items, including MBS items 721 and 723.

MBS item 721 is 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 a General Practitioner Management Plan (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.

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 indicator is to allow those services that are preparing Alternative GPMPs to report the data.

The proportion of Indigenous regular clients aged 15 years and over with Type II diabetes and coronary heart disease who had a GPMP for the reporting period 1 July 2008 to 30 June 2009 is shown in Tables 3.16.5a and 3.16.5b by type of GPMP and region.

- Of the 8,535 Indigenous adults with Type II diabetes who are regular clients of the HfL services, 2,813 (33%) were managed under a GPMP (MBS item 721) (Table 3.16.5a).

- Remote services had the highest proportion of Indigenous regular clients with Type II diabetes who were managed under a GPMP (38%) while the proportion was lowest in urban areas (20%).
- Of the 2,395 Indigenous regular clients with coronary heart disease, 691 (29%) were managed under a GPMP (Table 3.16.5b).
- Remote services had the highest proportion of Indigenous regular clients with coronary heart disease who were managed under a GPMP (39%) while the proportion was lowest in urban areas (18%).

Table 3.16.5a: Number and proportion of Indigenous regular clients with Type II diabetes[(a)] who had a current GPMP, by type of GPMP and region, at 30 June 2009

	Urban		Regional		Remote		Total	
Type of GPMP	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**
MBS GPMP	19.0	247/1,302	27.0	654/2,422	38.1	1,833/4,811	32.0	2,734/8,535
Alternative GPMP with all mandatory items	0.7	9/1,302	0.3	7/2,422	0.3	14/4,811	0.4	30/8,535
MBS and/or Alternative GPMP with all mandatory items[(c)]	*19.7*	*256/1,302*	*27.3*	*661/2,422*	*38.4*	*1,847/4,811*	*32.4*	*2,764/8,535*
Alternative GPMP without all mandatory items	0.4	5/1,302	1.8	44/2,422	0.0	0/4,811	0.6	49/8,535
Total GPMPs[(c)]	**20.0**	**261/1,302**	**29.1**	**705/2,422**	**38.4**	**1,847/4,811**	**33.0**	**2,813/8,535**

(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, because clients are reported to have had both an MBS and Alternative GPMP.

Notes

1. Valid data for this indicator were provided by 59 services (11 urban services, 27 regional services and 21 remote services).
2. Services used their own definition of regular client

Source: AIHW Healthy for Life data collection

Table 3.16.5b: Number and proportion of Indigenous regular clients with coronary heart disease[(a)] who had a current GPMP by type of GPMP and region, at 30 June 2009

	Urban		Regional		Remote		Total	
Type of GPMP	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**	**%**	**N/D[(b)]**
MBS and/or Alternative GPMP with all mandatory items[(c)]	17.8	108/606	24.8	209/844	38.6	365/945	28.5	682/2,395
Alternative GPMP without all mandatory items	0.0	0/606	1.1	9/844	0.0	0/945	0.4	9/2,395
Total GPMPs[(c)]	**17.8**	**108/606**	**25.8**	**218/844**	**38.6**	**365/945**	**28.9**	**691/2,395**

(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 current GPMP. D (denominator) is the total number of Indigenous regular clients with coronary heart disease.

(c) In a small number of services there is likely to be double counting of clients, because clients are reported to have had both an MBS and Alternative GPMP.

Notes

1. Valid data for this indicator were provided by 59 services (11 urban services, 27 regional services and 21 remote services).
2. Services used their own definition of regular client.

Source: AIHW Healthy for Life data collection.

Chronic disease management plans Team Care Arrangement (MBS item 723)

Chronic disease management plans Team Care Arrangement (TCA) (MBS item 723) 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.

For Type II diabetes, valid data were provided by 49, 50 and 56 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 and 56 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 3.16.6.

- There was a consistent increase in the proportion of Indigenous regular clients with Type II diabetes and coronary heart disease who had a current TCA (MBS item 723) from 3.8% and 2.9% in the reporting period ending in June 2007 to 19% and 18%, respectively, in the current reporting period ending 30 June 2009 (Table 3.16.6).

Table 3.16.6: 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, 30 June 2008 and 30 June 2009

	Jun-07		Jun-08		Jun-09	
Type of chronic disease	**%**	**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
Coronary heart disease	2.9	28/956	n.a.	n.a.	18.1	415/2,294

(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 and 56 services, 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 and 56 services, for the reporting periods ending in June 2007, June 2008 and June 2009, respectively.

Source: AIHW Healthy for Life data collection.

Care planning and health service linkages

- For the reporting period ending in June 2007, 64% of services reported they had care planning for their clients with chronic disease. Comparable data are not available for later reporting periods (Table 3.16.7).
- From the reporting periods ending June 2007 to that ending June 2009 there was an increase from 66% to 70% 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 68% to 72%. However, those reporting care provided in residential aged care services for clients with chronic disease declined from 54% to 43%.

Table 3.16.7: 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 2007, 30 June 2008 and 30 June 2009

HfL services had strategies for chronic disease management[(a)] for their clients with chronic disease that included:	Jun-07			Jun-08			Jun-09		
	% Yes	% No	% No response	% Yes	% No	% No response	% Yes	% No	% No response
Care planning	64.4	16.9	18.6	n.a.	n.a.	n.a.	. .	. .	100.0
Health service linkages									
Hospital admission communication	66.1	15.3	18.6	62.7	25.4	11.9	70.3	14.9	14.9
Hospital discharge communication	67.8	13.6	18.6	71.6	16.4	11.9	71.6	13.5	14.9
Care provided in residential aged care services	54.2	27.1	18.6	40.3	49.3	10.4	43.2	41.9	14.9

(a) ‘Management’ includes health promotion, prevention of complications, clinical care and advocacy

Source: AIHW Healthy for Life data collection.

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 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).

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.

OATSIH Services Reporting (OSR)

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).

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.

AIHW 2010. Aboriginal and Torres Strait Islander Health Services Report, 2008-09. AIHW cat. no. IHW 31. Canberra: AIHW.

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3.17 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 AIHW National Public Hospitals Establishment Database, OATSIH Services Reporting (OSR), Healthy for Life Program and general practice data from the Annual Survey of Divisions of General Practice, the Australian General Practice Accreditation Limited (AGPAL) and the General Practice Accreditation Plus (GPA+).

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 the six jurisdictions that have been assessed by the AIHW as having adequate identification of Indigenous hospitalisations in 2006–08: New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory (AIHW 2010a). These six jurisdictions represent approximately 96% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions because public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the 2-year period July 2006 to June 2008. 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.

Divisions of GP Survey

Since 1997–98, the Annual Survey of Divisions (ASD) has been conducted by the Primary Health Care Research and Information Service (PHC RIS) on behalf of the Australian Government Department of Health and Ageing (DoHA). Along with the Annual Report, the ASD forms a component of the reporting requirements for all Divisions of General Practice. Divisions of General Practice are required to complete the Survey, which includes questions about their membership, activities (including population health) and infrastructure for the previous financial year.

General practice data

The DoHA holds data on the number of GPs in Australia by remoteness area and Statistical Local Area (SLA).

Care must be taken in using and interpreting the data provided. There are two 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 for doctors in remote areas, which are more likely to have high proportions of Indigenous populations, 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 of 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 SLAs in the first group with far more people per doctor than several SLAs in the second group.

OATSIH Services Reporting (OSR)

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH-funded services include both Indigenous Community Controlled Health Organisations and non-community controlled health organisations. Note that the 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 OSR data collection which was established in 2008–09 uses a new set of counting rules which treat all auspice services as individual services which yields a larger numerator and denominator on which the rates are based. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates based on earlier data collection periods.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services 81 (94%) responded to the OSR questionnaire, as well as five auspiced services. Many services providing Bringing

Them Home and Link Up counselling are part of existing primary health-care or substance use service.

Forty five (90%) out of 50 stand-alone substance use services as well as three auspiced services responded to the OSR questionnaire.

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 health services and chronic disease care to Aboriginal and Torres Strait Islander peoples. 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. For the reporting period ending June 2009, 72 HfL services submitted data to the AIHW.

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.

Hospital accreditation

Data on the proportion of hospitalisations in accredited hospitals for Indigenous and other Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined over the 2-year period July 2006 to June 2008 are presented in Tables 3.17.1–3.

- Over this period, there were 60,113 hospitalisations of Indigenous Australians in the six jurisdictions in accredited public hospitals. This was 94% of all public hospitalisations of Indigenous Australians in these jurisdictions. Over the same period, 95% of hospitalisations of other Australians in these jurisdictions were in accredited public hospitals (Table 3.17.1).

Hospital accreditation by state/territory and remoteness

- In the six jurisdictions, the proportion of hospitalisations of Indigenous Australians that were in accredited hospitals ranged from 84% in New South Wales to 100% in Victoria and the Northern Territory (Table 3.17.1).

- Over the 2-year period July 2006 to June 2008 in the six jurisdictions, about 92% of days spent by Indigenous patients and 94% of days spent by other Australians in hospital were in accredited hospitals (Table 3.17.2).
- The proportion of hospitalisations of Indigenous Australians that were in accredited hospitals was highest among those residing in regional areas (98% in *Outer regional* and 95% in *Inner regional*) and lowest among those living in *Very remote* areas (80%). A similar pattern was evident for hospitalisations of other Australians (Table 3.17.3).

Table 3.17.1: Hospital separations, by Indigenous status and accreditation status, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008[(a)(b)]

	Indigenous			Other[(c)]		
	Number of separations in accredited hospitals	Number of separations in non-accredited hospitals	Percentage of separations in accredited hospitals	Number of separations in accredited hospitals	Number of separations in non-accredited hospitals	Per cent of separations in accredited hospitals
NSW	87,193	16,500	84.1	2,416,440	408,733	85.5
Vic	23,764	31	99.9	2,633,867	7,752	99.7
Qld	111,032	14,046	88.8	1,451,380	40,137	97.3
WA	84,369	568	99.3	823,842	319	100.0
SA	34,329	281	99.2	719,933	4,434	99.4
NT	119,426	0	100.0	56,645	0	100.0
NSW, Vic, Qld, WA, SA and NT	**460,113**	**31,426**	**93.6**	**8,102,107**	**461,375**	**94.6**

(a) Data are from public hospitals only.

(b) Data are reported for NSW, Vic, Qld, WA, SA and NT 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 jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) 'Other' includes hospitalisations for non-Indigenous people and those for whom Indigenous status was not stated.

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 Public Hospitals Establishment Database.

Table 3.17.2: Hospital patient days, by Indigenous status and accreditation status, NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008[(a)(b)]

	Indigenous			Other[(c)]		
	Number of patient days in accredited hospitals	Number of patient days in non-accredited hospitals	Per cent of patient days in accredited hospitals	Number of patient days in accredited hospitals	Number of patient days in non-accredited hospitals	Per cent of patient days in accredited hospitals
NSW	270,074	69,781	79.5	10,049,481	1,852,887	84.4
Vic	68,747	39	99.9	8,784,970	13,324	99.8
Qld	352,594	39,975	89.8	5,360,279	112,051	98.0
WA	268,392	3,633	98.7	2,967,721	601	100.0
SA	110,906	781	99.3	3,052,197	49,646	98.4
NT	316,250	0	100.0	201,841	0	100.0
Total	**1,386,963**	**114,209**	**92.4**	**30,416,489**	**2,028,509**	**93.7**

(a) Data are from public hospitals only.

(b) Data are reported for NSW, Vic, Qld, WA, SA and NT 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 jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) 'Other' includes hospitalisations for non-Indigenous people and those for whom Indigenous status was not stated.

Source: AIHW analysis of National Public Hospitals Establishment Database.

Table 3.17.3: Hospital separations, by Indigenous status, accreditation status and remoteness, July 2006 to June 2008[(a)(b)]

	Indigenous			Other(c)		
Remoteness category(d)	Number of separations in accredited hospitals	Number of separations in non-accredited hospitals	Per cent of separations in accredited hospitals	Number of separations in accredited hospitals	Number of separations in non-accredited hospitals	Per cent of separations in accredited hospitals
Major cities	115,993	8227	93.4	5,758,930	344,415	94.4
Inner regional	73,284	3,721	95.2	1,545,541	79,952	95.1
Outer regional	157,695	4,118	97.5	707,401	18,376	97.5
Remote	82,178	7,428	91.7	72,823	10,724	87.2
Very remote	30,963	7,932	79.6	17,412	7,871	68.9
Total	**460,113**	**31,426**	**93.6**	**8,102,107**	**461,375(e)**	**94.6**

(a) Data are from public hospitals only.

(b) Data are reported for NSW, Vic, Qld, WA, SA and NT 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 jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) 'Other' includes hospitalisations for non-Indigenous people and those for whom Indigenous status was not stated.

(d) Remoteness category based on residence of patient.

(e) Total includes 37 separations where ASGC area was unknown/not stated

Source: AIHW analysis of National Public Hospitals Establishment Database.

Hospital accreditation by hospital category

- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, all hospitalisations of Indigenous and other Australians in specialist women and children's hospitals and mothercraft hospitals were in accredited hospitals (Table 3.17.4).
- Between 82% and 87% of hospitalisations of Indigenous Australians and 89% and 97% of hospitalisations of other Australians in small hospitals were in accredited hospitals.
- Only 65% of Indigenous and 86% of other Australian hospitalisations in multi-purpose service hospitals were in accredited hospitals.

Table 3.17.4: Hospital separations, by Indigenous status, accreditation status and hospital category (peer group), NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008[(a)(b)]

	Indigenous			Other[(c)]		
	Number of separations in accredited hospitals	Number of separations in non-accredited hospitals	Per cent of separations in accredited hospitals	Number of separations in accredited hospitals	Number of separations in non-accredited hospitals	Per cent of separations in accredited hospitals
Principal referral						
Principal referral	268,176	6278	97.7	4,972,769	298491	94.3
Specialist women's and children's	15,671	0	100.0	433,653	0	100.0
Large hospitals						
Large major cities	8,146	120	98.5	695,454	15777	97.8
Large regional and remote	30,648	4,804	86.4	465,544	39,992	92.1
Medium hospitals						
Medium major cities and regional group 1	30,492	1,672	94.8	479,289	33,041	93.6
Medium major cities and regional group 2	18,189	1,339	93.1	444,979	33,862	92.9
Small hospitals						
Small regional acute	11,769	1,941	85.8	218,281	7,665	96.6
Small non-acute	5,267	1,153	82.0	125,475	7,044	94.7
Remote acute	53,875	8,273	86.7	49,991	6,265	88.9
Sub- and non-acute hospitals						
Multi-purpose service	6,381	3,471	64.8	39,196	6,288	86.2
Hospice	24	n.p.	85.7	4,318	1015	81.0
Rehabilitation	6,967	30	99.6	30,455	1143	96.4
Mothercraft	224	0	100.0	27,309	0	100.0
Other non-acute	113	n.p.	96.6	18,902	876	95.6
Other hospitals						
Psychiatric	1,744	222	88.7	24,191	2632	90.2
Un-peered and other acute	2,427	2,115	53.4	72,301	7,233	90.9
Total	**460,113**	**31,426**	**93.6**	**8,102,107**	**461,324**[(d)]	**94.6**

(a) Data are from public hospitals only.

(b) Data are reported for NSW, Vic, Qld, WA, SA and NT 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 jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(d) Total includes 51 separations where hospital category was unknown

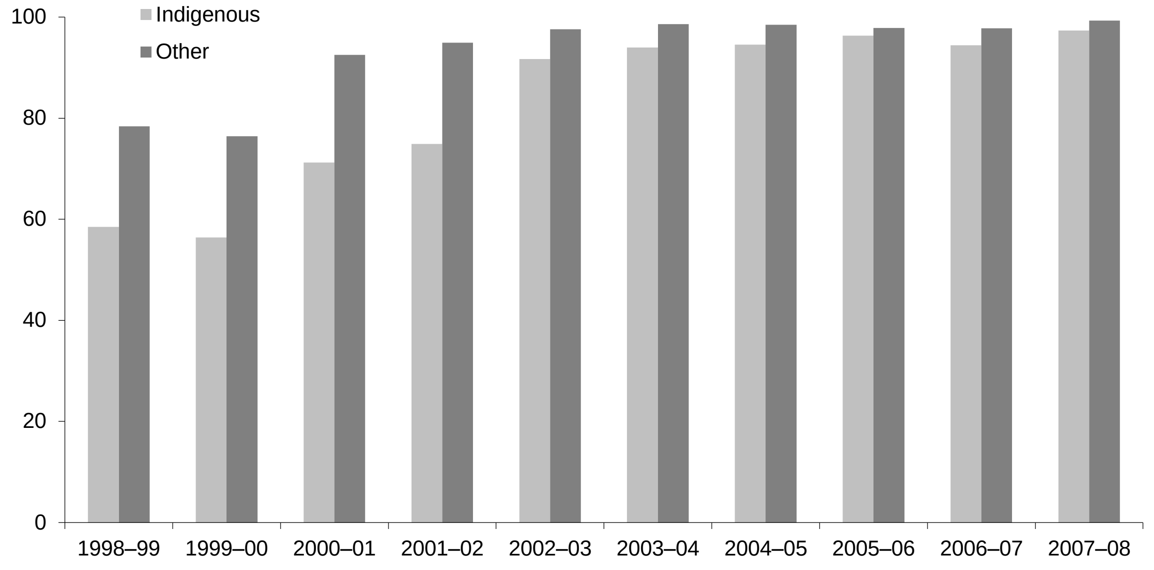
Source: AIHW analysis of National Public Hospitals Establishment Database.

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 2007–08 in these four jurisdictions combined, there were increases in the proportion of hospitalisations of Indigenous and other Australians in accredited hospitals (from 59% to 97% for Indigenous separations and from 78% to 99% for other separations) (Figure 3.17.1; Table 3.17.5).

Although the difference between the proportion of Indigenous and non-Indigenous separations in accredited hospitals appears to decline between 1998–99 and 2007–08, this is likely to 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.



Source: AIHW analysis of National Public Hospitals Establishment Database.

Figure 3.17.1: Proportion of hospitalisations in accredited public hospitals, by Indigenous status, Qld, WA, SA and NT combined, 1998–99 to 2007–08

Table 3.17.5: Proportion of hospitalisations in accredited public hospitals, by Indigenous status, Qld, WA, SA and NT combined, 1998–99 to 2007–08

	Indigenous	Other
1998–99	58.5	78.4
1999–00	56.4	76.4
2000–01	71.2	92.5
2001–02	74.9	94.9
2002–03	91.7	97.6
2003–04	94.0	98.6
2004–05	94.5	98.5
2005–06	96.3	97.8
2006–07	94.4	97.8
2007–08	97.4	99.3

Source: AIHW analysis of 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+. Although the Annual Survey of Divisions of General Practice collects information on the accreditation of all general practices in Australia, AGPAL and GPA+ collect a subset of this information—accreditation of general practices registered with these two providers.

Table 3.17.6 and Figure 3.17.2 present data on the number and proportion of general practices accredited in Australia based on the Annual Survey of Divisions of General Practice.

- In 2009–10, the Annual Survey of Divisions of General Practice estimated that there were 5,211 general accredited and registered practices in Australia, 4,519 (87%) of which were accredited.
- Approximately 86% of general practices in areas where less than 1% of the population was Indigenous were accredited. Between 85% and 89% 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, 85% of general practices were accredited (Table 3.17.6).

Table 3.17.6: Number of general practices accredited through AGPAL and GPA+, by proportion of the population that is Indigenous[(a)], 2009–10[(b)]

Proportion of Indigenous[(a)]	Number accredited	Per cent accredited	Registered but not yet accredited[(c)]	Total number of accredited and registered practices
<1%	1,475	86.1	239	1,714
1–2%	1,340	88.7	171	1,511
2–3%	734	85.1	129	863
3–4%	380	86.8	58	438
4–10%	364	86.7	56	420
>10%	226	85.3	39	265
Total	**4,519**	**86.7**	**692**	**5,211**

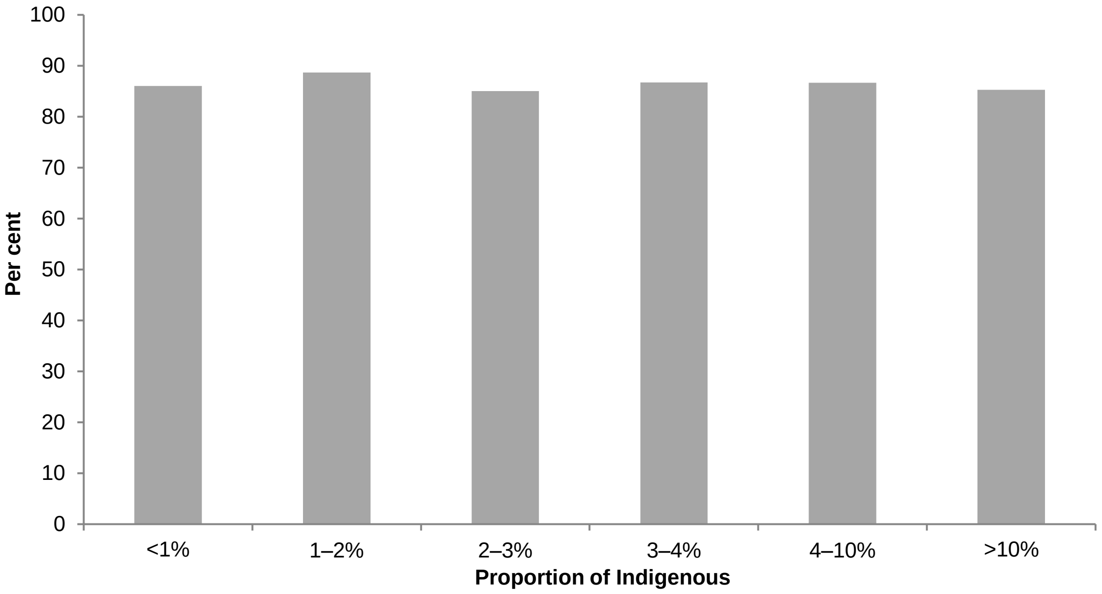
(a) Indigenous proportions are based on ABS population estimates used in the Annual Survey of Divisions of General Practice.

(b) GPA+ data are for the period 2009–2010. AGPAL data are as of February 2010.

(c) Includes GPA+ practices going through re-accreditation.

Note: There is double counting of some services where general practices from different ‘proportion of Indigenous’ categories have amalgamated. In this case, the practices are included in counts of both categories.

Source: AIHW analysis of AGPAL and GPA+ 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: Annual Survey of Divisions of General Practice.

Figure 3.17.2: Proportion of general practices accredited[(a)] by Divisions of General Practice, by proportion of the population that is Indigenous[(b)], 2009–10

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/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 SAR 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 2008–09, half (50% or 103) of all Indigenous primary health-care services were accredited.

- In 2008-09, 85 (65%) of the 130 Indigenous primary health-care services that had a General Practitioner on staff reported being accredited (Table 3.17.7).
- Of the accredited services with a GP, 80 (94%) services were accredited against the RACGP standards for accreditation only (which includes accreditation through AGPAL and GPA+), two (2.4%) services were accredited against organisational standards (which includes QIC, ISO, etc) and three (3.5%) services were accredited through another provider (AIHW OSR data collection unpublished).
- Eighteen (24%) of the 75 Indigenous primary health-care services without a GP on staff reported being accredited (Table 3.17.8)— 11 (61%) of these against organisational standards (which includes QIC, ISO, etc) four (22%) against the RACGP standards and three (17%) through another provider (AIHW OSR data collection unpublished).

Table 3.17.7: Number and proportion of Aboriginal and Torres Strait Islander primary health-care services, by accreditation status, 2008-09

Accreditation status	Services with a GP	Services without a GP
		Number of services
Accredited	85	18
Not accredited	45	57
Total	**130**	**75**
		Proportion of services (%)
Accredited	65.4	24.0
Not accredited	34.6	76.0
Total	**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.

- Of the 72 services that were included in the Healthy for Life program and reported information on accreditation, almost two-thirds (65%) of services were accredited, another 10 (14%) were undergoing accreditation and one (1.4%) was provisionally accredited. AGPAL was the most commonly used provider, with 42 (58%) of services accredited, undergoing accreditation or provisionally accredited by AGPAL. Two services (2.8%) were accredited by QIC or undergoing accreditation, and 13 services (18%) used other providers (Table 3.17.8).

Table 3.17.8: Number and proportion of services funded through the Healthy for Life program, by accreditation status and recognised provider, at 30 June 2009

	Recognised provider				
Accreditation status	**AGPAL**	**QIC**	**Other**	**Provider not stated**	**Total**
			Number of services		
Accredited	34	1	11	1	47
Undergoing accreditation	7	1	2	0	10
Provisionally accredited	1	0	0	0	1
None of the above	0	0	0	14	14
Accreditation status not stated	0	0	0	0	0
Total	**42**	**2**	**13**	**15**	**72**
			Proportion of services (%)		
Accredited	81.0	50.0	84.6	6.7	65.3
Undergoing accreditation	16.7	50.0	15.4	0.0	13.9
Provisionally accredited	2.4	0.0	0.0	0.0	1.4
None of the above	0.0	0.0	0.0	93.3	19.4
Accreditation status not stated	0.0	0.0	0.0	0.0	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Valid data were provided by 72 out of 73 services.

Source: AIHW Healthy for Life data collection.

Data quality issues

AIHW National Public Hospitals Establishment Database

Separations

The number and pattern of hospitalisations in jurisdictions can be affected year to year by different admission practices and levels and patterns of service delivery.

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. The 'not stated' category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).

Under-identification

The incompleteness of Indigenous identification means the number of hospital separations underestimate the hospitalisations involving Aboriginal and Torres Strait Islander people. For several years, Queensland, South Australia, Western Australia and the northern Territory reported that Indigenous status in their hospital separations data was of acceptable quality (AIHW 2007). The AIHW, however, has recently completed an assessment of the level of Indigenous under-identification in hospital data 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 2010a). 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. The proportion of the Indigenous population covered by these six jurisdictions is 96%. The following caveats have also been recommended to accompany analysis on data of these six jurisdictions (AIHW 2010a):

- limitations imposed by jurisdictional differences in data quality
- the data not necessarily being representative of the jurisdictions excluded
- the possible contribution of changes in ascertainment of Indigenous status to changes in hospitalisation rates for Indigenous people.

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.

General Practitioner data

The DoHA holds data on the number of GPs in Australia by remoteness area and Statistical Local Area (SLA).

Care must be taken in using and interpreting the data provided. There are two 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 for doctors in remote areas, which are more likely to have high proportions of Indigenous populations, 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 of 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 SLAs in the first group with far more people per doctor than several SLAs in the second group.

Divisions of GP Survey

The data in the Survey are self-reported by Divisions and represent estimates and answers to questions about Division activities, staffing and other matters. Validity checks are implemented as part of the data collection and cleaning processes. However, the accuracy and quality is ultimately determined by Division data collection methods and influenced by Division staff turnover and skills (Howard et al. 2009).

The administration and structure of the ASD have changed considerably since the first survey in 1993–94. Two major milestones in this process were in 2005–06, with the implementation of the NQPS, aligning ASD questions with the national priority areas, and the conversion of the survey from a word document to a web-based survey with online submission. Some of the advantages of the ASD are that it has been an annual, standardised, comprehensive survey with a 100% response rate.

In 2007–08, around two-thirds of questions were removed and some new questions introduced. This resulted in a significant reduction in the ASD content and reporting requirements.

The information provided in the 2007–08 ASD report is gathered directly from Divisions. Therefore, it is important to recognise that the accuracy and quality of the self-reported data provided is largely dependent on the nature of Division administration and information systems, as well as factors such as staff turnover. However, every effort is made to enhance the quality of the data by conducting a range of data checks.

AGPAL

AGPAL provides information on the total numbers of accredited practices and practices registered for accreditation. These data are published by Division of General Practice, but not SLA.

GPA+

Data on practices accredited by GPA+ have not been routinely reported, but may in the future become available.

OATSIH Services Reporting (OSR)

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).

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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Howard, S., Hordacre, AL., Moretti, C., Kalucy, E. (2009). Summary data report of the 2007–2008 Annual Survey of Divisions of General Practice. Adelaide: Primary Health Care Research &Information Service, Discipline of General Practice, Flinders University, and Australian Government Department of Health and Ageing.

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3.18 Aboriginal and Torres Strait Islander peoples 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, Science and Training's Higher Education Student Statistics Collection and the National Centre for Vocational Education Research 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 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).

Higher education data could not be provided by remoteness area because DEEWR does not collect information on where a student comes from. Postcode of home location is often used as a substitute, but it is a poor measure because many students report the campus postcode as their postcode of home location. Using this variable results in participation rates incorrectly biased towards major cities at the expense of regional and remote areas because most campuses are in major cities.

National Centre for Vocational Education Research (NCVER) collection

The NCVER 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 DEEWR (formally DEST). Data for 2006 by age group is presented in Tables 3.18.1 and 3.18.2, and Figures 3.18.1 and 3.18.2.

- In 2006 there were 8,835 Indigenous students aged 15 years and over enrolled in higher education health-related courses. This was equivalent to an age specific rate of 17.6 per 1,000. There were 724,490 non-Indigenous students of the same age range who were enrolled in health-related higher education courses, an age specific rate of 35.9 per 1,000 (Table 3.18.1; Figures 3.18.1a and b).
- The largest percentage of both Indigenous and non-Indigenous students out of the total number of student enrolments in health-related courses were in the 15–24 year age group (39% and 60%, respectively). However a greater number of Indigenous students enrolled in health-related higher education courses at an older age compared with non-Indigenous students (Table 3.18.1).
- In 2006, enrolments in higher education health-related courses were significantly higher per 1,000 in non-Indigenous persons than Indigenous within the 15–24 year age group. These rates decreased with age most steeply for non-Indigenous students, while the age-specific rates of Indigenous students enrolled in health-related courses were between 34 and 22 per 1,000 across age groups 15–24 to 45–54 years. Enrolment rates in university health-related courses were higher among Indigenous students than among non-Indigenous students aged 35 years and over (Figure 3.18.2).

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 2008 are presented in Table 3.18.2 and by state and territory in Figure 3.18.3 and Table 3.18.3.

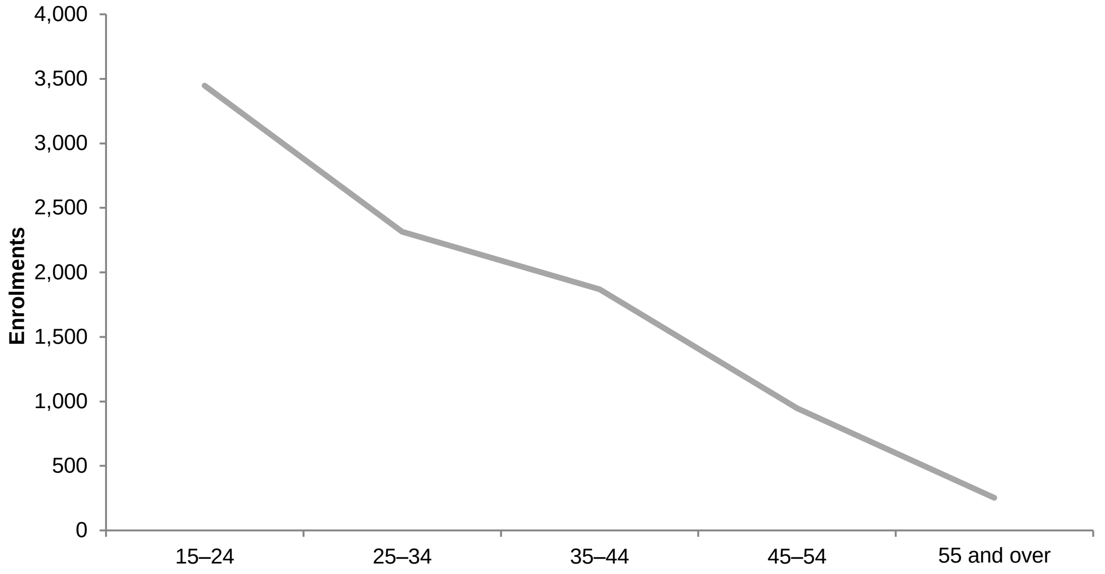
- In 2008, 1,120 Indigenous students were studying university health-related courses, which was equal to a rate of 35 per 10,000. The rate difference between Indigenous and non-Indigenous students studying undergraduate health-related courses was equal to 14.7 per 10,000 (Table 3.18.2).
- The most common course of health-related studies for both Indigenous and other students was nursing (18.2 and 22.9 per 10,000, respectively), followed by public health courses for Indigenous and rehabilitation therapies and medical studies for other students.
- The largest proportion of Indigenous students studying university health-related courses was in the Northern Territory where 11% (177) of all students were Indigenous, followed by Queensland where 1.5% (314) of students in health-related course were Indigenous (Table 3.18.3; Figure 3.18.3).

Table 3.18.1: Higher education university health-related course enrolments by age group and Indigenous status, 2006

Age group	Indigenous			Non-Indigenous		
	No.	Per cent	Age specific rate (number per 1,000)	No.	Per cent	Age specific rate (number per 1,000)
15–24	3,448	39.0	33.8	434,174	59.9	155.9
25–34	2,316	26.2	31.6	152,624	21.1	54.1
35–44	1,870	21.2	29.6	82,338	11.4	27.5
45–54	948	10.7	22.2	43,169	6.0	15.3
55 and over	253	2.9	6.9	12,185	1.7	2.5
Total 15 and over	**8,835**	**100**	**17.6**	**724,490**	**100**	**35.9**

Note: Excludes people under 14 years of age and those with unknown age.

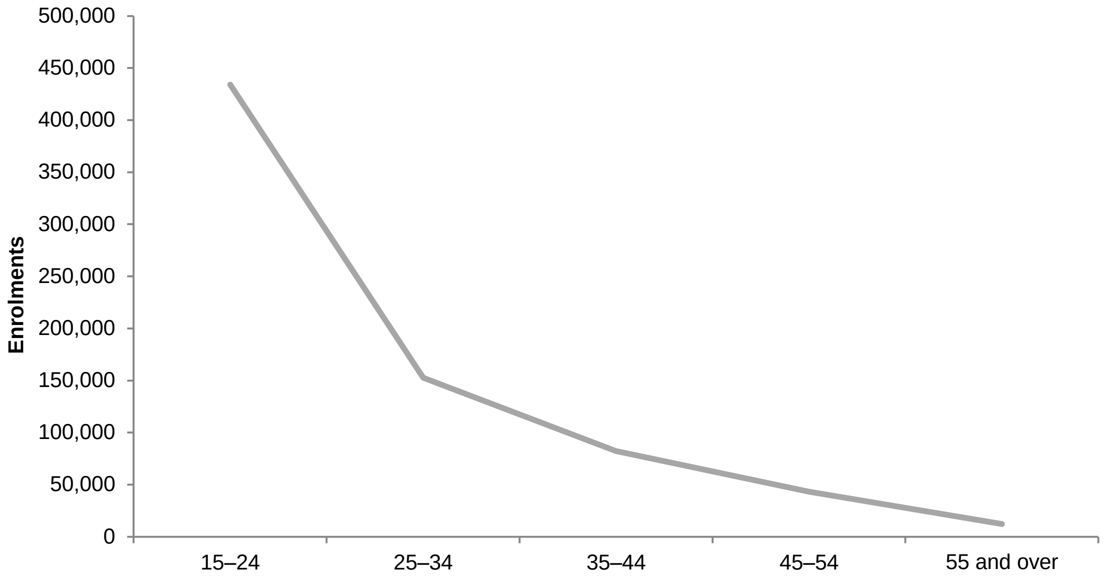
Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.



Note: Excludes people under 14 years of age and those with unknown age.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

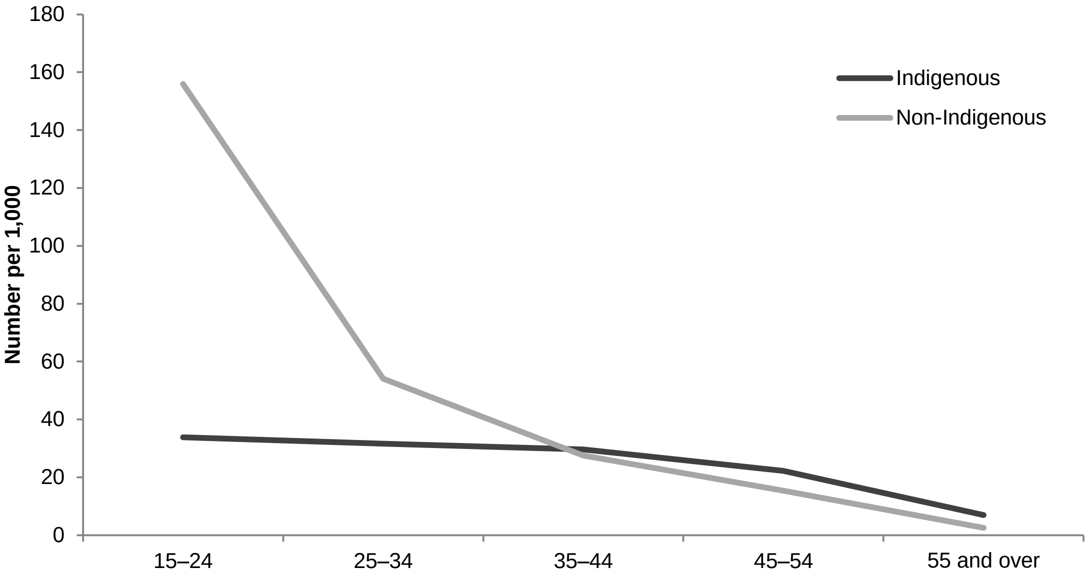
Figure 3.18.1a: Higher education university health-related course enrolments by age group, Indigenous people, 2006



Note: Excludes under 14 years and unknown age groups.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.18.1b: Higher education university health-related course enrolments by age group, non-Indigenous people, 2006



Note: Excludes under 14 years and unknown age groups.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.18.2: Higher education university health-related course enrolments by Indigenous status and age group, per 1,000 population, 2006

Table 3.18.2: Undergraduate domestic students[a] enrolled in health-related courses[b], Indigenous and Other students, 2008

	Indigenous		Other students		
Course	Number	Rate (number per 10,000)[c]	Number	Rate (number per 10,000)[c]	Rate difference[d]
Nursing	582	18.2	32,225	22.9	4.7
Public health	298	9.3	4,188	3.0	-6.3
Indigenous health	142	4.4	27	0.0	-4.4
Other public health	156	4.9	4,180	3.0	-1.9
Medical studies	128	4.0	12,037	8.6	4.6
Rehabilitation therapies	73	2.3	12,200	8.7	6.4
Dental studies	20	0.6	2,310	1.6	1.0
Pharmacy	9	0.3	4,634	3.3	3.0
Radiography	n.p.	0.3	1,874	1.3	1.1
Optical science	n.p.	0.1	545	0.4	0.3
Total	1,120	35.0	69,833	49.6	14.7

(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 totals may be 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 the 2008 Australian population aged 15–64 years.

(d) Rate difference is Other students rate minus the Indigenous rate.

Note: Data for 2008 are preliminary.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Table 3.18.3: Proportion and number of university students enrolled in health-related[a] courses who were Indigenous, by state/territory, 2008[b][c]

State/territory[d]	Indigenous students	Non-Indigenous students	Total students	Indigenous students as a proportion of jurisdiction total
New South Wales	441	30,056	30,497	1.4
Victoria	158	25,589	25,747	0.6
Queensland	314	20,619	20,933	1.5
Western Australia	175	14,071	14,246	1.2
South Australia	100	11,312	11,412	0.9
Tasmania	29	2,465	2,494	1.2
Northern Territory	177	1,429	1,606	11.0
Australian Capital Territory	11	1,077	1,088	1.0
Australia	23	4,369	4,392	0.5
Total	**1,428**	**110,987**	**112,415**	**1.3**

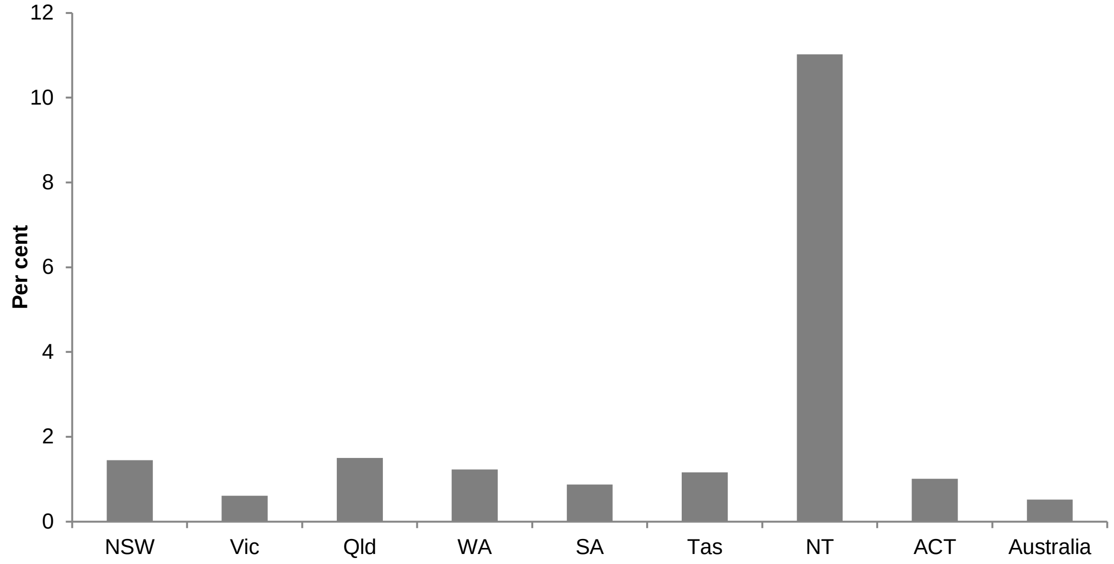
(a) Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.

(b) Includes domestic and international students.

(c) Includes enrolments in all courses.

(d) State/territory classification is based on state of institution.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.



(a) Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.
(b) Includes domestic and international students.
(c) Includes enrolments in all courses.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.18.3: Proportion of university students enrolled in health-related courses[(a)] who were Indigenous, by state/territory, 2008[(b)(c)]

Higher education sector completions

Data on the completion rate of undergraduate Indigenous student in health-related courses are available from DEEWR and the Higher Education Student Statistics Collection. Data for 2008 are presented in Tables 3.18.4, 3.18.5, 3.18.6, and Figures 3.18.4a, 3.18.4b, 3.18.5 and Figure 3.18.7.

- In 2008, according to Higher Education Student Statistics data, 152 Indigenous students (4.7 per 10,000 students) completed undergraduate health-related courses while 14,449 or 10.3 per 10,000 non-Indigenous students completed these studies. The rate difference between the Indigenous and non-Indigenous completing undergraduate health-related courses was 5.5 per 10,000 (Table 3.18.4).
- The most common type of health-related course that Indigenous undergraduate students had completed in 2008 was nursing (71 completed) followed by public health (47 completed) (Table 3.18.4).
- About 1.6% (1,120) of all undergraduate students enrolled in health-related courses in 2008 was Indigenous. Only 1% of undergraduate students who completed a health-related course in 2008 were of Indigenous origin (Table 3.18.5).
- Approximately 87% of students who completed Indigenous health in 2008 were Indigenous. The next highest was public health where approximately 7% of students who completed this course in 2008 were Indigenous (Table 3.18.5).
- The largest proportion of both Indigenous and non-Indigenous students out of the total number of students who completed health-related higher education courses were within

the 15–24 year age group (32% and 55%, respectively). Although the remaining 68% of Indigenous students were distributed across age groups 25 years and above, only 45% of non-Indigenous students were in the age groups above 25 years. This means that a greater number of Indigenous students are completing health-related higher education courses at an older age compared with non-Indigenous students. This is the same relationship observed in student enrolments (Table 3.18.6; Figure 3.18.5).

- In 2006, the rate of non-Indigenous students aged 15–24 years completing higher education health-related courses was significantly higher than for Indigenous students. However, for ages 45 years and older, the rate of Indigenous students who completed higher education health-related courses was greater than the non-Indigenous rate (Figure 3.18.5).

Table3.18.4: Number and rate of undergraduate domestic students[(a)] completing health-related courses[(b)], by Indigenous status, 2008

	Indigenous		Other students		
Course	**Number**	**Rate (number per 10,000)[(c)]**	**Number**	**Rate (number per 10,000)[(c)]**	**Rate difference[(d)]**
Nursing	71	2.2	7,382	5.2	3.0
Public health	47	1.5	677	0.5	–1.0
Indigenous health	27	0.8	n.p.	0.0	-0.8
Other public health	20	0.6	706	0.5	-0.1
Medical studies	13	0.4	2,011	1.4	1.0
Rehabilitation therapies	12	0.4	2,353	1.7	1.3
Dental studies	n.p.	0.1	499	0.4	0.2
Pharmacy	n.p.	0.1	960	0.7	0.6
Radiography	n.p.	0.0	434	0.3	0.3
Optical science	0	0.0	n.p.	0.1	0.1
Total	**152**	**4.7**	**14,449**	**10.3**	**5.5**

(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 totals may be 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 the 2008 Australian population aged 15–64.

(d) Rate difference is Other students rate minus the Indigenous rate.

Note: The 2008 data are preliminary.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

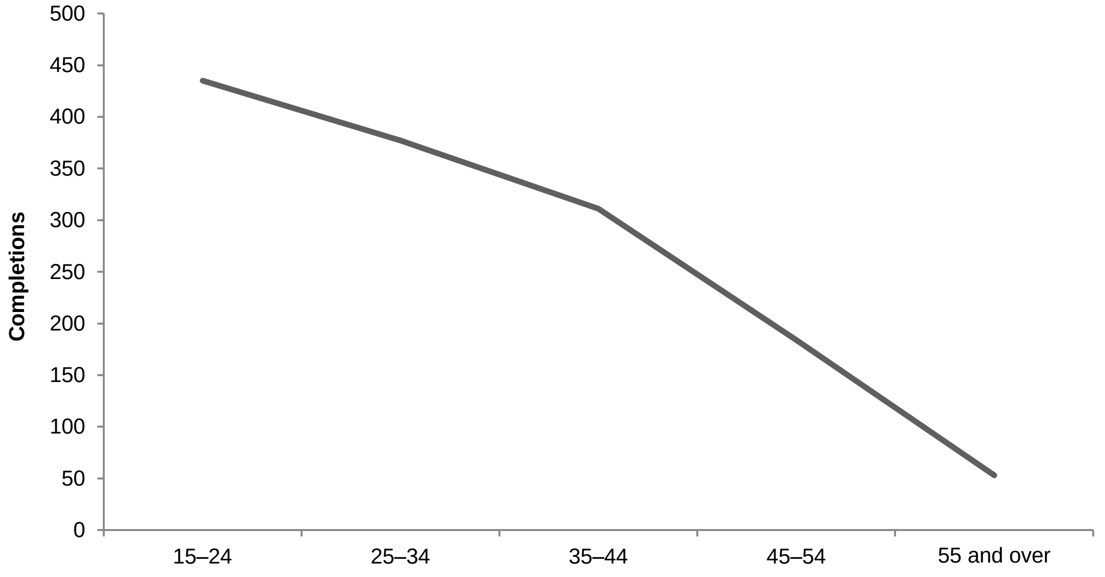
Table 3.18.5: Undergraduate students[(a)] enrolled in and completed health-related courses[(b)], Indigenous and total students, 2008

	Enrolled			Completed		
	Indigenous	Total	Indigenous as a proportion of total	Indigenous	Total	Indigenous as a proportion of total
	No.	No.	Per cent	No.	No.	Per cent
Nursing	582	32,807	1.8	71	7,453	1.0
Public health	298	4,486	6.6	47	724	6.5
Indigenous health	142	169	84.0	27	31	87.1
Other public health	156	4,336	3.6	20	726	2.8
Medical studies	128	12,165	1.1	13	2,024	0.6
Rehabilitation therapies	73	12,273	0.6	12	2,365	0.5
Dental studies	20	2,330	0.9	n.p.	503	0.8
Pharmacy	9	4,643	0.2	n.p.	964	0.4
Radiography	n.p.	1,883	0.5	n.p.	435	0.2
Optical science	n.p.	547	0.4	0	133	0.0
Total[(c)]	**1,120**	**70,953**	**1.6**	**152**	**14,601**	**1.0**

(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 totals may be less than the sum of detailed fields of education.

(b) Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.

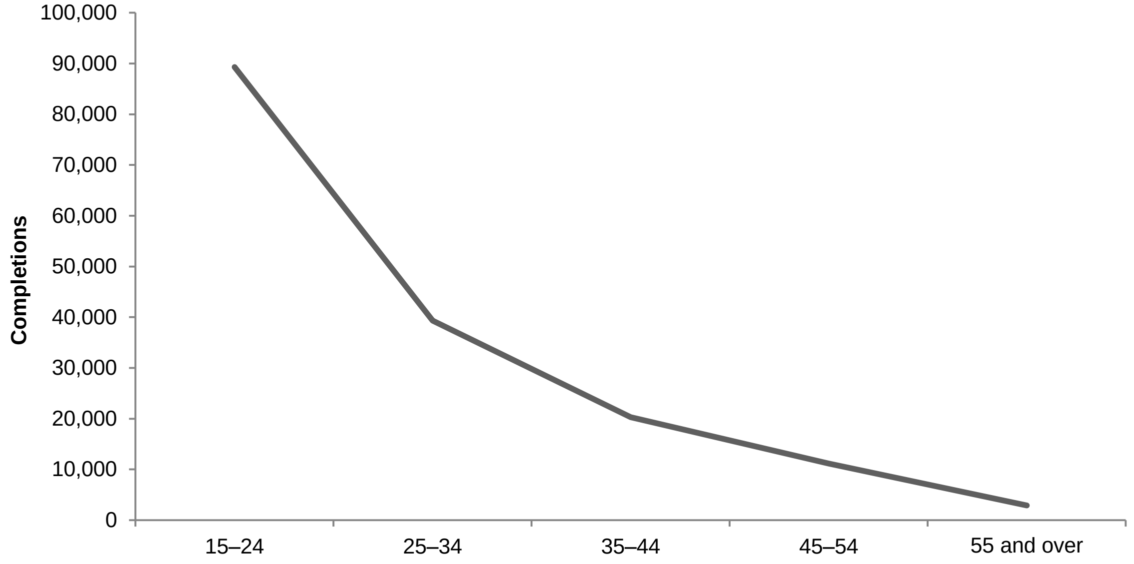
Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.



Note: Excludes those aged under 14 years and those with unknown age.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

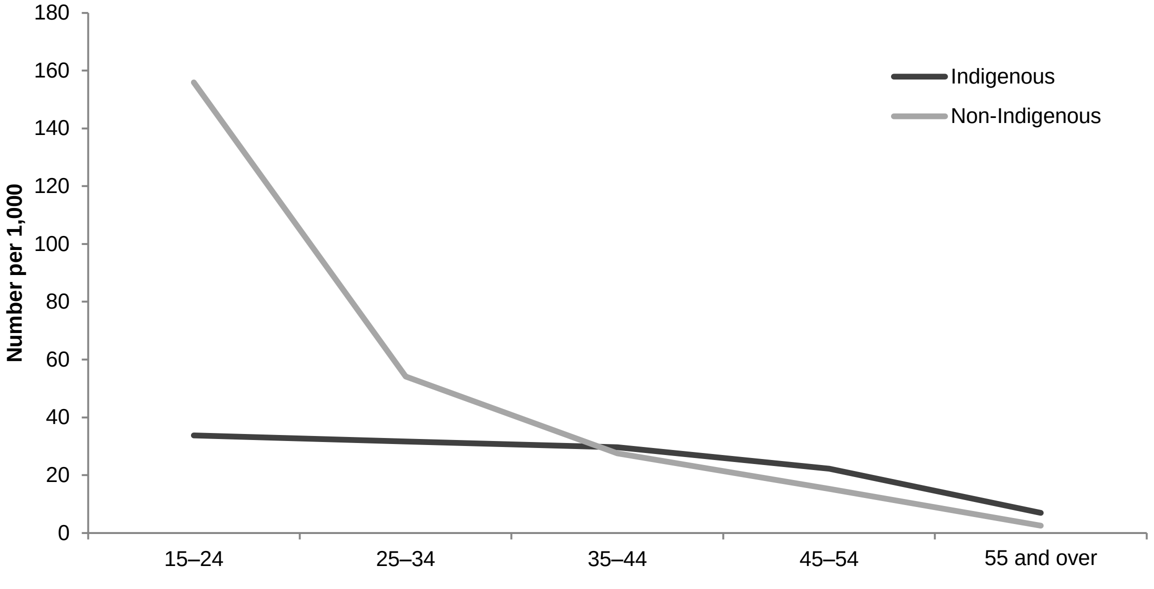
Figure 3.18.4a: Higher education university health-related course completions by age group, 2006, Indigenous people



Note: Excludes those aged under 14 years and those with unknown age.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.18.4b: Higher education university health-related course completions by age group, 2006, non-Indigenous people



Note: Excludes those aged under 14 years and those with unknown age.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.18.5: Rate of higher education university health-related course completions by Indigenous status and age group, 2006

Table 3.18.6: Higher education health-related course completions by age group and Indigenous status, 2006

	Indigenous			Non-Indigenous		
Age group	No.	Per cent	Age specific rate	No.	Per cent	Age specific rate
15–24	435	32	4.3	89,291	54.8	32.1
25–34	377	27.7	5.1	39,360	24.1	14
35–44	311	22.9	4.9	20,318	12.5	6.8
45–54	184	13.5	4.3	11,143	6.8	4
55 and over	53	3.9	1.4	2,871	1.8	0.6
Total 15 and over	**1,360**	**100**	**4.3**	**162,983**	**100**	**10**

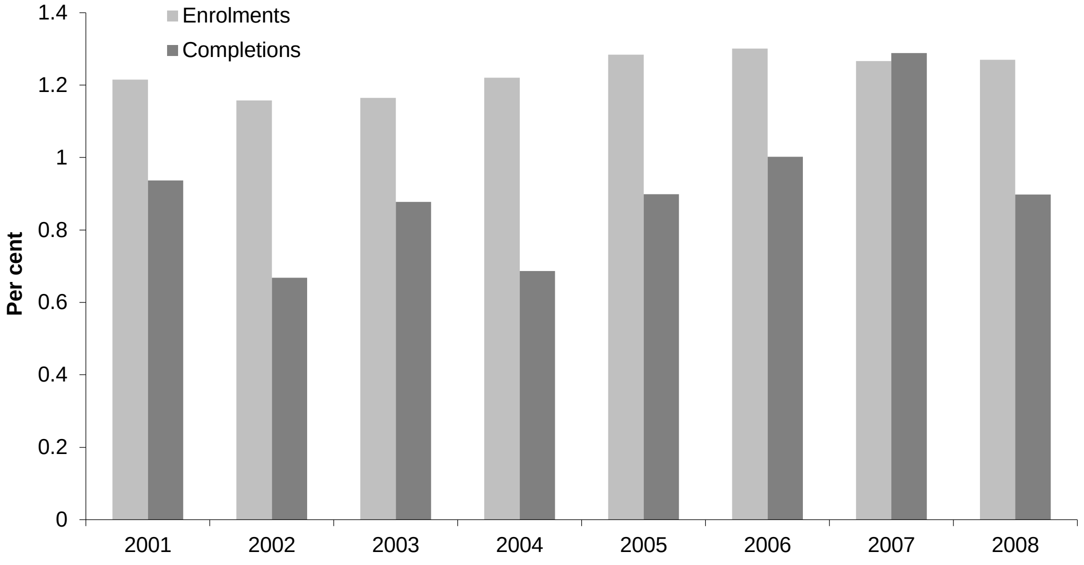
Note: Excludes unknown age group.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Time series

Data on undergraduate Indigenous student completions in health-related courses are available from the Higher Education Student Statistics Collection for 2001 to 2008. Data for this time period are presented in Tables 3.18.7, 3.18.8 and Figure 3.18.6.

- During 2001 to 2008, there have been upward trends in the number and rate of Indigenous students who have both enrolled and completed undergraduate health-related courses (Tables 3.18.7 and 3.18.8).
- However, over the same time period the proportion of Indigenous students who have both enrolled in and completed undergraduate health-related courses remained stable when compared with non-Indigenous students. These data suggest that while the rates of Indigenous students have increased over the time period, the rates of non-Indigenous students have increased similarly, producing little change in the proportion of Indigenous students (Table 3.18.7).



Note: Domestic students.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.18.6: Proportion of university students completing health-related courses who were Indigenous, 2001– 2008

Table 3.18.7: Proportion of university students completing health-related courses[(a)] who were Indigenous 2001-2008[(b)]

	Enrolments				Completions			
Year	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

(a) Includes enrolments in all courses.

(b) State/territory classification is based on state of institution.

Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Table 3.18.8: University students completing health-related courses[(a)] who were Indigenous per 10,000 population, 2001– 2008[(b)]

	Enrolments			Completions		
Year	Indigenous Students	Total students	Rate (number per 10,000)[(c)]	Indigenous Students	Total students	Rate (number per 10,000)[(d)]
2001	932	76,676	29.9	181	19,327	5.8
2002	929	80,270	29.8	135	20,206	4.3
2003	964	82,766	30.9	182	20,740	5.8
2004	1,040	85,223	33.3	152	22,124	4.9
2005	1,148	89,376	36.8	200	22,252	6.4
2006	1,251	96,158	40.1	236	23,546	7.6
2007	1,329	104,931	42.6	329	25,530	10.5
2008	1,428	112,415	45.7	248	27,630	7.9

(a) Medical studies, nursing, pharmacy, dental studies, optical science, public health, radiography, rehabilitation therapies.

(b) Includes domestic and international students.

(c) Using 2008 the Australian population aged 15–64

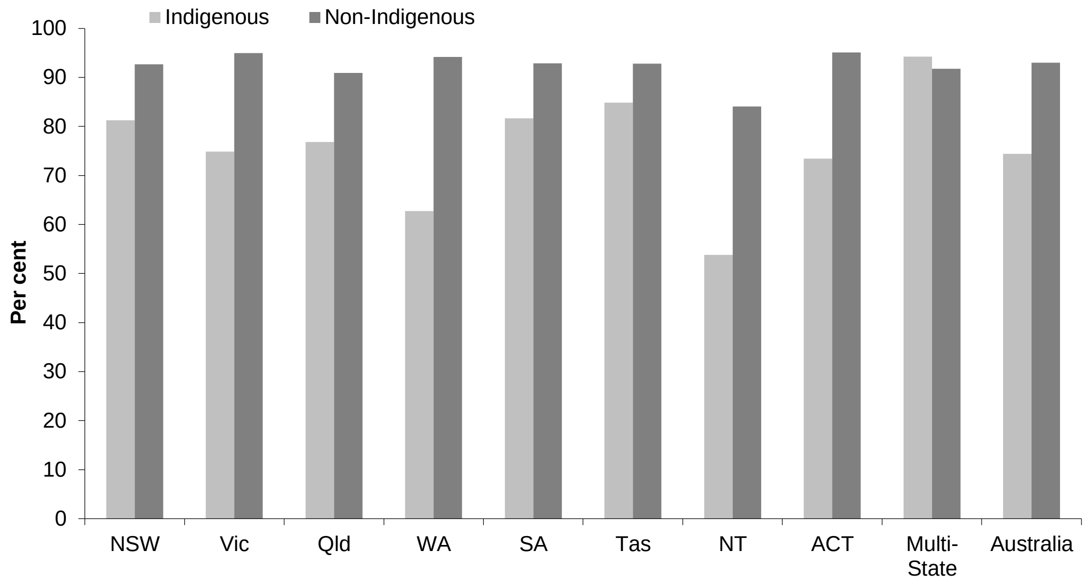
Note: The 2008 data are preliminary

Source: AIHW analysis of DEEWR 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 2008, the progress rate for Indigenous university students studying health-related courses was 74%. This compared with 93% for non-Indigenous university students studying health-related courses.
- The progress rate for Indigenous students varied by state and territory, ranging from 54% in the Northern Territory to 85% in Tasmania (Table 3.18.9; Figure 3.18.7).



Source: AIHW analysis of DEEWR Higher Education Student Statistics Collection.

Figure 3.18.7: Higher education progress rates for university students studying health-related courses, by state/territory and Indigenous status, 2008

Table 3.18.9: Higher education progress rates for university students studying health-related courses, by state/territory and Indigenous status, 2008

	Indigenous			Non-Indigenous		
State/territory	**Certified**	**Passed**	**Progress rate**	**Certified**	**Passed**	**Progress rate**
New South Wales	317	258	81.3	18,244	16,913	92.7
Victoria	102	77	74.9	16,097	15,282	94.9
Queensland	211	162	76.8	13,183	11,986	90.9
Western Australia	136	85	62.7	8,154	7,678	94.2
South Australia	66	54	81.6	6,452	5,993	92.9
Tasmania	26	22	84.8	1,816	1,685	92.8
Northern Territory	104	56	53.8	789	663	84.1
Australian Capital Territory	8	6	73.4	787	748	95.1
Multi-state	13	12	94.2	1,940	1,781	91.8
Total	984	732	74.4	67,462	62,729	93.0

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 and National VET Provider Collection. Data for 2008 are presented below.

- In 2008, there were 6,143 Indigenous enrolments in health-related courses in the VET sector; this represented 6% of all students enrolled in VET courses (Table 3.18.10).
- The most common type of health-related courses in which Indigenous VET students were enrolled in for 2008 was public health (4,094 enrolments) followed by nursing (421 enrolments) (Table 3.18.10).
- In 2008, the proportion of Indigenous students enrolled in VET sector health-related courses ranged from 0.9% in the Australian Capital Territory to 53% in the Northern Territory (Table 3.18.11; Figure 3.18.8).
- The proportion of Indigenous students enrolled in VET sector health-related courses increased between 2003 and 2007 (from around 4% to 6%) (Tables 3.18.12a and 3.18.12b).

Table 3.18.10: Vocational students enrolled in health-related fields of education, by indigenous status: rates and rate differences, Australia 2008

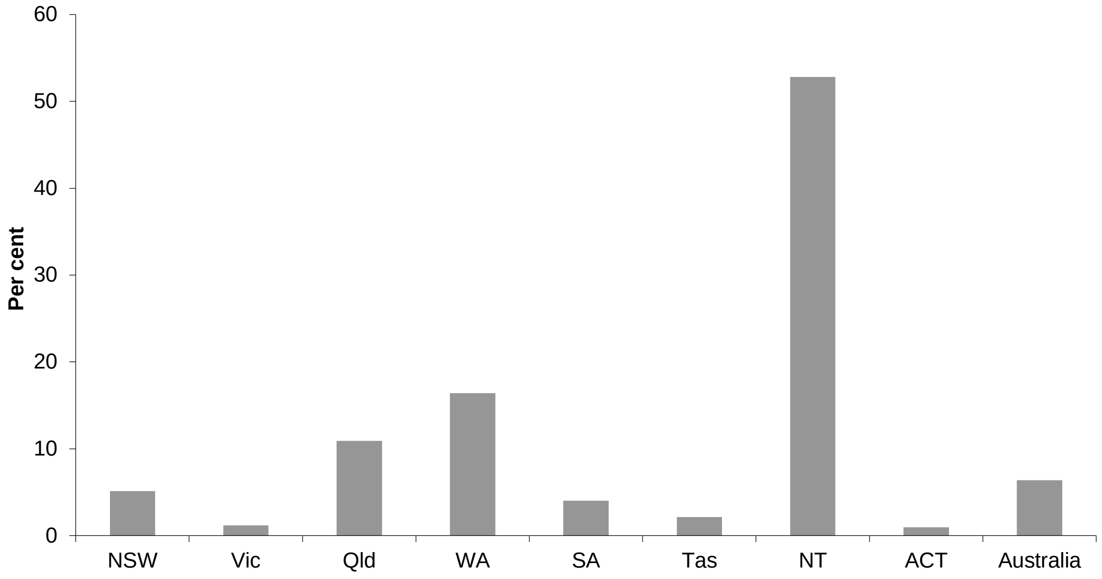
	Indigenous		Other Australians		Rate difference(b) per 10,000
Course	**Number**	**Rate (number per 10,000)(a)**	**Number**	**Rate (number per 10,000)(a)**	
0601 - Medical Studies	n.p.	n.p.	505	0.4	n.p.
0603 - Nursing	421	13.3	19,082	13.8	0.5
0605 - Pharmacy	0	. .	68	0.0	. .
0607 - Dental Studies	70	2.2	3,816	2.8	0.5
0609 - Optical Science	n.p.	n.p.	966	0.7	n.p.
0613 - Public Health	4,094	129.4	33,951	24.5	-104.9
0617 - Rehabilitation Therapies	11	0.3	650	0.5	0.1
0619 - Complementary Therapies	59	1.9	3,162	2.3	0.4
0699 - Other Health	1,483	46.9	28,251	20.4	-26.5
Total	**6,143**	**194.1**	**90,451**	**65.2**	**-128.9**

(a) Using the 2007 Australian population aged 15–64.

(b) Rate difference is the Other Australians rate minus the Indigenous rate.

Note: The 2008 data are preliminary.

Source: AIHW analysis of NCVER, National VET Provider Collection, unpublished data.



Source: AIHW analysis of NCVER, National VET Provider Collection 2008 data.

Figure 3.18.8: Proportion of VET sector students enrolled in health-related course who were Indigenous, by state/territory, 2008

Table 3.18.11: Proportion of VET sector students enrolled in health-related course who were Indigenous, by state/territory, 2008

State/Territory	%
New South Wales	5.1
Victoria	1.2
Queensland	10.9
Western Australia	16.4
South Australia	4.0
Tasmania	2.1
Northern Territory	52.8
Australian Capital Territory	0.9
Australia	6.4

Source: AIHW analysis of NCVER, National VET Provider Collection 2008 data.

Table 3.18.12a: Indigenous VET sector health-related course enrolments, by course, 2003–2007

	Year					Linear trend change 2003–07	
Course	**2003**	**2004**	**2005**	**2006**	**2007**	**Annual change[(a)]**	**Per cent change[(a)]**
0601 - Medical Studies	91	62	n.p.	130	n.p.	. .	. .
0603 - Nursing	192	172	245	357	405	61.1*	165.1
0605 - Pharmacy	n.p.	0	0	0	0	. .	. .
0607 - Dental Studies	47	54	50	46	51	1.1	15.5
0609 - Optical Science	n.p.	n.p.	n.p.	n.p.	n.p.	. .	. .
0613 - Public Health	3,192	2,136	2,436	2,856	3,661	165.8	35.3
0617 - Rehabilitation Therapies	30	n.p.	15	56	73	12.4*	84.5
0619 - Complementary Therapies	24	33	27	n.p.	61	. .	. .
0699 - Other Health	1,340	1,587	1,716	1,673	1,583	57.2	26.8
Total	**4,920**	**4,067**	**4,497**	**5,149**	**5,839**	**292**	**37.5**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the six reporting periods.

(a) Average period change determined using regression analysis.

Source: AIHW analysis of NCVER, National VET Provider Collection, unpublished data.

Table 3.18.12b: Other Australians VET sector health-related course enrolments by course, 2003–2007

	Year					**Linear trend change 2003–07**	
Course	**2003**	**2004**	**2005**	**2006**	**2007**	**Annual change[(a)]**	**Per cent change[(a)]**
0601 - Medical Studies	1,793	1,157	673	456	716	–285.5*	–97.3
0603 - Nursing	10,810	12,968	15,398	17,274	19,210	2,110.6*	112.8
0605 - Pharmacy	112	23	20	30	200	18.3	20.4
0607 - Dental Studies	3,193	3,232	3,623	3,616	3,428	85.4	18.4
0609 - Optical Science	889	905	965	1,063	869	11.8	8.1
0613 - Public Health	66,801	44,201	37,528	37,101	33,662	–7,337.8	–110.7
0617 - Rehabilitation Therapies	1,788	1,152	807	773	1,054	–184.7	–34.0
0619 - Complementary Therapies	2,800	3,675	3,101	3,178	3,286	47.5	42.5
0699 - Other Health	38,645	31,626	37,048	33,753	38,222	128.1	1.9
Total	**126,831**	**98,939**	**99,163**	**97,244**	**100,647**	**–5,406.3**	**–32.1**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the six reporting periods.

(a) Average period change determined using regression analysis.

Source: AIHW analysis of NCVER, National VET Provider Collection, unpublished data.

Vocational education and training sector completions

Data on Indigenous students who completed health-related courses in the VET sector are available from NCVER and National VET Provider Collection. Data for 2008 are presented below.

- In 2008 there were 395 Indigenous completions in health-related courses in the VET sector; this represented 4% of all students who completed VET courses. Completions were however at a much higher rate for Indigenous students (12.5 per 10,000) than for non-Indigenous students (7.2 per 10,000) (Table 3.18.13).
- The most common type of health-related course completed by Indigenous VET students in 2008 was public health (182 completions) followed by nursing (98 completions). Indigenous students as a proportion of the total students completing these courses were 7% and 3.2% respectively (Table 3.18.13 and Table 3.18.14).
- The proportion of students completing VET sector health-related courses who were Indigenous increased between 1996 and 2002 (from 2.4% to 6.6%). In 2003, the proportion of completions dropped to 3.1%and slowly decreased until 2005 before reaching 3.5% by 2008 (Table 3.18.16; Figure 3.18.9).
- Over the period 2003–2007 the fitted trend implies a 28% increase in the rate of Indigenous Australians who completed VET health-related courses. This increase, however, was not significant. Over the same period there was a significant increase (37%) in the rate of VET sector health-related course completion by other Australians (Tables 3.18.15a and 3.18.15b).

Table 3.18.13: Vocational students, course completions in health-related field of education, rates and rate differences, Australia 2008

	Indigenous		Other Australians		Rate difference[(b)] per 10,000
Course	**Number**	**Rate (number per 10,000)[(a)]**	**Number**	**Rate (number per 10,000)[(a)]**	
0601 - Medical Studies	0	0.0	n.p.	0.0	. .
0603 - Nursing	98	3.1	2,992	2.2	-0.9
0605 - Pharmacy	0	0.0	n.p.	0.0	. .
0607 - Dental Studies	11	0.3	1,296	0.9	0.6
0609 - Optical Science	0	n.a	109	0.1	. .
0613 - Public Health	182	5.8	2,410	1.7	-4.0
0617 - Rehabilitation Therapies	n.p.	n.a	157	0.1	. .
0619 - Complementary Therapies	n.p.	n.a.	858	0.6	. .
0699 - Other Health	94	3.0	2,174	1.6	-1.4
Total	**395**	**12.5**	**10,031**	**7.2**	**-5.2**

(a) Using the 2007 Australian population aged 15–64 years.

(b) Rate difference is the Other Australians rate minus the Indigenous rate.

Note: The 2008 data are preliminary.

Source: AIHW analysis of NCVER, National VET Provider Collection, unpublished data.

Table 3.18.14: VET sector students enrolled and completed health-related courses[a], 2008

	Enrolled			Completed[b]		
	Indigenous	Total	Indigenous as a proportion of total	Indigenous	Total	Indigenous as a proportion of total
	No.	No.	Per cent	No.	No.	Per cent
Public health	4,094	38,045	10.8	182	2,592	7.0
Nursing	421	19,503	2.2	98	3,090	3.2
Medical studies	n.p.	507	. .	0	34	0.0
Dental studies	70	3,886	1.8	11	1,307	0.8
Complementary therapies	59	3,221	1.8	n.p.	866	0.9
Rehabilitation therapies	11	661	1.7	n.p.	159	1.3
Optical science	n.p.	969	. .	0	109	0.0
Pharmacy	0	68	0.0	0	n.p.	0.0
Other health	1,483	29,734	5.0	94	2,268	4.1
Total	**6,143**	**96,594**	**6.4**	**395**	**10,426**	**3.8**

(a) Qualification field of education classification.

(b) The number of qualifications completed in 2008 is based on preliminary data and will be revised upwards in the next collection.

Source: National VET Provider Collection 2008.

Table 3.18.15a: VET sector health-related course completions by course, Indigenous students, 2003–2007

	Year					Linear trend change 2003–07	
Course	2003	2004	2005	2006	2007	Annual change[a]	Per cent change[a]
0601 - Medical Studies	0	n.p.	0	104	0	. .	. .
0603 - Nursing	34	45	53	46	82	9.7*	87.2
0605 - Pharmacy	0	0	0	0	0	. .	. .
0607 - Dental Studies	9	18	11	12	21	1.8	120
0609 - Optical Science	n.p.	0	n.p.	0	n.p.	. .	n.a.
0613 - Public Health	190	123	133	202	223	14.5	17.5
0617 - Rehabilitation Therapies	11	0	n.p.	n.p.	n.p.	. .	. .
0619 - Complementary Therapies	n.p.	n.p.	7	n.p.	13	. .	. .
0699 - Other Health	17	13	12	68	20	6.1	12.5
Total	**265**	**206**	**222**	**438**	**363**	**42.8**	**28.4**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the six reporting periods.

(a) Average period change determined using regression analysis.

Source: AIHW analysis of NCVER, National VET Provider Collection, unpublished data.

Table 3.18.15b: VET sector health-related course completions, Other Australians, by course, 2003–2007

	Year					Linear trend change 2003–07	
Course	**2003**	**2004**	**2005**	**2006**	**2007**	**Annual change[(a)]**	**Per cent change[(a)]**
0601 - Medical Studies	180	50	n.p.	n.p.	n.p.	. .	. .
0603 - Nursing	2,731	2,497	3,873	3,283	4,009	334.2*	81.4
0605 - Pharmacy	86	9	n.p.	n.p.	n.p.	. .	. .
0607 - Dental Studies	993	988	1,347	1,399	1,422	126.9*	99.4
0609 - Optical Science	109	120	125	129	197	18.5*	109.9
0613 - Public Health	1,504	1,378	1,353	1,928	2,082	170.6*	66.8
0617 - Rehabilitation Therapies	449	174	91	109	171	–62.1	–57.5
0619 - Complementary Therapies	580	810	805	1,015	910	86.5*	428.9
0699 - Other Health	648	924	883	837	1,276	116.9*	12
Total	**7,280**	**6,950**	**8,487**	**8,712**	**10,076**	**735.4***	**37.2**

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the six reporting periods.

(a) Average period change determined using regression analysis.

Source: AIHW analysis of NCVER, National VET Provider Collection, unpublished data.

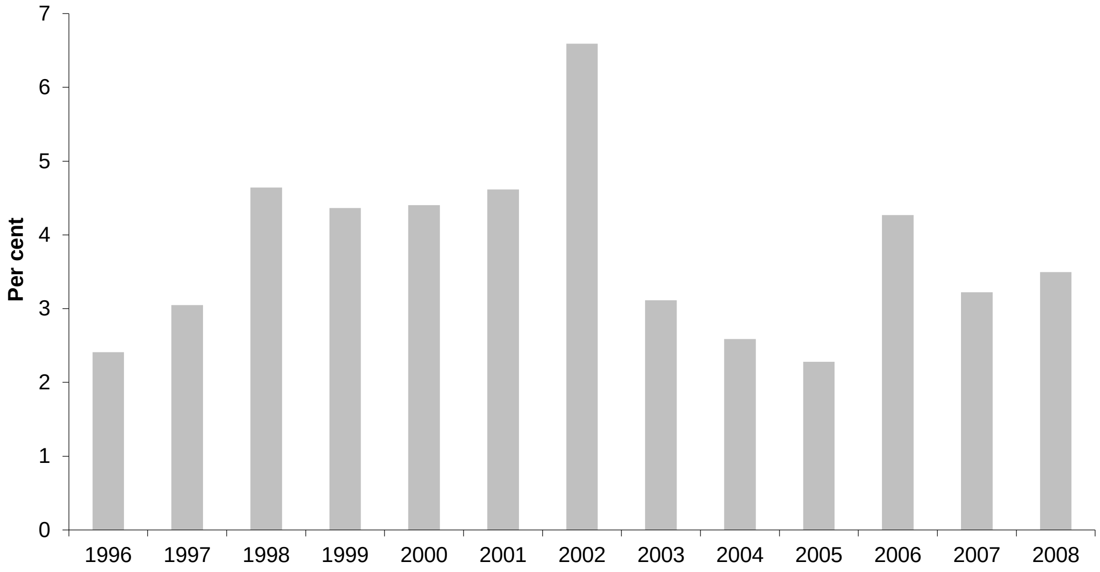
Table 3.18.16: Proportion of vocational education and training sector students completing health-related courses who were Indigenous, 1996–2008[(a)(b)]

Year	**Per cent**
1996	2.4
1997	3.1
1998	4.6
1999	4.4
2000	4.4
2001	4.6
2002	6.6
2003	3.1
2004	2.6
2005	2.3
2006	4.3
2007	3.2
2008	3.5

(a) 1996 to 2001 data were based on the 'health and community services' field of study. A new classification, field of education, was introduced in 2001 and applied to data from 2002 onwards.

(b) The number of qualifications completed in 2008 is based on preliminary data and will be revised upwards in the next collection.

Source: AIHW analysis of NCVER, National VET Provider Collection 2008 data.



(a) 1996 to 2001 data were based on the 'Health and Community Services' field of study. A new classification, field of education, was introduced in 2001 and applied to data from 2002 and onwards.

(b) The number of qualifications completed in 2008 is based on preliminary data and will be revised upwards in the next collection.

Source: AIHW analysis of NCVER, National VET Provider Collection 2008 data.

Figure 3.18.9: Proportion of vocational education and training sector students completing health-related courses who were Indigenous, 1996–2008(a)(b)

Load pass rates

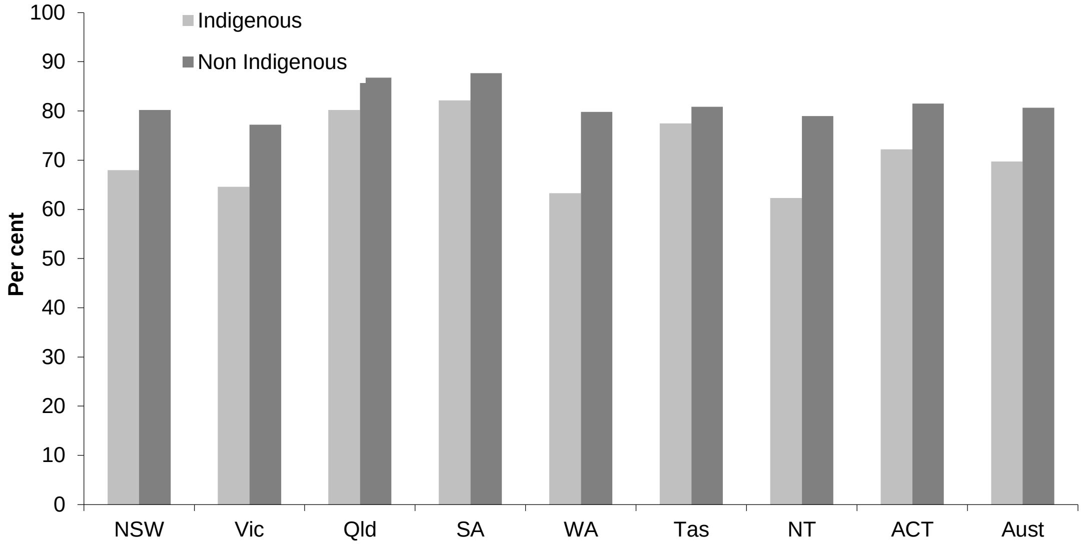
The VET load pass rate indicates the extent to which students pass assessment in an assessable module or unit of competency. Load pass rates are calculated as the number of nominal hours supervised in assessable modules or units of competency completed with a pass assessment divided by the total nominal hours supervised in assessable modules or units of competency.

- In 2008, the VET load pass rate for Indigenous students studying health-related courses was 70%, compared with 81% for non-Indigenous students. The load pass rate for Indigenous students studying health-related courses ranged from 62% in The Northern Territory to 82% in South Australia (Table 3.18.17; Figure 3.18.10).

Table 3.18.17: Load pass rate for VET sector students studying health-related courses, by Indigenous status and state/territory, 2008

	Indigenous (per cent)	Non Indigenous (per cent)
New South Wales	67.9	80.2
Victoria	64.6	77.2
Queensland	80.2	86.8
Western Australia	63.3	79.8
South Australia	82.2	87.7
Tasmania	77.5	80.9
Northern Territory	62.3	79.0
Australian Capital territory	72.2	81.5
Australia	69.7	80.6

Source: AIHW analysis of NCVER, National VET Provider Collection 2008 data.



Source: AIHW analysis of NCVER, National VET Provider Collection 2008 data.

Figure 3.18.10: Load pass rates for VET sector students studying health-related courses, by Indigenous status and state/territory, 2008

Aboriginal and Torres Strait Islander health worker occupations

Tables 3.18.18 and 3.18.19 present the number and rate of VET sector students completing a course aimed at Indigenous health workers in 2008.

- In 2008, 126 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 or IV level (107, or 85%) (Table 3.18.18).
- South Australia had the highest number of students completing a course aimed at Indigenous health worker occupations (48), followed by New South Wales (39).
- Of all VET sector students who had completed a course aimed at Indigenous health worker occupations in 2008, (91) 72% were female and (35) 28% were males (Table 3.18.19).

Table 3.18.18: Number of vocational education and training sector students completing a program aimed at Aboriginal and Torres Strait Islander health worker occupations[(a)(b)(c)], by qualification type and state/territory, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Certificate I	0	0	0	0	0	0	0	0	0
Certificate II	n.p.	0	0	0	13	0	0	0	15
Certificate III	11	11	19	0	6	0	n.p.	0	48
Certificate IV	26	0	n.p.	0	25	0	7	0	59
Diploma or higher	0	0	0	0	n.p.	0	0	0	n.p.
Total	**39**	**11**	**20**	**0**	**48**	**0**	**8**	**0**	**126**

(a) Australian Standard Classification of Occupations code 3493—Aboriginal and Torres Strait Islander health workers.

(b) 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.

(c) The number of qualifications completed in 2008 is based on preliminary data and will be revised upwards in the next collection.

Note: Rates (no. per 1,000 population) have not been presented as the numbers are too small to produce rates.

Source: NCVER, National VET Provider Collection 2008 data.

Table 3.18.19: Number of vocational education and training sector students completing a program aimed at Aboriginal and Torres Strait Islander health worker occupations[(a)(b)(c)], by qualification type and sex, 2008

	Males	Females	Persons
		Number	
Certificate I	0	0	0
Certificate II	13	n.p.	15
Certificate III	7	41	48
Certificate IV	15	44	59
Diploma or higher	0	n.p.	n.p.
Total	**35**	**91**	**126**

(a) Australian Standard Classification of Occupations code 3493—Aboriginal and Torres Strait Islander health workers.

(b) 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.

(c) The number of qualifications completed in 2008 is based on preliminary data and will be revised upwards in the next collection.

Note: Rates (no. per 1,000 population) have not been presented because the numbers are too small.

Source: NCVER, National VET Provider Collection 2008 data.

Data quality issues

DEEWR Higher Education Schools Statistics Collection

The Higher Education Schools Statistics Collection only includes information from higher education institutions in Australia as determined under the Higher Education Funding Act 1988. This includes:

- institutions that receive block operating grant funding for teaching and research activities
- other public higher education institutions that receive some level of operating grant funding
- the Australian Film, Television and Radio School, the National Institute of Dramatic Art and the Australian Defence Force Academy.

Private institutions are not required to report statistical data to DEEWR and are therefore outside the scope of the collection (ABS 2003). The collection of data from private higher education institutions is being trialled (ABS 2004).

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 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 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 that is funded wholly or in part from public funds.

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, because 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) 2003. Directory of Education and Training AVETMISS Vocational Education and Training (VET) Provider Collection. ABS cat. no. 1136.0. Canberra: ABS.

ABS 2004. Measuring learning in Australia: plan to improve the quality, coverage and use of education and training statistics. ABS cat. no. 4231. 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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3.19 Expenditure on Aboriginal and Torres Strait Islander health compared with 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 2009 report—*Expenditures on health for Aboriginal and Torres Strait Islander people 2006–07,* published by the Australian Institute of Health and Welfare (AIHW 2009).

Health Expenditure Data

The report on expenditure on health services for Aboriginal and Torres Strait Islander people is produced every two years. The latest report covers expenditure for the 2006–07 financial year and was published in the AIHW report *Expenditure on health for Aboriginal and Torres Strait Islander people 2006–07* (AIHW 2009).

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 and under-coverage of Indigenous Australians in health data collections (such as hospital separations) are further issues that affect data quality. Although adjustments are made to the data to allow for under-identification, the adjusted estimates may be an overestimate or underestimate of actual health service use and expenditure by Indigenous people. The attribution 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).

Expenditure is a measure of met need. Indigenous Australians have a significantly poorer health status (measured in terms of life expectancy, mortality rates and morbidity) than non-Indigenous Australians. It could therefore be expected that per capita investment of health resources to achieve equality for Aboriginal and Torres Strait Islanders should be higher than for other Australians.

Expenditure on health and high care residential aged care for Aboriginal and Torres Strait Islander people amounted to $2,976 million in 2006–07. This was equivalent to 3.1% of the national expenditure on health and high care residential aged care. In 2006-07, the average expenditure per person on health and high care residential aged care was $5,696 for Aboriginal and Torres Strait Islander people. For non-Indigenous people, the average expenditure per person was $4,557. The ratio of Indigenous to non-Indigenous expenditure per person was 1.25. For the Australian Government schemes of Medicare and the Pharmaceutical Benefits Scheme (PBS), total benefits paid per Aboriginal and Torres Strait Islander person were 59% of the amount spent on non-Indigenous people.

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 3.19.1 and 3.19.2.

- It should be noted that the definition of health expenditure has changed from the 2008 *Aboriginal and Torres Strait Islander Health Performance Framework*. For the 2010 report, health expenditure now excludes high-care residential aged care expenditure (AIHW 2009). However, for the purposes of comparison information on high-care residential aged care is also presented.
- Expenditure on health goods and services for Aboriginal and Torres Strait Islander people during 2006–07 was estimated at $2,909.7 million (Table 3.19.1) or 3.3% of total health expenditure. Almost three-quarters of this expenditure (72%) was related to two major program areas—goods or services provided in hospitals ($1,483 million) and community health services ($620 million).
- On a per person basis, average expenditure on health goods and services for Indigenous people was $5,568.5, which was 31% higher than the expenditure for non-Indigenous Australians ($4,247) (Table 3.19.2).
- In four major program areas, average per person expenditure on services for Indigenous people was greater than for non-Indigenous Australians (Figure 3.19.1). These were community health services, which had an Indigenous to non-Indigenous expenditure ratio per person of 6.5; patient transport with a ratio of 2.7; public health (which includes services such as alcohol and drug services, cancer screening and environmental health) with a ratio of 2.5; and public hospitals with a ratio of 2.1. 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 3.19.1: Expenditure on health (current prices) for Indigenous and non-Indigenous people, by type of health good or service, 2006–07

	Total expenditure ($ million)			
Health good or service type	**Indigenous**	**Non-Indigenous**	**Total**	**Indigenous share (%)**
Hospitals	1,483.1	33,687.6	35,170.7	4.2
Public hospital services[(a)]	1,450.9	26,565.3	28,016.2	5.2
Admitted patient services[(b)]	1,123.5	20,817.0	21,940.5	5.1
Non-admitted patient services	327.4	5,748.3	6,075.7	5.4
Private hospitals[(c)]	32.3	7,122.3	7,154.5	0.5
Patient transport	115.9	1,672.4	1,788.3	6.5
Medical services	220.8	16,544.5	16,765.3	1.3
Community health services	620.1	3,706.3	4,326.4	14.3
Other professional services	22.3	3,250.8	3,273.1	0.7
Dental services	72.9	5,676.2	5,749.1	1.3
Medications	129.4	12,481.0	12,610.3	1.0
Aids and appliances	21.0	3,004.6	3,025.6	0.7
Public health	110.9	1,700.2	1,811.0	6.1
Research	32.1	2,317.0	2,349.1	1.4
Health administration	75.7	2,294.0	2,369.7	3.2
Other health services (n.e.c.)[(d)]	5.5	141.9	147.4	3.7
Total health	**2,909.7**	**86,476.4**	**89,386.1**	**3.3**
High-care residential aged care	66.7	6,305.1	6,371.8	1.0
Total health and high-care residential aged care	**2,976.4**	**92,781.5**	**95,757.9**	**3.1**

(a) Excludes dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

(b) Admitted patient expenditure estimates allow 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 ($249.5 million).

(d) Other health services (not elsewhere classified) include expenditure on health services such as family planning.

Source: AIHW 2009 (Health expenditure database).

Table 3.19.2: Expenditures per person (current prices) on health services for Indigenous and non-Indigenous people, by type of health good or service, 2006–07

	Indigenous		Non-Indigenous		
Health good or service type	**Amount ($)**	**Per cent**	**Amount ($)**	**Per cent**	**Ratio**
Hospitals	2,838.3	51.0	1,654.6	39.0	1.72
Public hospital services[(a)]	2,776.6	49.9	1,304.8	30.7	2.13
Admitted patient services[(b)]	2,150.0	38.6	1,022.4	24.1	2.10
Non-admitted patient services	626.5	11.3	282.3	6.6	2.22
Private hospitals[(c)]	61.7	1.1	349.8	8.2	0.18
Patient transport	221.8	4.0	82.1	1.9	2.70
Medical services	422.6	7.6	812.6	19.1	0.52
Community health services	1,186.7	21.3	182.0	4.3	6.52
Other professional services	42.8	0.8	159.7	3.8	0.27
Dental services	139.5	2.5	278.8	6.6	0.50
Medications	247.5	4.4	613.0	14.4	0.40
Aids and appliances	40.3	0.7	147.6	3.5	0.27
Public health	212.2	3.8	83.5	2.0	2.54
Research	61.5	1.1	113.8	2.7	0.54
Health administration	144.8	2.6	112.7	2.7	1.29
Other health services (nec)[(d)]	10.5	0.2	7.0	0.2	1.51
Total health	**5,568.5**	**100.0**	**4,247.3**	**100.0**	**1.31**
High-care residential aged care	127.6	. .	309.7	. .	0.41
Total health and high-care residential aged care	**5,696.1**	**. .**	**4,557.0**	**. .**	**1.25**

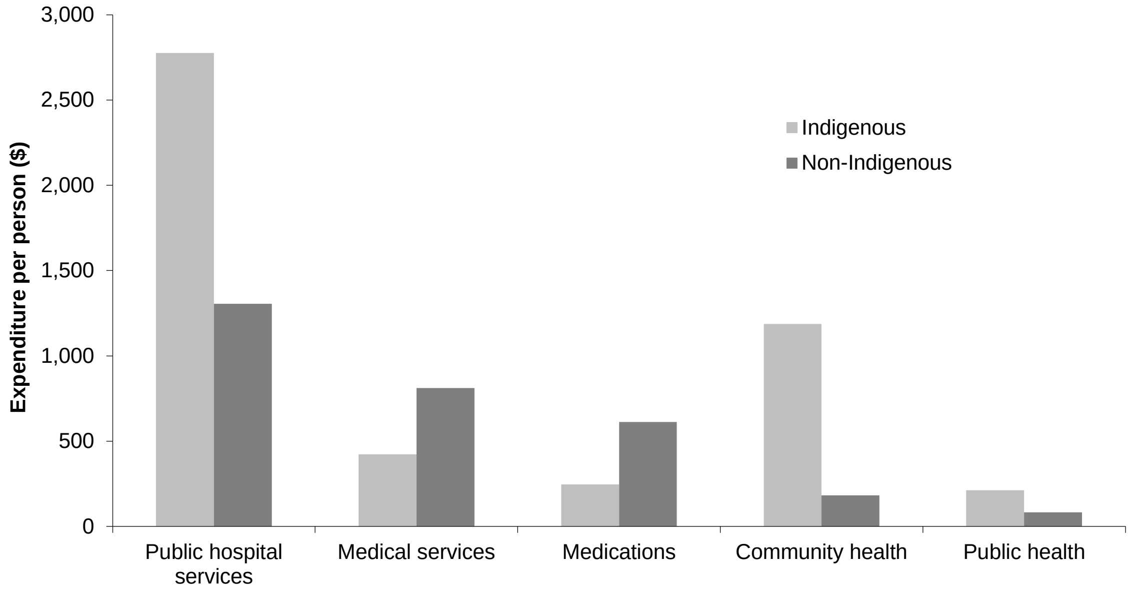
(a) Excludes dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

(b) Admitted patient expenditure estimates allow 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 ($249.5 million).

(d) Other health services (not elsewhere classified) include expenditure on health services such as family planning.

Source: AIHW 2009 (Health expenditure database).



Source: AIHW 2009.

Figure 3.19.1: Expenditure per person on selected health services for Indigenous and non-Indigenous people, by service type, 2006–07

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 2006–07, the total expenditure on primary health services for Indigenous people was 1,358 million while for secondary and tertiary health services, the total expenditure was 1,439 million (Table 3.19.3).
- In 2006–07, 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—1.4:1 compared with 1.3:1 (Table 3.19.4). 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 $2,513 per person compared with $1,444 per person for non-Indigenous people. Expenditure on primary medical services and medications was lower for Indigenous people ($342 and $224 per person, respectively) than for non-Indigenous people ($525 and $509 per person, respectively) (Table 3.19.4).

Table 3.19.3: Estimated expenditure on primary and secondary/tertiary health services, by area of expenditure and Indigenous status, 2006–07

	Expenditure per person ($)					
	Primary			Secondary/tertiary		
Service	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**
Hospitals	170.1	4,298.6	3.8	1,313.0	29,389.0	4.3
Admitted patients	. .	. .	. .	1,149.3	26,514.8	4.2
Non-admitted patients	170.1	4,298.6	3.8	163.7	2,874.2	5.4
Patient transport	57.9	334.5	14.8	57.9	1,337.9	4.2
Medical services	178.4	10,683.6	1.6	42.4	5,860.9	0.7
Community health services	620.1	3,706.3	14.3	. .	. .	. .
Dental services	72.9	5,676.2	1.3	n.a	n.a	n.a
Other professional services	11.2	1,625.4	0.7	11.2	1,625.4	0.7
Medications	117.3	10,352.9	1.1	12.1	2,128.1	0.6
Aids and appliances	19.1	2,492.3	0.8	2.0	512.3	0.4
Public health	110.9	1,700.2	6.1	. .	. .	. .
Total health(a)	**1,357.9**	**40,869.9**	**3.2**	**1,438.5**	**40,853.6**	**3.4**
High-care residential aged care	. .	. .	. .	66.7	6,305.0	1.0
Total health and high-care residential aged care(a)	**1,357.9**	**40,869.9**	**3.2**	**1,505.2**	**47,158.6**	**3.1**

(a) Excludes expenditure on research, health administration and other health services not elsewhere classified.

Source: AIHW 2009.

Table 3.19.4: Estimated expenditure per person on primary and secondary/tertiary health services, by area of expenditure and Indigenous status, 2006–07

	Expenditure per person ($)					
	Primary			Secondary/tertiary		
Service	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio
Hospitals	325.6	211.1	1.54	2,512.7	1,443.5	1.74
Admitted patients	. .	. .	. .	2,199.4	1,302.3	1.69
Non-admitted patients	325.6	211.1	1.54	313.3	141.2	2.22
Patient transport	110.9	16.4	6.75	110.9	65.7	1.69
Medical services	341.5	524.7	0.65	81.1	287.9	0.28
Community health services	1,186.7	182.0	6.52	. .	. .	. .
Dental services	139.5	278.8	0.50	. .	. .	. .
Other professional services	21.4	79.8	0.27	21.4	79.8	0.27
Medications	224.4	508.5	0.44	23.1	104.5	0.22
Aids and appliances	36.5	122.4	0.30	3.8	25.2	0.15
Public health	212.2	83.5	2.54	. .	. .	. .
Total health[(a)]	**2,598.7**	**2,007.3**	**1.30**	**2,753.0**	**2,006.5**	**1.37**
High-care residential aged care	. .	. .	. .	127.6	309.7	0.41
Total health and high-care residential aged care[(a)]	**2,598.7**	**2,007.3**	**1.29**	**2,880.6**	**2,316.2**	**1.24**

(a) Excludes expenditure on research, health administration and other health services not elsewhere classified.

Source: AIHW 2009.

Funding of health services

Funding for health goods and services for Indigenous people is presented in Table 3.19.5.

- Governments provided an estimated 93.4% of the funding used to pay for health goods and services for Aboriginal and Torres Strait Islander people during 2006–07; non-government sources such as out-of-pocket payments by users of services provided the remainder of the funding (Table 3.19.5).
- The Australian Government's funding was similar for Indigenous and non-Indigenous Australians (42% and 44%, 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 over half (51%) 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 (6.6%) than for non-Indigenous people (31.8%). 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 2006–07 were public hospital services ($1,451 million), community health services ($620 million) and medical services ($221 million).
- For non-Indigenous people, the top three areas of funding were public hospital services ($26,565 million), medical services ($16,545 million) and medications ($12,481 million). Of the hospital funding, almost one-quarter (21%) was by private hospitals, compared with only 2.2% in the case of Indigenous people.

Table 3.19.5: Health funding (current prices) for Indigenous and non-Indigenous people, by service type and broad sources of funding, 2006–07 ($ million)

	Australian Government funding		State/territory government funding		Non-government funding		Total	
Health good or service type	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Hospitals	510.7	12,727.4	940.9	14,587.4	31.5	6,372.8	1,483.1	33,687.6
Public hospital services[(a)]	502.8	10,238.3	936.4	14,342.3	11.6	1,984.8	1,450.9	26,565.3
Private hospitals	7.9	2,489.1	4.4	245.1	19.9	4,388.0	32.3	7,122.3
Patient transport	15.0	173.8	97.5	1,092.9	3.4	405.7	115.9	1,672.4
Medical services	179.8	12,912.7	—	—	41.0	3,631.8	220.8	16,544.5
Community health services	272.0	143.0	347.5	3,291,4	0.5	271.9	620.1	3,706.3
Dental services	1.7	480.4	30.8	501.0	40.3	4,694.8	72.9	5,676.2
Other professional services	5.7	821.1	—	—	17.3	2,429.7	22.3	3,250.8
Medications	93.6	6,423.9	—	—	35.8	6,057.0	129.4	12,481.0
Public health	54.7	941.2	56.0	629.1	0.2	129.9	110.9	1,700.2
Research	20.6	1,814.0	8.1	317.5	3.5	185.5	32.1	2,317.0
Aids and appliances	4.0	422.4	—	—	17.1	2,582.2	21.0	3,004.6
Health administration	63.5	1,247.5	9.5	300.4	2.7	746.2	75.7	2,294.0
Other health services (n.e.c.)	—	—	5.5	141.9	—	—	5.5	141.9
Total health	**1,220.7**	**38,107.3**	**1,495.8**	**20,861.6**	**193.2**	**27,507.5**	**2,909.7**	**86,476.4**
High-care residential aged care	43.8	4,769.3	—	—	22.9	1,535.7	66.7	6,305.1
Total health and high-care residential aged care	**1,264.6**	**42,876.6**	**1,495.8**	**20,861.6**	**216.1**	**29,043.2**	**2,976.4**	**92,781.4**

(a) Excludes any dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

Source: AIHW 2009.

Australian Government expenditure

On a per person basis, expenditure on health goods and services by the Australian Government amounted to $1,350 per Indigenous person in 2006–07, compared with $1,181 for non-Indigenous people. In 2006–07, the total expenditure funded through Aboriginal Community Controlled Health Organisations (ACCHOs) services for Indigenous Australians was $249.5 million. Most of this expenditure was administered by the Office of Aboriginal and Torres Strait Islander Health (OATSIH). Per person expenditure through ACCHOs services was $478 for Indigenous Australians compared with $2 for non-Indigenous Australians (AIHW 2009).

State/territory government expenditure

State/territory government expenditure on health goods and services for Indigenous Australians is presented in Table 3.19.6 and Figure 3.19.2.

- In 2006–07, state and territory governments were estimated to have spent, on average, $3,846.0 per Indigenous Australian compared with $1,650.5 per non-Indigenous Australian. This represents an Indigenous/non-Indigenous expenditure ratio of 2.33:1.
- 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 3.19.6). Expenditure on community health for Indigenous people was almost four 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 ($6,279.8) and South Australia ($5,177.0) had the highest average expenditure per person for Indigenous people. Tasmania, which had the lowest average expenditure per person ($1,103.5), was the only jurisdiction where the estimated expenditure per person for Indigenous Australians was lower than that for non-Indigenous people ($1,661.7), but there is great uncertainty as to what is actually spent on health for Indigenous Australians in Tasmania and these numbers should be treated with great caution (Table 3.19.6; Figure 3.19.2).

Table 3.19.6: Estimated state/territory health expenditure[(a)] per person for Indigenous and non-Indigenous people, by type of service, 2006–07

Health good or service type	Expenditure per person ($)							
	NSW	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**NT**	**Total**
Hospitals								
Admitted patient services[(b)]								
Indigenous	1,489.6	1,662.5	2,058.6	2,589.3	2,654.3	619.2	3,405.4	2,101.7
Non-Indigenous	1,054.1	995.8	955.9	941.0	933.1	1,071.2	942.2	999.5
Non-admitted patients								
Indigenous	553.7	517.6	494.1	748.3	1,231.9	109.6	803.6	626.5
Non-Indigenous	355.0	232.8	207.0	217.5	391.6	171.9	234.4	282.3
Public hospital services								
Indigenous	2,043.4	2,180.1	2,552.7	3,337.6	3,886.2	728.7	4,209.0	2,728.3
Non-Indigenous	1,409.2	1,228.6	1,162.9	1,158.5	1,324.7	1,243.1	1,176.6	1,281,8
Patient transport								
Indigenous	112.9	75.6	251.8	190.6	226.4	38.8	352.1	193.5
Non-Indigenous	73.9	75.6	95.0	50.4	75.2	64.2	102.7	75.8
Community health								
Indigenous	766.9	701.7	501.8	501.0	723.9	257.4	1,018.0	665.3
Non-Indigenous	173.5	131.5	183.8	228.9	161.9	230.0	225.5	174.3
Public health								
Indigenous	78.5	259.0	77.9	56.3	90.4	65.2	634.1	155.4
Non-Indigenous	48.1	52.6	54.6	62.4	65.6	72.4	140.4	55.2
Dental								
Indigenous	93.1	35.5	45.2	28.6	78.6	3.7	64.2	59.4
Non-Indigenous	19.1	23.9	33.5	30.0	34.1	37.0	35.5	26.0
Research								
Indigenous	12.0	69.4	9.6	12.2	32.9	9.7	2.5	15.5
Non-Indigenous	13.0	24.9	9.3	30.0	13.0	14.9	0.8	15.6
Health administration n.e.c.[(c)]								
Indigenous	0.0	0.0	21.0	23.7	138.6	0.0	0.0	. .
Non-Indigenous	0.0	0.0	9.4	24.9	118.2	0.0	0.0	. .
Total[(d)]								
Indigenous	**3,107.0**	**3,321.3**	**3,460.0**	**4,223.6**	**5,177.0**	**1,103.5**	**6,279.8**	**3,846.0**
Non-Indigenous	**1,741.3**	**1,537.0**	**1,548.6**	**1,599.4**	**1,810.5**	**1,661.7**	**1,808.3**	**1,650.5**

Note: ACT per person figures are not calculated because the expenditure numbers for the ACT include substantial expenditures for NSW residents. Thus the ACT population is not the appropriate denominator.

(a) Expenditure by state and territory governments.

(b) Admitted patient expenditure adjusted for Aboriginal and Torres Strait Islander under-identification, except for Tasmania.

(c) Health administration costs by NSW, Victoria, Tasmania and the NT are zero, as these jurisdictions have allocated administrative expenses into the functional expenditure categories in the table.

(d) Includes ‘Other health services, n.e.c.

Source: AIHW 2009.

Note: ACT per person figures are not calculated because the expenditure numbers for the ACT include substantial expenditures for NSW residents. Thus the ACT population is not the appropriate denominator.

Source: AIHW 2009.

Figure 3.19.2: Expenditure per person by state and territory on health services for Indigenous and non-Indigenous people, 2006–07

Regional health expenditure

Estimated average health expenditures per person by remoteness area for Indigenous and non-Indigenous people are presented in Table 3.19.7 and Figure 3.19.3. This analysis is restricted to the 57% of health services expenditure data that can be apportioned according to the Australian Standard Geographic Classification Remoteness Areas. Note that some of the expenditure categories within this section are not directly comparable with estimates in other sections of this measure (see AIHW 2010).

- In 2006–07, 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 3.19.7: Expenditures per person on selected health services[(a)] for Indigenous people, by remoteness, 2006–07 ($)

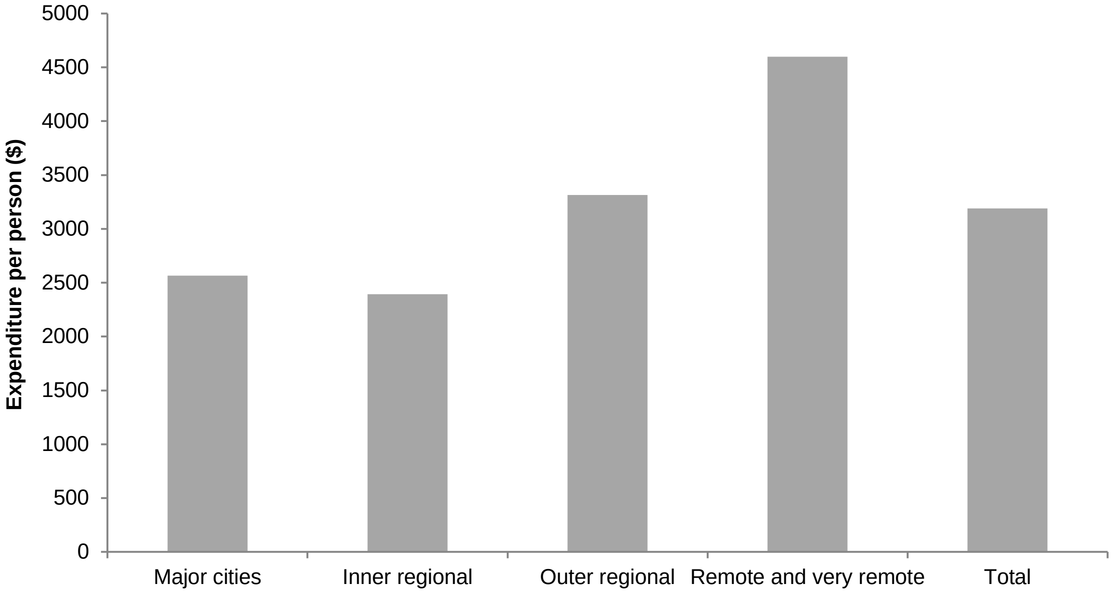
Area of expenditure		**Major Cities**	**Inner regional**	**Outer regional**	**Remote and Very remote**	**Total**
Admitted patient services						
Public hospital	Indigenous	1,731.30	1,569.00	2,119.80	3,234.40	2,150.00
	Non-Indigenous	965.40	1,122.80	1,216.60	1,139.50	1,022.40
	Ratio	1.79	1.40	1.74	2.84	2.10
Private hospital	Indigenous	55.60	51.40	109.60	35.70	61.70
	Non-Indigenous	369.00	338.50	258.70	190.80	349.80
	Ratio	0.15	0.15	0.42	0.19	0.18
OATSIH grants to ACCHO	Indigenous	268.80	321.90	569.70	804.70	477.60
	Non-Indigenous	0.60	1.70	6.60	54.00	2.30
	Ratio	451.40	192.90	86.90	14.90	209.10
MBS(b)	Indigenous	350.20	310.20	338.40	299.20	326.60
	Non-Indigenous	590.30	524.20	468.20	388.90	562.60
	Ratio	0.59	0.59	0.72	0.77	0.58
PBS(c)	Indigenous	158.60	141.80	178.30	223.20	175.20
	Non-Indigenous	285.10	319.30	284.20	200.10	290.20
	Ratio	0.56	0.44	0.63	1.12	0.60
Total selected health	**Indigenous**	**2,564.40**	**2,394.30**	**3,315.80**	**4,597.20**	**3,191.00**
	Non-Indigenous	**2,210.40**	**2,306.40**	**2,234.20**	**1,973.30**	**2,227.40**
	Ratio	**1.16**	**1.04**	**1.48**	**2.33**	**1.43**

(a) Excludes areas of health expenditure such as community health services, patient transport and public health services.

(b) Excludes other health services provided through Medicare such as optometry, dental and allied health services.

(c) Excludes RPBS, methadone, co-payments and highly specialised drugs dispensed from public and private hospitals.

Source: AIHW health expenditure database.



Note: Total health expenditure for which it was possible to allocate expenditures by ASGC remoteness areas.

Source: AIHW health expenditure database.

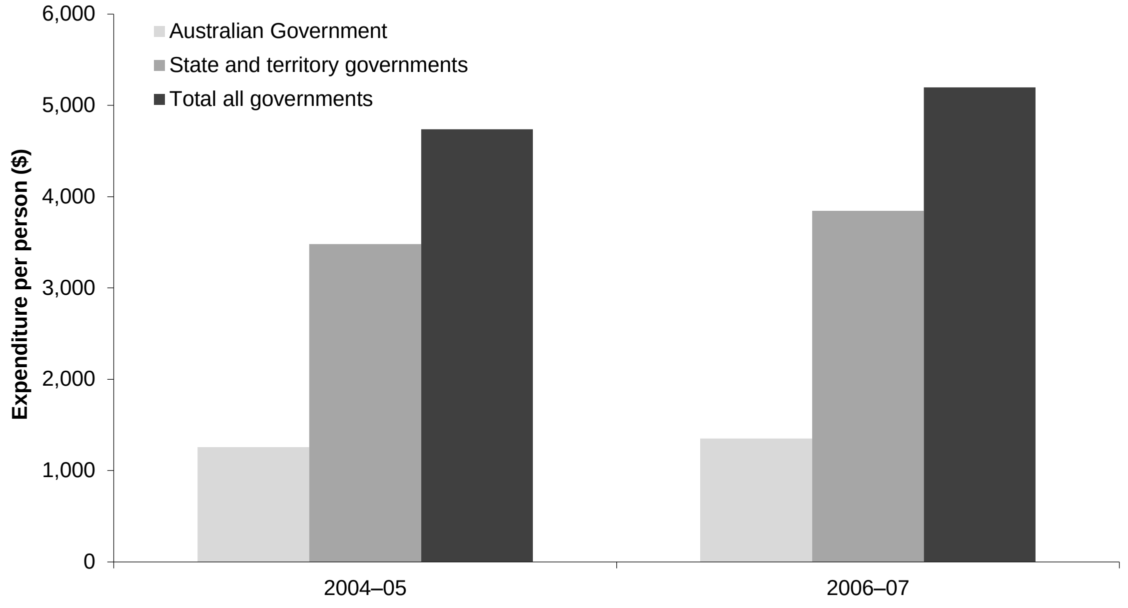
Figure 3.19.3: Expenditures per person on selected health services for Indigenous people, by remoteness, 2006–07 ($)

Changes in health expenditure and funding over time

Health expenditure estimates for Aboriginal and Torres Strait Islander people have been produced for 2004–05 and 2006–07. Changes in expenditure and funding over time should be interpreted with caution because changes may, in part, reflect changes in the propensity of people to identify themselves as Indigenous or improvements in the ability of health-care providers to identify Indigenous people. It should also be noted that the methods used to develop the estimates of expenditure in respect to Indigenous Australians have changed between 2004–05 and 2006–07.

Total government health expenditure

- Estimated expenditures on health for Indigenous people increased between 2004–05 and 2006–07 (Figure 3.19.4).
- The real Australian Government expenditure per person for Aboriginal and Torres Strait Islander people grew by 7.3% (or $92) between 2004–05 and 2006–07.
- The real state and territory government expenditure per Aboriginal and Torres Strait Islander person grew by 10.5% (or $365) between 2004–05 and 2006–07, but the 2004–05 data excluded depreciation.



Notes

1. Australian Government expenditure excludes high-care residential aged care.
2. Depreciation is not included in 2004–05, but is included in 2006–07. This reduces the 2004–05 state/territory government numbers by about 5%, but has minimal impact on the Australian Government numbers.

Source: AIHW 2010.

Figure 3.19.4: Time series health expenditure per Indigenous person (constant 2006–07 prices) by level of government, 2004–05 and 2006–07

Table 3.19.8: Time series health expenditure per Indigenous person (constant 2006-07 prices) by level of government, 2004–05 and 2006–07

	2004–05	2006–07
Australian Government	1,257.9	1,349.8
State and territory governments	3,480.6	3,846.0
Total all governments	4,738.5	5,195.8

Notes

1. Australian Government expenditure excludes high care residential aged care.
2. Depreciation is not included in 2004–05 but is included in 2006–07. This reduces the 2004–05 state/territory numbers by about 5%, but has minimal impact on the Australian Government numbers.

Source: AIHW 2009.

Australian Government expenditure

- Estimates of average expenditure per person by the Australian Government on its two largest mainstream programs—Medicare and PBS—increased by 46% from an estimated $249 in 1998–99 (in 2004–05 prices) to $364 in 2004–05 (Table 3.19.9 and Figure 3.19.5).
- The Australian Government has substantially increased the coverage and capacity of Indigenous-specific health services across Australia in urban, rural and remote areas since 1995–96. In 2007–08, total Commonwealth funding for Indigenous specific programs was $492 million: a real growth of 245% since 1995–96 (Figure 3.19.6).

Table 3.19.9: Average expenditure per person (constant prices) (a) by the Australian Government on selected services, 1995–96, 1998–99, 2001–02 and 2004–05 ($)

	1995–96(b)				**1998–99**			**2001–02**			**2004–05**		
Service	**Indigenous**	**Non-Indigenous**	**Ratio**		**Indigenous**	**Non-Indigenous**	**Ratio**	**Indigenous**	**Non-Indigenous**	**Ratio**	**Indigenous**	**Non-Indigenous**	**Ratio**
MBS(c)	131	486	0.3	Not comparable with later reports	198	483	0.4	191	489	0.4	224	494	0.5
PBS(d)(e)	26	135	0.2		51	152	0.3	75	226	0.3	140	273	0.5
MBS and PBS(c)(d)	*156*	*621*	*0.3*		*249*	*634*	*0.4*	*266*	*715*	*0.4*	*364*	*767*	*0.5*
OATSIH-funded ACCHOs	325	2	172.4		320	1	566.4	412	1	340.2	426	1	307.1

(a) Expenditure expressed in constant prices (2004–05)

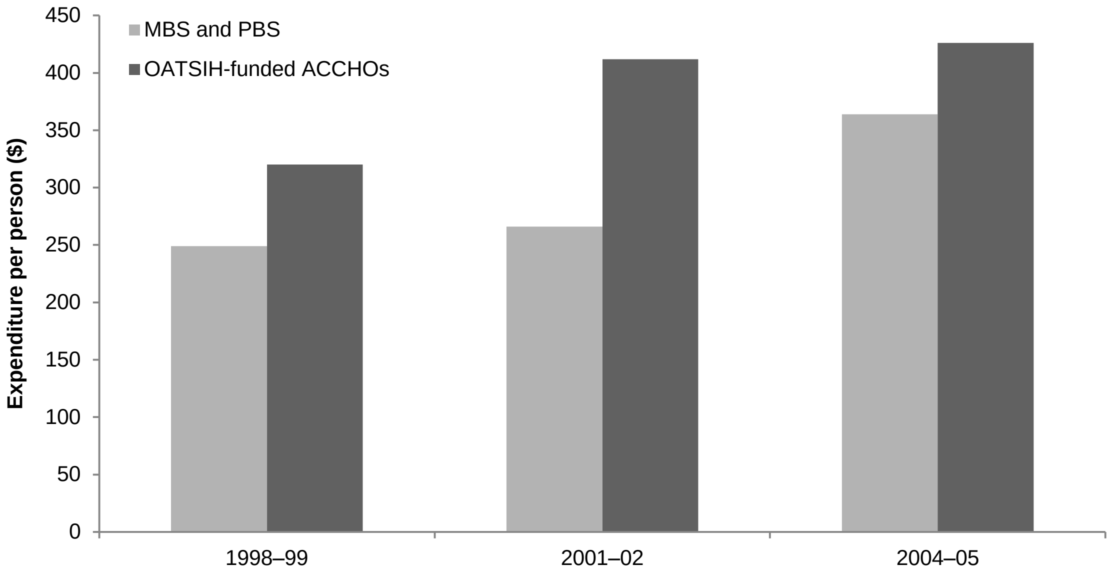
(b) Not comparable with later years. It is thought that the 1995–96 estimates are an underestimate of these categories.

(c) Includes MBS benefits paid for specified dental services, optometry services and allied health.

(d) Does not include RPBS benefits for veterans.

(e) 1995–95, PBS data based on the revised current price estimate of $9.3 million for PBS benefits for Aboriginal and Torres Strait Islander people in 1995–96 (AIHW 2001); down from the published $9.8 million (Deeble et al. 1998).

Source: AIHW 2008.



Notes

1. Expenditure expressed in constant prices (see AIHW 2008 for details).

2. MBS and PBS category includes MBS benefits paid for specified dental services, optometry services and allied health, but does not include RPBS benefits for veterans.

Source: AIHW 2008.

Figure 3.19.5: Average expenditure per person (constant prices), incurred by the Australian Government on health for Aboriginal and Torres Strait Islander people in selected major programs, 1998–99, 2001–02 and 2004–05 ($)

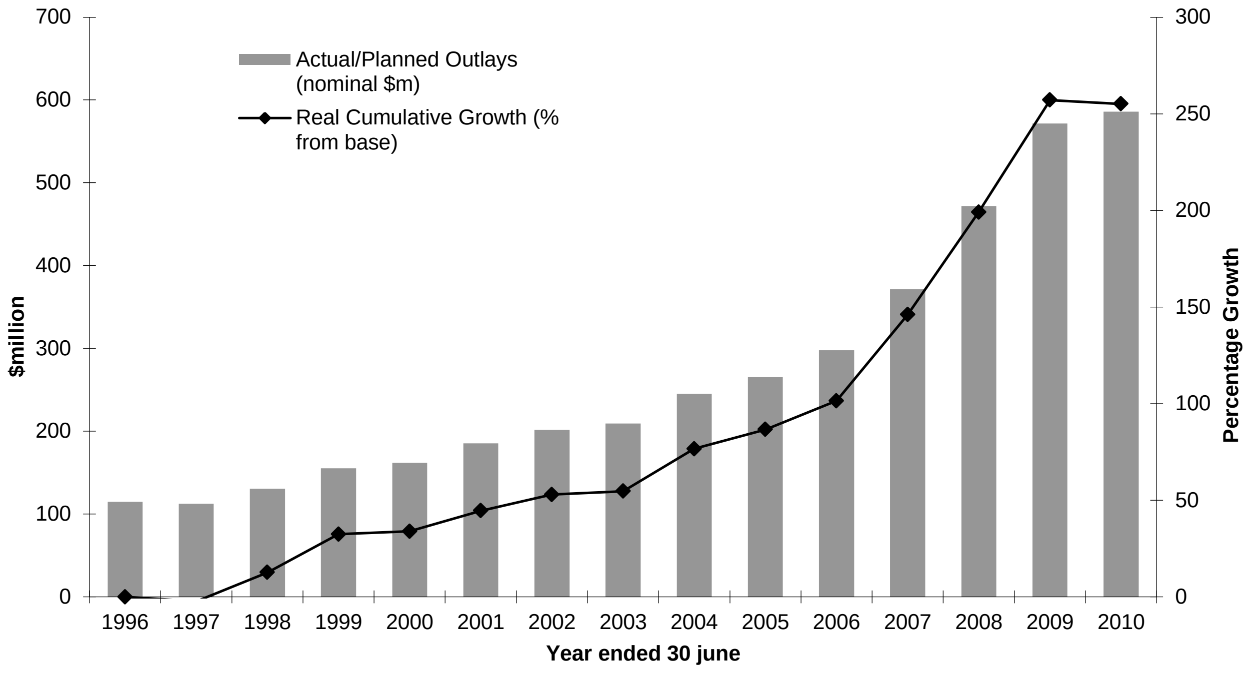
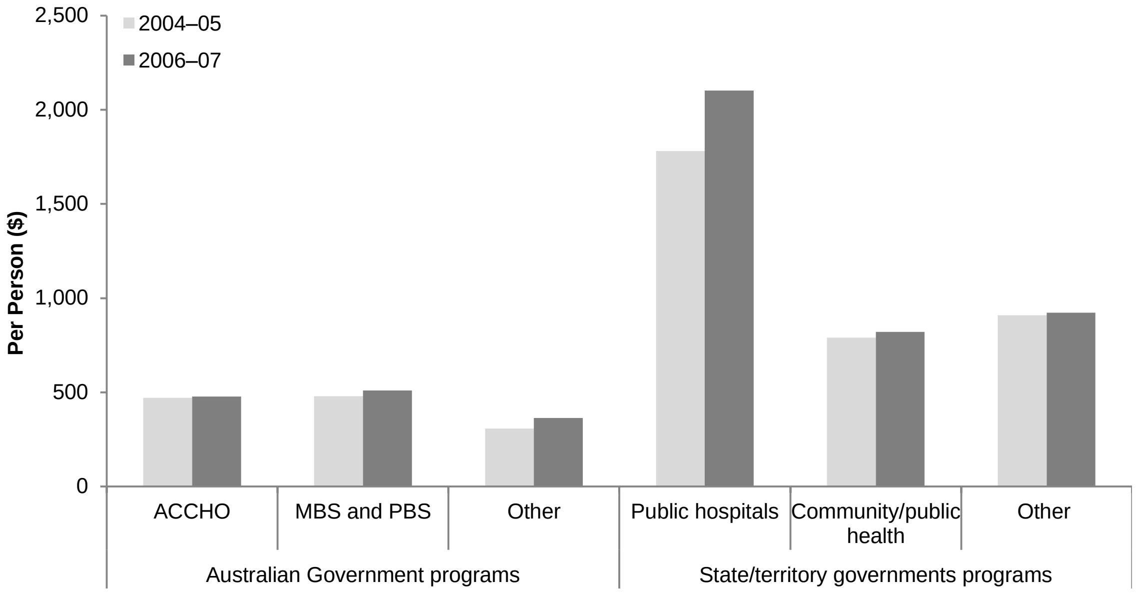


Figure 3.19.6: Actual and estimated growth in expenditure by the Australian Government on Indigenous specific programs, June 1996 to June 2010

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 2004–05 and 2006–07 are presented in Figure 3.19.7 and Table 3.19.10.

- Between 2004–2005 and 2006–07, 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 ACCHO, MBS and PBS, and other expenditure) all increased.
- 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 $1,781 per person in 2004-05 to $2,102 in 2006-07. Community and public health expenditure increased from $790 to $821 and other expenditure increased from $909 to $923 over the same period.



Source: AIHW health expenditure database.

Figure 3.19.7: Health expenditure per Aboriginal and Torres Strait Islander person, in constant prices, by area of expenditure, 2004–05 and 2006–07

Table 3.19.10: Health expenditure per Aboriginal and Torres Strait Islander person, in constant prices, by area of expenditure, 2004–05 and 2006–07

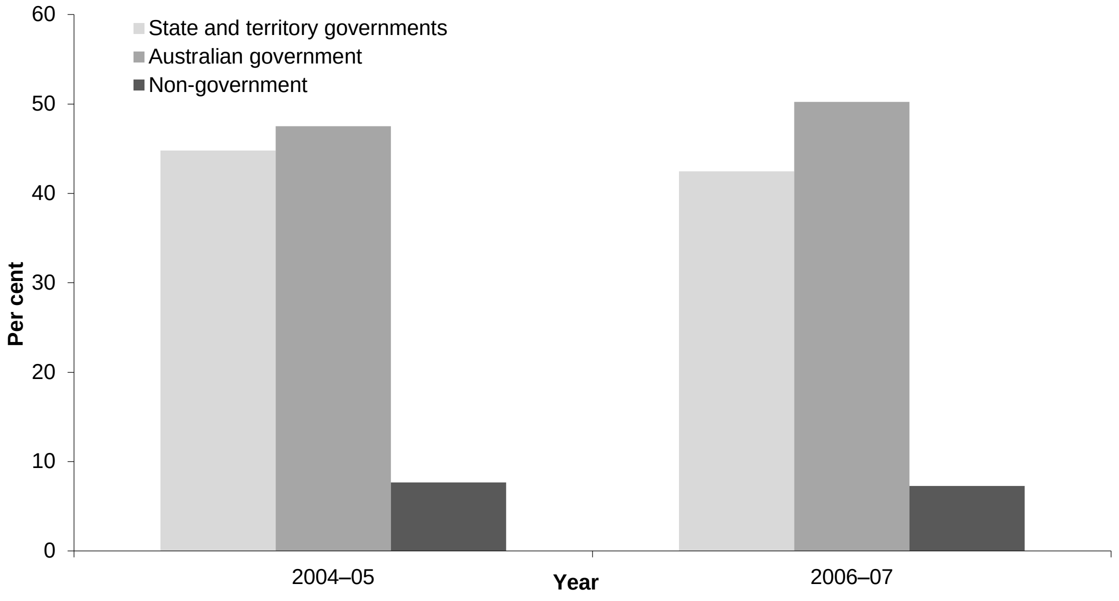
	2004–05	2006–07
Australian Government programs		
ACCHO	471	478
MBS and PBS	480	509
Other	307	363
State/territory governments programs		
Public hospitals – admitted patient services	1,781	2,102
Community/public health	790	821
Other	909	923

Source: AIHW health expenditure database

Funding

- The share of the three main funding sources for health services expenditure for Indigenous people has varied little between 2004–05 and 2006-07 (Figure 3.19.8).

These comparisons should be treated with caution, however, owing to changes in the willingness of people to identify as Indigenous in censuses over time, which affects the denominators of per person expenditure estimates.



Sources: AIHW 2009, 2008.

Figure 3.19.8: Funding (current prices) of Indigenous health services expenditure, by level of government, 2004–05 and 2006-07

Table 3.19.11: Funding (current prices) of Indigenous health services expenditure, by level of government, 2004–05 and 2006-07

	2004–05	2006–07
	Per cent	
State and territory governments	44.8	42.5
Australian government	47.5	50.3
Non-government	7.7	7.3

Sources: AIHW 2008, 2009.

Data quality issues

Health Expenditure Data

Health expenditure data are affected by most of the reservations about data relating to Aboriginal and Torres Strait Islander peoples. 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 major 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 2009).

Quality of data on Indigenous service use

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

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. The method involves the use of Medicare Voluntary Indigenous Identifier (VII) data to estimate expenditure on medical 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, AIHW 2009). This change may have contributed to the increase in estimated MBS and PBS expenditure reported in 2006–07 compared with 2004–05.This change may have contributed to the increase in estimated MBS and PBS expenditure reported in 2006–07 compared with 2004–05.

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) 2001. Expenditures on health services for Aboriginal and Torres Strait Islander peoples 1998–99. Cat. no. IHW 7. Canberra: AIHW and Australian Government Department of Health and Aged Care.

AIHW 2008. Expenditures on health for Aboriginal and Torres Strait Islander people, 2004–05. Health and Welfare Expenditure Series no. 32. Cat. no. HWE 40. Canberra: AIHW.

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Deeble J, Mathers C, Smith L, Goss J, Webb R and Smith V 1998. Expenditures on health services for Aboriginal and Torres Strait Islander peoples. AIHW cat. no. HWE 6. Canberra: AIHW & Department of Health and Family Services and National Centre for Epidemiology and Population Health.

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List of tables

List of figures

3.20 Recruitment and retention of clinical management staff (including GPs)

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 OATSIH Services Reporting (OSR) Data Collection, the Rural Workforce Agency National Minimum Data Set, general practitioner (GP) data held by the Australian Government Department of Health and Ageing (DoHA) and AIHW labour force surveys.

OATSIH Services Reporting (OSR) Data Collection

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. The 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 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 OSR data collection which was established in 2008–09 uses a new set of counting rules which treat all auspice services as individual services which yields a larger numerator and denominator on which the rates are based. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates based on earlier data collection periods.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services 81 (94%) responded to the OSR questionnaire, as well as five auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance use service.

Forty five (90%) out of 50 stand-alone substance use services as well as three auspiced services responded to the OSR questionnaire.

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. The data are collected in accord with an agreed national minimum data set and data dictionary, so should be consistent and provide a valuable and regular source of data. 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.

General practitioner data

The DoHA holds data on the number of GPs in Australia by remoteness area and Statistical Local Area (SLA).

Care must be taken in using and interpreting the data provided. There are two 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 for doctors in remote areas, which are more likely to have high proportions of Indigenous populations, 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 of 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 SLAs in the first group with far more people per doctor than several SLAs in the second group.

AIHW labour force surveys

The AIHW Medical Labour Force Survey is conducted by the state and territory health authorities. The questionnaire is administered by the medical boards (or councils) in each jurisdiction, in conjunction with the registration renewal process. The AIHW is the data custodian for this collection. The Medical Labour Force Survey is a census of all registered medical practitioners in each state and territory in Australia. The Medical Labour Force Survey has been conducted annually since 1993. Information on demographic details, main areas and specialty of work, qualifications and hours worked are collected from registered professionals. The data collected generally relate to the four weeks prior to the survey.

Analyses

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 2008–09, there were approximately 2,800 full-time equivalent (FTE) health (clinical) staff and 1,500 FTE administrative and support (management) staff positions within Aboriginal and Torres Strait Islander primary health-care organisations funded by the Australian Government. The number of reported vacancies for staff positions by Aboriginal and Torres Strait Islander primary health-care services at 30 June 2009 was 296. Of those positions, 23% were for Aboriginal health workers with a similar proportion for nurses or doctors (AIHW 2010).
- The highest number of health staff vacancies in 2008–09 were for Aboriginal health workers (66), followed by nurses (48) and social and emotional wellbeing workers (28) (Table 3.20.1).
- Occupations with the highest proportion of health staff vacancies were in allied health professionals (13%), environmental health workers (13%), Aboriginal health workers (8.1%) and nurses (8.0%) (Table 3.20.1).

Table 3.20.1: Number and proportion of health (clinical) staff and administrative and support (management) staff vacancies (FTE) in Aboriginal and Torres Strait Islander primary health-care organisations, 2008–09

Staff category	Number	Per cent[(a)]
Health staff		
Aboriginal health worker	65.9	8.1
Doctors and specialists	17.4	5.0
Nurses	47.8	8.0
Emotional and social wellbeing workers	28.1	6.2
Allied health professionals	27.8	13.0
Medical specialists	0.2	3.7
Dentists	2.0	5.1
Dental support	2.0	3.4
Substance-use workers	8.5	7.9
Environmental health workers	4.0	12.8
Drivers/field officers	2.0	0.8
Total health/clinical	*215.4*	*7.2*
Administrative and support staff		
CEO/admin/managers	21.4	4.4
Administrative support	15.4	3.1
Accountants	3.0	1.9
Information/data	3.0	3.4
Information systems/data staff	6.5	3.5
Total administrative and support staff	*49.3*	*3.3*
Other staff [(b)]	*12.9*	*9.6*
Total	**277.6**	**6.0**

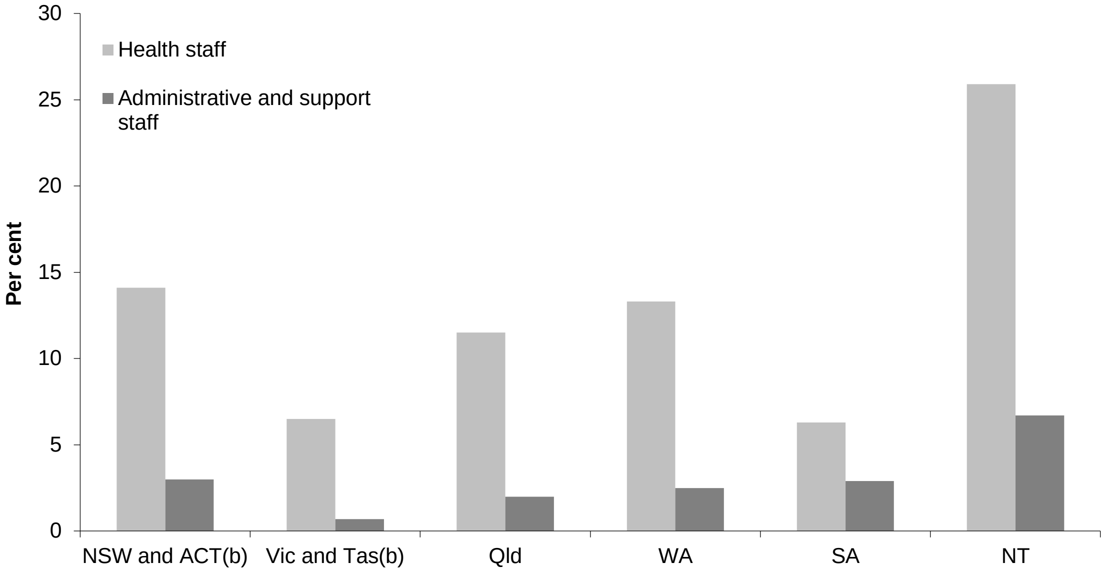
(a) Number of funded FTE vacancies divided by the total FTE positions (both occupied and vacant) multiplied by 100.

(b) Other staff unable to be categorised owing to inadequate job description.

Source: AIHW OSR data collection.

Recruitment by state/territory and remoteness

- For the year 2008–09, the Northern Territory had the highest proportion (34.9%) 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 (7.4%) (Table 3.20.2; Figure 3.20.1). The Northern Territory had the highest number of health (clinical) staff vacancies (25.9%) followed by New South Wales and the Australian Capital Territory (14.1%). The Northern Territory had the highest proportion of administrative and support staff vacancies (6.7%).
- For the year 2008–09, *Remote* areas of Australia had the highest proportion of total health staff vacancies of total positions funded in Indigenous primary health-care organisations (33.3%). This compared with around 12.3% in *Major cities* (Table 3.20.3; Figure 3.20.2). The proportion of health (clinical) staff vacancies was around 27.1% in *Remote* areas compared with 9.0% 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 3.20.1: 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, 2008–09

Table 3.20.2: 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, 2008–09

	NSW and ACT[(b)]		Vic and Tas[(b)]		Qld		WA		SA		NT	
Staff category	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Health staff	39.1	14.1	18.2	6.5	32.0	11.5	37.0	13.3	17.4	6.3	71.8	25.9
Administrative and support staff	8.3	3.0	2.0	0.7	5.5	2.0	7.0	2.5	8.0	2.9	18.5	6.7
Other staff[(c)]	2.0	0.7	0.4	0.1	0.0	0.0	2.0	0.7	2.0	0.7	6.5	2.3
Total	49.4	17.8	20.6	7.4	37.5	13.5	46.0	16.6	27.4	9.9	96.8	34.9

(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) Other staff unable to be categorised owing to inadequate job description.

Source: AIHW OSR data collection.

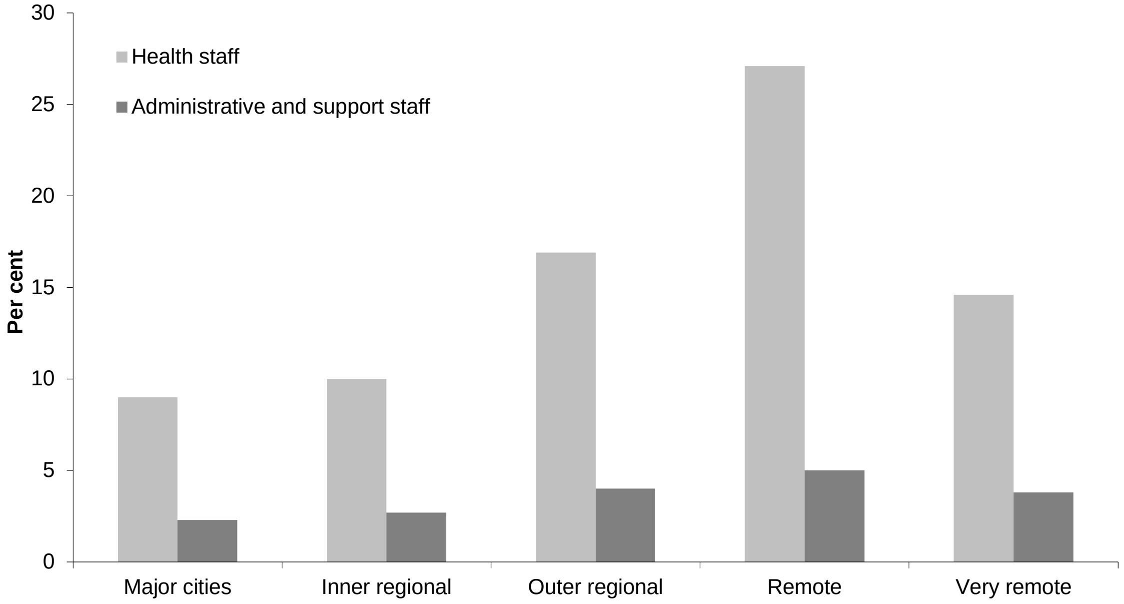
Table 3.20.3: Number and proportion[(a)] of health (clinical) staff and administrative and support (management) staff vacancies of total positions (FTE) in Aboriginal and Torres Strait Islander primary health-care organisations, by remoteness, 2008–09

	Major cities		Inner regional		Outer regional		Remote		Very remote		Total	
Staff category	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Health staff	24.9	9.0	27.7	10.0	46.8	16.9	75.4	27.1	40.7	14.6	215.4	77.6
Administrative and support staff	6.3	2.3	7.4	2.7	11.1	4.0	14.0	5.0	10.5	3.8	49.3	17.8
Other staff[(b)]	3.0	1.1	0.0	0.0	5.4	1.9	3.0	1.1	1.5	0.5	12.9	4.6
Total	34.2	12.3	35.1	12.6	63.3	22.8	92.4	33.3	52.7	19.0	277.6	100.0

(a) Number of funded FTE vacancies divided by the total vacant FTE positions multiplied by 100.

(b) Other staff unable to be categorised owing to inadequate job description.

Source: AIHW OSR data collection.



Source: AIHW OSR data collection.

Figure 3.20.2: Proportion of health and administrative and support staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations, by remoteness, 2008–09

Recruitment by length of time vacant

- For the year 2008–09, the majority of health staff positions in Aboriginal and Torres Strait Islander health-care organisations were vacant for 26 weeks or more (112). The majority of administrative and support staff (34) and other staff positions (9.5) were vacant for 4–25 weeks (Table 3.20.4).

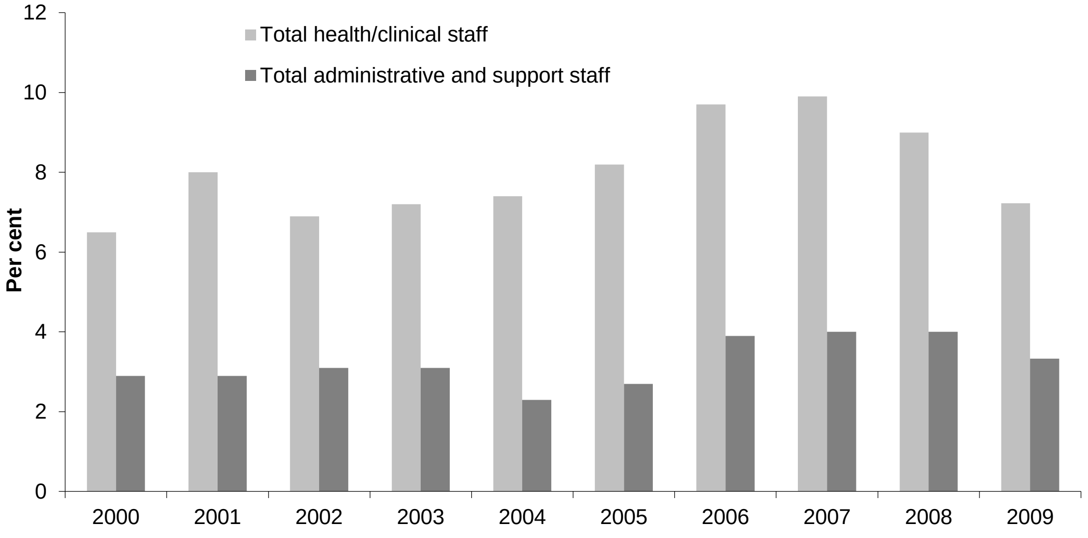
Table 3.20.4: Full-time equivalent health (clinical) staff and administrative and support (management) staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations, by length of time vacant, 2008–09

Staff category	1 week	2–3 weeks	4–25 weeks	26+ weeks	Total
Admin. and support staff	1.4	2	34.3	11.6	49.3
Health staff	0.4	8.8	94.1	112.1	215.4
Other staff	0	0	9.5	3.4	12.9
Total	**1.8**	**10.8**	**137.9**	**127.1**	**277.6**

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 June 2000 to June 2009 (from 6.5% to 9.0%). There has also been an increase in the number of administrative and support staff (from 2.9% to 4.0%) (Figure 3.20.3; Table 3.20.5).
- For the year 2008–09, the proportion of FTE health (clinical) staff and support (management) staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations was 7.2% and 3.3%, respectively (AIHW 2010). Note that, owing to the differences in data collection methodology, previous data are not comparable with the 2008–09 data to be included in time series analyses.



Source: SAR and DSAR data collection.

Figure 3.20.3: 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 2009

Table 3.20.5: Proportion of full-time equivalent health (clinical) and administrative and support (management) staff vacancies in Aboriginal and Torres Strait Islander primary health-care organisations, 2000 to 2009[(a)]

	Total health/clinical staff	Total administrative and support staff
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

(a) Number of funded FTE vacancies divided by the total FTE positions (both occupied and vacant) multiplied by 100.

Source: SAR and DSAR data collection.

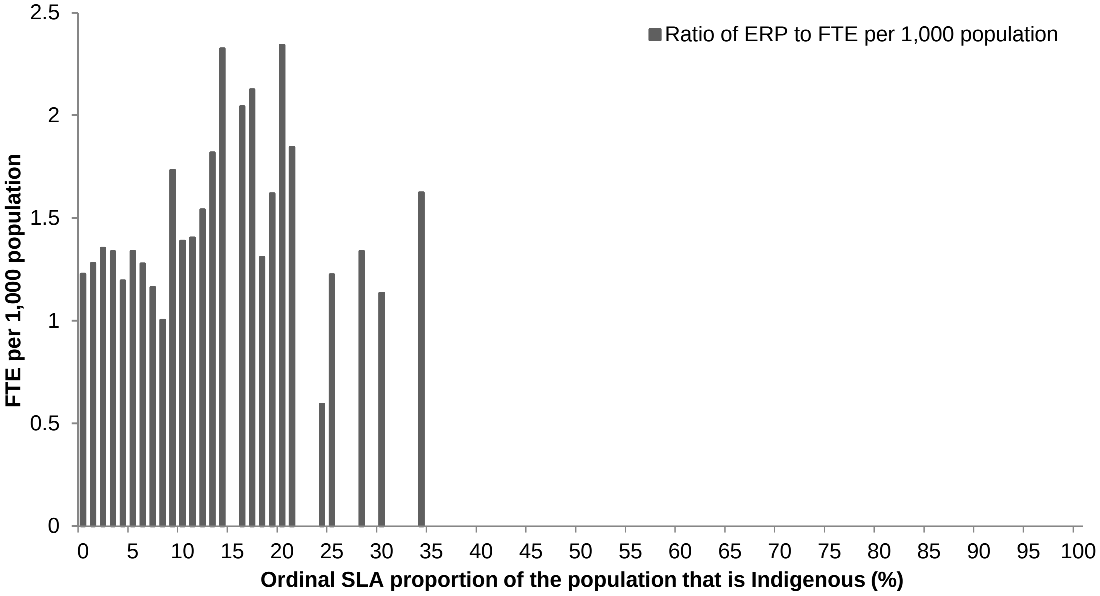
Retention

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 3.20.4 present data on the number of FTE GPs in 2008–09 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 2005–06, there were approximately 16,040 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) of GPs were working in areas where more than 50% or more of the population was Indigenous (Figure 3.20.4).



Source: AIHW analysis of DoHA data.

Note: Results for SLAs where the number of FTE GPs is five or less have been suppressed.

Figure 3.20.4: Number of full-time equivalent GPs per 1,000 population, by areas of low through to high proportions of Indigenous populations, 2008–09

GPs by remoteness

Table 3.20.6 presents the number and proportion of full-time equivalent GPs by remoteness area.

- In 2008–09 as measured using the Rural, Remote and Metropolitan Areas classification (RRMA), approximately 72% of GPs were working in capital cities and other metropolitan areas, 26% of GPs were working in rural areas and only 2% of GPs were working in remote areas of Australia.

Table 3.20.6: Number and proportion of full-time equivalent GPs, by RRMA classification, 2008–09

Remoteness category (RRMA)	Number of FTE GPs	Per cent
Capital city	10,341	64.4
Other metropolitan area	1,279	8.0
Large rural	1038	6.5
Small rural	1,216	7.6
Other rural	1,864	11.6
Remote centre	135	0.8
Other remote centre	172	1.1
Total	**16,045**	**100.0**

Source: Australian Government Department of Health and Ageing data.

GPs in rural areas

Table 3.20.7 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 2008.

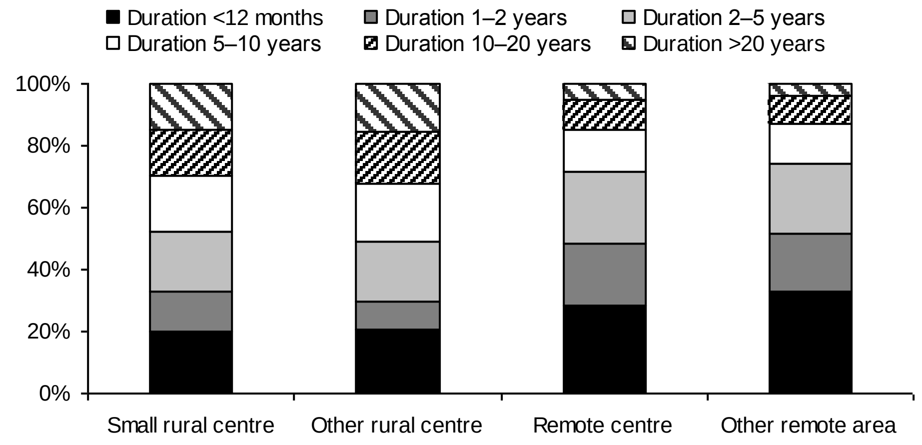
- As at 30 November 2008, the Rural Workforce Agency Annual Survey recorded a total of 4,626 GPs working in rural and remote areas of Australia. Just over 1 in 5 (21.4%) of GPs reported that they had stayed in current practice for less than 12 months and only 13.4% had stayed in practice for more than 20 years (Table 3.20.7).
- GPs in rural areas were more likely to stay in current practice for a longer time than GPs in more remote areas. For example, between 13% and 15% of GPs working in remote centres and other remote areas had stayed in practice for 10 years or more compared with 30% to 31% of GPs working in small rural centres and other rural centres (Table 3.20.7; Figure 3.20.5).

Table 3.20.7: Number and proportion of GPs in rural and remote areas, by length of stay in current practice and remoteness, at 30 November 2008

	Duration						
RRMA[(a)] category	<12 months	1–2 years	2–5 years	5–10 years	10–20 years	>20 years	Total
				Number			
Small rural centre	323	209	316	298	244	238	1,628
Other rural centre	488	282	453	437	403	359	2,422
Remote centre	82	57	66	39	28	14	286
Other remote area	96	54	66	37	26	11	290
Total	**989**	**602**	**901**	**811**	**701**	**622**	**4,626**
				Proportion			
Small rural centre	19.8	12.8	19.4	18.3	15.0	14.6	100.0
Other rural centre	20.1	11.6	18.7	18.0	16.6	14.8	100.0
Remote centre	28.7	19.9	23.1	13.6	9.8	4.9	100.0
Other remote area	33.1	18.6	22.8	12.8	9.0	3.8	100.0
Total	**21.4**	**13.0**	**19.5**	**17.5**	**15.2**	**13.4**	**100.0**

(a) RRMA: rural, remote and metropolitan areas.

Source: AIHW analysis of Combined Rural Workforce Agencies National Minimum Data Set report.



Source: AIHW analysis of Combined Rural Workforce Agencies National Minimum Data Set report.

Figure 3.20.5: Proportion of GPs in rural and remote areas, by duration of practice and remoteness, at 31 November 2008

Additional information

Supply of health professionals

Data on the supply of health professionals are available from AIHW Labour Force Surveys. Data from the 2007 Medical Labour Force Survey, 2007 Nursing and Midwifery Labour Force Survey, 2002 Physiotherapy Labour Force Survey, 2003 Podiatry Labour Force Survey, 2003 Psychology Labour Force Survey and 2002–03 Occupational Therapy Labour Force Survey are summarised below. Information is also presented on the dental labour force from the AIHW Dental Statistics and Research unit.

Medical practitioners

- There were 77,193 registered medical practitioners in Australia of whom 67,208 (87.1%) were employed in medicine in Australia in 2007—a rise of 20.5% from 2003. Between 2006 and 2007, the total number of registered medical practitioners increased by 7.6%. Differences between questionnaires used by jurisdictions, as well as changes in the form from year to year have resulted in a subtle change in the pattern of responses to the questions around labour force status/looking for work. As such, comparing data to previous years should be done with caution (AIHW 2009a).
- The proportion of registered medical practitioners who were employed in medicine ranged from 94% in the Western Australia to 83% in Tasmania (Table 3.20.8).
- Nearly half (47%) of all registered medical practitioners employed in medicine overseas were registered in New South Wales. Similarly, 50% of all registered medical practitioners who were not employed were New South Wales registrants.

Table 3.20.8: Labour force status of registered medical practitioners, by state/territory, 2007

Labour force status	NSW[(a)]	Vic	Qld[(a)]	WA[(b)]	SA	Tas[(a)]	ACT	NT[(c)]	Australia
Employed in medicine in this state	21,024	17,016	12,204	7,713	5,371	1,540	1,442	898	67,208
On extended leave	401	347	198	23	59	39	38	20	1,124
Employed in medicine overseas	1,415	750	548	12	172	45	64	22	3,030
Employed elsewhere, not in medicine	360	187	71	22	52	32	18	20	764
Not employed in medicine	1,213	448	209	79	213	113	122	40	2,436
Retired	398	760	698	397	246	77	36	19	2,631
Total registered	**24,810**	**19,509**	**13,928**	**8,247**	**6,113**	**1,846**	**1,720**	**1,020**	**77,193**
Proportion of registered practitioners employed in medicine (per cent)	84.7	87.2	87.6	93.5	87.9	83.4	83.8	88.0	87.1

(a) The number of medical practitioners in New South Wales, Queensland and Tasmania are underestimates, because the benchmark figures did not include all registered medical practitioners.

(b) In 2007, Western Australia administered a different form from that used in 2006, which may have contributed to differences between 2006 and 2007 estimates of labour force status.

(c) Northern Territory data are based on responses to the 2007 Medical Labour Force Survey weighted to the 2007 number of registered practitioners by age and sex (derived by applying 2008 age by sex proportions to the 2007 total practitioner number,) resulting in a response rate equivalent to 27%. Care should be taken when interpreting these figures.

Source: Medical Labour Force Survey 2007 (AIHW 2009a).

Registered and enrolled nurses

- The total number of nurses identified in 2007 by the Nursing and Midwifery Labour Force Census was 305,834, comprising 245,491 registered nurses and 60,343 enrolled nurses. After accounting for multiple registrations, the average growth in numbers of registered and enrolled nurses between 2005 and 2007 for Australia was 7.1%. Growth exceeded this average in Queensland (18.3%), Victoria (9.1%), and Tasmania (7.3%), whereas the Australia Capital Territory had relatively low growth of 1.7% (AIHW 2009b).
- The proportion of registered nurses employed in nursing in Australia in 2007 was 86.5% (245,491), 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 (20,252) or were on extended leave (8,391) (Table 3.20.9).
- The proportion of enrolled nurses employed in nursing in Australia in 2007 was 85% (60,343), ranging from 68% in The Northern Territory to 90% in South Australia. Of the enrolled nurses not employed in nursing most were not looking for work in nursing (6,238), but 1,522 were looking for this type of work.

Table 3.20.9: Labour force status of registered and enrolled nurses, by state/territory, 2007

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT[(a)]	Australia[(b)]
					Registered nurses				
Employed	64,384	57,253	41,412	18,975	18,120	6,051	3,505	2,642	212,342
On extended leave	2,478	2,721	1,487	651	601	187	131	134	8,391
Looking for work in nursing	1,127	420	508	198	172	43	66	47	2,581
Overseas	1,249	199	258	37	84	24	53	22	1,926
Not looking for work in nursing	11,219	2,904	2,580	1,831	973	221	263	261	20,252
Total employed nurses	*80,456*	*63,497*	*46,245*	*21,693*	*19,951*	*6,525*	*4,018*	*3,106*	*245,491*
Percentage of registered nurses employed in nursing	80.0	90.2	89.5	87.5	90.8	92.7	87.2	85.1	86.5
					Enrolled nurses				
Employed	12,651	17,818	7,723	4,994	5,793	990	686	334	50,990
On extended leave	487	534	164	115	122	18	17	15	1,472
Looking for work in nursing	480	533	141	113	143	41	8	62	1,522
Overseas	76	33	5	n.p.	6	–	–	–	121
Not looking for work in nursing	2,634	1,633	681	705	358	84	63	80	6,238
Total enrolled nurses	*16,327*	*20,550*	*8,714*	*5,928*	*6,423*	*1,134*	*777*	*491*	*60,343*
Percentage of enrolled nurses employed in nursing	77.5	86.7	88.6	84.2	90.2	87.3	88.3	68.0	84.5
					All nurses				
Employed	77,034	75,071	49,135	23,969	23,913	7,041	4,192	2,976	263,331
On extended leave	2,965	3,256	1,651	767	723	205	148	149	9,863
Looking for work in nursing	1,607	953	650	311	315	84	74	109	4,103
Overseas	1,325	231	263	37	91	24	55	22	2,047
Not looking for work in nursing	13,852	4,537	3,260	2,537	1,331	305	327	341	26,490
Total nurses 2007	**96,783**	**84,047**	**54,959**	**27,620**	**26,374**	**7,658**	**4,796**	**3,597**	**305,834**
Percentage of all nurses employed in nursing	79.6	89.3	89.4	86.8	90.7	91.9	87.4	82.7	86.1

(a) State and territory estimates for 2007 should be treated with caution owing to the low response rates in some jurisdictions, particularly the Northern Territory (28.7%).

(b) Total for Australia includes estimates for the Northern Territory.

Source: Nursing and Midwifery Labour Force Census 2007 (AIHW 2009b).

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.
- 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 in 2002, 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 3.20.10).
- 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).
- 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 3.20.10: 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.
- The AIHW 2003 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 3.20.11).
- 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.
- Of the registered podiatrists who were not working in podiatry in 2002, the majority were not actively looking for work in podiatry (112).

Table 3.20.11: 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.
- The AIHW 2003 Labour Force Survey showed there were 16,094 registered psychologists in New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory in 2003. 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 3.20.12).
- 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.
- Of the registered psychologists who were not working in psychology, the majority were not actively looking for work in psychology (817).

Table 3.20.12: 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 1,793 registered dental therapists/oral health therapists in Australia in 2006.
- The proportion of dental therapists/oral health therapists employed in dentistry ranged from 79% in Western Australia to 95% in the Australian Capital Territory (Table 3.20.13).
- In 2006, 161 dental therapists/oral health therapists were not in paid work/not working as a dental therapist/oral health therapist.

Table 3.20.13: Practice status of dental therapists and oral health therapists, by state/territory, 2006

Labour force status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	All
Dental therapists	225	196	245	286	121	56	19	23	1171
Oral health therapists	39	41	228	38	26	—	—	—	372
Practising therapy only in other states	7	n.p.	n.p.	n.p.	n.p.	n.p.	—	—	29
On 3+ months leave	n.p.	6	13	20	9	n.p.	n.p.	n.p.	55
Overseas	n.p.	n.p.	n.p.	n.p.	n.p.	—	—	—	5
Not in paid work/not working as a dental therapist/OHT	48	34	11	56	10	n.p.	n.p.	n.p.	161
Total registered dental therapists/OHT	**323**	**284**	**502**	**410**	**169**	**60**	**20**	**25**	**1,793**
Percentage of dental therapists/oral health therapists employed in dentistry	81.7	83.5	94.2	79	87	93.3	95	92	86.1

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.
3. Registration of dental therapists/hygienists in NSW and Qld commenced in 2005.

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.
- 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 3.20.14).
- Of the occupational therapist respondents who were not employed in occupational therapy, the majority were not actively looking for work in occupational therapy (278) or were on extended leave (117).

Table 3.20.14: 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).

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) reported on the viability of rural general practice found that the key factors contributing to the viability of these practices were:

- Practice characteristics (59%), such as 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 clearly the most important factor considered to threaten practice viability: it was nominated by 57% of practitioners. Workforce supply items of 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 reported 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 (11.5 years compared with 8.2 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 (11.8 years compared with 7.8 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

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).

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 2005). The data are collected in accordance with an agreed national minimum data set and data dictionary. This measure does not directly answer the broader retention and recruitment questions, but will provide a useful interim surrogate measure.

General Practitioner data

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.

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 2007 (AIHW 2009a).

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 infants	National Perinatal Data Collection
1.02 Top reasons for hospitalisation	AIHW National Hospital Morbidity Database
1.03 Hospitalisation for injury and poisoning	AIHW National Hospital Morbidity Database
1.04 Hospitalisation for pneumonia	AIHW National Hospital Morbidity Database
1.05 Circulatory disease	AIHW National Hospital Morbidity Database, BEACH, NATSIHS
1.06 Acute rheumatic fever & rheumatic heart disease	Registers of acute rheumatic fever and rheumatic heart disease in the Top End of the Northern Territory and Central Australia
1.07 High blood pressure	AIHW National Hospital Morbidity Database, BEACH, NATSIHS
1.08 Diabetes	AIHW National Hospital Morbidity Database, BEACH, NATSIHS
1.09 End stage renal disease	Australia and New Zealand Dialysis and Transplant Registry (ANZDATA), AIHW's National Hospital Morbidity Database, AIHW National Mortality Database
1.10 Decayed, missing, filled teeth	AIHW Dental Statistics Research Unit (Child Dental Health Survey; Indigenous child oral health in remote communities Study; and National Survey of Adult Oral health), NATSIHS, WAACHS, AIHW National Hospital Morbidity Database
1.11 HIV/AIDS, hepatitis C and sexually transmissible infections	National Notifiable Diseases Surveillance System (NNDSS), National AIDS Registry and National HIV database (NCHECR)
1.12 Children's hearing loss	NATSIHS, WAACHS, BEACH survey, AIHW National Hospital Morbidity Database. Limited data on child hearing screening from the state and territory health departments
1.13 Disability	NATSISS, Census of Population and Housing, WAACHS
1.14 Community functioning	NATSISS, CHINS
1.15 Life expectancy at birth	ABS population estimates based on the 2001 Census of Population and Housing; AIHW National Mortality Database
1.16 Perceived health status	NATSIHS, NATSISS
1.17 Median age at death	AIHW National Mortality Database
1.18 Social and emotional wellbeing	NATSIHS, NATSISS, AIHW National Hospital Morbidity Database, AIHW National Mortality Database, AIHW Community Mental Health Care Database, AIHW Residential Community Mental Health Care Database, WAACHS, BEACH survey
1.19 Infant mortality rate	AIHW National Mortality Database
1.20 Perinatal mortality	ABS Deaths Registration Database
1.21 Sudden infant death syndrome	AIHW National Mortality Database
1.22 All causes age standardised deaths rates	AIHW National Mortality Database
1.23 Leading causes of mortality	AIHW National Mortality Database
1.24 Maternal mortality	National Perinatal Data Collection
1.25 Avoidable and preventable deaths	AIHW National Mortality Database
2.01 Access to functional housing with Utilities	CHINS, NATSISS, SAAP
2.02 Overcrowding in housing	NATSIHS, NATSISS, Census of Population and Housing
2.03 Environmental tobacco smoke	NATSIHS

(continued)

Appendix 1 (continued): List of measures and data sources

Measure	Data sources
2.04 Years 3, 5 and 7 literacy and numeracy	National Report on Schooling in Australia (Ministerial Council on Education, Employment, Training and Youth Affairs)
2.05 Years 10 and 12 retention and attainment	ABS National Schools Statistics Collection
2.06 Educational participation and attainment of Aboriginal and Torres Strait Islander adults	NATSIHS, NATSISS, National Centre for Vocational Education Research (NCVER), Department of Education, Science and Training (DEST) Higher Education Statistics Collection, Census of Population and Housing
2.07 Employment status including CDEP participation	NATSIHS, Census of Population and Housing, ABS Labour Force Survey
2.08 Income	NATSIHS, NATSISS, Census of Population and Housing
2.09 Housing tenure type	NATSIHS, NATSISS, Census of Population and Housing
2.10 Index of disadvantage	Census of Population and Housing
2.11 Dependency ratio	ABS population estimates based on Census of Population and Housing
2.12 Single-parent families by age group	Census of Population and Housing, NATSIHS
2.13 Community safety	NATSISS, AIHW National Hospital Morbidity Database, AIHW National Mortality Database, Australian Institute of Criminology National Homicide Monitoring Program
2.14 Contact with the criminal justice system	ABS National Prison Census, National Policy Custody Survey, AIC National Deaths in Custody Program Annual Report, AIHW Juvenile Justice National Minimum Data Set, NATSISS, AIC Drug Use Monitoring in Australia (DUMA)
2.15 Child protection	AIHW National Child Protection Data collections
2.16 Transport	NATSIHS, NATSISS, Census of Population and Housing
2.17 Indigenous people with access to their traditional lands	NATSISS
2.18 Tobacco use	NATSIHS, 2004 National Drug Strategy Household Survey (NDSHS)
2.19 Tobacco smoking during pregnancy	AIHW National Perinatal Data Collection
2.20 Risky and high risk alcohol consumption	NATSIHS, AIHW National Hospital Morbidity Database, AIHW National Mortality Database, BEACH survey
2.21 Drug and other substance use including inhalants	NATSIHS, NATSISS, NDSHS, the AIHW Hospital Morbidity Database, AIC DUMA survey
2.22 Level of physical activity	NATSIHS
2.23 Dietary behaviours	NATSIHS
2.24 Breastfeeding practices	NATSIHS
2.25 Unsafe sexual practices	NNDSS, National Perinatal Data Collection
2.25 Prevalence of overweight and obesity	NATSIHS
3.01 Antenatal care	State/territory Perinatal Collections
3.02 Immunisation (child and adult)	NATSIHS, Australian Childhood Immunisation Register (ACIR)
3.03 Early detection and early treatment (including cancer screening)	Medicare database, AIHW BreastScreen Australia database, National Bowel Cancer Screening Register, NATSIHS, AIHW National Mortality Database, Service Activity Reporting (SAR) database

(continued)

Appendix 1 (continued): List of measures and data sources

Measure	Data sources
3.04 Chronic disease management	SAR database, Healthy For Life (HFL) Data Collection
3.05 Differential access to key hospital procedures	AIHW National Hospital Morbidity Database
3.06 Ambulatory care sensitive hospital admissions	AIHW National Hospital Morbidity Database
3.07 Health promotion	CHINS, SAR database, Drug and Alcohol Service Reporting (DASR) database, BEACH survey, AIHW health expenditure data, Annual Survey of Divisions of General Practice
3.08 Discharge against medical advice	AIHW National Hospital Morbidity Database
3.09 Access to mental health services	NATSIHS, BEACH survey, AIHW National Hospital Morbidity Database, AIHW National Community Mental Health Care Database, AIHW, National Residential Mental Health Care Database, SAR database, AIHW Medical Labour Force Survey, AIHW National Public Hospital Establishment Database
3.10 Aboriginal and Torres Strait Islander Australians in the health workforce	Census of Population and Housing
3.11 Competent governance	Office of the Registrar of Indigenous Corporations (ORIC), NATSIHS, HFL data collection, SAR database and DASR database
3.12 Access to services by types of service compared to need	NATSIHS, NATSISS, CHINS, Census of Population and Housing, AIHW National Hospital Morbidity Database, DoHA general practitioner and Medicare data, AIHW Health Labour Force Surveys, SAR database, DASR database, AIHW health expenditure data
3.13 Access to prescription medicines	Indigenous Pharmaceutical Benefits Scheme (PBS) expenditure estimates based on the BEACH survey. AIHW Pharmacists Labour Force Survey
3.14 Access to after hours primary health care	BEACH survey, SAR database, Medicare database, AIHW Non-admitted Patient Emergency Department Care National Minimum Data Set, AIHW health expenditure data
3.15 Regular GP or health service	NATSIHS
3.16 Care planning for clients with chronic diseases	NATSIHS, HFL data collection, SAR database
3.17 Accreditation	AIHW National Public Hospitals Establishment Database, general practice data from the Annual Survey of Divisions of General Practice, Australian General Practice Accreditation Limited (AGPAL), General Practice Accreditation Plus (GPA+)
3.18 Aboriginal and Torres Strait Islander people in Tertiary Education for health related disciplines	NCVER, Higher Education Statistics Collection
3.19 Expenditure on Aboriginal and Torres Strait Islander health compared to need	AIHW Expenditure Database
3.20 Recruitment and retention of clinical and management staff (including GPs)	SAR data collection, Rural Workforce Agency National Minimum Dataset, general practitioner data held by the Department of Health and Ageing (DoHA), AIHW Labour Force Surveys

List of abbreviations

ABS	Australian Bureau of Statistics
ACCHS	Aboriginal Community Controlled Health Services
ACIR:	Australian Childhood Immunisation Register
ACT	Australian Capital Territory
AGPAL	Australian General Practice Accreditation Limited
AGPSCC	Australian General Practice Statistics and Classification Centre
AHS	Aboriginal Health Service
AIC	Australian Institute of Criminology
AIHW	Australian Institute of Health and Welfare
ANZDATA	Australian and New Zealand Dialysis and Transplant Registry
AQF	Australian Qualifications Framework
ARF	acute rheumatic fever
ASGC	Australian Standard Geographical Classification
ATSIC	Aboriginal and Torres Strait Islander Commission
BEACH	Bettering the Evaluation and Care of Health (survey)
BMI	body mass index
BPG	benzathine penicillin G
CABG	coronary artery bypass grafts
CDEP	Community Development Employment Projects scheme
CHINS	Community Housing and Infrastructure Needs Survey
CI	confidence interval
COPD	chronic obstructive pulmonary disease
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
DUMA	Drug Use Monitoring in Australia
ESRD	end stage renal disease
FaCSIA	(Australian Government) Department of Families, Community Services and Indigenous Affairs
FTE	full-time equivalent
GP	general practitioner
GPA+	General Practice Accreditation Plus

GSS	General Social Survey
HIB	haemophilus influenza type B
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
MBS	Medicare Benefits Schedule
MCEETYA	Ministerial Council on Education, Employment, Training and Youth Affairs
METeOR	Metadata Online Registry
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
NCHECR	National Centre in HIV Epidemiology and Clinical Research
NCMHCD	National Community Mental Health Care Database
NCVER	National Centre for Vocational Education Research
NDSHS	National Drug Strategy Household survey
NHMP	National Homicide Monitoring Program
NHMRC	National Health and Medical Research Council
NMDS	National Minimum Data Set
NNDSS	National Notifiable Diseases Surveillance System
NPSU	National Perinatal Statistics Unit
NSSC	National Schools Statistics Collection
NSW	New South Wales
NT	Northern Territory
OATSIH	Office of Aboriginal and Torres Strait Islander Health
OECD	Organisation for Economic Cooperation and Development
PBS	Pharmaceutical Benefits Scheme
PCI	percutaneous coronary intervention
PIRS	Patient Information and Recall System
PYLL	potential years of life lost
Qld	Queensland
RHD	rheumatic heart disease
RPBS	Repatriation Pharmaceutical Benefits Scheme
SA	South Australia
SAAP	Supported Accommodation Assistance Program

SAR	Service Activity Reporting
SDQ	Strengths and Difficulties Questionnaire
SEIFA	Socio-Economic Indexes For Areas
SF-36	Medical Outcome Short Form (mental health survey)
SIDS	sudden infant death syndrome
SLA	Statistical Local Area
SOMIH	State Owned and Managed Indigenous Housing
TAFE	Technical and Further Education colleges
Tas	Tasmania
VET	vocational education and training
Vic	Victoria
WA	Western Australia
WAACHS	Western Australian Aboriginal Child Health Survey
WHO	World Health Organisation

List of symbols used in tables

—	Nil or rounded to zero (including null cells)
n.p.	Not available for publication but included in totals where applicable, unless otherwise indicated
n.a.	Not available
. .	Not applicable

Supplementary tables

Table 1.00.3: Relationship between selected socio-economic factors and selected health behaviours and overweight and obesity, by Indigenous status[(a)], 2004-05

			Alcohol risk level				Dietary behaviours			
	Current smoker		Long-term risk[(b)]	Short term risk in last 12 months[(c)]	Short term risk at least once a week in past 12 months[(c)]	Physical inactivity	Baby never breastfed	No usual daily vegetable intake	No usual daily fruit intake	Overweight or obese
	Indig	**Non-Indig**	**Indig**	**Indig**	**Indig**	**Indig**	**Indig**	**Indig**	**Indig**	**Indig**
Household income										
1st quintile (lowest)	55.3*	32.4*	15.0	49.0	20.0	51.6	29.3	7.8	16.8	59.1
4th and 5th quintile (highest)	33.1*	20.5*	20.0	63.0	15.0	43.6	8.1	0.8	8.8	61.5
Ratio	1.7*	1.6*	0.8	0.8*	1.3	1.2	3.6*	10.1*	1.9*	1.0
Highest year of school completed										
Year 9 or below	57.9*	37.5*	17.5	46.4	20.9	60.8	n.a.	7.7	16.9	56.8
Year 12	28.6*	17.0*	12.2	59.4	13.5	34.4	n.a.	3.8	9.4	63.7
Ratio	2.0*	2.2*	1.4	0.8*	1.5*	1.8*	n.a.	2.0*	1.8*	0.9
Employment										
Employed	41.5*	23.0*	19.0	61.0	21.0	45.1	n.a.	5.0	14.3	60.6
Unemployed	75.9*	41.5*	20.0	67.0	23.0	38.0	n.a.	4.0	14.4	59.3
Not in the labour force	53.7*	26.0*	12.0	43.0	16.0	51.8	n.a.	6.8	15.6	59.6
Ratio unemployed/employed	1.8*	1.8*	1.1	1.1	1.1	0.8	n.a.	0.8	1.0	1.0

(continued)

Table 1.00.3 (continued): Relationship between selected socio-economic factors and selected health behaviours and overweight and obesity, by Indigenous status[(a)], 2004-05

	Current smoker		Alcohol risk level				Dietary behaviours			
			Long-term risk[(b)]	Short term risk in last 12 months[(c)]	Short term risk at least once a week in past 12 months[(c)]	Physical inactivity	Baby never breastfed	No usual daily vegetable intake	No usual daily fruit intake	Overweight or obese
	Indig	**Non-Indig**	**Indig**	**Indig**	**Indig**	**Indig**	**Indig**	**Indig**	**Indig**	**Indig**
Housing										
Renter	57.4	n.a.	15.0	54.0	21.0	49.0	24.3	7.4	16.4	48.5
Owner	37.4	n.a.	19.0	55.0	14.0	45.0	11.5	0.5	11.1	59.0
Ratio	1.5*	n.a.	0.8	1.0	1.5*	1.1	2.1	14.8*	1.5*	0.8*

* Statistically significant difference between Indigenous and non-Indigenous rates.

(a) Data for smoking, alcohol and overweight and obesity are for persons aged 18 years and over. Data for physical inactivity and dietary behaviours are for persons aged 15 years and over.

(b) Includes long-term 'risky' and 'high risk' drinking, i.e., average consumption in excess of (i) for males: 4 standard drinks per day amounting to 29 or more standard drinks per week; (ii) for females: 2 standard drinks per day amounting to 15 or more standard drinks per week.

(c) Includes short-term 'risky' and 'high risk' drinking, i.e., consumption in excess of (i) for males: 6 standard drinks or more on any one day; (ii) for females: 4 standard drinks or more on any one day.

Source: ABS & AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey and 2004-05 National Health Survey.

Table 1.00.4: Relationship between selected socio-economic factors and reported heart/circulatory disease, diabetes and fair/poor health status, by Indigenous status, persons aged 15 years and over, 2004-05

	Has heart/circulatory problems		Has diabetes		Self assessed health status: fair/poor	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Household income						
1st quintile (lowest)	28.2	25.7	17.9*	6.0*	35.1*	28.6*
4th and 5th quintile (highest)	22.0	17.5	11.5*	3.5*	16.5*	8.4*
Ratio	1.3	1.5	1.6	1.7*	2.1*	3.4*
Highest year of school completed						
Year 9 or below	30.0*	24.6*	17.3*	6.0*	34.0*	28.0*
Year 12	23.6	18.4	14.4*	3.8*	24.0*	11.0*
Ratio	1.3	1.3*	1.2	1.6*	1.4*	2.5*
Employment						
Employed	22.5*	17.0*	12.5*	3.2*	18.0*	9.0*
Unemployed	28.2	13.6	22.2*	3.7*	37.0	21.0*
Not in the labour force	30.3*	25.9*	17.3*	5.5*	38.0*	26.0*
Ratio unemployed/employed	1.3	1.8	1.8	1.2	2.1	2.3*
Housing						
Renter	18.4	n.a.	10.9	n.a.	23.6	n.a.
Owner	17.3	n.a.	6.6	n.a.	17.3	n.a.
Ratio	1.1	n.a.	1.7*	n.a.	1.4*	n.a.

* Statistically significant difference between Indigenous and non-Indigenous rates.

Source: ABS & AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey and 2004-05 National Health Survey.

Table 1.00.5: Relationship between selected health behaviours and overweight and obesity and reported heart/circulatory disease, diabetes and fair/poor health status, by Indigenous status[(a)], 2004-05

	Has heart/circulatory problems		Has diabetes		Self assessed health status: fair/poor	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Smoker status						
Current daily smoker	29.0*	19.4*	12.7*	3.5*	34.9*	21.7*
Not current daily smoker	27.7*	22.9*	18.5*	4.8*	26.0*	14.3*
Ratio	1.0	0.8*	0.7*	0.7	1.3*	1.5*
Risky/high risk alcohol consumption in last 12 months						
Yes	31.0*	20.5*	8.1*	2.9*	34.9*	13.6*
No	28.1*	22.8*	17.4*	5.0*	29.7*	16.4*
Ratio	1.1	0.9	0.5*	0.6*	1.2	0.8
Physical activity						
Low/sedentary	27.5*	21.9*	13.6*	4.8*	32.4*	17.9*
Moderate	21.9	21.0	12.1*	4.0*	25.4*	10.3*
High	11.0	15.4	11.2	2.6	19.3*	6.2*
Ratio low/sedentary to high	2.5*	1.4*	1.2	1.8*	1.7*	2.9*
Eats vegetables daily						
Yes	27.0*	21.4*	14.9*	4.5*	28.8*	15.4*
No	24.5	27.0	23.7*	3.4*	34.5*	28.1*
Ratio	1.1	0.8	0.6	1.3	0.8*	0.5*
Eats fruit daily						
Yes	27.1*	21.5*	15.5*	4.5*	28.3*	15.0*
No	24.9	19.6	12.6*	3.5*	34.6*	22.6*
Ratio	1.1	1.1	1.2	1.3	0.9*	0.7*
Overweight/obese						
Yes	29.3*	23.8*	17.7*	5.9*	29.8*	17.3*
No	20.6	18.5	8.7*	2.9*	26.7*	12.8*
Ratio	1.4*	1.3*	2.0*	2.0*	1.1	1.3*

* Statistically significant difference between Indigenous and non-Indigenous rates.

(a) Data for smoking, alcohol and overweight and obesity are for persons aged 18 years and over. Data for physical inactivity and dietary behaviours are for persons aged 15 years and over.

Source: ABS & AIHW analysis of 2004–05 National Aboriginal and Torres Strait Islander Health Survey and 2004-05 National Health Survey.