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Aboriginal and Torres Strait Islander Health Performance Framework 2010 report

Western Australia

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Canberra

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Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
FaHCSIA	Department of Families, Housing, Community Services and Indigenous Affairs
WHO	World Health Organization

Symbols

–	nil or rounded to zero
..	not applicable
n.a.	not available
n.e.c.	not elsewhere classified
n.p.	not publishable because of small numbers, confidentiality or other concerns about the quality of the data

Key findings

A summary of the key findings under each tier are outlined below as well as in a table format for ease of reference.

Health status and health outcomes

Areas of improvement

While the health status of Indigenous people in Western Australia is worse than their non-Indigenous counterparts against most indicators, significant health gains have been made in a number of areas:

- A significant decline in Indigenous hospitalisation rates was seen for a number of conditions over the period 2001–02 to 2007–08:
 - injury and poisoning hospitalisations declined by 16%
 - rate of hospitalisation for pneumonia declined by 17%
 - 27% decline was seen for diseases of the ear and mastoid process
 - mental health-related hospitalisations declined by 11%
- Significant closing of the gap between Indigenous and non-Indigenous mortality was seen for:
 - infant mortality which declined by 50% between 1991 and 2007
 - all-cause mortality rate declined by 32% over the period 1991–2007
 - avoidable mortality rate declined by 11% between 1997 and 2007.

Areas needing further work

Despite making progress in some areas, further improvements need to be made in a number of areas to close the gap in health disadvantage:

- Babies of Indigenous mothers are nearly 3 times as likely to be of low birthweight as babies born to non-Indigenous mothers
- Hospitalisation rate for all major health conditions among Indigenous people was over 3 times the rate of other Australians during the period 2006–2008
- Diabetes prevalence among Indigenous adults was about 3.5 times the rate of non-Indigenous Australians
- The incidence rate of end-stage renal disease (ESRD) for Indigenous Australians was around 12 times the rate of non-Indigenous Australians
- Life expectancy at birth among Indigenous males and females was more than 2 years lower than that of other people.

Determinants of health

Areas of improvement

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

- A higher proportion of Indigenous Australian adults than non-Indigenous adults was studying currently in 2008 (18% and 16% respectively)
- In 2004–05, 93% of Indigenous Australians aged 12 years and over reported that they ate vegetables daily, 85% ate fruit daily and 96% drank milk
- 85% of Indigenous infants aged 0–3 years had ever been breastfed in 2008 compared to 77% of non-Indigenous infants of the same age in Australia.

Areas needing further work

- In 2007–08, 67% Indigenous children aged 0–14 years lived in households with a daily smoker, compared with 30% for non-Indigenous
- The crude imprisonment rate of Indigenous Australians increased by 47% between 2000 and 2009
- Indigenous children aged 0–16 years were more likely than other children to be the subject of child protection substantiation (19 per 1,000 compared to 2 per 1,000)
- In 2007, Indigenous mothers were 3.8 times as likely as non-Indigenous mothers to smoke during pregnancy.

Health system performance

Areas of improvement

- Hospitalisation rate for vaccine-preventable conditions declined by 46% for Indigenous people with signs of a gap narrowing between 2001–02 to 2007–08
- Almost all hospital admitted episodes for Indigenous people (99.3%) and all for other people (100%) occurred in accredited hospitals in 2008–09
- In 2006–07, the state government was estimated to have spent, on average, \$4,224 per Indigenous person compared with \$1,599 per non-Indigenous person.

Areas needing further work

- The proportion of Indigenous children who were fully immunised at age 1 declined steadily from 2004 to 2009. The proportion immunised at age 2 dropped from 88% in 2005 to 74% in 2009 showing a widening gap between Indigenous and non-Indigenous children
- The proportion of women aged 50–69 years participating in the BreastScreen Australia program had decreased by 9% for Indigenous women between 2003–04 and 2007–08
- Hospitalisation rate for preventable chronic conditions among Indigenous people has increased by 303% over the period 2001–02 to 2007–08, indicating a widening of the gap between Indigenous and other people.

Summary of progress against key in the Health Performance Framework, NT

Health status and health outcomes		Determinants of health		Health system performance	
Improving	Needs Improvement	Improving	Needs Improvement	Improving	Needs Improvement
<p>Injury and poisoning</p> <p>The hospitalisation rate declined by 16% for Indigenous people, Increased by 12% for other people. Gap has narrowed. (2001–02 to 2007–08)</p> <p>Pneumonia</p> <p>The hospitalisation rate declined by 17% for Indigenous people, no significant changes for other people. Gap has narrowed. (2001–02 to 2007–08)</p> <p>Children's hearing loss</p> <p>The hospitalisation rates for diseases of the ear and mastoid process decreased significantly. (2001–02 to 2007–08)</p> <p>Mental health</p> <p>The hospitalisation rate had declined by 11% for Indigenous people, and increased for non-Indigenous people. Gap has narrowed. (2001–02 to 2007–08)</p> <p>Infant mortality</p> <p>The Infant mortality rate decreased by 50% for Indigenous infants and by 44% for other infants. Gap has narrowed. (1991 to 2007)</p> <p>Perinatal mortality</p> <p>The perinatal mortality rate decreased from 17.6 to 12.7 per 1,000 for Indigenous babies, from 9.6 to 8.5 per 1,000 for other babies. Gap has narrowed. (1999–2003 to 2004–2008)</p> <p>All-causes mortality</p> <p>The mortality rate declined by 32% for Indigenous people, by 29% for other people. Gap has narrowed. (1991–2007)</p> <p>Avoidable mortality</p> <p>The mortality rate from avoidable causes declined by 11% for Indigenous people, by 9% for other people. Gap has narrowed. (1991–2007)</p>	<p>Hospitalisation</p> <p>Indigenous people are hospitalised at 3.4 times the rate of other persons. When dialysis hospitalisations are excluded, the rate is still nearly 2 times.</p> <p>Diabetes</p> <p>Diabetes hospitalisation rate increased by 38% for Indigenous people, by 32% for other people. Gap has widened. (2001–02 to 2007–08)</p> <p>ESRD</p> <p>The incidence rate of ESRD increased by 162% for Indigenous people, by 98% for other people. Gap has widened. (1991–2008)</p> <p>Chlamydia</p> <p>The notification rate for Indigenous people increased significantly, resulting in a greater rate difference. Gap has widened. (1994–96 to 2006–08)</p> <p>Gonorrhoea</p> <p>The notification rate for Indigenous people increased by 34%. Gap has widened. (1994–96 to 2006–08)</p> <p>Syphilis</p> <p>The notification rate for Indigenous people increased significantly. Gap has widened. (1994–96 to 2006–08)</p> <p>Life expectancy at birth</p> <p>In 2005–07, life expectancy for Indigenous males and females in Western Australia was 2.2 and 2.5 years lower compared to Indigenous males and females in Australia.</p>	<p>Adult education</p> <p>In 2008, 18% Indigenous Australians aged 15 years and over were currently studying. This is higher than non-Indigenous Australians (16%).</p> <p>Dietary habits</p> <p>In 2004–05, 93% Indigenous Australians reported eating vegetables daily, 85% eating fruit daily and 96% drinking milk.</p> <p>Breastfeeding practices</p> <p>In 2008, 85% of Indigenous infants aged 0–3 years had ever been breastfed compared to 77% of non-Indigenous infants of the same age in Australia.</p>	<p>Environmental tobacco smoke</p> <p>In 2007–08, 67% Indigenous children aged 0–14 years lived in households with a daily smoker, compared with 30% for non-Indigenous children.</p> <p>Income</p> <p>Indigenous Australians aged 18 years had a mean income of \$621 per week compared to \$1,051 per week for non-Indigenous Australians (2008)</p> <p>Stressors</p> <p>In 2008, 81% of Indigenous people aged 18 years and over or their family members and close friends, experienced at least one stressor in the past 12 months compared to 48% for non-Indigenous people.</p> <p>Imprisonment</p> <p>The crude imprisonment rate of Indigenous Australians increased by 47%. (2000 to 2009)</p> <p>Child protection</p> <p>Indigenous children are more likely than other children in Western Australia to be the subject of child protection substantiation (19 per 1,000 compared to 2 per 1,000) and the proportion of Indigenous children who were the subject of substantiation increased over the period from 2006–07 to 2008–09.</p> <p>Tobacco smoking during pregnancy</p> <p>In 2007, Indigenous mothers were 3.8 times as likely as non-Indigenous mothers to smoke during pregnancy. This was higher than the national ratio of 3.4.</p>	<p>Adult immunisation</p> <p>In 2004–05, Indigenous people aged 65 years and over had a similar proportion of vaccination against influenza as non-Indigenous people of the same age, and a higher proportion of vaccination against pneumonia than non-Indigenous people.</p> <p>Vaccine preventable conditions</p> <p>Hospitalisation rate declined by 46% for Indigenous people, by 47% for other people. Gap has narrowed. (2001–02 to 2007–08)</p> <p>Hospitalisation accreditation</p> <p>In 2006–08, almost all of hospital admitted episodes for Indigenous (99.3%) and all for other people (100%) occurred in accredited hospitals.</p> <p>General practice accreditation</p> <p>In 2008–09, 89% of general practice divisions were accredited compared with 87% in Australia.</p> <p>Health expenditure</p> <p>In 2006–07, the state government was estimated to have spent, on average, \$4,224 per Indigenous person compared with \$1,599 per non-Indigenous person.</p>	<p>Childhood immunisation</p> <p>The proportion of children at 1 year of age who were fully immunised decreased steadily from 2004 to 2009. At 2 years of age, the proportion dropped from 88% in 2005 to 74% in 2009. Gap has widened.</p> <p>Breast screening</p> <p>The proportion of women aged 50–69 years participating in the BreastScreen Australia program had decreased by 9% for Indigenous women. (2003–04 to 2007–08)</p> <p>Preventable chronic conditions</p> <p>Hospitalisation rate increased by 303% for Indigenous people, by 154% for other people. Gap has widened. (2001–02 to 2007–08)</p>

Introduction

This report provides information on a range of indicators on health status, determinants and the health system performance in relation to the Aboriginal and Torres Strait Islander people in Western Australia. The report is based on the *Aboriginal and Torres Strait Islander Health Performance Framework 2010 report, detailed analysis*, the third in a series of reports against the Aboriginal and Torres Strait Islander Health Performance Framework (HPF). Analysis presented in this report includes both jurisdiction-specific measures and their comparison with national measures.

The HPF comprises three tiers:

Tier 1 – health status and health outcomes. This tier covers measures of prevalence of health conditions (for example circulatory disease, diabetes), human function (for example disability), life expectancy and wellbeing 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 people. The domains covered in this tier include socioeconomic status (for example income and education), environmental factors (for example overcrowding), community capacity (for example child protection), health behaviours (for example risky alcohol consumption and dietary behaviours) and person-related factors (for example prevalence of overweight and obesity). Such factors have been shown to have a strong association with both disease and ill-health.

Tier 3 – health 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, access to secondary/tertiary care, the health workforce and expenditure.

The tiers and domains of the HPF and selected measures are shown in Figure 1. There are currently 71 indicators that can be reported against at a national level but not all these indicators can be reported for Western Australia due to issues related to data availability and data quality. Information on why these indicators were selected can be found in the Aboriginal and Torres Strait Islander Health Performance Framework 2010 policy report (AHMAC 2011).

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 and 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 and 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 Years 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 <i>Demography</i> 2.11 Dependency ratio 2.12 Single-parent families by age group* <i>Safety and crime</i> 2.13 Community safety 2.14 Contact with the criminal justice system 2.15 Child protection <i>Other</i> 2.16 Transport 2.17 Indigenous people with access to their traditional lands	Health behaviours <i>Tobacco, alcohol and other drug use</i> 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 <i>Physical activity</i> 2.22 Level of physical activity <i>Nutrition</i> 2.23 Dietary behaviours 2.24 Breastfeeding practices <i>Other health behaviours</i> 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

* Measures for which Western Australia data are unavailable, or data are not of sufficient quality for reporting.

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

Demographic information

In 2010, there were an estimated 76,271 Aboriginal and Torres Strait Islander people in Western Australia, accounting for 13.5% of the Indigenous population in Australia. Indigenous people represent 3.4% of the Western Australian population, similar to the proportion they represent in the total Australian population (2.6%).

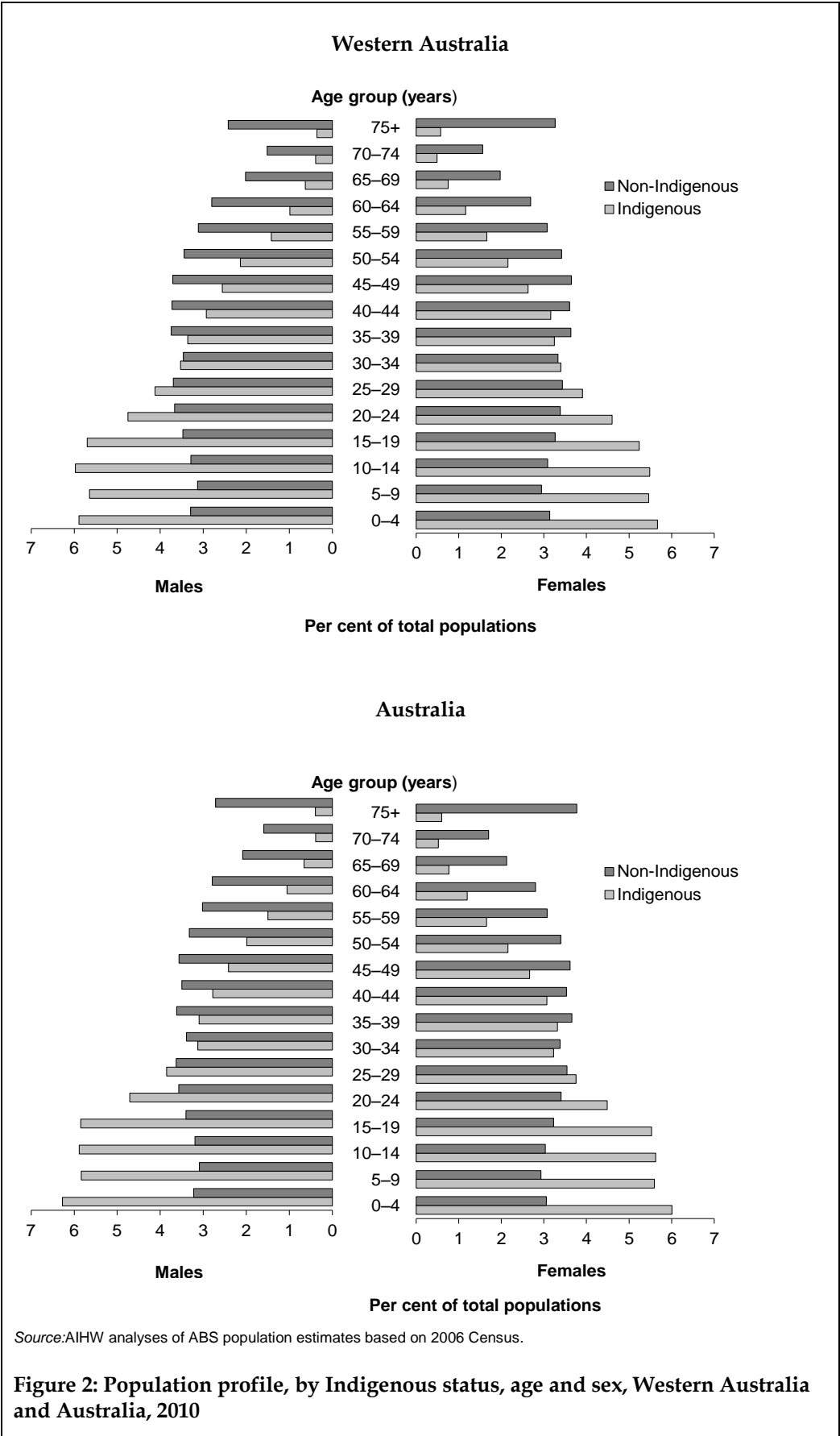
Table 1: Estimated resident population by Indigenous status, Western Australia and Australia, 2010

	Indigenous		Non-Indigenous		Total			
	No.	%	No.	%	No.	%	% Indig.	% Non-Indig.
Western Australia	76,271	13.5	2,169,312	10.1	2,245,583	10.2	3.4	96.6
Australia^(a)	563,101	100.0	21,427,910	100.0	21,991,011	100.0	2.6	97.4

(a) Includes external territories.

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

Aboriginal and Torres Strait Islander people have an age structure that is significantly younger than that of other Australians. For example, in Western Australia, Aboriginal and Torres Strait Islander people aged less than 15 years constitute 34.1% of the Indigenous population, whereas this age group represents about 19.4% of the total population. Conversely, those aged 65 years and over comprise only 3.2% of the Indigenous population, compared with 12.4% of the total Western Australia population (Figure 2).



In Western Australia, 34.4% of the Aboriginal and Torres Strait Islander people live in *Major cities*, 8% in *Inner regional* areas and 14.9% in *Outer regional* areas. However, 42.6% of Indigenous people live in *Remote and very remote* areas. In comparison, 32.1% of the Indigenous population in Australia live in *Major cities*, 21.4% live in *Inner regional* areas and 21.9% live in *Outer regional* areas, with only 24.7% residing in *Remote* and *Very remote* areas.

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

	Indigenous		Non-Indigenous		Total			Per cent Non-Indig.
	No.	Per cent	No.	Per cent	No.	Per cent	Per cent Indig.	
Western Australia								
Major cities	24,429	34.4	1,446,074	72.7	1,470,503	71.4	1.7	98.3
Inner regional	5,711	8.0	252,859	12.7	258,570	12.6	2.2	97.8
Outer regional	10,601	14.9	180,956	9.1	191,557	9.3	5.5	94.5
Remote	12,159	17.1	80,588	4.1	92,747	4.5	13.1	86.9
Very remote	18,066	25.5	27,938	1.4	46,004	2.2	39.3	60.7
Western Australia	70,966	100.0	1,988,415	100.0	2,059,381	100.0	3.4	96.6
Australia								
Major cities	165,804	32.1	13,996,454	69.4	14,162,258	68.4	1.2	98.8
Inner regional	110,643	21.4	3,974,764	19.7	4,085,407	19.7	2.7	97.3
Outer regional	113,280	21.9	1,854,024	9.2	1,967,304	9.5	5.8	94.2
Remote	47,852	9.3	267,199	1.3	315,051	1.5	15.2	84.8
Very remote	79,464	15.4	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.

Data sources and methodology

Data in this report come from a number of different administrative data sets and surveys. A description of all data sources used for the report is presented at Appendix 1.

Health-related administrative data sets used in the report include the Australian Institute of Health and Welfare (AIHW) National Hospital Morbidity Database, the AIHW National Mortality Database, the AIHW National Perinatal Data Collection, Australia and New Zealand Dialysis and Transplant Registry and the National Notifiable Diseases Surveillance System. Administrative data related to education are from the ABS National Schools Statistics Collection, DEEWR Higher Education Statistics Collection and the National Centre for Vocational Education Research database; and community services-related data include the AIHW Community Mental Health Care Database and the AIHW National Child Protection Data collections. Administrative data related to other government services and programs such as the Service Activity Reporting Database, Australian Childhood Immunisation Register and Medicare databases have also been used.

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

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

Time series analyses 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 $p < 0.05$ level.

Data limitations

There are a number of limitations of available data presented in this report that should be noted when interpreting data analyses 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 for these data collections. Appendix 1 presents a brief description of each data source and a comprehensive data quality statement covering the data sources and specific issues to be noted when reading the indicator and interpreting the data.

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

Data on communicable diseases from the National Notifiable Disease Surveillance System are assessed with a varying level of completeness across diseases and jurisdictions; Western Australia was assessed to have adequate identification for chlamydia, syphilis, gonorrhoea and hepatitis C.

The incompleteness of Indigenous identification means the number of hospital separations, deaths and disease notifications recorded as Indigenous are an underestimate of 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. 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.

Population data

Indigenous population data are required when computing rates from administrative data collections. The Indigenous population estimates used in this report are the Indigenous estimated resident population (ERP) figures, based on the 2006 Census (ABS 2009). The 2006 Census enumerated the Indigenous population from responses to a question on a person's Indigenous status. The Indigenous ERP for 2006 is computed using this enumerated Indigenous population from the Census, and adjusted for undercount based on results from the Post enumeration survey (PES) as well as for non-response to the Indigenous status question (ABS 2009). Population numbers for other years are projected based on assumed future levels of fertility, mortality and migration (ABS 2009).

The use of Indigenous ERP based on the 2006 Census showed a greater impact on mortality time series which showed vastly different results to those published in previous national reports, such as the Aboriginal and Torres Strait Islander Health Performance Framework. The implications of using 2006 ERP are discussed in Box 1.

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 indicator is constant and includes a definition according to the technical specifications followed by analyses undertaken. For each indicator, jurisdiction-specific data are analysed in comparison with national data, or data from a group of jurisdictions with sufficient data quality. Where possible, analyses are presented by age, sex, and Indigenous status. Time trends are also presented where possible for years that have adequate identification of Indigenous people in their recording systems.

Box 1: Effect of changing from 2001 to 2006 Census based Indigenous population denominator

The 2010 Aboriginal and Torres Strait Islander Health Performance Framework report (AIHW 2011) 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). 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. While the greatest impact of 2006 ERP was seen in mortality rates, the rates based on other administrative data were also affected.

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 numerator data which also contribute to the differences in rates based on 2006 ERP.

Health status and outcomes (Tier 1)

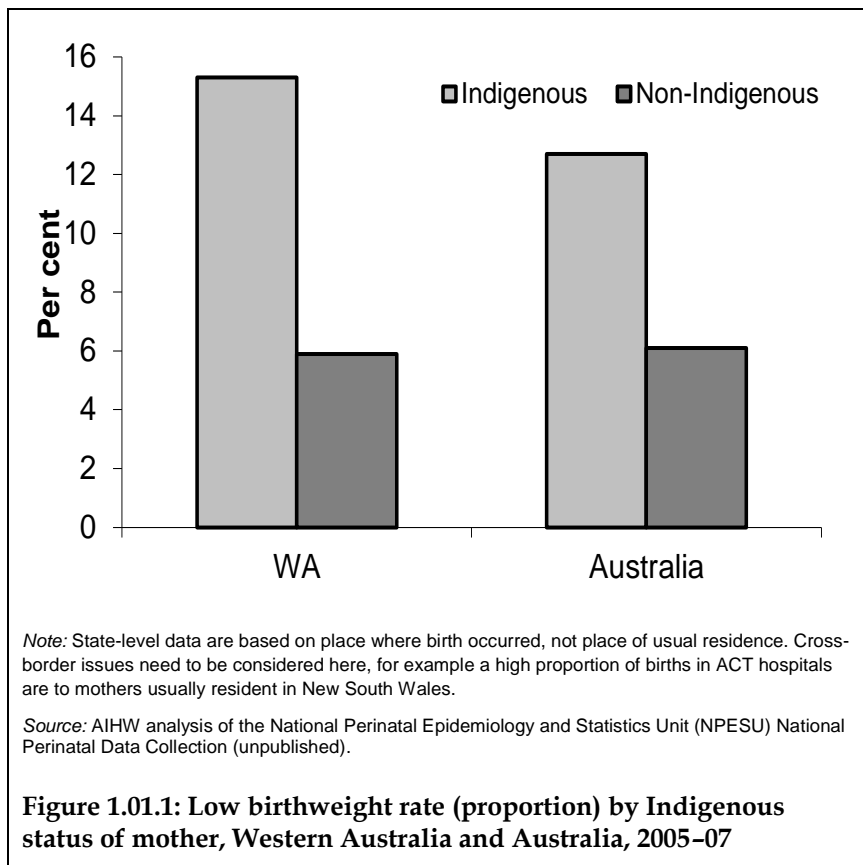
1.01 Low birthweight infants

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

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

Low birthweight by Indigenous status

- Over the period 2005–2007 in Western Australia, live-born babies with Indigenous mothers were about 2.6 times as likely to be of low birthweight (that is less than 2,500 grams) than live-born babies with non-Indigenous mothers (15.1% compared to 5.8%).
- The proportion of low-birthweight babies born to Indigenous mothers in Western Australia was higher than in Australia (15.1% compared to 12.4%); however, the proportion of low-birthweight babies born to non-Indigenous mothers was similar in Western Australia and Australia.



Low birthweight trends

- Over the period 2000 to 2008 in Western Australia, the proportion of low-birthweight babies born to Indigenous mothers showed apparent increases but these did not attain statistical significance. The proportion of low-birthweight babies born to non-Indigenous mothers did not change significantly.
- The rate ratio and rate difference between low-birthweight babies born to Indigenous and other mothers in Western Australia also did not change significantly over the same period.
- Over the same period in NSW, Vic, Qld, WA, SA & NT combined, there was no significant change in the proportion of low-birthweight babies born to Indigenous mothers or non-Indigenous mothers.

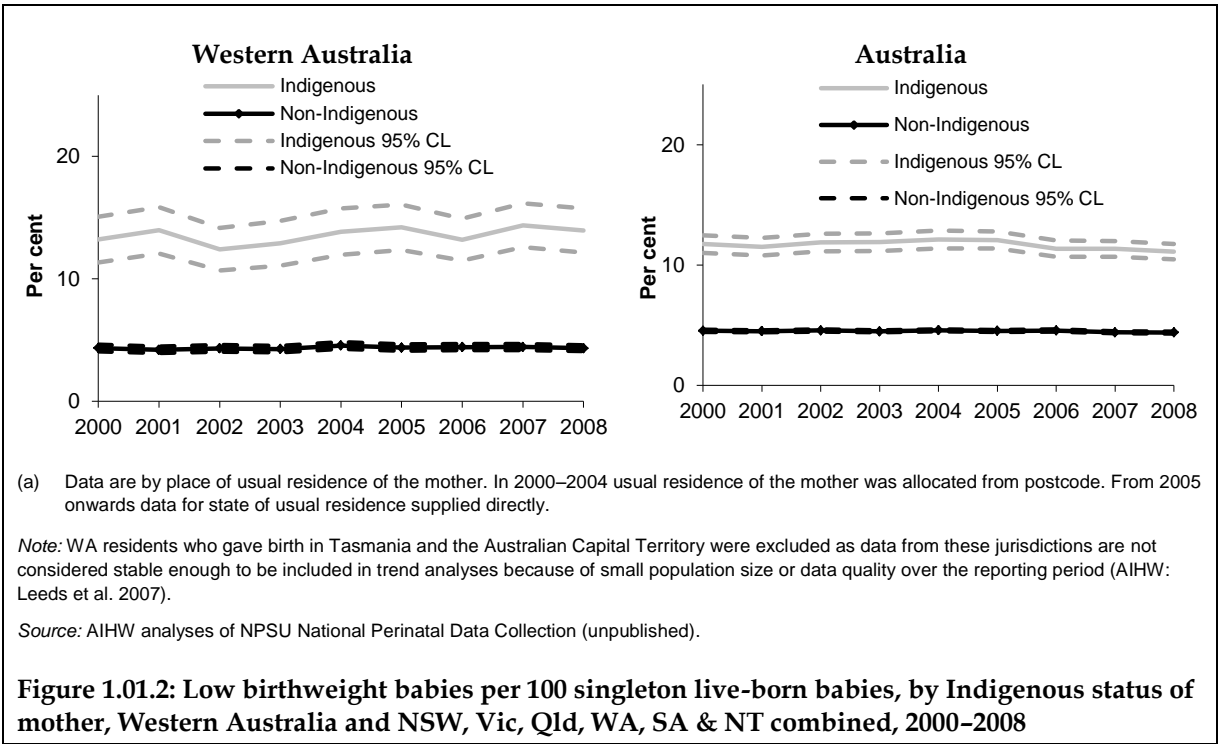


Table 1.01.1: Low birthweight rate (proportion), rate ratio and rate difference between singleton live-born babies of Indigenous and other mothers, Western Australia and NSW, Vic, Qld, WA, SA & NT combined, 2000–2008^(a)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual change ^(b)
Western Australia										
Rate per 100 live births (%)										
Indigenous	13.2	14.0	12.4	12.9	13.9	14.2	13.2	14.4	14.0	0.12
Non-Indigenous	4.3	4.2	4.3	4.3	4.6	4.4	4.4	4.4	4.3	0.02
Rate ratio	3.0	3.3	2.9	3.0	3.0	3.2	3.0	3.2	3.2	0.01
Rate difference	8.9	9.8	8.1	8.6	9.3	9.8	8.8	9.9	9.6	0.10
NSW, Vic, Qld, WA, SA & NT										
Rate per 100 live births (%)										
Indigenous	11.7	11.5	11.9	11.9	12.1	12.1	11.4	11.3	11.1	–0.06
Non-Indigenous	4.5	4.5	4.6	4.5	4.6	4.5	4.6	4.4	4.4	–0.01
Rate ratio	2.6	2.6	2.6	2.6	2.6	2.7	2.5	2.6	2.5	–0.01
Rate difference	7.2	7.0	7.3	7.4	7.5	7.5	6.8	6.9	6.7	–0.05

* Represents results with statistically significant increases or decreases at the $p < .05$ level over the period 2000–2008.

(a) Data are by place of usual residence of the mother. In 2000–2004 usual residence of the mother was allocated from postcode. From 2005 onwards data for state of usual residence supplied directly.

(b) Average annual change in rate, rate ratio, and rate difference of low birthweight babies determined using linear regression analysis.

Note: WA residents who gave birth in Tasmania and the Australian Capital Territory were excluded as data from these jurisdictions are not considered stable enough to be included in trend analyses because of small population size or data quality over the reporting period (AIHW: Leeds et al. 2007).

Source: AIHW analyses of NPSU National Perinatal Data Collection (unpublished).

1.02 Top reasons for hospitalisation

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

Hospitalisations by age

- For the 2-year period July 2006 to June 2008 in Western Australia there were 1,524,203 hospitalisations, 7.1% of which were Indigenous Australians.
- Overall, Indigenous Australians were hospitalised at 3.4 times the rate of other people in Western Australia. In the six jurisdictions combined, Indigenous Australians were hospitalised at 2.3 times the rate of other people.
- Excluding dialysis (due to the frequent admissions for the same disease), Indigenous Australians in Western Australia were hospitalised at 1.6 times the rate of other people. In the six jurisdictions combined, Indigenous Australians were hospitalised at 1.3 times the rate of other people.
- For the 2-year period July 2006 to June 2008 in Western Australia, when hospitalisations for dialysis are excluded, Indigenous Australians had higher hospitalisation rates than other people across all age groups. In New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory combined, Indigenous Australians had higher hospitalisation rates than other people across all age groups with the exception of those aged 65 years and over.
- In Western Australia, the greatest difference in hospitalisation rates between Indigenous and other people occurred in the 35–44 year age group where Indigenous Australians were hospitalised at more than twice the rate of other people in this age group.
- For both Western Australia alone, and the six jurisdictions combined, hospitalisation rates were highest in the 65 years and over age group and lowest among those aged 5–14 years for both Indigenous and other people.

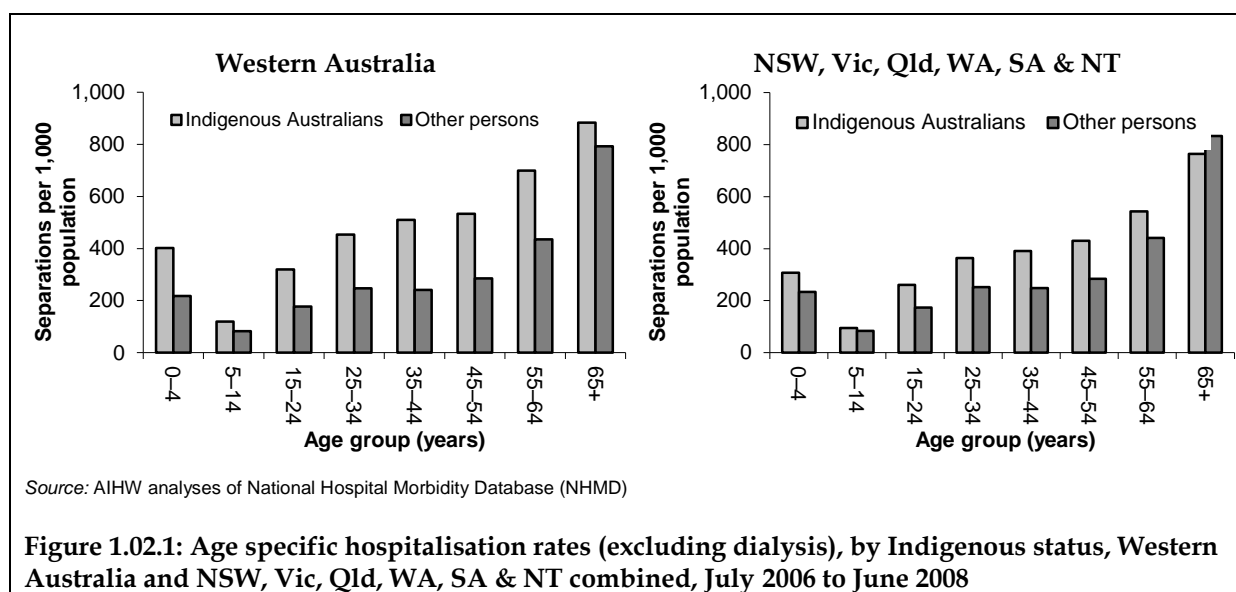
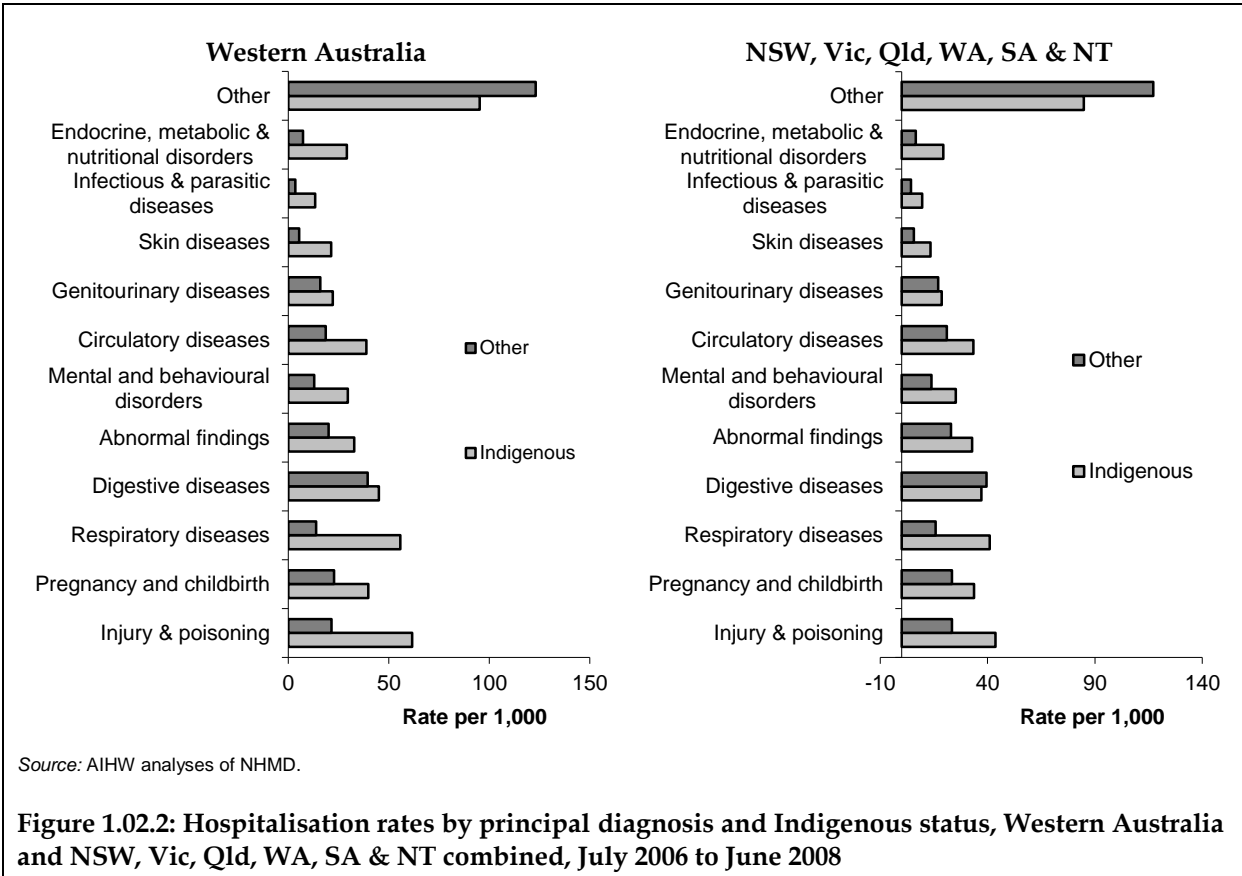
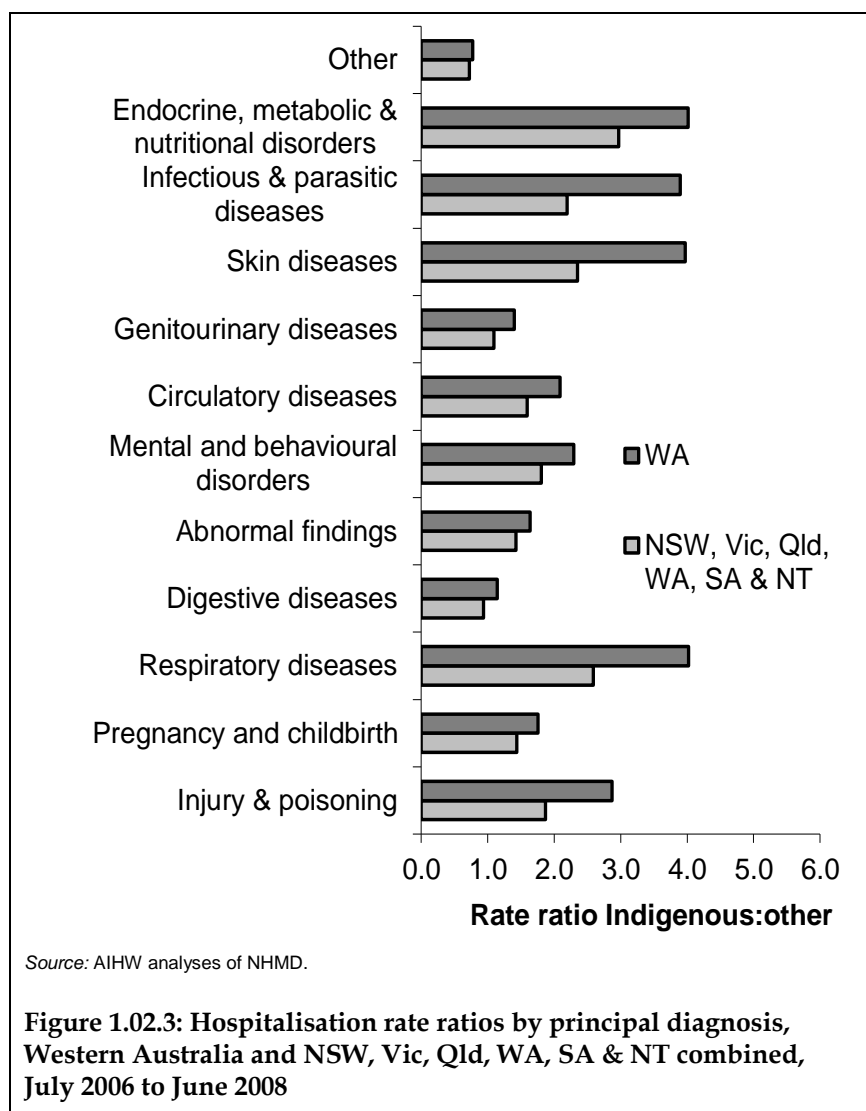


Figure 1.02.1: Age specific hospitalisation rates (excluding dialysis), by Indigenous status, Western Australia and NSW, Vic, Qld, WA, SA & NT combined, July 2006 to June 2008

Hospitalisations by principal diagnosis

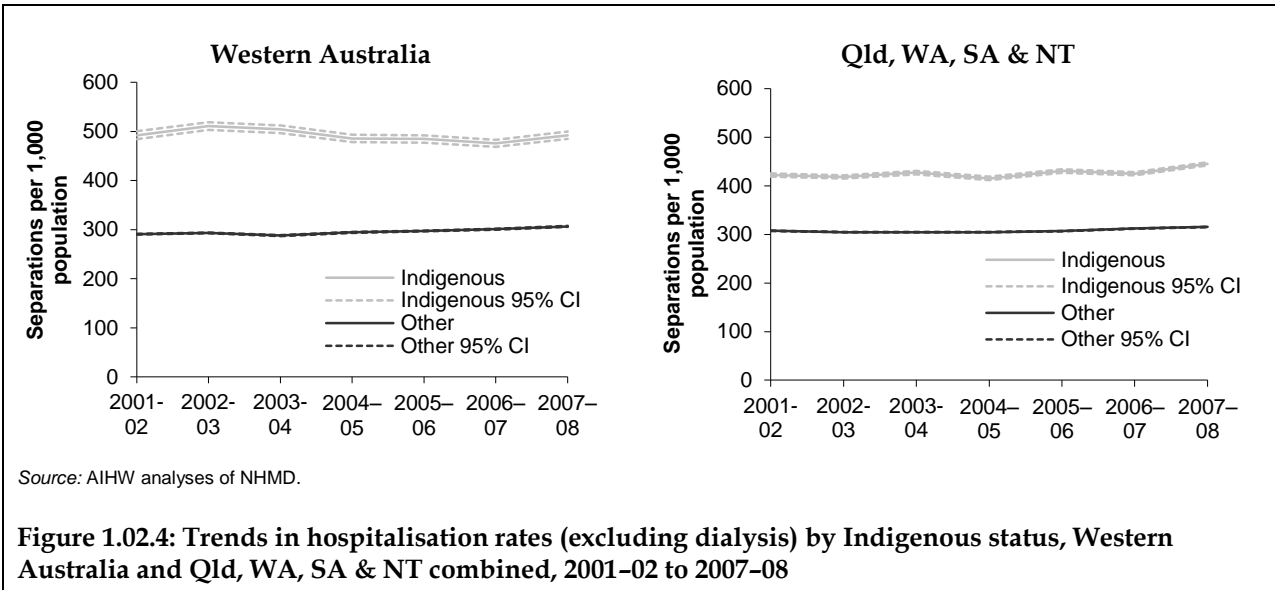
- The most common principal diagnosis of hospitalisation among Indigenous Australians in Western Australia was injury and poisoning, followed by respiratory diseases. These diagnoses were also the most common reasons for hospitalisations among Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia, and the Northern Territory combined.
- The greatest differences in hospitalisation rates between Indigenous and other people in Western Australia were for respiratory diseases, skin diseases, and endocrine, metabolic and nutritional disorders, where Indigenous Australians were hospitalised at around 4 times the rates of other people for these conditions.
- Hospitalisation rates for Indigenous Australians in Western Australia were higher than for Indigenous Australians in the six jurisdictions combined for most principal diagnoses (Figure 1.02.2).
- Rate ratios between Indigenous and other Australian hospitalisation rates were higher in Western Australia than in the six jurisdictions combined for all principal diagnoses (Figure 1.02.3).





Hospitalisation trends

- Over the period 2001–02 to 2007–08 in Western Australia, there were no significant changes in hospitalisation rates among Indigenous Australians. Over the same period there were significant increases in hospitalisation rates among other people in Western Australia (average yearly increase of 2.6 per 1,000 population or a 5% increase).
- There were significant decreases in the hospitalisation rate ratios and rate differences between Indigenous and other Australians in Western Australia between 2001–02 and 2007–08 (average yearly decrease of 0.03 in the rate ratio, and 5.8 per 1,000 in the rate difference).
- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous and other people the 7-year period 2001–02 to 2007–08 (an average yearly increase of 3.1 per 1,000 for Indigenous Australians and 1.4 per 1,000 for other people).

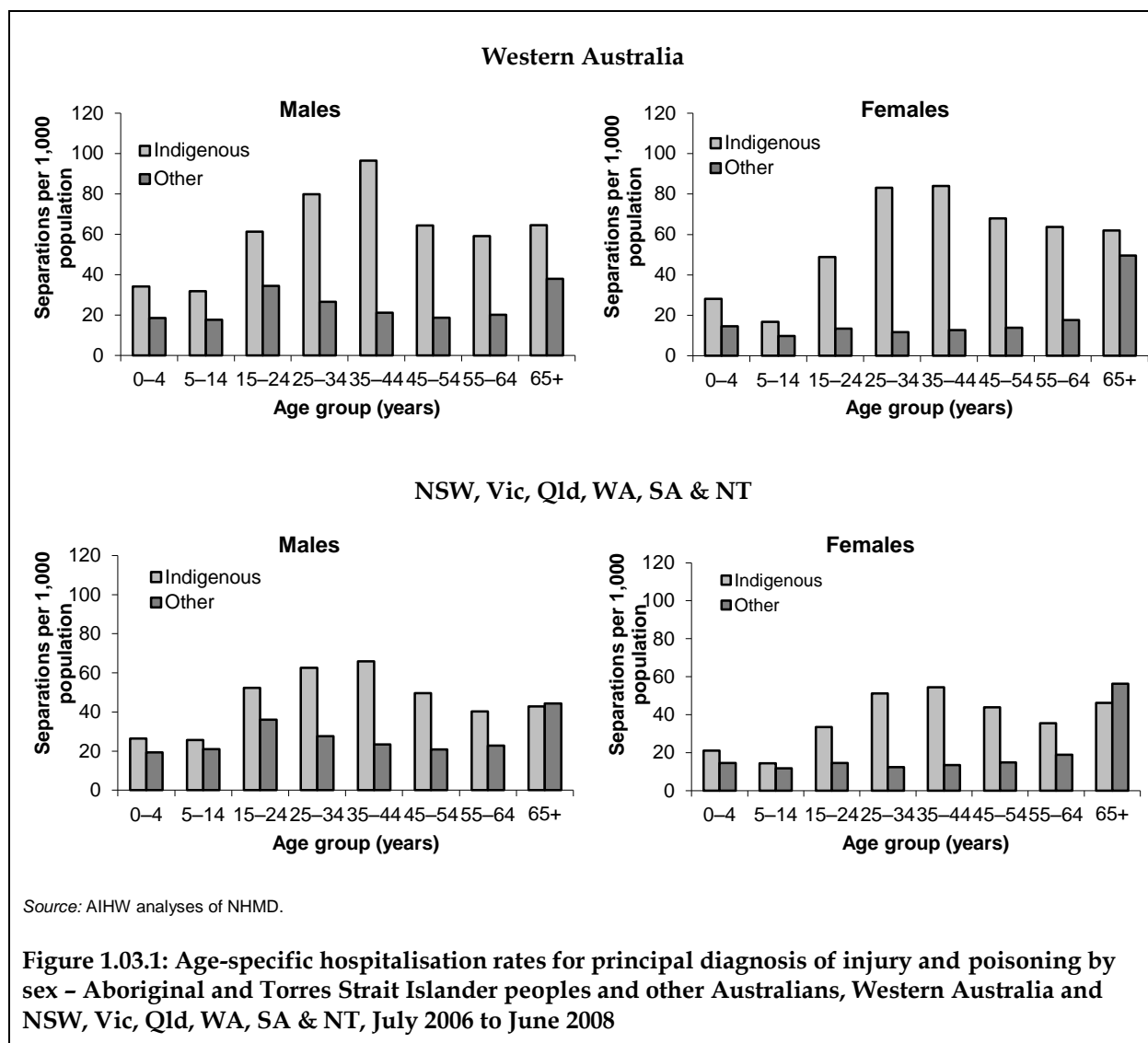


1.03 Hospitalisation for injury and poisoning

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

Hospitalisations by age and sex

- For the 2-year period July 2006 to June 2008, in Western Australia, Indigenous males and females had higher hospitalisation rates for injury and poisoning than other males and females across all age groups. 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 with the exception of those aged 65 years and over.
- In Western Australia, the greatest difference in hospitalisation rates occurred in the 35–44 year age group for males and the 25–34 year age group for females. Indigenous males were hospitalised at 4.5 times the rate of other males in this age group and females were hospitalised at around 7 times the rate of other females in this age group.
- For Indigenous males and females in Western Australia, hospitalisation rates were highest among those aged 25–34 years and 35–44 years, while for other males and females rates were highest among those aged 65 years and over.
- Hospitalisation rates for injury and poisoning were higher for Indigenous Australians in Western Australia than for Indigenous Australians in the six jurisdictions combined for most age groups.



Hospitalisations by external cause

- In the 2-year period July 2006 to June 2008, in Western Australia, assault was the most common cause of hospitalisation for Indigenous males and females with a principal diagnosis of injury and poisoning (28% and 36% respectively), followed by accidental falls (15% for males and 16% for females). This pattern was also evident in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.
- The greatest difference in hospitalisation rates for external causes of injury and poisoning between Indigenous and other people in Western Australia was for assault. Indigenous males and females were hospitalised for assault at 13 and 62 times the rate of other males and females respectively. Rate ratios for assault between Indigenous and non-Indigenous Australians in the six jurisdictions combined were 7 and 36 for males and females respectively.

Table 1.03.1: Hospitalisations for external causes of injury and poisoning for Aboriginal and Torres Strait Islander people by sex, Western Australia and NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008^{(a)(b)(c)(d)}

External cause	Males				Females				People			
	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)
Western Australia												
Assault	1,188	28.0	18.0	13.0*	1,337	36.3	19.1	61.7*	2,525	31.8	18.4	21.4*
Accidental falls	648	15.3	11.5	2.1*	600	16.3	11.8	1.9*	1,248	15.7	11.7	2.0*
Exposure to inanimate mechanical forces	574	13.5	6.9	1.7*	275	7.5	3.6	3.2*	849	10.7	5.3	2.0*
Transport accidents	529	12.5	6.9	1.9*	283	7.7	3.8	2.6*	812	10.2	5.3	2.0*
Medical/ surgical complications	367	8.6	7.6	1.8*	495	13.4	10.5	2.6*	862	10.9	9.2	2.2*
Other accidental exposures ^(h)	297	7.0	4.4	1.3*	197	5.3	3.1	1.8*	494	6.2	3.8	1.5*
Exposure to animate mechanical forces	194	4.6	2.5	2.9*	107	2.9	1.4	3.5*	301	3.8	2.0	3.1*
Intentional self-harm	134	3.2	1.9	2.5*	178	4.8	2.5	1.9*	312	3.9	2.2	2.1*
Exposure to electric current/smoke/ fire/animals/ nature ⁽ⁱ⁾	198	4.7	2.7	3.7*	90	2.4	1.4	4.2*	288	3.6	2.1	3.8*
Accidental poisoning by and exposure to noxious substances	69	1.6	0.9	2.3*	72	2.0	0.9	2.5*	141	1.8	0.9	2.4*
Other external causes ^(j)	47	1.1	0.6	4.6*	53	1.4	0.8	6.0*	100	1.3	0.7	5.3*
Total (all categories)^(k)	4,245	100.0	64.1	2.6*	3,687	100.0	58.9	2.8*	7,932	100.0	61.6	2.9*

(continued)

Table 1.03.1 (continued): Hospitalisations for external causes of injury and poisoning for Aboriginal and Torres Strait Islander people by sex, Western Australia and NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008^{(a)(b)(c)(d)}

External cause	Males				Females				People			
	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)
NSW, Vic, Qld, WA, SA & NT												
Assault	5,003	22.5	10.8	7.0*	5,309	30.7	10.9	35.5*	10,312	26.1	10.9	11.6*
Accidental falls	3,936	17.7	9.2	1.4*	3,130	18.1	8.7	1.2*	7,066	17.9	9.1	1.3*
Exposure to inanimate mechanical forces	3,285	14.8	6.0	1.4*	1,405	8.1	2.5	1.9*	4,690	11.9	4.2	1.5*
Transport accidents	2,569	11.5	4.8	1.2*	1,154	6.7	2.2	1.4*	3,723	9.4	3.5	1.3*
Medical/ surgical complications	1,939	8.7	6.1	1.4*	2,208	12.8	6.6	1.8*	4,147	10.5	6.4	1.6*
Other accidental exposures ^(h)	1,627	7.3	3.4	1.0	969	5.6	2.2	1.3*	2,596	6.6	2.8	1.1*
Exposure to animate mechanical forces	1,106	5.0	2.0	2.0*	529	3.1	1.0	2.6*	1,635	4.1	1.5	2.2*
Intentional self-harm	1,077	4.8	2.4	2.7*	1408	8.1	2.8	2.0*	2485	6.3	2.6	2.3*
Exposure to electric current/smoke/ fire/animals/ nature ⁽ⁱ⁾	940	4.2	1.8	2.5*	491	2.8	0.9	2.5*	1431	3.6	1.3	2.5*
Accidental poisoning by and exposure to noxious substances	410	1.8	0.7	1.6*	382	2.2	0.8	1.6*	792	2.0	0.8	1.6*
Other external causes ^(j)	334	1.5	0.7	2.5*	309	1.8	0.6	2.5*	643	1.6	0.7	2.5*
Total (all categories)^(k)	22,263	100.0	47.9	1.7*	17,311	100.0	39.3	2.1*	39,574	100	43.6	1.9*

(continued)

Table 1.03.1 (continued): Hospitalisations for external causes of injury and poisoning for Aboriginal and Torres Strait Islander people by sex, Western Australia and NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008^{(a)(b)(c)(d)}

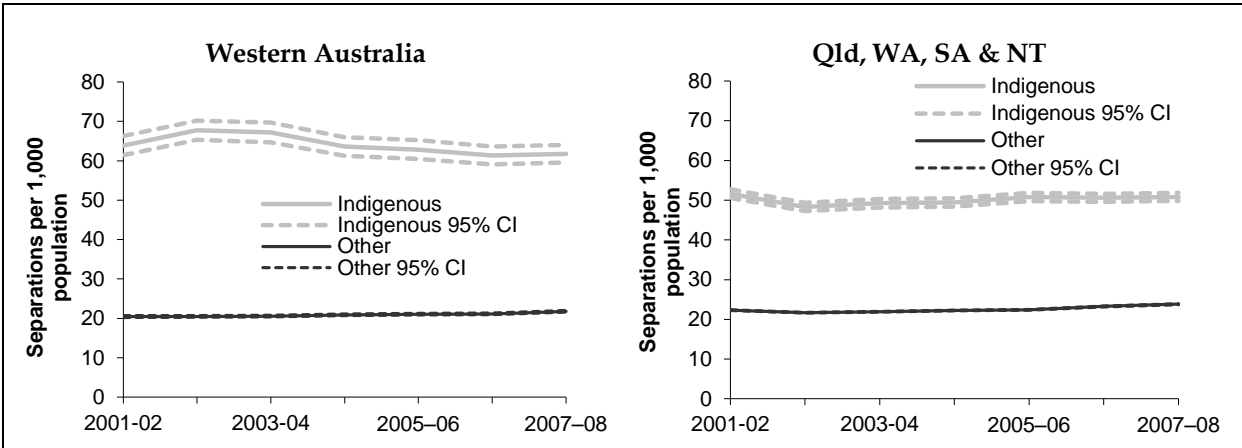
* Represents results with statistically significant differences in the Indigenous/other comparisons at the $p < 0.05$ level.

- (a) Data are from public and most private hospitals. Excludes private hospitals in the Northern Territory.
- (b) Categories are based on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM), 4th Edition (National Centre for Classification in Health 2004). 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. Data for these six jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.
- (e) Percentage of male, female and total hospitalisations of Indigenous Australians in the period 2004–05 to 2005–06.
- (f) Directly age-standardised using the Australian 2001 standard population.
- (g) Rate ratio Indigenous: Other.
- (h) 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).
- (i) 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).
- (j) 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 (Y9–Y98).
- (k) Includes injuries where no external cause was reported.

Source: AIHW analyses of NHMD.

Hospitalisation trends

- In Western Australia there were significant changes in the hospitalisation rates for injury and poisoning among both Indigenous and other people during the period 2001-02 to 2007-08. The fitted trend implies an average yearly decrease in the rate of 0.8 per 1,000 for Indigenous Australians, equivalent to a decline of 16% over the period, and an average yearly increase of 0.2 per 1,000 for other people, equivalent to an increase of 12% over the period.
- There were significant decreases in the hospitalisation rate ratio and rate difference between Indigenous and other people for injury and poisoning in Western Australia with an average yearly decrease of 0.07 in rate ratio and 1 per 1,000 in rate difference.
- There was no significant change in the hospitalisation rates for injury and poisoning among Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory combined during the period 2001-02 to 2007-08. There was however a significant increase in the hospitalisation rates for injury and poisoning among other people in the four jurisdictions combined (an average yearly increase of 0.3 per 1,000).



Source: AIHW analyses of NHMD.

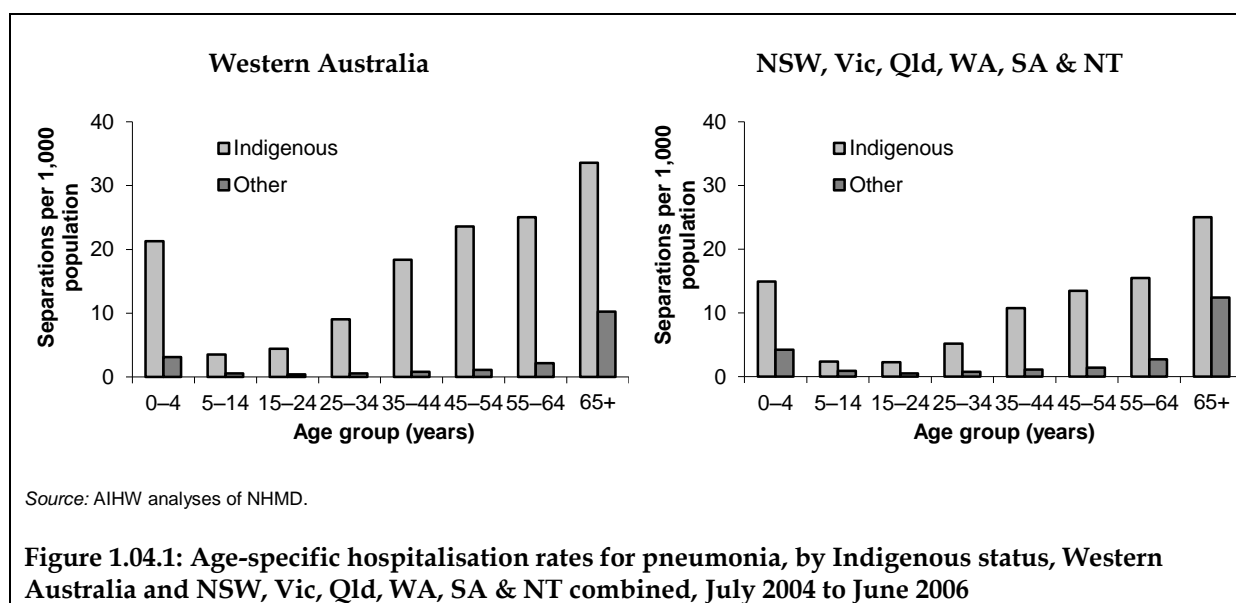
Figure 1.03.2: Hospitalisation rates for injury and poisoning, Aboriginal and Torres Strait Islander peoples and other Australians, Western Australia and NSW, Vic, Qld, WA, SA & NT combined, 2001-02 to 2007-08

1.04 Hospitalisation for pneumonia

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

Hospitalisations by age

- In the 2-year period July 2006 to June 2008, Indigenous Australians had higher hospitalisation rates for pneumonia than other people across all age groups in Western Australia. The same pattern was evident in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.
- In Western Australia, the greatest difference in hospitalisation rates for pneumonia in Western Australia occurred in the 35–44 and 45–54 year age groups where Indigenous Australians were hospitalised at 22 and 21 times the rate of other people in these age groups respectively.
- For both Indigenous and other people in Western Australia hospitalisation rates for pneumonia were highest among those aged 65 years and over. Hospitalisation rates were lowest among those aged 5–14 years for Indigenous Australians and among those aged 15–24 years for other people.
- Hospitalisation rates for Indigenous Australians in Western Australia were higher than those for Indigenous Australians in the six jurisdictions combined across all age groups.



Hospitalisations by sex

- For the 2-year period July 2006 to June 2008, approximately 52% of Indigenous Australians in Western Australia who were hospitalised for pneumonia were males, and 48% were females.
- Indigenous males and females in Western Australia were hospitalised for pneumonia at a rate of 7 and 9 times that of other males and females respectively. These rate ratios were about twice those for males and females in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined (3.6 and 4.2).
- Hospitalisation rates for pneumonia were higher for Indigenous males than Indigenous females in Western Australia and the six jurisdictions combined.

Table 1.04.1: Hospitalisations for pneumonia for Aboriginal and Torres Strait Islander peoples, by sex, Western Australia and NSW, Vic, Qld, WA, SA & NT combined, July 2006 to June 2008^{(a)(b)(c)}

	Western Australia			NSW, Vic, Qld, WA, SA & NT ^(d)		
	Number	Rate per 1,000 ^(e)	Ratio ^(f)	Number	Rate per 1,000 ^(e)	Ratio ^(f)
Males	915	17.5	6.6*	3,987	11.5	3.6*
Females	850	16.2	8.8*	3,754	10.1	4.2*
People	1,765	16.9	7.7*	7,741	10.7	3.9*

*Represents results with statistically significant differences in the Indigenous/Other comparisons at the p<.05 level.

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

(b) Categories are based on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM), 4th Edition (National Centre for Classification in Health 2004). ICD-10-AM codes J12–J18.

(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 six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

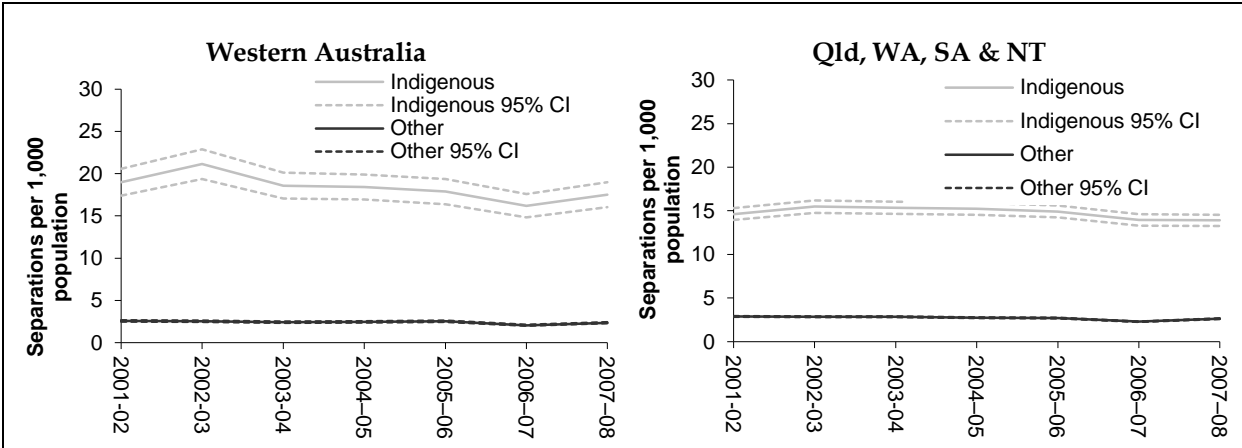
(e) Directly age-standardised using the Australian 2001 Standard population.

(f) Rate ratio Indigenous: Other.

Source:AIHW analyses of NHMD.

Hospitalisation trends

- Over the 7-year period from 2001–02 to 2007–08 in Western Australia, there were significant declines of 17% in hospitalisation rates for pneumonia among Indigenous Australians (yearly average of 0.5 hospitalisations per 1,000 population).
- Over the same period, there were no significant changes in hospitalisation rates for pneumonia among other people in Western Australia.
- There were no significant changes in the hospitalisation rate ratio between Indigenous and other people in Western Australia for pneumonia. However, the rate difference between Indigenous and other people declined significantly, with an average yearly decrease of 0.5 per 1,000 population.
- Over the same period, there was a significant decline in the hospitalisation rate for pneumonia among Indigenous and other people in Queensland, Western Australia, South Australia and the Northern Territory combined.



Source: AIHW analyses of NHMD.

Figure 1.04.2: Hospitalisation rates for pneumonia, Aboriginal and Torres Strait Islander peoples and other Australians, Western Australia and Qld, WA, SA & NT combined, 2001–02 to 2007–08

1.05 Circulatory disease

Prevalence, incidence and number of hospital separations with a principal diagnosis of circulatory disease for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and rate ratio

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

Self-reported prevalence

- In 2004–05 in Western Australia, 8% of Indigenous males and 14% of Indigenous females reported heart or circulatory conditions as a long-term condition. This compared to 10% and 14% of Indigenous males and females in Australia (Table 1.05.1).
- After adjusting for differences in age structure between the Indigenous and non-Indigenous populations, in Western Australia, Indigenous males were equally as likely as non-Indigenous males to report heart/circulatory conditions (both 16%) and Indigenous females were more likely than non-Indigenous females to report heart and circulatory conditions (23% and 17% respectively).
- Prevalence of heart and circulatory conditions was highest among Indigenous Australians aged 55 years and over (around 48% in Western Australia and 54% in Australia). In Western Australia, the greatest difference in rates between Indigenous and non-Indigenous Australians occurred in the 5–14 year age group (ratio of 6).

Table 1.05.1: Number and proportion of people reporting heart and circulatory conditions, by age, sex and Indigenous status, Western Australia and Australia, 2004–05

	Indigenous			Non-Indigenous		
	Males	Females	People	Males	Females	People
Western Australia						
	Number					
0–4	140	102	241	0	1,695	1,695
5–14	145	0	145	0	358	358
15–24	28	410	438	2,667	3,532	6,199
25–34	449	521	970	8,328	13,146	21,474
35–44	574	1,227	1,802	10,035	17,331	27,366
45–54	632	1,153	1,786	30,939	31,657	62,596
55+	834	1,379	2,213	100,960	100,397	201,357
Total	2,802	4,792	7,594	152,928	168,116	321,045
	Proportion					
0–4	3.1	2.4	2.7	0.0	2.9	1.5
5–14	1.6	0.0	0.8	0.0	0.3	0.1
15–24	0.4	5.5	3.1	1.9	2.9	2.4
25–34	9.8	9.9	9.9	6.3	10.0	8.1
35–44	14.6	26.2	20.9	7.3	12.1	9.7
45–54	23.9	38.4	31.6	23.1	23.1	23.1
55+	39.8	53.7	47.5	49.6	46.5	48.0
Total	8.4	13.5	11.0	16.5	18.0	17.3
Total age-standardised^(a)	16.2	23.4	20.1	16.4	17.3	16.9

(continued)

Table 1.05.1 (continued): Number and proportion of people reporting heart and circulatory conditions, by age, sex and Indigenous status, Western Australia and Australia, 2004–05

	Indigenous			Non-Indigenous		
	Males	Females	People	Males	Females	People
Australia						
Number						
0–4	471	962	1,433	7,511	5,024	12,535
5–14	725	558	1,283	23,915	12,920	36,835
15–24	1,037	1,963	3,000	35,797	45,996	81,793
25–34	2,518	5,101	7,618	77,067	141,316	218,384
35–44	4,978	7,273	12,250	144,104	213,600	357,704
45–54	5,381	7,044	12,425	262,723	341,746	604,469
55+	6,880	11,006	17,885	993,128	1,167,302	2,160,430
Total	21,989	33,906	55,895	1,544,245	1,927,905	3,472,149
Proportion						
0–4	1.5	3.3	2.4	1.2	0.9	1.0
5–14	1.2	1.0	1.1	1.8	1.0	1.4
15–24	2.3	4.2	3.3	2.7	3.6	3.1
25–34	7.7	13.7	10.9	5.6	10.1	7.9
35–44	18.3	22.8	20.7	10.0	14.6	12.3
45–54	28.6	33.9	31.4	19.6	25.0	22.3
55+	45.3	61.2	53.9	45.8	49.5	47.7
Total	9.5	14.0	11.8	16.1	19.9	18.0
Total age-standardised^(a)	18.4	24.6	21.7	15.8	18.7	17.3

(a) Directly age-standardised proportions to the 2001 Australian standard population.

Source: AIHW analyses of National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) 2004–05 and National Health Survey (NHS) 2004–05.

Hospitalisations by age

- For the 2-year period July 2006 to June 2008 in Western Australia, Indigenous Australians had higher hospitalisation rates for circulatory disease than other people across all age groups.
- The greatest difference in hospitalisation rates occurred in the 35–44 and 45–54 year age groups where Indigenous Australians were hospitalised at around 4 times the rate of other people in these age groups. Hospitalisation rates for circulatory diseases increased with age for both Indigenous and other people in Western Australia and the six jurisdictions combined.
- Hospitalisation rates for circulatory diseases increased with age for both Indigenous and other people in Western Australia and the six jurisdictions combined.

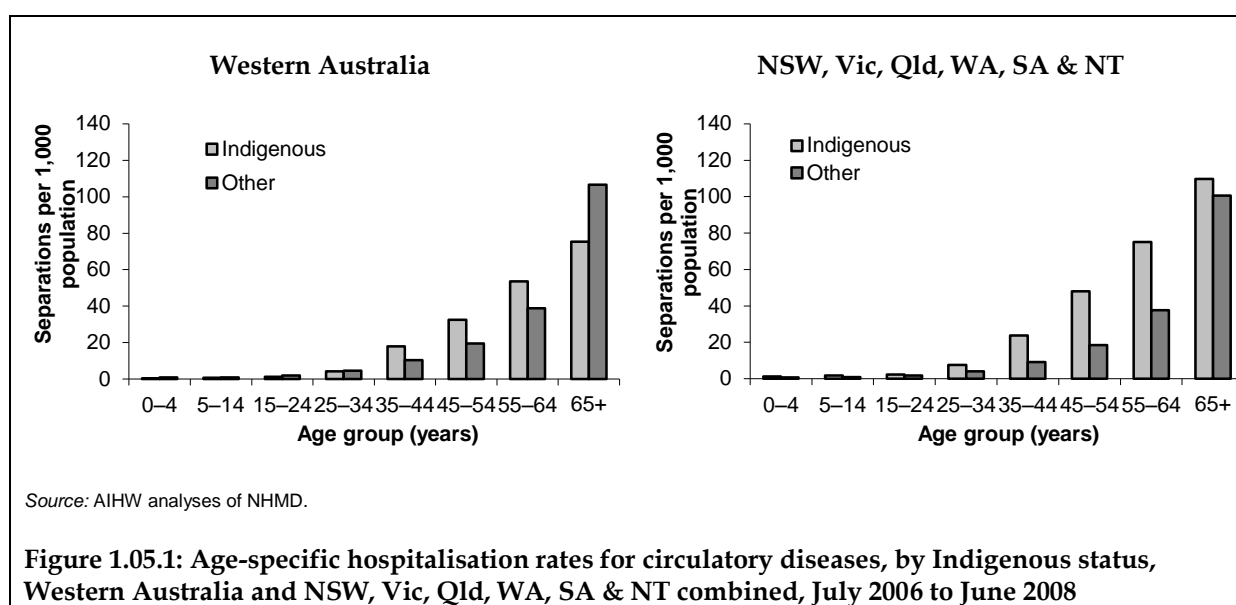


Figure 1.05.1: Age-specific hospitalisation rates for circulatory diseases, by Indigenous status, Western Australia and NSW, Vic, Qld, WA, SA & NT combined, July 2006 to June 2008

Hospitalisations by principal diagnosis

- For the 2-year period July 2006 to June 2008, in both Western Australia and 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 (41% and 44% respectively).
- Indigenous males in Western Australia were hospitalised for circulatory disease at almost twice the rate, and Indigenous females at almost 2.5 times the rate, of other males and females respectively. In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, these figures were slightly lower with Indigenous males hospitalised at about 1.5 times the rate of other males, and Indigenous females hospitalised at around twice the rate of other females.
- Aboriginal and Torres Strait Islander people in Western Australia were hospitalised for rheumatic heart disease at 8.6 times the rate of other Australians. This compared to almost 7 times the rate of other people in the six jurisdictions combined.

Table 1.05.2: Hospitalisations of circulatory disease by principal diagnosis for Aboriginal and Torres Strait Islander people – age-standardised rates and rate ratios by sex, Western Australia and NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008^{(a)(b)(c)(d)}

Principal diagnosis	Males				Females				People			
	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)
Western Australia												
Ischaemic heart disease	688	45.3	19.6	2.3*	474	35.9	13.1	3.6*	1,162	40.9	16.1	2.7*
<i>Acute myocardial infarction</i>	297	19.6	8.8	3.4*	150	11.4	4.1	3.6*	447	15.8	6.2	3.4*
Other heart disease	459	30.2	13.9	2.1*	463	35.1	12.4	2.7*	922	32.5	13.0	2.4*
Cerebrovascular disease	143	9.4	5.2	2.8*	129	9.8	3.8	2.8*	272	9.6	4.4	2.8*
<i>Stroke</i>	127	8.4	4.7	3.2*	120	9.1	3.6	3.3*	247	8.7	4.1	3.2*
Rheumatic heart disease	48	3.2	0.5	5.6*	64	4.9	1.0	10.9*	112	3.9	0.8	8.6*
Hypertension disease	35	2.3	0.8	4.8*	35	2.7	0.8	3.1*	70	2.5	0.8	3.7*
Other circulatory diseases ^(h)	146	9.6	3.8	0.6*	154	11.7	3.5	0.8*	300	10.6	3.6	0.7*
Total	1,519	100.0	43.8	1.9*	1,319	100.0	34.6	2.4*	2,838	100.0	38.8	2.1*

(continued)

Table 1.05.2 (continued): Hospitalisations of circulatory disease by principal diagnosis for Aboriginal and Torres Strait Islander people – age-standardised rates and rate ratios by sex, Western Australia and NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008^{(a)(b)(c)(d)}

Principal diagnosis	Males				Females				People			
	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)	No.	% ^(e)	No. per 1,000 ^(f)	Ratio ^(g)
NSW, Vic, Qld, WA, SA & NT												
Ischaemic heart disease	4,069	47.1	17.2	1.7*	3,143	39.8	12.4	2.8*	7,212	43.6	14.6	2.1*
<i>Acute myocardial infarction</i>	1,742	20.2	7.2	2.2*	1,129	14.3	4.6	3.1*	2,871	17.4	5.8	2.5*
Other heart disease	2,516	29.2	11.5	1.5*	2,469	31.3	10.2	1.9*	4,985	30.2	10.8	1.7*
Cerebrovascular disease	646	7.5	3.5	1.6*	683	8.6	3.0	1.9*	1,329	8.0	3.2	1.8*
<i>Stroke</i>	557	6.5	3.0	1.7*	603	7.6	2.8	2.1*	1,160	7.0	2.9	1.9*
Rheumatic heart disease	274	3.2	0.5	5.3*	428	5.4	0.9	8.2*	702	4.2	0.7	6.9*
Hypertension disease	200	2.3	0.7	2.6*	269	3.4	1.0	2.5*	469	2.8	0.8	2.5*
Other circulatory diseases ^(h)	925	10.7	3.4	0.6*	908	11.5	3.1	0.6*	1,833	11.1	3.2	0.6*
Total	8,630	100.0	36.8	1.4*	7,900	100.0	30.5	1.8*	16,530	100.0	33.4	1.6*

*Represents results with statistically significant differences in the Indigenous/Other comparisons at the p<.05 level.

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

(b) Categories are based on the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM) 4th Edition (National Centre for Classification in Health 2004). 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, Queensland, Western Australia, South Australia, and the Northern Territory only. These six jurisdictions are considered to have adequate 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 six jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Percentage of male, female and total hospitalisations of Indigenous Australians in the period 2006–07 to 2008–09.

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

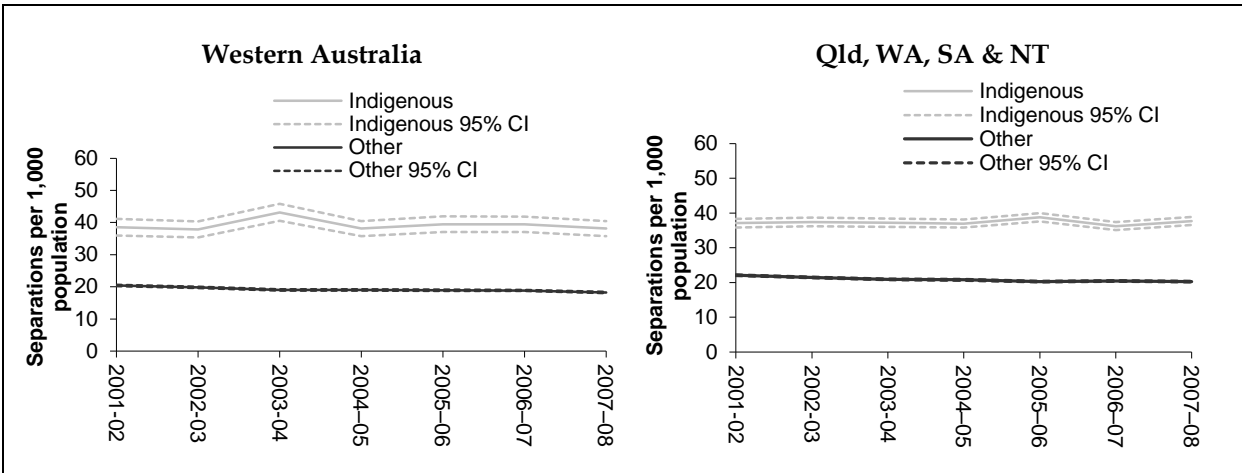
(g) Rate ratio Indigenous: Other.

(h) Includes disease of arteries, arterioles and capillaries, diseases of veins, lymphatic vessels and lymph nodes and other unspecified disorders of the circulatory system.

Source:AIHW analyses of NHMD.

Hospitalisation trends

- Over the period 2001-02 to 2007-08 in Western Australia, there were no significant changes in hospitalisation rates for circulatory disease among Indigenous Australians. There were however significant declines in hospitalisation rates for circulatory disease for other people (average yearly decline of 0.3 hospitalisations per 1,000).
- In Queensland, Western Australia, South Australia and the Northern Territory combined, there was no significant change in the hospitalisation rate for circulatory diseases among Indigenous Australians during the period 2001-02 to 2007-08; however, there was a significant decline in the hospitalisation rate among other people. Rate ratios and rate differences both showed increases over this period; however, only the rate ratio was showed a statistically significant increase.



Source: AIHW analyses of NHMD.

Figure 1.05.2: Hospitalisation rates for circulatory diseases, Aboriginal and Torres Strait Islander peoples and other Australians, Western Australia and Qld, WA, SA & NT combined, 2001-02 to 2007-08

1.07 High blood pressure

The prevalence of hypertension among Aboriginal and Torres Strait Islander Australians expressed as a rate by age group, age-standardised rate and ratio

Crude prevalence rates: The number or proportion (of cases, instances, and so forth) present in a population at a given time, unadjusted for age differences across the Indigenous and non-Indigenous populations.

Self-reported prevalence

- In 2004–05 in Western Australia, after adjusting for differences in age structure between the Indigenous and non-Indigenous populations, approximately 13% of Indigenous males and 17% of Indigenous females reported high blood pressure or hypertension compared to 12% of non-Indigenous males and 11% of non-Indigenous females. These percentages are similar to the percentages reported in Australia.
- In both Western Australia and Australia, high blood pressure or hypertension was most prevalent among those aged 55 years and over for both Indigenous Australians and other Australians. In Western Australia, 33% of Indigenous males and 44% of Indigenous females reported high blood pressure/hypertension in this age group compared to 36% and 34% of non-Indigenous males and females respectively.

Table 1.07.1: People reporting high blood pressure/hypertension, by Indigenous status, age group and sex, Western Australia and Australia, 2004–05

Age group	Male		Female	
	Indigenous (%)	Non-Indigenous (%)	Indigenous (%)	Non-Indigenous (%)
Western Australia				
25–34	5	5	3	2
35–44	15	4	9	4
45–54	22	19	33	16
55+	33	36	44	34
Total age-standardised^(a)	13	12	17	11
Australia				
25–34	4	3	5	2
35–44	14	6	11	4
45–54	22	15	24	13
55+	39	32	46	36
Total age-standardised^(a)	14	10	16	10

(a) Age-standardised proportions.

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

- In 2004–05, the crude prevalence rates of high blood pressure or hypertension among Indigenous people in Western Australia (6% for males and 8% for females) were similar to the crude prevalence rates for Indigenous people in Australia (7% for males and 8% for females).
- In Western Australia, the prevalence of high blood pressure/hypertension was slightly higher among Indigenous Australians in *Remote* areas (7% for males and 9% for females) than among Indigenous Australians in *Non-remote* areas (5% for males and 8% for females). This same pattern was evident for Australia.

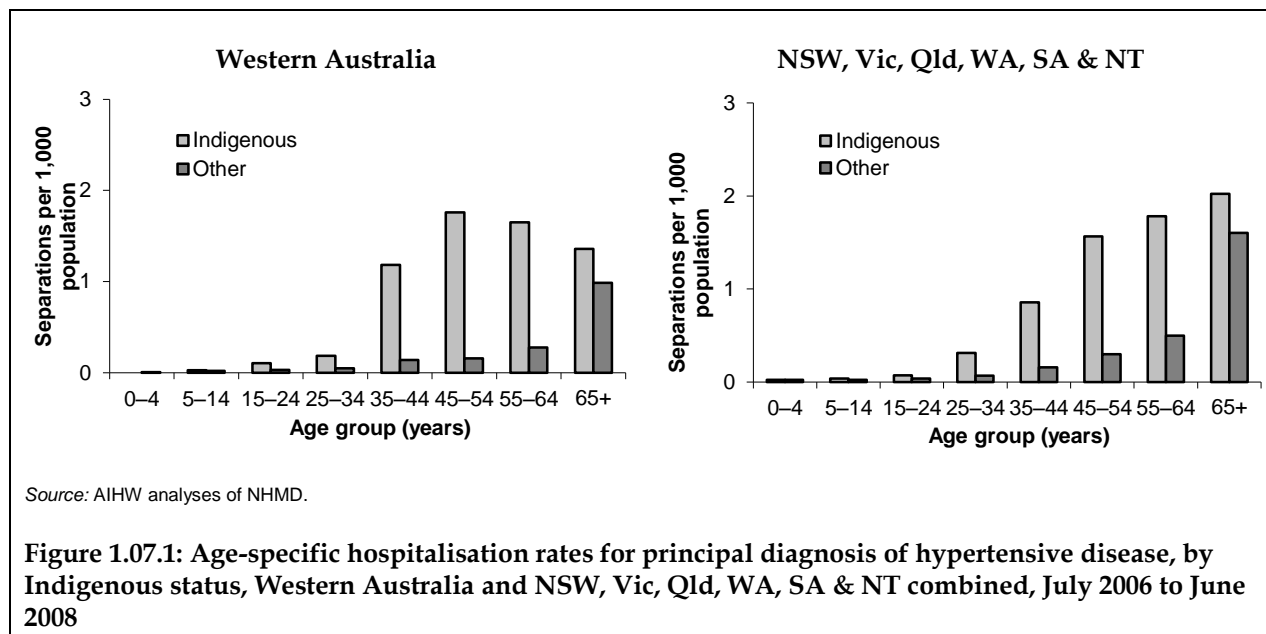
Table 1.07.2: Aboriginal and Torres Strait Islander peoples reporting high blood pressure/hypertension, by sex and remoteness area, Western Australia and Australia, 2004–05

	Western Australia		Australia	
	Male	Female	Male	Female
Remote	7	9	10	10
Non-remote	5	8	6	7
Total	6	8	7	8

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

Hospitalisations by age

- For the 2-year period July 2006 to June 2008 in Western Australia, Indigenous Australians had higher hospitalisation rates for hypertensive disease than other people across all age groups except for those aged 0–4 years.
- Indigenous Australians, in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, had higher hospitalisation rates than other people across all age groups.
- In Western Australia, the greatest difference in hospitalisation rates for hypertensive disease between Indigenous and other people occurred in the 45–54 year age group where Indigenous Australians were hospitalised at around 11 times the rate of other people in these age groups.
- Hospitalisation rates for hypertensive disease in Western Australia were highest among those aged 45–54 years for Indigenous Australians, and those among 65 years and over for other people.



1.08 Diabetes

Prevalence of diabetes for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and ratio

Self-reported prevalence

- In 2004–05 in Western Australia, after adjusting for differences in age structure between the Indigenous and non-Indigenous populations, approximately 17% of Indigenous people reported diabetes or high sugar levels compared to 5% of non-Indigenous people. In the same period in Australia, 13% of Indigenous people and 4% of non-Indigenous people reported diabetes or high sugar levels.
- In both Western Australia and Australia, and for both Indigenous Australians and non-Indigenous Australians, prevalence of diabetes increased with age. Among Indigenous Australians in Western Australia, prevalence of diabetes increased from 7% among those aged 25–34 years to 43% among those aged 55 years and over. Correspondingly, for non-Indigenous Australians in Western Australia, prevalence of diabetes increased from 1% among those aged 25–34 years to 14% among those aged 55 years and over.

Table 1.08.1: People reporting diabetes/high sugar levels, by Indigenous status and age group, Western Australia and Australia, 2004–05

Age group	Western Australia		Australia	
	Indigenous (%)	Non-Indigenous (%)	Indigenous (%)	Non-Indigenous (%)
25–34	6.9	0.8	4.4	0.8
35–44	9.9	3.7	10.1	2.3
45–54	34.8	6.7	21.0	4.1
55+	43.4	13.8	33.4	11.8
Total age-standardised^(a)	16.9	4.8	12.6	3.7

(a) Total is directly age-standardised proportion.

Source: AIHW analyses of NATSIHS 2004–05 and NHS 2004–05.

- In 2004–05, the crude prevalence rates of diabetes/high blood sugar among Indigenous people in Western Australia (8% for males and 9% for females) were higher than those for Indigenous people in Australia (5% for males and 7% for females).
- In both Western Australia and Australia, the prevalence of diabetes/high blood sugar was higher for Indigenous females than Indigenous males.
- In Western Australia, the prevalence of diabetes/high blood sugar was similar for Indigenous Australians in remote and non-remote areas (9% and 8%), while in Australia prevalence was higher in remote than non-remote areas (9% and 5%).

Table 1.08.2: Aboriginal and Torres Strait Islander peoples reporting diabetes/high sugar levels, by sex and remoteness area, Western Australia and Australia, 2004–05

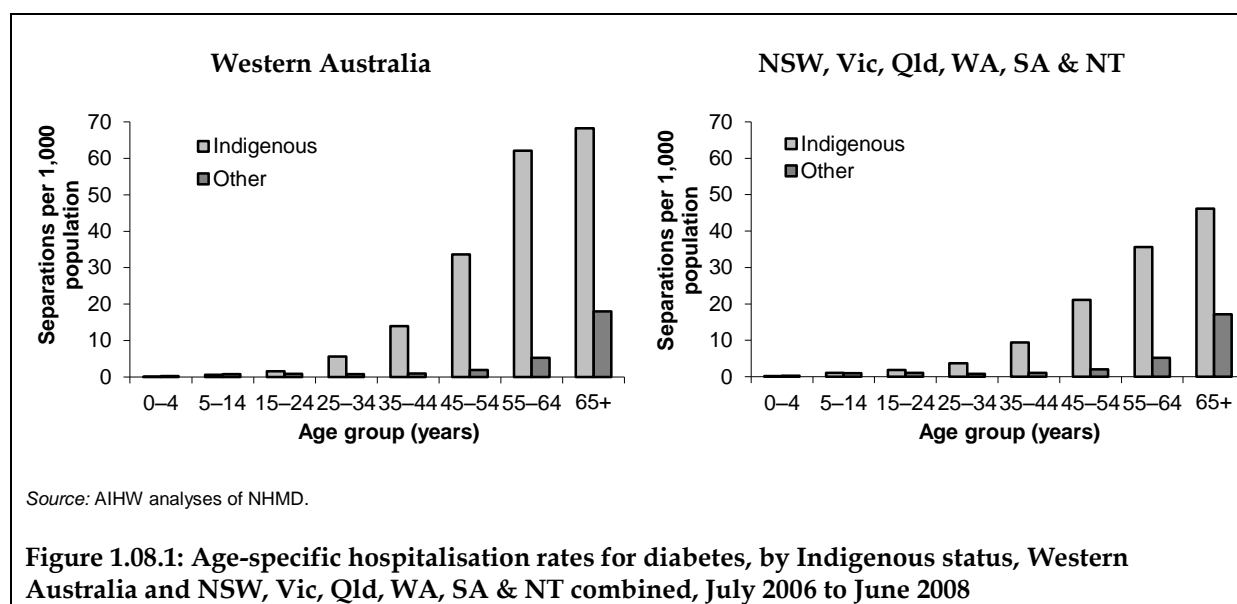
	Western Australia			Australia		
	Male	Female	Total	Male	Female	Total
	%	%	%	%	%	%
Remote	8	10	9	8	10	9
Non-remote	8	8	8	4	6	5
Total	8	9	8	5	7	6

Source: ABS and AIHW analyses of NATSIHS 2004–05.

Hospitalisations

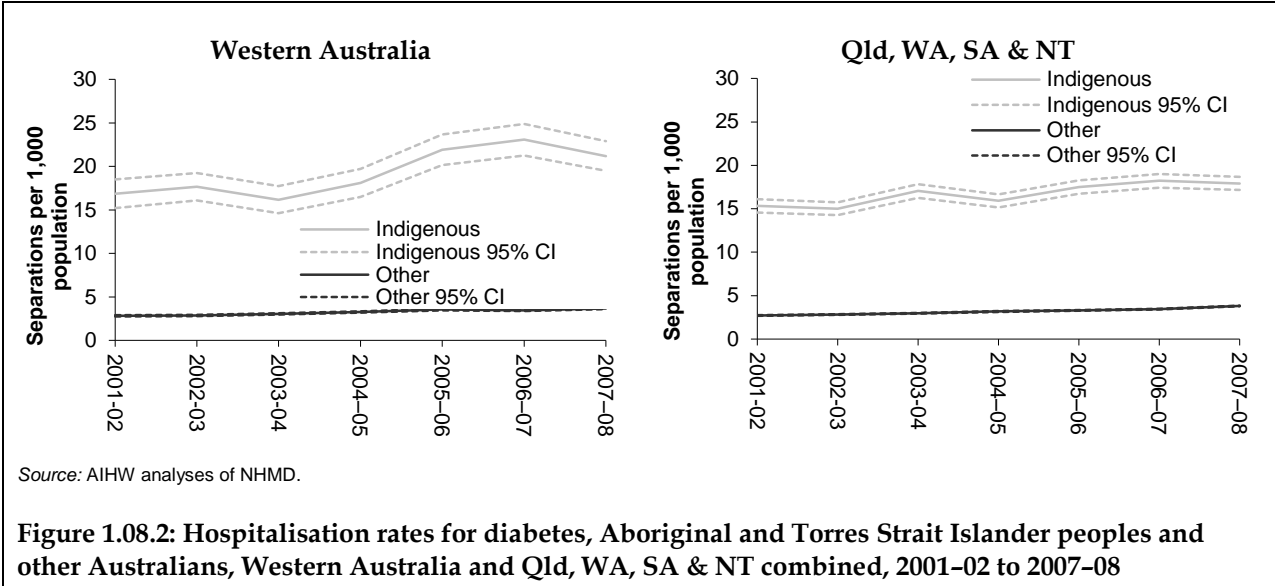
Hospitalisations by age

- For the 2-year period July 2006 to June 2008 in Western Australia, Indigenous Australians had much higher hospitalisation rates for diabetes than other people across all age groups from age 15–24 years onwards. The greatest difference in rates occurred in the 45–54 year age group where Indigenous Australians were hospitalised at 17 times the rate of other people in this age group.
- Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined had higher rates of hospitalisation for diabetes than that of other people in all age groups from age 5–14 onwards. The greatest difference in rates occurred in the 45–54 year age group where Indigenous Australians were hospitalised at 11 times the rate of other people.
- Hospitalisation rates for diabetes among Indigenous Australians in Western Australia were higher than those among Indigenous Australians in the six jurisdictions combined from age 25–34 years onwards.



Hospitalisation trends

- Over the period 2001–02 to 2007–08 in Western Australia, there were significant increases in hospitalisation rates for diabetes among Indigenous (by 38%) and other people (by 32%). There was an average yearly increase of 1.1 hospitalisations per 1,000 population for Indigenous Australians, and 0.2 per 1,000 for other people.
- There were significant increases in the rate difference between Indigenous and other people in Western Australia during the period 2001–02 to 2007–08 (average yearly increase of 0.9 hospitalisations per 1,000).
- Over the same period hospitalisation rates for diabetes increased significantly among Indigenous and other people in Queensland, Western Australia, South Australia and the Northern Territory combined (average yearly increase in the rate for Indigenous Australians of 0.5 hospitalisations per 1,000 population, and 0.2 per 1,000 for other people).
- There was significant change in the rate difference between Indigenous and other people in Queensland, Western Australia, South Australia and the Northern Territory during the period 2001–02 to 2007–08 (average yearly increase of 0.3 hospitalisations per 1,000).

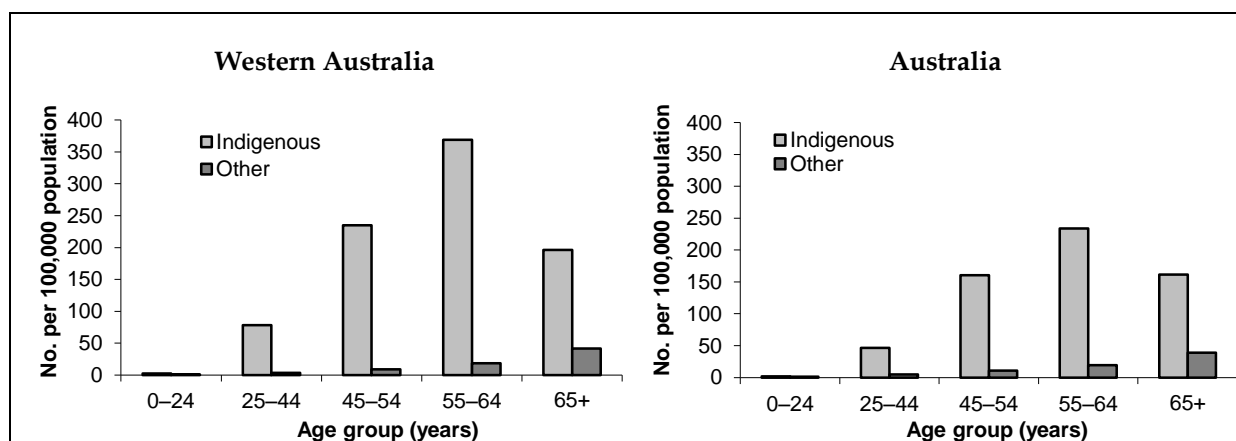


1.09 End-stage renal disease

The number of Aboriginal and Torres Strait Islander people with a principal diagnosis of end-stage renal disease as registered by the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA); expressed as a rate by age group, age-standardised rate and ratio

Incidence by age

- Between 2006 and 2008 in Western Australia, the incidence rate of end-stage renal disease (ESRD) for Indigenous Australians was higher than for non-Indigenous Australians across all age groups. The greatest differences in incidence rates were among the 45–54 year age group, where Indigenous Australians were nearly 26 times as likely to be registered for ESRD treatment as non-Indigenous Australians.
- The incidence rates for ESRD were much lower among Indigenous Australians in Australia than among Indigenous Australians in Western Australia.
- In Australia the greatest difference in incidence rates between Indigenous and non-Indigenous Australians was in the 45–54 years age group, where Indigenous Australians were 15 times as likely to be registered for ESRD treatment as non-Indigenous Australians (Figure 1.09.1).

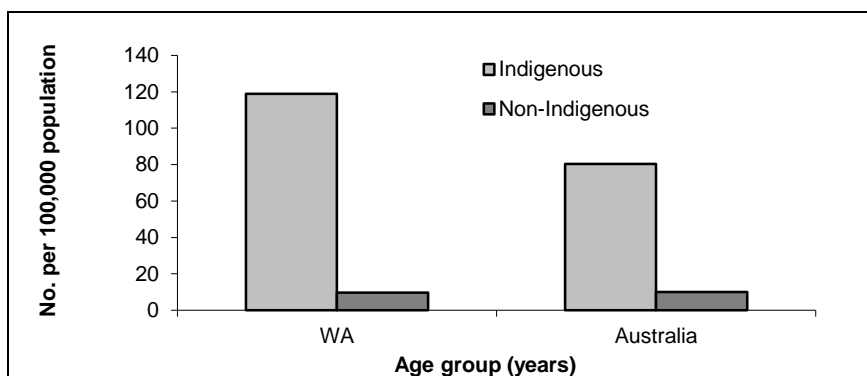


Source: AIHW analyses of Australian and New Zealand Dialysis and Transplant Registry.

Figure 1.09.1: Age specific incidence rates of end-stage renal disease by Indigenous status and age group, Western Australia and Australia, 2006–2008

Incidence by Indigenous status

- For the period 2006–08, Indigenous Australians in Western Australia were 12 times as likely to be registered with ESRD as non-Indigenous Australians. This was higher than the rate ratio for Australia (8).
- The incidence rate of ESRD was higher for Indigenous Australians in Western Australia than for Indigenous Australians in Australia (around 119 per 100,000 compared to 80 per 100,000). Incidence rates for non-Indigenous Australians in Western Australia and Australia were similar (around 10 per 100,000).

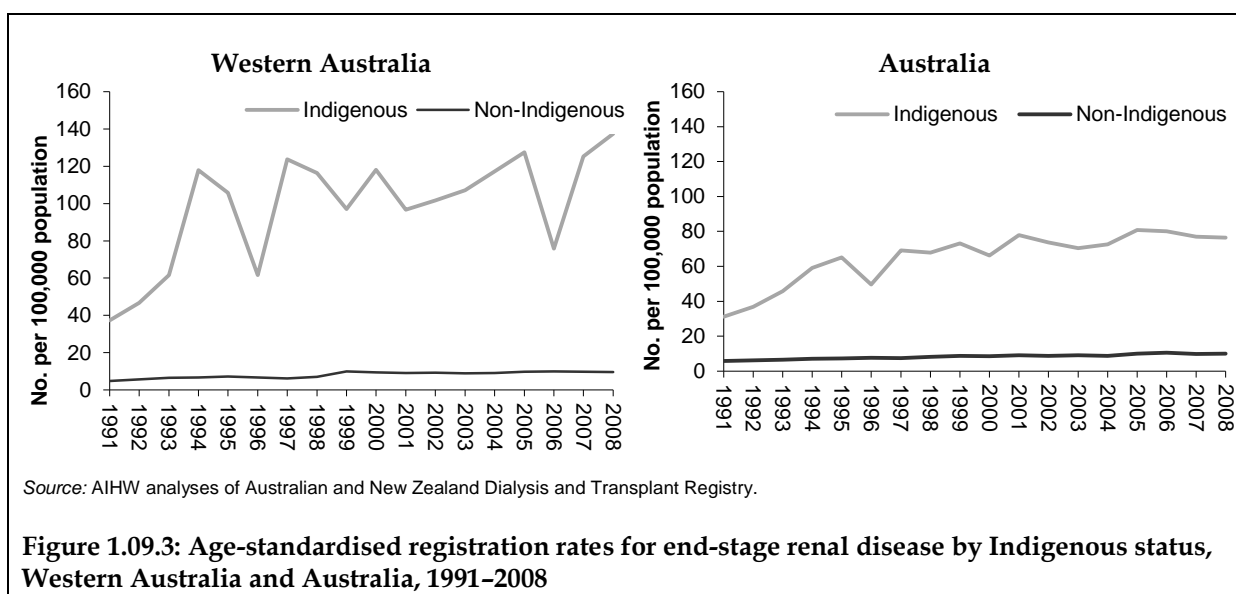


Source: AIHW analyses of Australian and New Zealand Dialysis and Transplant Registry.

Figure 1.09.2: Age-standardised incidence rates of end-stage renal disease by Indigenous status, Western Australia and Australia, 2006–2008

Time trends

- Over the period 1991–2008 there were significant increases (by 162%) in incidence rates of ESRD among Indigenous Australians in Western Australia, with the rate increasing by an average of 3.6 cases per 100,000 per year.
- There were also significant increases (by 99%) in the incidence rate of ESRD among other people in Western Australia; however, this increase was not as rapid, averaging 0.3 per 100,000 per year.
- These changes resulted in a significant increase in the rate differences between Indigenous and non-Indigenous Australians in Western Australia for ESRD over the period 1991–2006, averaging 3.3 per 100,000 per year.
- This same pattern was also evident among Indigenous and non-Indigenous Australians in Australia, with significant increases in the incidence rate of ESRD for Indigenous and non-Indigenous Australians.



Source: AIHW analyses of Australian and New Zealand Dialysis and Transplant Registry.

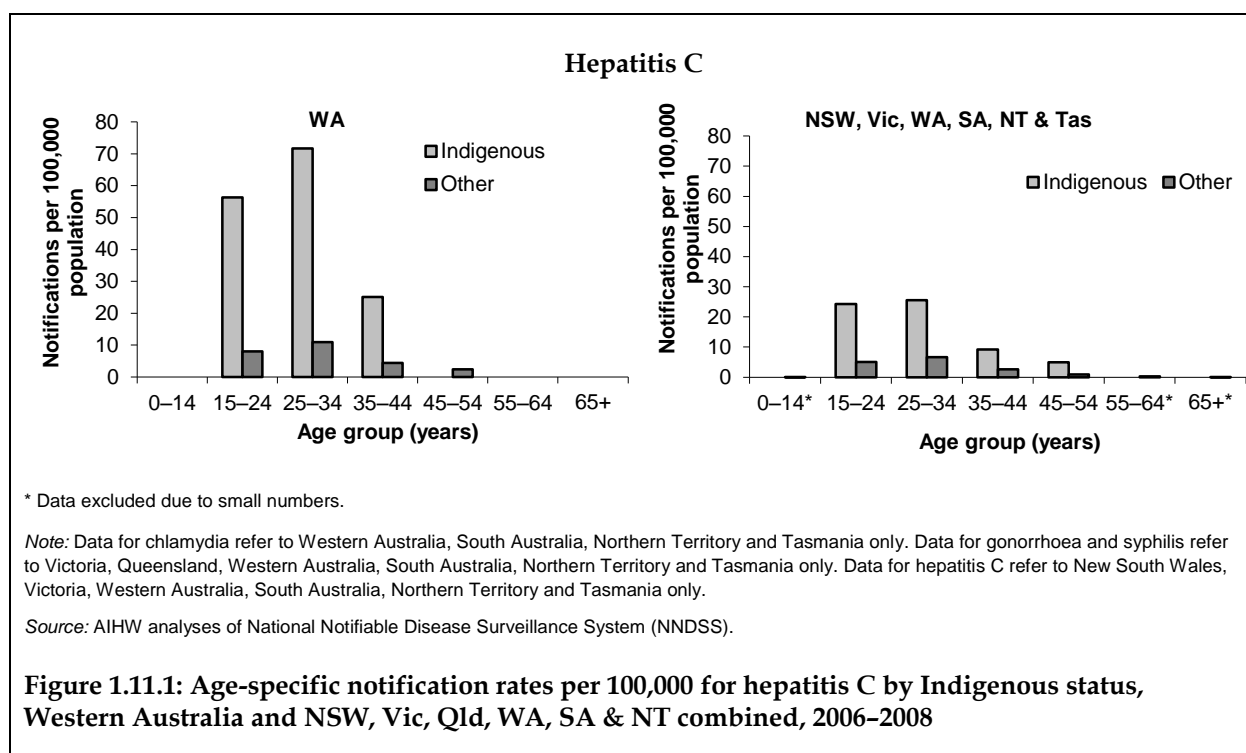
Figure 1.09.3: Age-standardised registration rates for end-stage renal disease by Indigenous status, Western Australia and Australia, 1991–2008

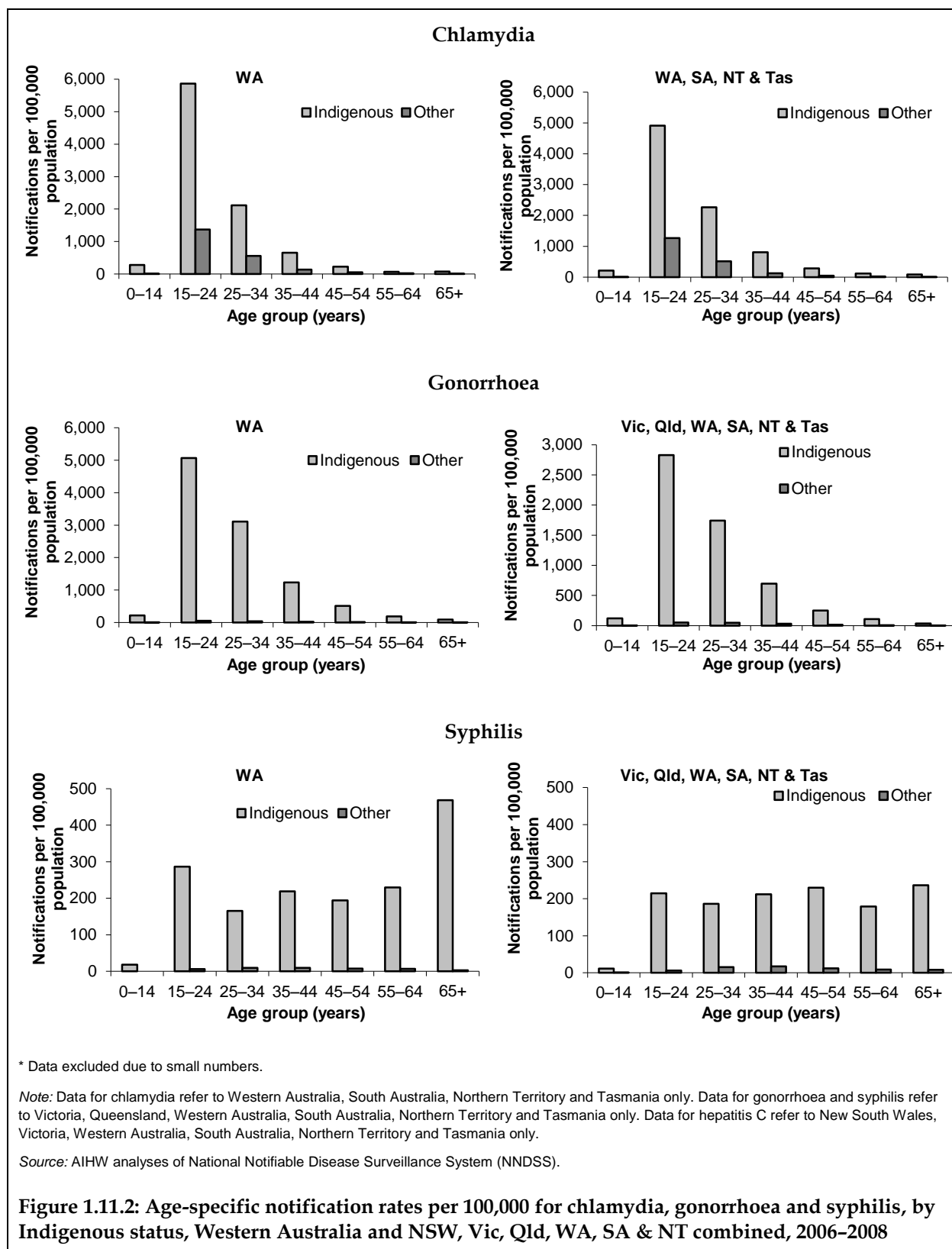
1.11 Hepatitis C and sexually transmissible infections

The rate of notified sexually transmissible infections 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

Notifications by age

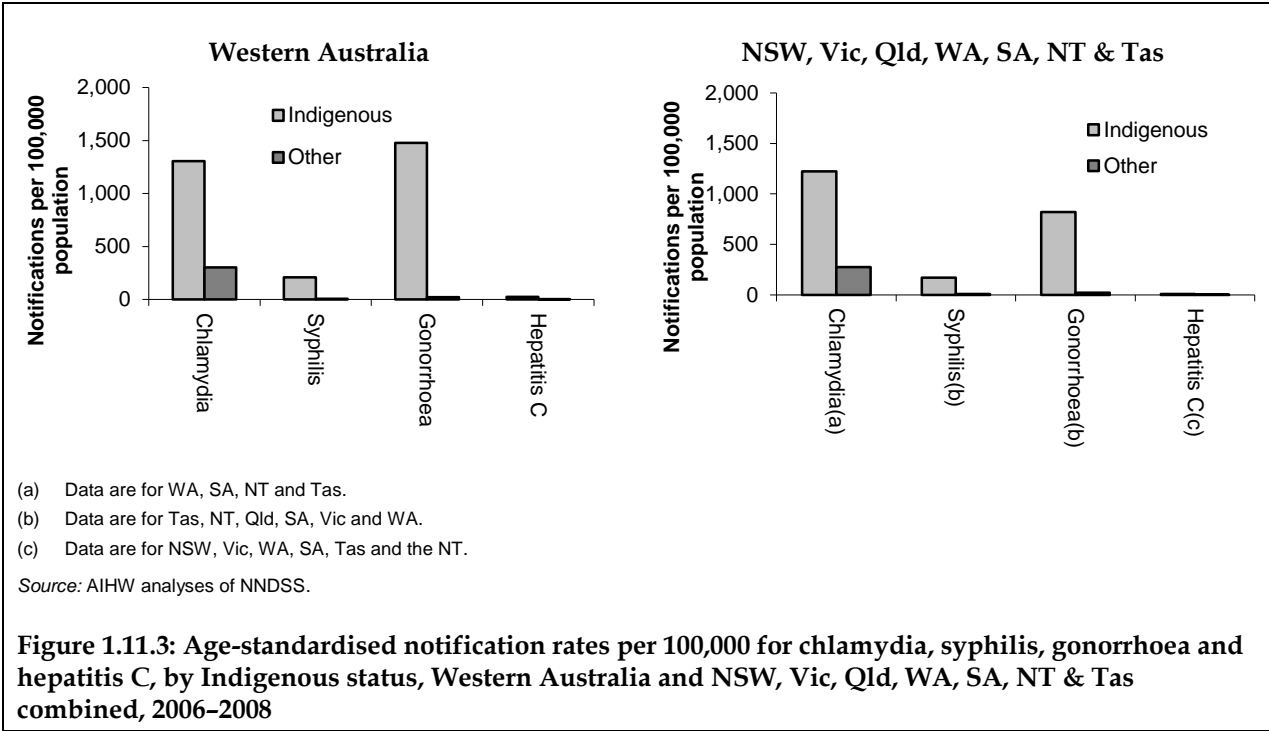
- For the 3-year period 2006–08 in Western Australia, notification rates for chlamydia, gonorrhoea, syphilis, and hepatitis C were higher among Indigenous Australians than among other people across most age groups.
- For chlamydia and gonorrhoea, rates were highest among Indigenous Australians aged 15–24 years; for syphilis, rates were highest among those aged 65 years and over and for hepatitis C, rates were highest among those aged 25–34 years.
- The greatest difference in rates between Indigenous and other people in Western Australia occurred in the 0–14 year age group for chlamydia, syphilis and gonorrhoea, and the 45–54 year age group for hepatitis C.





Notifications by Indigenous status

- During the period 2006–08, chlamydia, syphilis, gonorrhoea and hepatitis C were more common among Aboriginal and Torres Strait Islander people than other people in Western Australia.
- Chlamydia notification rates among Indigenous Australians in Western Australia were 4 times higher, syphilis notification rates were 37 times higher, gonorrhoea notification rates were 69 higher and hepatitis C notifications were 6 times higher than rates for other people.
- Chlamydia notification rates among Indigenous Australians in Western Australia, South Australia, Northern Territory and Tasmania combined were 4 times the rates for other people. In Victoria, Queensland, Western Australia, South Australia, Northern Territory and Tasmania, syphilis notification rates were 18 times the rate, and gonorrhoea notification rates were 38 times the rates for other people. In New South Wales, Victoria, Western Australia, South Australia, Northern Territory and Tasmania, hepatitis C notification rates for Indigenous Australians were 4 times the rates for other people.



Notification trends

Chlamydia

- Over the period 1994–96 to 2006–08 in Western Australia, there were significant increases in notification rates for Indigenous and other people for chlamydia (average yearly increase of around 73 notifications per 100,000 for Indigenous Australians, and 21 per 100,000 for other people).
- Over the same period, there was a significant decline in the rate ratio and significant increases in the rate difference between notification rates for chlamydia among Indigenous and other people in Western Australia (average yearly decrease of 0.6 in the rate ratio and an average yearly increase of 52 per 100,000 in the rate difference).
- Over the period 1994–96 to 2006–08 in Western Australia, South Australia and the Northern Territory combined, there were significant increases in the notification rates for Indigenous and other people for chlamydia (average yearly increase of around 73 per 100,000 for Indigenous Australians, and 18 per 100,000 for other people).

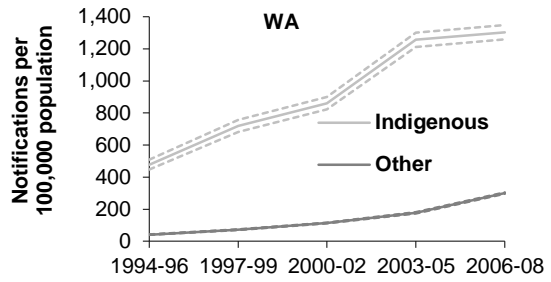
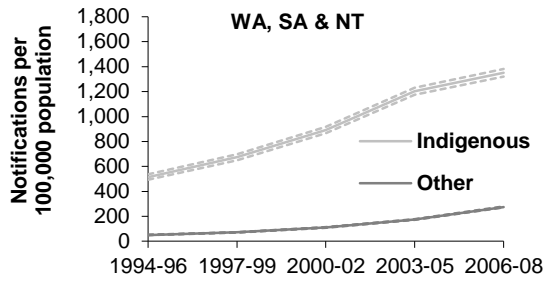
Gonorrhoea

- Over the period 1994–96 to 2006–08, there were significant increases in notification rates for gonorrhoea among Indigenous Australians in Western Australia (average yearly increase of 28 notifications per 100,000 population) and no significant change in notification rates for gonorrhoea among other people.
- Over the same period there was a significant increases in the rate differences between notification rates for Indigenous and other people for gonorrhoea in Western Australia (average yearly increase 33.5 per 100,000 for the rate difference).
- In Western Australia, South Australia and the Northern Territory combined over the period 1994–96 to 2006–08, there were significant increases in the notification rates for Indigenous and other people for gonorrhoea.

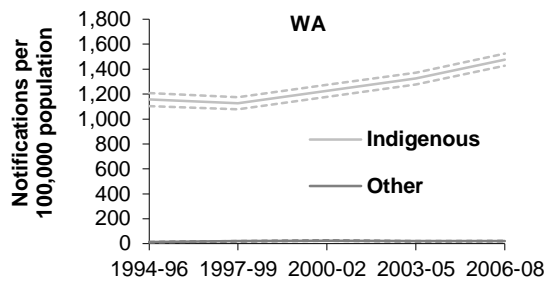
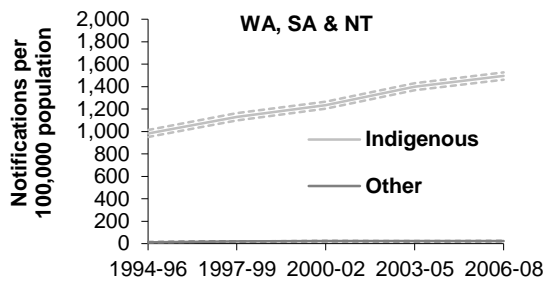
Syphilis

- There were significant increases in notification rates for syphilis among Indigenous and other people in Western Australia over the period 1994–96 to 2006–08. There was an average yearly increase in the rate of around 13.5 per 100,000 for Indigenous Australians, and 0.2 for other people.
- In Western Australia, South Australia and the Northern Territory combined, there was no significant change in syphilis notification rates for Indigenous Australians but significant increases in syphilis notification rates for other people over the period 1994–96 to 2006–08.

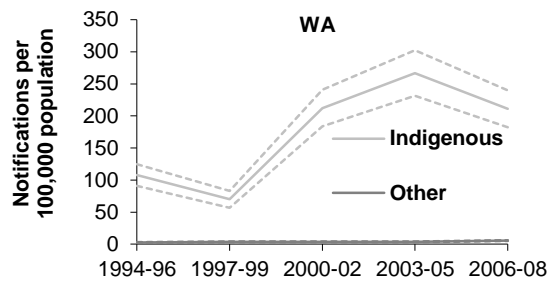
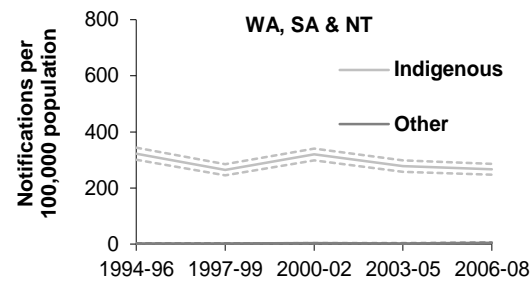
Chlamydia



Gonorrhoea



Syphilis



Note: Numbers of Hepatitis C notifications in the Western Australia are too small to calculate rates.

Source: AIHW analyses of NNDSS.

Figure 1.11.4: Age-standardised notification rates per 100,000 for chlamydia, gonorrhoea and syphilis, by Indigenous status, Western Australia and WA, SA & NT combined, 1994-96 to 2006-08

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

Self-reported prevalence

- In 2004–05, approximately 11% of Indigenous children aged 0–14 years in Western Australia were found to have ear or hearing problems compared with 5% of non-Indigenous children of the same age.
- The prevalence of ear/hearing problems among Indigenous children in Western Australia was similar to that among Indigenous children in Australia (11% and 10% respectively), while the prevalence among non-Indigenous children was higher in Western Australia than Australia (5% compared to 3%).
- Disease of the ear and mastoid process were more prevalent among Indigenous children aged 5–14 years than among Indigenous children aged 0–4 years (14% compared to 5% in Western Australia).
- Complete or partial deafness or hearing loss and otitis media were both more prevalent among Indigenous children than among non-Indigenous children. In Western Australia, approximately 5% of Indigenous children aged 0–14 years reported complete or partial hearing loss or deafness compared to 2% of non-Indigenous children and 4% of Indigenous children reported otitis media compared to 2% of non-Indigenous children.

Table 1.12.1: Diseases of the ear and mastoid process reported for children aged 0–14 years, by Indigenous status, Western Australia and Australia, 2004–05

	0–4 years		5–14 years		Total 0–14 years	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
	%	%	%	%	%	%
Western Australia						
Complete or partial deafness or hearing loss	1.1	0.0	7.1	3.4	5.0	2.3
Otitis media	3.8	2.9	4.5	1.4	4.2	1.8
Other diseases of the ear and mastoid process	0.0	0.6	2.5	0.7	1.7	0.6
Total	5.0	2.9	13.6	5.4	10.7	4.6
Australia						
Complete or partial deafness or hearing loss	1.8	0.5	5.9	1.6	4.5	1.2
Otitis media	3.6	1.8	4.7	1.4	4.4	1.5
Other diseases of the ear and mastoid process	0.4	0.1	1.5	0.5	1.2	0.4
Total	5.5	2.3	11.5	3.4	9.5	3.0

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

- In Western Australia in 2004–05, prevalence of diseases of the ear and mastoid process was higher among Indigenous males aged 0–14 years (12%) than among Indigenous females of the same age (9%).
- In Western Australia in 2004–05, prevalence of diseases of the ear and mastoid process was higher among Indigenous children aged 0–14 years in remote areas (16% males and 12% females) than in non-remote areas (9% males and 7% females). Similarly, prevalence of diseases of the ear and mastoid among Indigenous children was higher in remote Australia (12% for males and 13% for females) compared to non-remote Australia (9% for males and 8% for females).

Table 1.12.2: Diseases of the ear and mastoid process reported for Aboriginal and Torres Strait Islander children aged 0–14 years, by sex and remoteness area, Western Australia and Australia, 2004–05

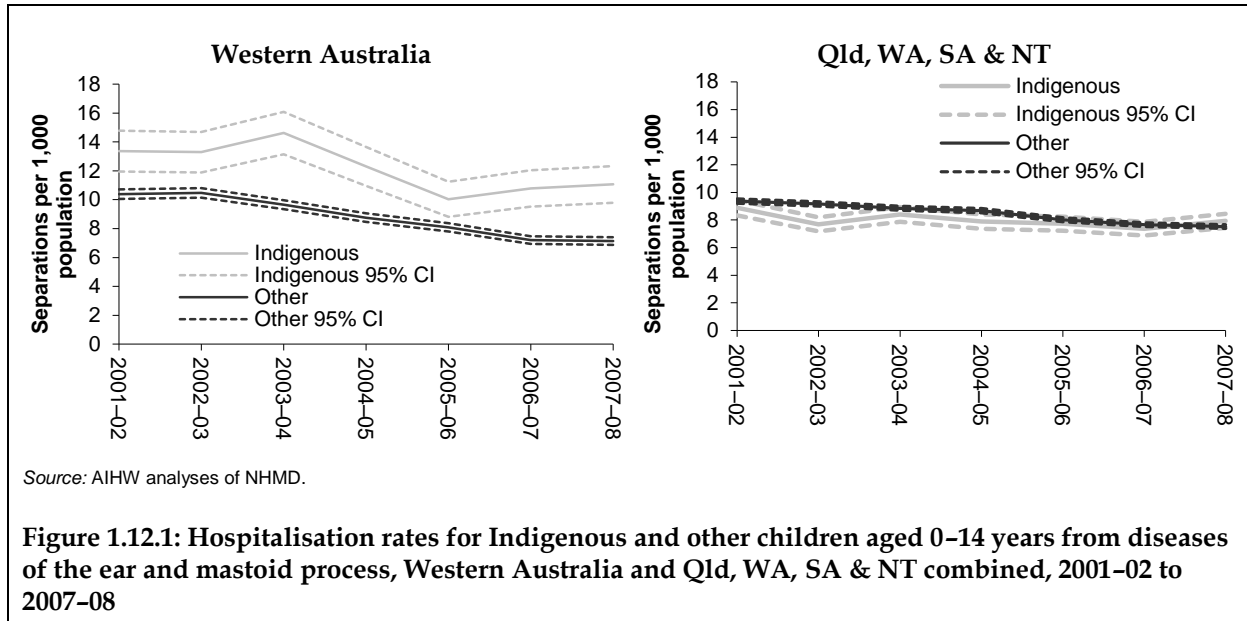
	Western Australia		Australia	
	Males	Females	Males	Females
	%	%	%	%
Remote	16	12	12	13
Non-remote	9	7	9	8
Total	12	9	10	9

Source: ABS and AIHW analyses of NATSIHS 2004–05.

Hospitalisations

Hospitalisation trends

- In Western Australia, there were significant declines in hospitalisation rates for diseases of the ear and mastoid process among Indigenous and other children aged 0–14 years during the period 2001–02 to 2007–08. The average yearly decline was 0.6 per 1,000 population for both Indigenous children and other children which was equivalent to 27% and 37% respectively, over the period.
- There were no significant changes in the rate ratio or rate difference between hospitalisations rates for diseases of the ear and mastoid process for Indigenous and other children aged 0–14 years in Western Australia during the period 2001–02 to 2007–08.
- In Queensland, Western Australia, South Australia and the Northern Territory combined, hospitalisation rates for diseases of the ear and mastoid process among Indigenous children aged 0–14 years showed no significant change during the period 2001–02 to 2007–08. However, among other children there was a significant decline over the same period (average yearly decline of 0.3 hospitalisations per 1,000).

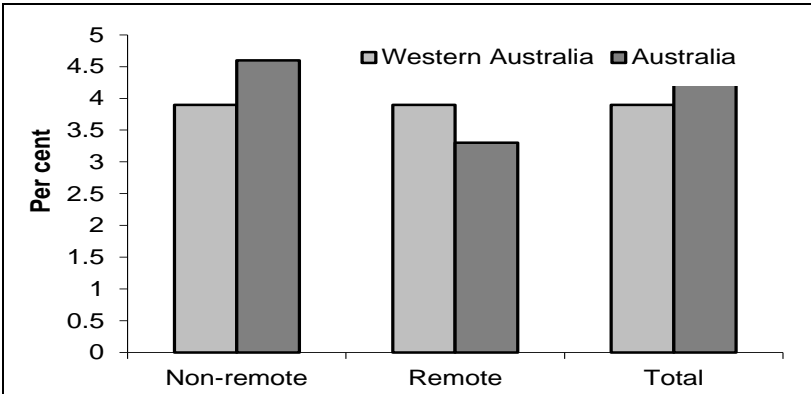


1.13 Disability

The prevalence of disability among Aboriginal and Torres Strait Islander people, including children with special needs

Census data

- In 2006, the proportion of Indigenous Australians who reported they needed assistance with one or more core activities in the areas of self-care, mobility and communication, was around 4% in Western Australia and 4% in Australia.
- The proportion of Indigenous Australians living in non-remote and remote areas who reported needing assistance with a core activity in the areas of self-care, mobility and communication was similar in Western Australia (around 4%).



Source: ABS and AIHW 2008.

Figure 1.13.1: Proportion of people with a core activity need for assistance, Indigenous Australians, Western Australia and Australia, 2006

1.14 Community functioning

Analyses of factors associated with community functioning for Indigenous Australians

Community and individual aspects contributing to community functioning scores

Power to control choices and options

- In 2002 in Western Australia, around 80% of Indigenous Australians reported no stressors related to discrimination or racism and 43% could visit their homelands.
- Further, 26% of Indigenous Australians reported involvement with an Aboriginal and Torres Strait Islander organisation and 88% had support in a time of crisis.

Connectedness to family land and history

- Approximately 72% of Indigenous Australians in Western Australia reported recognition of their homeland.
- Around 88% of Indigenous Australians aged 15 years and over reported they were not removed from their natural family and 34% reported that their relatives were not removed from their natural family.

Health, chronic disease and substance use

- Around 35% of Indigenous Australians aged 15 years and over in Western Australia reported excellent or very good health.
- Around 83% of Indigenous Australians had not drunk alcohol at risky/high-risk levels in the last 12 months and 73% had not used illicit substances in the last 12 months.

Culture

- The majority (76%) of Indigenous Australians in Western Australia participated in at least one cultural event in the last 12 months and 27% reported they spoke an Aboriginal or Torres Strait Islander language.

Identity

- Around 54% of Indigenous Australians in Western Australia reported identifying with a tribal group or clan.

Continuing employment

- In 2002, approximately 21% of Indigenous Australians in Western Australia were employed in Community Development Employment Projects (CDEP) and a further 29% were employed (not in CDEP).

Education

- Around 11% of Indigenous Australians aged 15 years and over in Western Australia completed Year 12 and 30% of Indigenous Australians aged 25–64 years had a non-school qualification.

Infrastructure and community

- Around 59% of Indigenous Australians in Western Australia were living in a dwelling that had no major structural problems and 75% were living in a dwelling that was not overcrowded.
- Approximately 62% of Indigenous Australians reported having a working telephone, 50% had used a computer in the last 12 months and 33% had used the internet in the last 12 months.
- Of Indigenous Australians aged 15 years and over, 54% reported having access to a motor vehicle.

Coping within the internal world and external world

- Around 27% of Indigenous Australians in Western Australia reported no community problems and 21% reported experiencing no stressors in the last 12 months.
- Of Indigenous Australians, 76% reported they were not a victim of physical violence in the last 12 months and 77% did not need legal services in the last 12 months.

Structure and routine

- Approximately 66% of Indigenous Australians in Western Australia reported living in only one dwelling in the last 12 months.
- Around 40% of Indigenous Australians reported they did not have a cash flow problem.

Income

- Of Indigenous Australians aged 15 years and over in Western Australia, 22% were in the middle fifth or above of equivalised household income.
- Approximately 35% of Indigenous Australians reported that government support was not the main source of income during the last 2 years and 39% could raise \$2,000 within a week.

Table 1.14.1: Variables contributing to community functioning, Indigenous Australians aged 15 years and over, Western Australia and Australia 2002

Themes and community infrastructure	WA	Australia
Power to control choices and options	%	%
No stressors reported for discrimination/racism	80.2	82.3
Can visit homelands	43.4	46.2
Has support in a time of crisis	88.0	90.4
Involvement with Aboriginal/Torres Strait Islander organisation	25.6	26.1
Work allows for cultural responsibilities – can meet responsibilities	27.9	22.3
Used strategies to meet living expenses	61.5	48.5
Connectedness to family land and history		
Access to traditional lands		
Recognition of homelands	72.2	69.6
Lives in homelands	27.6	21.9
Removal		
Respondent not removed from natural family	88.3	87.2
Relatives not removed from natural family	34.4	44.4
Health, chronic disease and substance use		
Self-assessed health status excellent or very good	35.2	44.1
Has no disability or long-term health condition	60.8	63.5
Not a regular smoker ^(a)	56.0	50.7
Has not drunk alcohol in last 12 months at risky/high-risk levels ^(b)	83.3	84.1
Has not used substances illicitly in last 12 months ^(c)	73.2	70.7
Culture		
Protection and maintenance of culture		
Main language spoken at home is Aboriginal language/ Torres Strait Islander Language	11.5	12.0
Speaks an Aboriginal/Torres Strait Islander language	27.3	21.1
Participating in cultural events		
Attended Aboriginal and Torres Strait Islander cultural event in last 12 months		
Attended funeral	62.3	46.6
Attended ceremony	18.8	23.5
Attended sports carnival	33.9	29.8
Attended festival/carnival involving arts, crafts, music or dance	37.6	35.7
Sub-total attended in last 12 months	75.7	68.1
Identity		
Identification with tribal group or language group/clan	53.8	54.1
Continuing employment		
Employed in CDEP	21.1	12.1
Employed not in CDEP	28.5	34.1

(continued)

Table 1.14.1 (continued): Variables contributing to community functioning, Indigenous Australians aged 15 years and over, Western Australia and Australia 2002

Themes and community infrastructure	WA	Australia
Education	%	%
Year 12 highest year of school completed ^(d)	11	18
<i>Subtotal people 15 years and over not at school</i>	<i>100</i>	<i>100</i>
Has a non-school qualification ^(e)	30	32
<i>Subtotal people aged 25–64 years</i>	<i>100.0</i>	<i>100.0</i>
Having a role		
Has done volunteer work for an organisation in the last 12 months	23.6	27.6
Expected to have the same employment in 12 months	42.4	40.6
Infrastructure of community		
Housing		
Living in a dwelling that has no major structural problems	59.2	60.4
Living in a dwelling that is not overcrowded (Canadian Occupancy standard)	75.0	74.0
<i>Working household facilities for:</i>		
washing people	98.6	98.6
washing clothes and bedding	98.0	98.1
Storing/preparing foods	89.7	92.3
Sewerage facilities	99.0	98.1
Communication services		
Has working telephone	62.1	71.3
Used computer in last 12 months	50.0	55.5
Used internet in last 12 months	32.6	41.0
Transport		
Access to motor vehicles	54.0	54.6
Can easily get to places needed	66.0	70.1
<i>Main reasons for not using public transport:</i>		
Prefer to use own transport	26.1	29.2
No service available	33.1	29.1
No service available/convenient time	4.2	4.3
Cost considerations	*1	1.2
Other ^(f)	6.8	6.9
Coping within the internal world and external world/ role models		
Community problems		
No community problems reported	26.5	25.3
Community problems reported, but less than three types	26.5	28.8
No problems reported for theft	60.6	57.0
No problems reported for alcohol	65.0	66.5
No problems reported for illicit drugs	70.3	67.7

(continued)

Table 1.14.1 (continued): Variables contributing to community functioning, Indigenous Australians aged 15 years and over, Western Australia and Australia 2002

	WA	Australia
Themes and community infrastructure	%	%
No problems reported for family violence	78.5	78.8
No problems reported for assault	80.7	80.1
No problems reported for sexual assault	92.7	91.9
Subtotal no. of people who reported a community problem	72.4	73.6
Stressors		
No stressors reported in last 12 months	20.9	17.7
Less than three types of stressors reported in the last 12 months ^(g)	58	56
No stressors reported for death of a family member or close friend	54.6	54.3
No stressors reported for serious illness or disability	74.9	69.2
No stressors reported for not able to get a job	78.2	73.0
No stressors reported for witness to violence	86.0	84.3
No stressors reported for member of family sent to jail/currently in jail	74.0	80.5
Subtotal no. of people who reported a stressor	79.1	82.3
Crime and justice		
Not a victim of physical or threatened violence in the last 12 months	74.0	75.7
Did not need legal services in the last 12 months	74.2	77.1
Did not use legal services in the last 12 months	78.7	80.2
Not arrested by police in the last 5 years	77.9	83.6
Not incarcerated in the last 5 years	89.4	92.9
Structure and routine		
Has no difficulties communicating with service providers in English ^(h)	81.0	86.9
In the last 12 months has lived in only one dwelling	66.4	69.1
No days without money for basic living expenses in the last 12 months ⁽ⁱ⁾	48.9	56.3
No days without money for basic living expenses in the last 2 weeks ⁽ⁱ⁾	63.8	68.2
Did not have a cash flow problem ⁽ⁱ⁾	39.6	45.9
Income		
Equivalised gross household income		
3rd quintile or above	21.8	24.6
Main current source of personal income		
CDEP	18.0	10.3
Other wages/salaries	24.5	29.0
Government pensions and allowances	49.9	50.2
Total in labour force	61.5	60.0
Other sources ^(j)	*1	3.1
Government support was not the main source of income during the last 2 years	35.4	40.0

(continued)

Table 1.14.1 (continued): Variables contributing to community functioning, Indigenous Australians aged 15 years and over, Western Australia and Australia 2002

Themes and community infrastructure	WA	Aust
Household financial stress and cash flow problems	%	%
Has a bank account	90.5	94.2
Could raise \$2,000 within a week	38.8	40.6
Total people aged 15 years and over	39,572	282,205

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

** Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

- (a) Excludes regular smoker and not stated.
- (b) Excludes high-risk, medium risk and not stated.
- (c) Excludes non-response, not stated and has used substance in the last 12 months.
- (d) Proportion of subtotal people aged 15 years and over, but not at school.
- (e) Proportion of subtotal people aged 25–64 years.
- (f) Includes takes too long, concerned about own personal safety, racial discrimination and other.
- (g) Includes values of zero to less than three.
- (h) Excludes with assistance.
- (i) Non-community responses only.
- (j) Excludes not stated.

Source: AIHW and ABS analyses of National Aboriginal and Torres Strait Islander Social Survey (NATSISS) 2002.

Discrete Indigenous communities

Characteristics contributing to community functioning

Table 1.14.2 below presents data on characteristics contributing to community functioning in discrete Indigenous communities as collected in the 2006 Community Housing and Infrastructure Needs Survey (CHINS).

Housing

- In 2006, around 28% of permanent dwellings managed by Indigenous Housing Organisations in Western Australia needed major repair.
- In 2006, 98% of the discrete Indigenous communities in Western Australia reported having an organised water supply, 94% reported having an organised sewerage supply and 98% reported having an organised electricity supply.

Health and medical services

- Around 33% of discrete Indigenous communities in Western Australia were located less than 100 kilometres from the nearest hospital and 33% were located less than 100 kilometres from the nearest Aboriginal primary health care centre.
- In 2006, around 38% of discrete Indigenous communities reported having access to medical emergency air services.

Educational services

- Of discrete Indigenous communities in Western Australia, 25% reported having a primary school located in the community and 6% reported having a secondary school up to Year 12 located in the community.

Communication services

- Around 64% of discrete Indigenous communities in Western Australia (representing 91% of the Indigenous population) reported having access to a public telephone and 40% (representing 45% of the Indigenous population) reported having access to the internet.

Transport

- In 2006, 96% of discrete Indigenous communities in Western Australia reported road as the main mode of transport to the nearest town with major services.

Community services

- Around 37% of discrete Indigenous communities in Western Australia reported having visitor accommodation facilities, 13% reported aged care, 8% disability and 4% women's refuge accommodation facilities.
- Of discrete Indigenous communities, 26% reported having an art/cultural centre and 29% reported having a child care centre.
- Around 30% of discrete Indigenous communities in Western Australia reported having no sporting facilities in the community.

Community priority needs plan

- In 2006, 52% of discrete Indigenous communities in Western Australia reported having a community priority needs plan and 35% were developing a community priority needs plan.
- Of those communities with a community priority needs plan, 98% identified more housing, 57% identified sports facilities, 36% identified transport, and 34% reported health care facilities as main planning priorities.

Table 1.14.2: Proportion^(a) of discrete Indigenous communities by characteristics contributing to community functioning, Western Australia and Australia, 2006

Community infrastructure	Western Australia		Australia	
	Dwellings	Reported usual population	Dwellings	Reported usual population
Housing	%	%	%	%
Condition of permanent dwellings managed by Indigenous Housing Organisations				
needing minor or no repairs	62.0	n.a.	69.5	n.a.
needing major repairs	27.9	n.a.	23.4	n.a.
needing replacement	10.1	n.a.	7.2	n.a.
Total dwellings	100.0	n.a.	100.0	n.a.
	Communities	Reported usual population	Communities	Reported usual population
No-one in community living in temporary dwellings	55.5	68.7	65.3	64.5
Population living in temporary dwellings	n.a.	5.8	n.a.	4.4
No-one in community requiring permanent dwelling	60.6	75.8	68.2	68.5
Population requiring permanent housing	n.a.	5.4	n.a.	4.2
Access to clean water				
Organised water supply ^(b)	98.4	99.0	96.4	99.2
No organised water supply	1.6	1.0	3.6	0.8
Drinking water failed testing in last 12 months ^(c)	37.3	38.4	29.3	24.1
Drinking water not sent away for testing ^(d)	5.6	1.3	21.5	8.7
Experienced five or more water interruptions over last 12 months ^(d)	19.8	30.7	18.9	25.7
Experienced interruptions to water supply greater than 24 hours ^(d)	15.4	18.0	21.9	18.9
Access to sewerage				
Organised sewerage supply ^(e)	94.3	98.2	83.8	97.1
No organised system	5.7	1.8	16.2	2.9
Experienced overflows or leakage ^(d)	40.9	46.2	39.3	36.5
Over a 12-month period 10 or more overflows ^(d)	8.0	11.8	8.6	6.5
Overflows or leakages longer than 48 hours ^(d)	26.1	29.9	22.4	17.4
Not all dwellings connected	28.9	4.9	18.8	4.5
Access to electricity				
Organised electricity supply	98.1	99.6	97.0	99.7
No organised supply	1.9	0.4	3.0	0.3
20 or more interruptions in the last 12 months ^(d)	20.9	28.0	11.2	16.1
At least one interruption greater than 24 hours in last 12 months ^(d)	29.7	33.9	26.2	29.0
Not all dwellings connected ^(d)	2.2	0.5	3.3	1.9

(continued)

Table 1.14.2 (continued): Proportion^(a) of discrete Indigenous communities by characteristics contributing to community functioning, Western Australia and Australia, 2006

Community infrastructure	Western Australia		Australia	
	Communities	Reported usual population	Communities	Reported usual population
	%	%	%	%
Access to rubbish disposal				
Community has organised rubbish collection ^(d)	89.0	90.9	92.1	96.9
Community does not have organised rubbish disposal ^(d)	11.0	9.1	7.9	3.1
Health and medical services				
Aboriginal primary health care centre				
Located within community	8.0	22.3	10.2	47.0
Located less than 100km	32.9	28.6	50.3	24.0
Located 100km or more	59.0	49.1	39.6	28.9
Total stated	100.0	100.0	100.0	100.0
Hospital				
Located within community	0.8	4.7	0.9	15.3
Located less than 100km	32.8	29.2	29.0	28.3
Located 100km or more	66.4	66.1	70.0	56.4
Total stated	100.0	100.0	100.0	100.0
Other (state-funded) community health centre				
Located within community	12.0	41.7	9.9	42.9
Located less than 100km	60.8	31.6	54.8	29.2
Located 100km or more	27.2	26.7	35.4	28.0
Total stated	100.0	100.0	100.0	100.0
Emergency services^(f)				
Access to medical emergency air services	37.7	70.7	32.3	75.2
No access to medical emergency air services	62.3	29.3	67.7	24.8
Whether health professionals visiting or working in the community^(f)				
Male Indigenous health worker daily, weekly, fortnightly	19.4	25.3	42.4	64.2
Male Indigenous health worker monthly or longer	13.9	10.9	9.0	6.0
No male Indigenous health worker	66.7	63.8	48.6	29.8
Female Indigenous health worker daily, weekly, fortnightly	90.0	60.3	55.2	79.7
Female Indigenous health worker monthly or longer	23.3	6.2	7.3	3.7
No female Indigenous health worker	126.7	33.6	37.5	16.5
Doctor daily, weekly, fortnightly	44.4	59.4	41.0	60.9
Doctor monthly or longer	20.8	23.0	25.7	25.9

(continued)

Table 1.14.2 (continued): Proportion^(a) of discrete Indigenous communities by characteristics contributing to community functioning, Western Australia and Australia, 2006

Community infrastructure	Western Australia		Australia	
	Communities	Reported usual population	Communities	Reported usual population
	%	%	%	%
No doctor	34.7	17.7	33.3	13.1
Registered nurse daily, weekly, fortnightly	56.9	73.5	63.9	86.5
Registered nurse monthly or longer	6.9	7.1	9.4	4.5
No registered nurse	36.1	19.3	26.7	9.0
Educational services				
Primary				
Located within community	25.1	62.3	22.6	72.8
Located less than 50km	40.3	29.8	49.2	22.5
Located 50km or more	34.6	7.9	28.2	4.7
Total stated	100.0	100.0	100.0	100.0
Secondary school up to Year 10				
Located within community	8.3	36.8	4.7	30.8
Located less than 50km	44.6	41.3	39.4	34.7
Located 50km or more	47.1	21.9	55.9	34.5
Total stated	100.0	100.0	100.0	100.0
Secondary school up to Year 12				
Located within community	6.2	23.0	3.7	23.0
Located less than 50km	26.4	23.0	27.3	28.1
Located 50km or more	67.4	54.0	69.0	48.9
Total stated	100.0	100.0	100.0	100.0
Access to educational services other than school				
Pre-primary	38.5	59.1	34.4	56.1
Homework centre	13.2	20.2	7.9	10.1
TAFE courses	13.2	21.2	19.1	37.4
Other adult education	11.0	25.6	13.7	21.4
Other educational services	4.4	8.1	4.9	7.0
No other educational services	56.0	32.2	54.1	28.5
Communication services				
Public access to community telecommunication facilities				
Public telephones	63.9	90.6	58.1	84.0
Satellite dish	60.4	73.4	49.2	67.8
Radio	90.1	94.4	92.1	96.2
Television	95.6	98.4	95.4	98.6

(continued)

Table 1.14.2 (continued): Proportion^(a) of discrete Indigenous communities by characteristics contributing to community functioning, Western Australia and Australia, 2006

Community infrastructure	Western Australia		Australia	
	Communities	Reported usual population	Communities	Reported usual population
	%	%	%	%
Internet	39.6	44.8	37.2	57.8
Community has no access to a public telephone	36.1	9.4	41.9	16.0
Community has no access to internet	60.4	55.2	62.8	42.2
Transport				
Access to community not located in town				
Main mode of transport				
Road	96.2	94.6	88.0	78.0
Air	2.5	5.2	9.4	18.9
Sea	1.3	n.p.	2.7	3.1
Usual method of transport^(d)				
Private	87.5	84.8	85.8	78.7
Public	0.0	0.0	8.6	17.7
Community-owned vehicle	8.3	6.2	4.3	2.2
Other	4.2	9.0	1.3	1.4
Whether transport services available to/from community^(d)				
Public	8.3	19.5	17.8	32.6
Community	29.2	32.0	23.8	25.1
Road access^(d)				
Road access not cut	31.9	22.6	42.6	29.7
Road access cut 5 or more times	29.2	35.5	13.9	16.8
Inaccessible by road	2.8	6.2	11.5	23.1
Airstrip^(d)				
Airstrip located in community	55.6	72.4	48.5	69.1
Airstrip open all year round	77.5	86.9	74.1	75.9
Airstrip not open all year round	22.5	13.1	25.9	24.1
Community services^(d)				
Accommodation facilities				
Visitor	37.4	53.9	32.5	56.8
Camping	24.2	29.3	14.2	13.0
Single men's	19.8	24.6	13.1	19.7
Single women's	9.9	13.1	6.8	13.0
Hostel	2.2	1.9	2.2	2.6
Contract workers	17.6	31.9	23.2	53.8

(continued)

Table 1.14.2 (continued): Proportion^(a) of discrete Indigenous communities by characteristics contributing to community functioning, Western Australia and Australia, 2006

Community Infrastructure	Western Australia		Australia	
	Communities	Reported usual population	Communities	Reported usual population
	%	%	%	%
Disability	7.7	8.4	6.3	13.7
Aged	13.2	21.7	12.0	34.4
Women's refuge	4.4	10.0	8.7	34.9
Other	0.0	0.0	1.1	3.2
No accommodation facilities	37.4	24.2	48.6	20.4
Public facilities				
Hall/meeting area	64.8	72.8	56.8	75.8
Administration building	74.7	88.6	61.2	85.5
Store	51.6	72.8	47.8	80.0
Library	4.4	6.0	12.0	37.6
Arts/cultural centre	26.4	34.3	31.1	56.5
Women's centre	36.3	55.6	30.9	55.6
Child care centre	28.6	49.6	29.5	58.3
Youth centre	16.5	30.3	19.4	43.9
Canteen	5.5	7.2	12.8	34.9
Broadcasting facilities	26.4	47.5	30.9	63.2
Other	11.0	20.0	10.7	16.5
No public facilities	19.8	7.4	24.3	6.7
Recreation facilities				
Sports grounds	50.5	72.9	46.2	78.9
Outdoor basketball/netball courts	58.2	75.0	48.4	72.4
Indoor or covered sporting facilities	5.5	11.0	12.6	39.2
Swimming pools	7.7	16.4	7.4	23.4
Other buildings used for sport	11.0	16.9	15.6	36.8
Other community sporting facilities	8.8	9.7	6.0	10.2
No sporting facilities	29.7	13.2	38.5	12.1
Community priority needs plan^(d)				
Communities with a community priority needs plan	51.6	62.2	51.6	58.9
Of those with plan needs identified include:				
More housing	97.9	99.4	89.9	93.9
Upgrade water supply	44.7	44.8	45.5	46.8
Upgrade electricity supply	51.1	53.1	37.6	32.2
Upgrade sewerage	36.2	44.1	43.4	46.2

(continued)

Table 1.14.2 (continued): Proportion^(a) of discrete Indigenous communities by characteristics contributing to community functioning, Western Australia and Australia, 2006

Community infrastructure	Western Australia		Australia	
	Communities	Reported usual population	Communities	Reported usual population
	%	%	%	%
Rubbish collection/disposal	53.2	63.1	45.0	40.1
Transport	36.2	39.6	40.7	40.3
Communication facilities	23.4	35.9	27.0	33.0
Education facilities	14.9	26.9	31.2	37.3
Sports facilities	57.4	65.3	55.6	62.9
Health care facilities	34.0	45.0	41.8	47.3
Animal control	36.2	41.6	38.6	50.8
Broadcasting capabilities	21.3	42.1	27.0	35.4
Other	36.2	36.0	25.4	26.9
Communities developing a community priority needs plan	35.2	31.5	35.2	34.3
No community priority needs plan being developed	13.2	6.3	13.1	6.9
Total no. of communities	277	14,023	1,187	92,960

- (a) All proportions were calculated excluding not stated from denominator.
- (b) Excluding communities with carted and other organised water supply.
- (c) Percentage calculated as a proportion of all discrete Indigenous communities with a reported usual population of 50 people or more, and communities which have a reported usual population of less than 50 people but which are not administered by a larger discrete Indigenous community or Resource Agency, excluding communities where water not sent away for testing and communities connected to town supply.
- (d) Percentage calculated as a proportion of all discrete Indigenous communities with a reported usual population of 50 people or more, and communities which have a reported usual population of less than 50 people but which are not administered by a larger discrete Indigenous community or Resource Agency.
- (e) Excluding communities who reported pit and pan toilets as the main sewerage system type.
- (f) Percentage calculated as a proportion of all discrete Indigenous communities with a reported usual population of 50 people or more, and communities which have a reported usual population of less than 50 people but which are not administered by a larger discrete Indigenous community or Resource Agency, and are located 10 kilometres or more from a hospital.

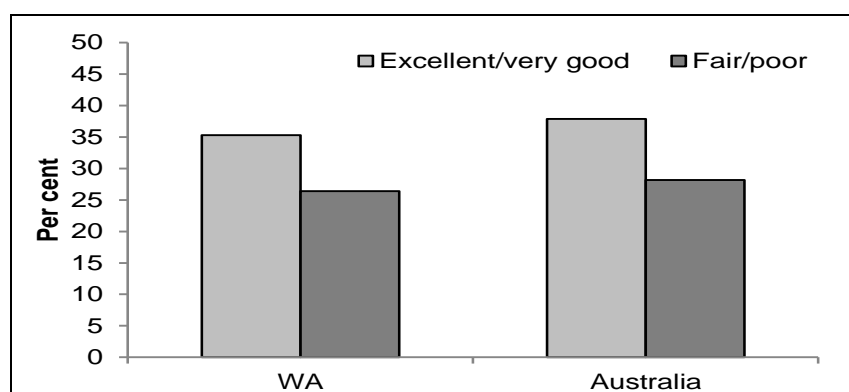
Source: AIHW analyses of Community Housing and Infrastructure Needs Survey (CHINS) 2006.

1.15 Perceived health status

Self-reported, self-assessed health status of Aboriginal and Torres Strait Islander Australians

Self-assessed health status

- The proportion of Indigenous Australians aged 15 years and over reporting fair or poor health was similar in Western Australia and Australia (26% and 28% respectively). In Western Australia, a lower proportion of Indigenous Australians aged 15 and over reported excellent or very good health (35%) when compared to the total of Australia (38%).

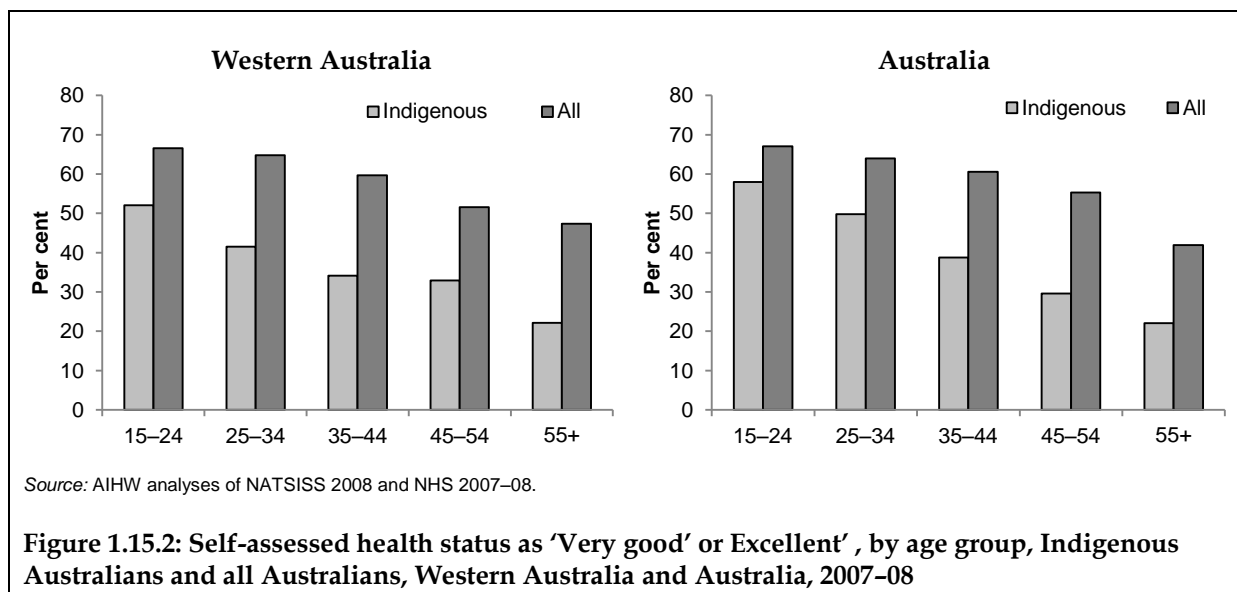


Source: ABS and AIHW analysis of 2008 NATSISS and NHS 2007-08.

Figure 1.15.1: Self-assessed health status, Indigenous Australians aged 15 years and over, Western Australia and Australia, 2007-08

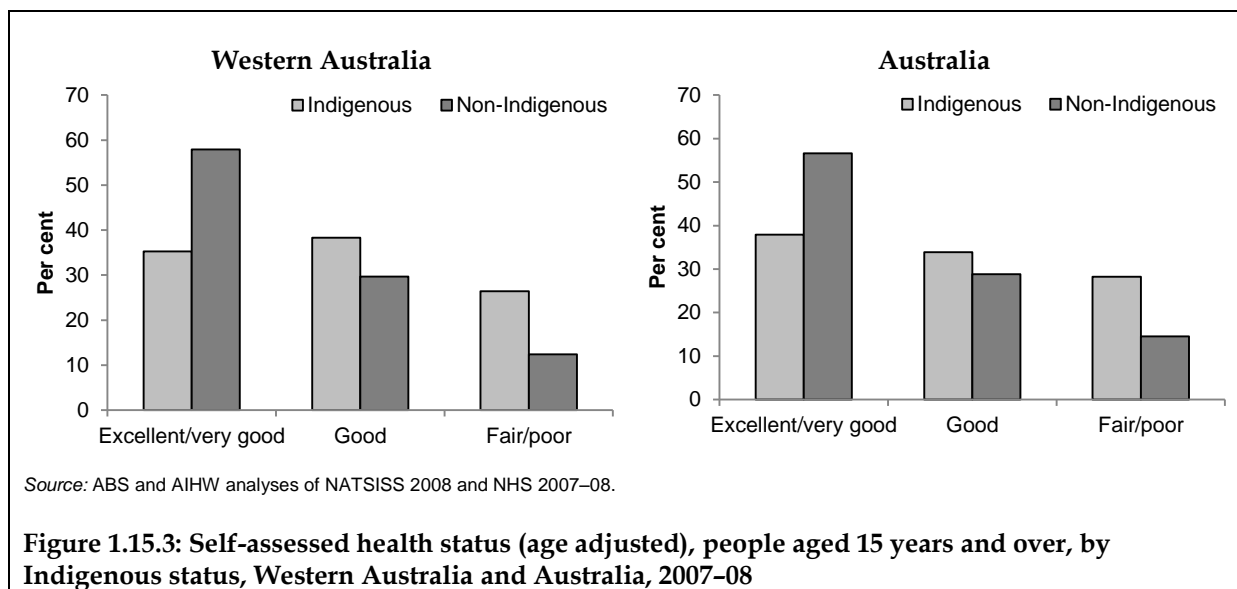
Self-assessed health status by age

- In both Western Australia and Australia, Indigenous Australians were less likely to report excellent or very good health than non-Indigenous Australians across all age groups.
- In Western Australia, the proportion of Indigenous Australians reporting excellent or very good health decreased with age being highest among those aged 15-24 years (52%) and lowest among those aged 55 years and over (22%).



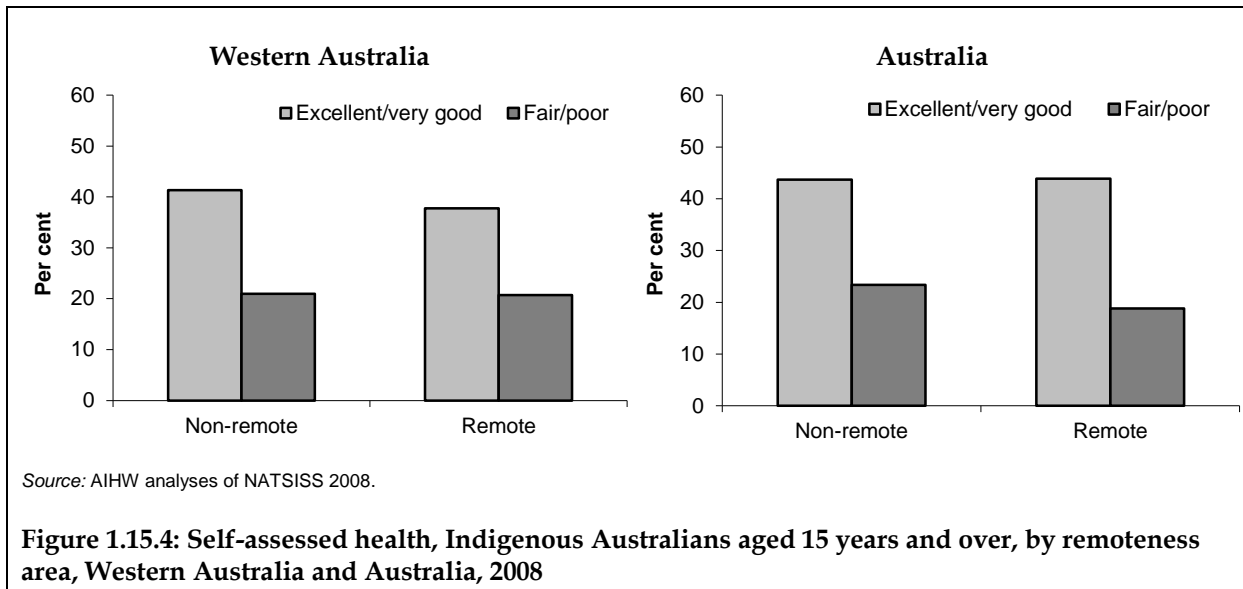
Self-assessed health status by Indigenous status (age-standardised)

- In 2007-08, after adjusting for differences in age structure between the Indigenous and non-Indigenous populations, in both Western Australia and Australia, Indigenous Australians were about twice as likely as non-Indigenous Australians to report their health as fair/poor. They were more likely to report their health as good, and less likely to report it as very good or excellent compared to non-Indigenous Australians.



Self-assessed health status by remoteness

- A higher proportion of Indigenous Australians aged 15 years and over in non-remote areas of Western Australia reported excellent or very good health (41%) than Indigenous Australians in remote areas of Western Australia (38%).
- In Australia, the same proportion of Indigenous Australians in non-remote areas and remote areas reported excellent or very good health (both 44%).



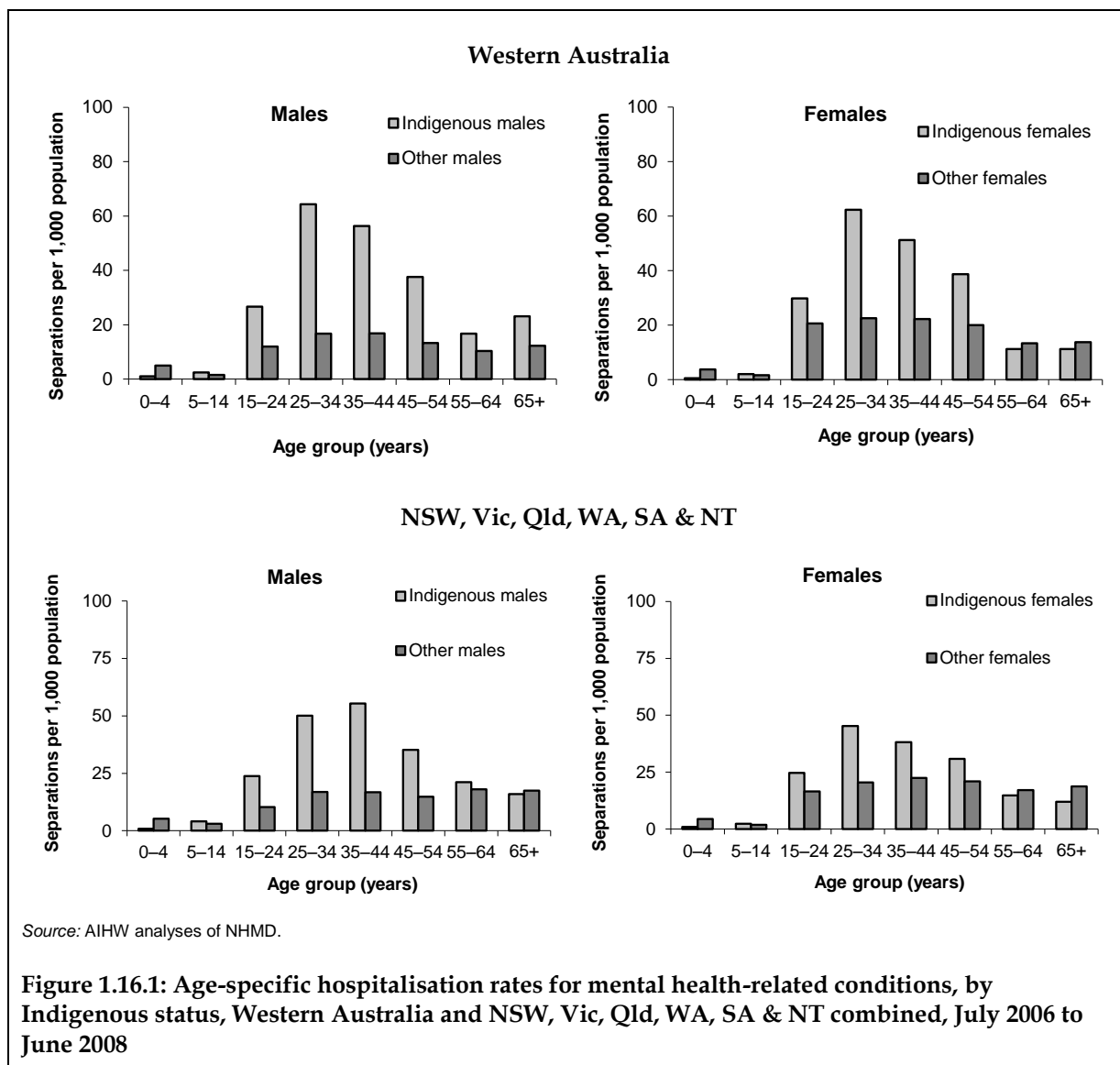
1.16 Social and emotional wellbeing

The social and emotional wellbeing of Aboriginal and Torres Strait Islander peoples expressed as a percentage by age group, age-standardised rate and ratio

Hospitalisations

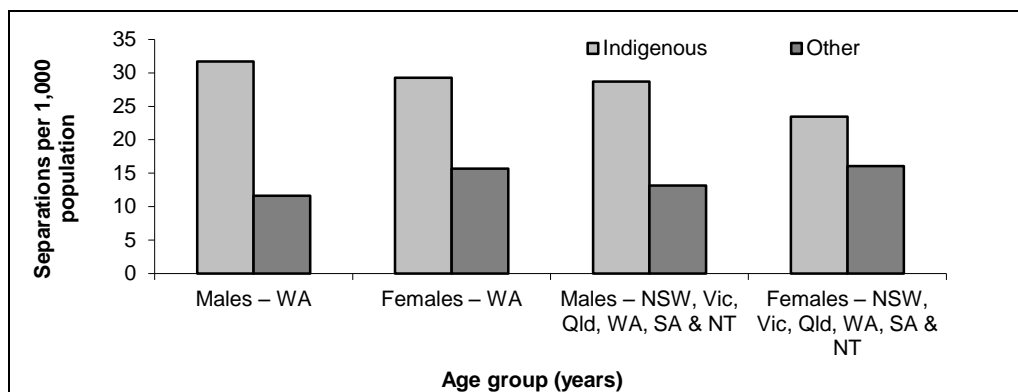
Hospitalisations by age and sex

- For the 2-year period July 2006 to June 2008 in Western Australia, Indigenous males and females had higher hospitalisation rates for mental health-related conditions than other males and females across all age groups with the exception of the 0–4 year age groups for males and females, and the 55–64 year and 65+ year age groups for males.
- For Indigenous males and females in Western Australia the hospitalisation rates for mental health-related conditions were both highest among those aged 25–34 years. In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, the hospitalisation rate for mental health-related conditions was highest among those aged 35–44 years for Indigenous males, and those aged 25–34 years for Indigenous females.
- The greatest difference in hospitalisation rates for mental health-related conditions between Indigenous males and other males in Western Australia occurred in the 25–34 and 35–44 year age groups where Indigenous males were above 3 times as likely to be hospitalised as other males. Between Indigenous and other females in Western Australia, the greatest difference also occurred in the 25–34 and 35–44 year age groups where Indigenous females were above twice as likely to be hospitalised for mental health-related conditions as other females.



Hospitalisations by Indigenous status

- For the 2-year period July 2006 to June 2008 in Western Australia, Indigenous males were about 3 times as likely to be hospitalised for mental health-related conditions as other males. Over the same period, Indigenous females were about twice as likely to be hospitalised for mental health-related conditions as other females.
- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males were twice as likely and Indigenous females 1.5 times as likely to be hospitalised for mental health-related conditions as other males and females.

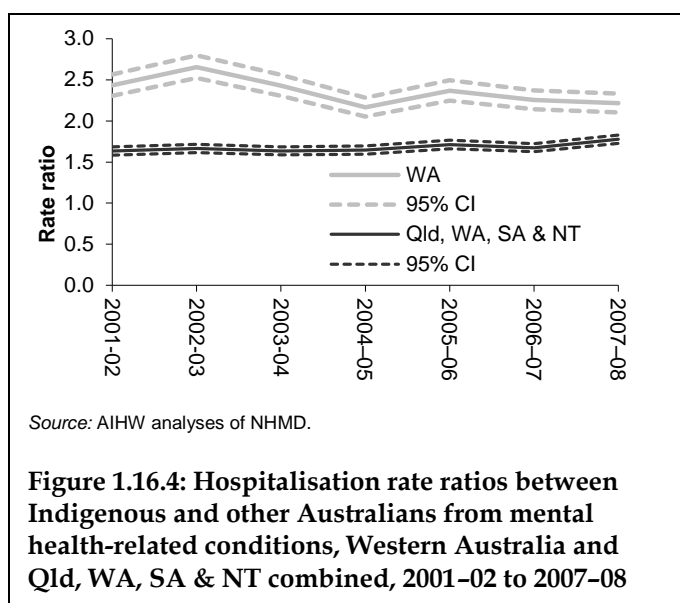
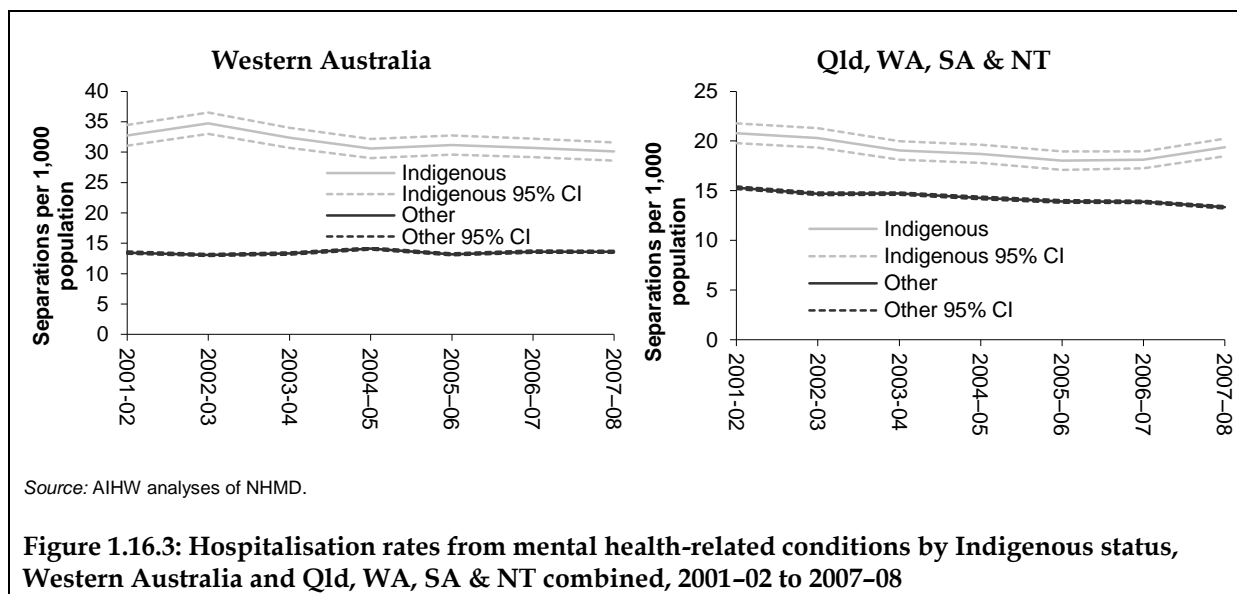


Source: AIHW analyses of NHMD.

Figure 1.16.2: Age-standardised hospitalisation rates for mental health-related conditions, by Indigenous status and sex, Western Australia and NSW, Vic, Qld, WA, SA & NT combined, July 2006 to June 2008

Hospitalisation trends

- In Western Australia there was a significant decline in hospitalisation rates for mental health-related conditions among Indigenous Australians during the period 2001–02 to 2007–08, with an average yearly decrease of 0.6 per 1,000 population (11% decline over the period). Over the same period there were no significant changes in hospitalisation rates for mental health-related conditions among other people.
- In Queensland, Western Australia, South Australia and the Northern Territory combined there was no significant change in hospitalisation rates for mental health-related conditions among Indigenous Australians over the same period. The hospitalisation rate of other people decreased significantly, with an average yearly decline in the rate of 0.2 per 1,000.
- There were significant decreases in the hospitalisation rate ratio and rate difference between Indigenous and other Australians for mental health-related conditions in Western Australia during the period 2001–02 to 2007–08. However over the same period, for the four jurisdictions combined, there was a significant increase in the rate ratio, and no significant changes in the rate difference (Figure 1.16.4).



1.17 Life expectancy at birth

The life expectancy of Aboriginal and Torres Strait Islander males and females for a given period

Life expectancy by sex and Indigenous status

- Over the period 2005–2007, the life expectancy at birth for Indigenous people in Western Australia was estimated to be around 65 years for males and 70.4 years for females. Life expectancy was considerably higher for both total males (78.5 years) and total females (82.4 years) in Western Australia.
- Life expectancy was lower for both Indigenous males and females in Western Australia compared to Australia. For the total population, life expectancy was slightly higher in Western Australia than Australia for both males and females (Table 1.17.1).

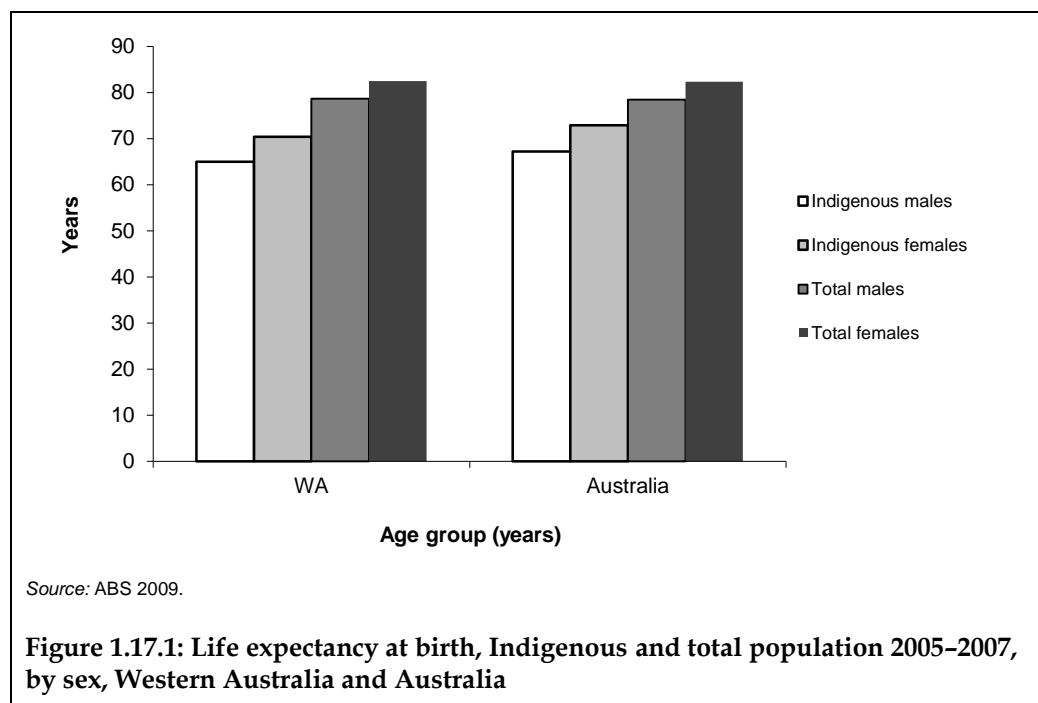


Table 1.17.1: Life expectancy at birth, Indigenous and total population 2005–2007, Western Australia and Australia

	Indigenous		Total population	
	Males	Females	Males	Females
Western Australia	65.0	70.4	78.7	82.5
Australia	67.2	72.9	78.5	82.4

Source: ABS 2009.

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

- For the period 2004 to 2008, in Western Australia, the median age at death for Indigenous males was 51 years and for Indigenous females was 60 years. This compared to 76 years for non-Indigenous males and 83 years for non-Indigenous females in Western Australia (Table 1.18.1).
- The median age at death for Indigenous males in Western Australia was lower than for Indigenous males and females in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, however the mean age at death for Indigenous females in Western Australia was higher (Table 1.18.1).

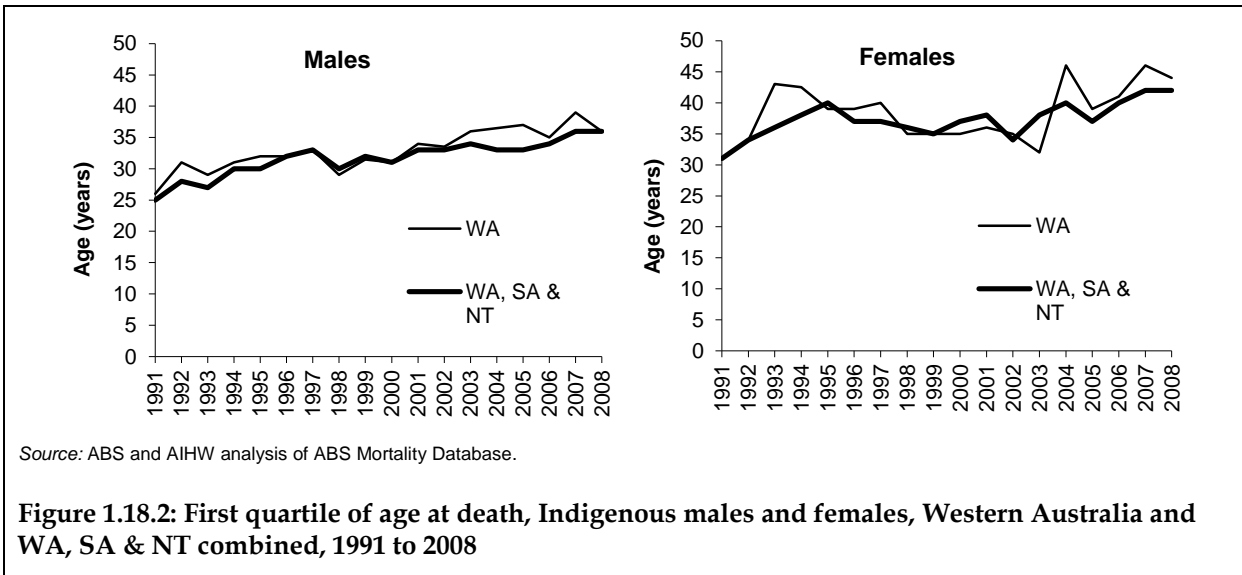
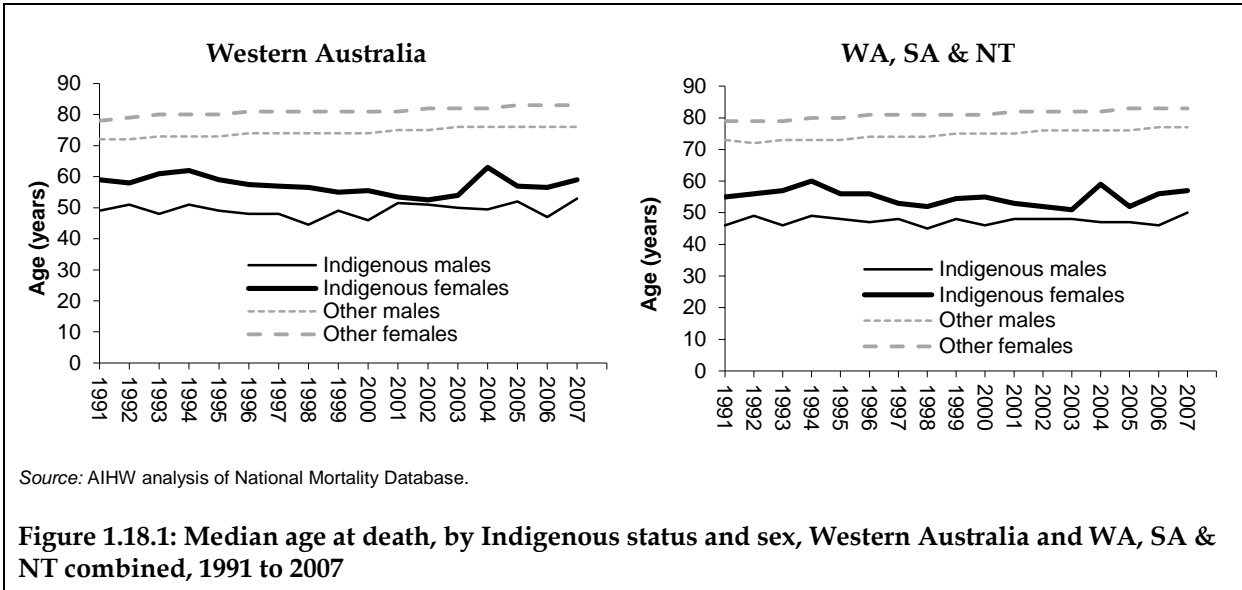
Table 1.18.1: Median age at death by Indigenous status and sex, Western Australia and NSW, Qld, WA, SA & NT combined, 2004–2008

	Indigenous		Non-Indigenous	
	Male	Female	Male	Female
Western Australia	51	60	76	83
NSW, Qld, WA, SA & NT	52	59	77	83

Source: AIHW analysis of National Mortality Database.

Time series

- Over the period 1991–2007, there were no significant changes in the median age at death among Indigenous males or females in Western Australia (Figure 1.18.1). Over the same period, there were significant increases in the median age at death for other males and females in both Western Australia and in Western Australia, South Australia and the Northern Territory combined.
- 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 Western Australia. No significant change was evident for Indigenous females (Figure 1.18.2).



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

- For the period 1996–1998, there were 82 deaths of Aboriginal and Torres Strait Islander infants in Western Australia. The infant mortality rate for Indigenous infants was around 18 per 1,000 live births compared to around 5 per 1,000 live births for non-Indigenous infants (Table 1.19.1).
- For the period 1999–2001, there were 81 deaths of Indigenous infants in Western Australia. The infant mortality rate for Indigenous infants was almost 5 times that for non-Indigenous infants over this period (17 compared to 4 per 1,000 live births).
- For the period 2002–2004, there were 69 deaths of Aboriginal and Torres Strait Islander infants in Western Australia. The infant mortality rate for this period was over 4 times that for non-Indigenous infants (14 compared to 3 per 1,000 live births).
- For the period 2005–2006, there were 45 deaths of Aboriginal and Torres Strait Islander infants in Western Australia. The infant mortality rate for this period was 12 per 1,000 live births for Indigenous infants compared to around 4 per 1,000 live births for non-Indigenous infants.
- For the period 2007–2008, there were 42 deaths of Aboriginal and Torres Strait Islander infants in Western Australia. The infant mortality rate for this period was 9 per 1,000 live births for Indigenous infants compared to around 3 per 1,000 for non-Indigenous infants.
- The infant mortality rate for Indigenous infants was higher in Western Australia than in Queensland, Western Australia, South Australia and the Northern Territory combined during the periods 1999–2001, 2002–2004 and 2005–2006. During the period 2007–2008, the rate in Western Australia was higher than in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (Table 1.19.1).

Time series

- Over the period 1991 to 2007, there were significant declines in recorded mortality rates for Indigenous and other infants in Western Australia. 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 50% reduction in the rate over the period) and 0.2 per 1,000 births for other infants (equivalent to a 44% reduction in the rate over the period) (Figure 1.19.1).
- Over the same period, there were also significant declines in the infant mortality rates for Indigenous and other Australians in Western Australia, South Australia and the Northern Territory combined.

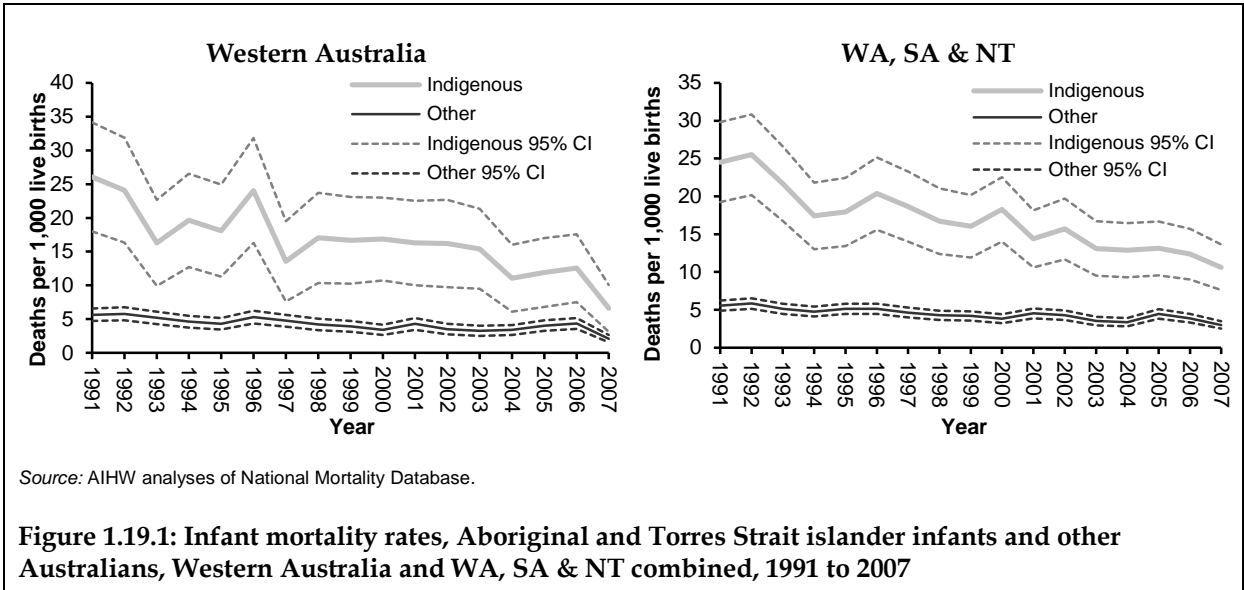
Table 1.19.1: Infant mortality rates per 1,000 live births, by Indigenous status, Western Australia and Qld, WA, SA & NT combined, 1996–98, 1999–01, 2002–04, 2005–06, and 2007–08^{(a)(b)(c)(d)(e)(f)(g)}

	Indigenous				Non-Indigenous				Rate ratio ^(k)
	Deaths	Rate per 1,000 ^(h)	LCL 95% ⁽ⁱ⁾	UCL 95% ^(j)	Deaths	Rate per 1,000 ^(h)	LCL 95% ⁽ⁱ⁾	UCL 95% ^(j)	
					1996–98^(b)				
WA	82	18.3	14.3	22.3	332	4.8	4.2	5.3	3.8*
					1999–01				
WA	81	16.6	13.0	20.2	251	3.6	3.2	4.1	4.6*
Qld, WA, SA & NT^(a)	296	14.2	12.6	15.8	1,228	4.7	4.5	5.0	3.0*
					2002–04				
WA	69	14.1	10.8	17.5	222	3.3	2.8	3.7	4.3*
Qld, WA, SA & NT^(a)	270	12.5	11.0	14.0	1,088	4.2	3.9	4.4	3.0*
					2005–06				
WA	45	12.3	8.7	15.8	199	4.0	3.4	4.5	3.1*
Qld, WA, SA & NT^(a)	185	12.1	10.4	13.8	803	4.3	4.0	4.6	2.8*
					2007–08^(l)				
WA	42	9.1	6.3	11.9	135	2.5	2.1	2.9	3.6*
NSW, Qld, WA, SA & NT	219	8.4	7.3	9.5	1,545	4.0	3.8	4.2	2.1*

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<.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 only reliable from 1998 onwards.
- (c) Data are presented in 3- and 2-year groupings due to 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) Number 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.

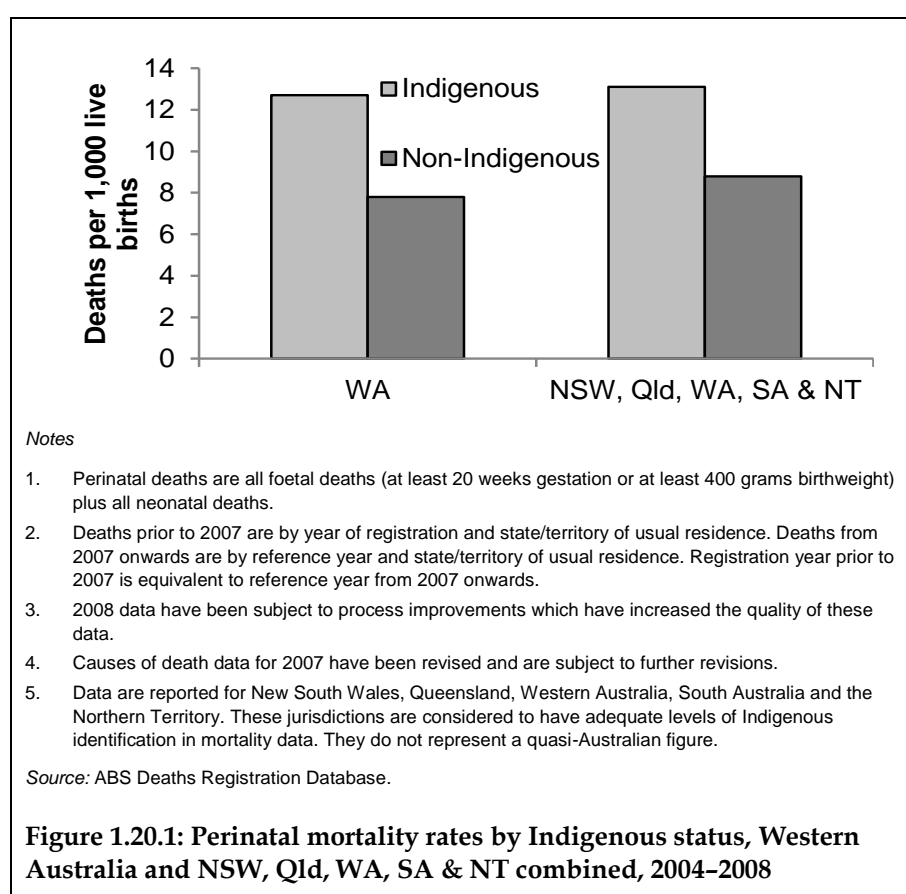
Source: AIHW and ABS analysis of ABS Mortality Database.



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)

- Over the period 2004–2008, the perinatal mortality rate for Indigenous babies in Western Australia was 12.7 per 1,000 births compared to 7.8 per 1,000 births for non-Indigenous babies. The perinatal mortality rate of both Indigenous and non-Indigenous babies in Western Australia was lower compared to New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (13.1 and 8.8 per 1,000 births) (Figure 1.20.1).



Time series

- In Western Australia, there were 143 perinatal deaths of Indigenous babies in 1999–2003 and 128 perinatal deaths of Indigenous babies in 2004–2008.
- Between 1999–2003 and 2004–2008, there was a drop in the Indigenous perinatal mortality rate in Western Australia from 17.6 to 12.7 per 1,000 births. For other babies in Western Australia this rate dropped from 9.6 per 1,000 births to 8.5 per 1,000 births.

- Over the same period, for NSW, Qld, WA, SA and NT combined, the Indigenous perinatal mortality rate dropped slightly from 16.2 per 1,000 births to 13.1 per 1,000 births.
- Between 1999–2003 and 2004–2008 there was a decrease in the Indigenous to other Australians rate ratio of perinatal deaths in Western Australia from 1.8 to 1.5. Similarly, for NSW, Qld, WA, SA and NT combined, this rate ratio decreased slightly from 1.7 to 1.5 (Table 1.20.1).

Table 1.20.1: Foetal, neonatal and perinatal mortality rates^{(a)(b)(c)(d)} per 1,000 births, by Indigenous status, Western Australia and NSW, Qld, WA, SA and NT combined, 1999–2003 to 2004–2008^{(e)(f)(g)(h)(i)}

	1999–2003 ^{(e)(i)}					2004–2008 ^{(e)(f)(g)(h)(i)}				
	No.	No. per 1,000 ^(d)	LCL 95% ^(j)	UCL 95% ^(k)	Rate ratio ^(l)	No.	No. per 1,000 ^(d)	LCL 95% ^(j)	UCL 95% ^(k)	Rate ratio ^(l)
Foetal deaths^(a)										
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	..
NSW, Qld, WA, SA & NT⁽ⁿ⁾										
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)										
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	..
NSW, Qld, WA, SA & NT⁽ⁿ⁾										
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)										
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	..
NSW, Qld, WA, SA & NT⁽ⁿ⁾										
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	..

* 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 birthweight 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 birthweight) 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 volatility 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 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.

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

- Over the period 2004–2008, only a small number of deaths due to SIDS were recorded for Indigenous infants in Western Australia compared to 0.1 per 1,000 live births for non-Indigenous infants in Western Australia. This was lower than the mortality rates from SIDS for Indigenous and non-Indigenous infants in Queensland, Western Australia, South Australia and the Northern Territory combined (0.7 and 0.2 per 1,000 live births) (Table 1.21.1).

Table 1.21.1: SIDS mortality rates per 1,000 live births, by Indigenous status, Western Australia and NSW, Qld, WA, SA & NT combined, 2004–2008^{(a)(b)(c)(d)(e)(f)(g)(h)(i)(j)}

	Indigenous		Non-Indigenous		Rate ratio ^(m)
	Deaths	Rate ^{(k)(l)}	Deaths	Rate ^{(k)(l)}	
Western Australia	n.p.	n.p.	9	0.1	. .
NSW, Qld, WA, SA & NT	39	0.7	206	0.2	2.9*

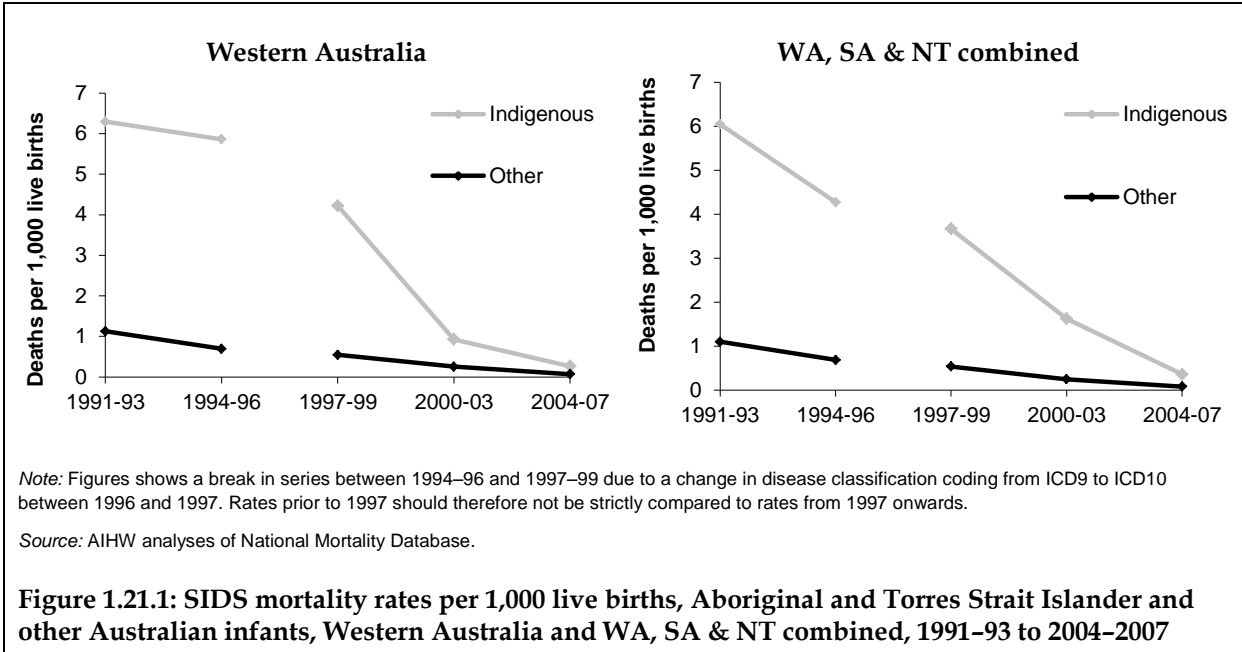
* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<.05 level.

- (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 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 have been directly age-standardised using the 2001 Australian standard population.
- (l) No. per 1,000 live births.
- (m) Rate ratio Indigenous: non-Indigenous.

Source: AIHW and ABS analysis of ABS Mortality Database.

Time series

- Over the period 1991–1993 to 1994–1996, the SIDS mortality rate in Western Australia declined from 6.3 to 5.9 deaths per 1,000 live births for Indigenous infants and from 1.1 to 0.7 per 1,000 live births for non-Indigenous infants (Figure 1.21.1).
- Over the period 1997–1999 to 2004–2007, there were significant declines in mortality rates from SIDS for both Indigenous and non-Indigenous infants in Western Australia. There was an average yearly decline in the rate of around 0.52 per 1,000 births for Indigenous infants and 0.06 per 1,000 births for other infants. This is equivalent to a decline of 92% for Indigenous infants and 87% for non-Indigenous infants (Figure 1.21.1).
- Over the period 1997–1999 to 2004–2007, there were also significant declines in mortality rates from SIDS for both Indigenous and non-Indigenous infants in Western Australia, South Australia and the Northern Territory combined (Figure 1.21.1).



1.22 All-causes age-standardised death rate

The number of Aboriginal and Torres Strait Islander Australian deaths, expressed as a rate by age group, age-standardised rate and rate ratio

- For the period 2004–2008, the all-cause mortality rate in Western Australia for Indigenous Australians was almost 3 times that for non-Indigenous Australians (Table 1.22.1).
- The age-standardised mortality rate for Indigenous Australians in Western Australia (1,673 per 100,000) was higher to that for Indigenous Australians in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (1,184 per 100,000).
- For the period 2003–2007, in Western Australia, Indigenous males and females had higher mortality rates than non-Indigenous males and females across all age groups (Figure 1.22.1). The greatest difference in rates between Indigenous and non-Indigenous Australians occurred in the 35–44 and 45–54 year age groups where Indigenous Australians died at around seven and 5 times the rate of non-Indigenous Australians in these age groups respectively. A similar pattern was observed for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

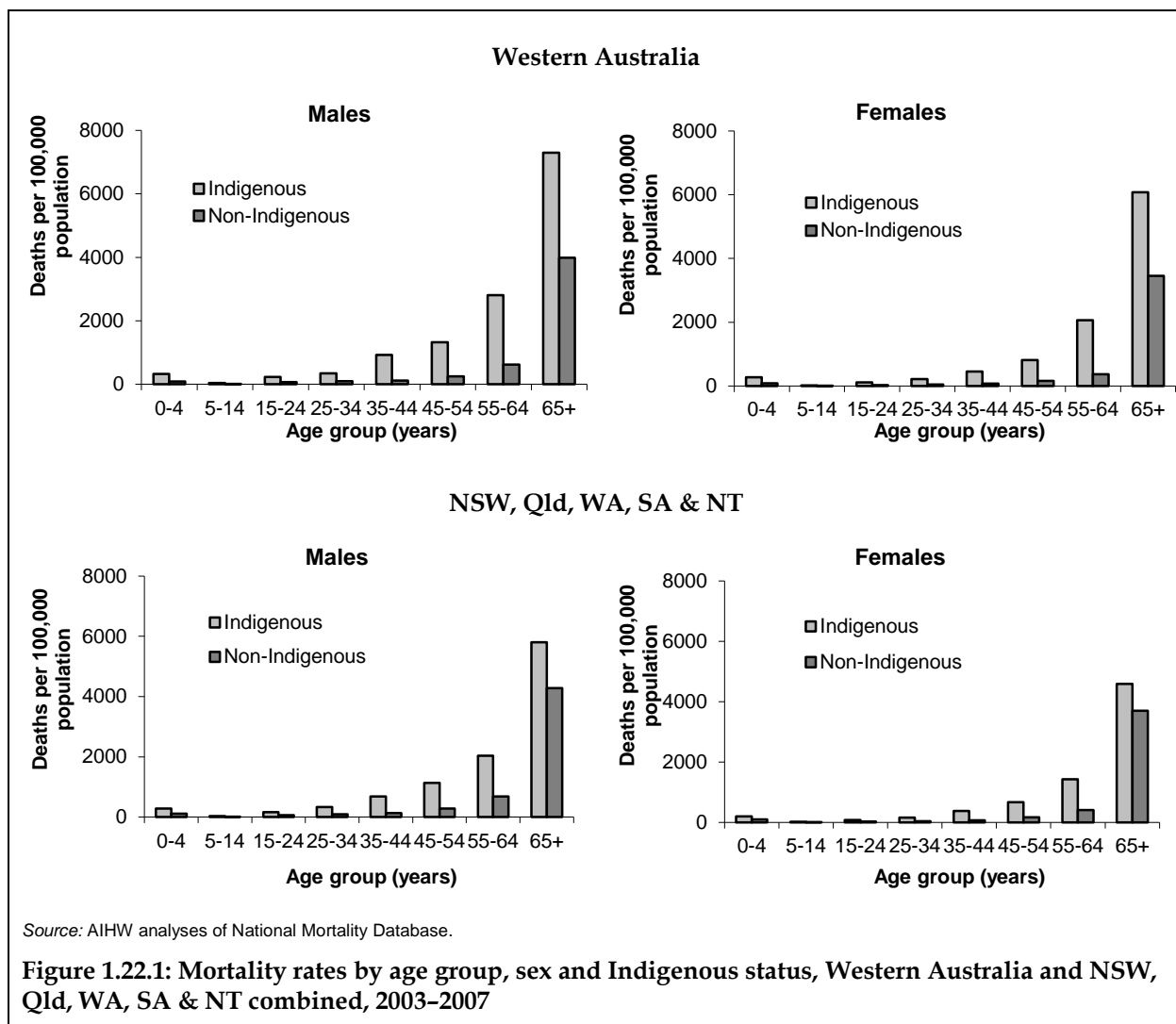
Table 1.22.1: All-causes mortality, by Indigenous status, Western Australia and NSW, Qld, WA, SA & NT combined, 2004–2008^{(a)(b)(c)(d)(e)}

State/territory	Number			Rate per 100,000 ^(f)		Ratio ^(g)
	Indigenous	Non-Indigenous	Not stated	Indigenous	Non-Indigenous	
Western Australia	2,356	56,394	409	1,673.0	580.0	2.9
NSW, Qld, WA, SA & NT^(a)	10,840	467,252	5,030	1,184.2	609.3	1.9

- (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 (SDRs) 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 people in the Australian population at 30 June 2001. SDRs are expressed per 100,000 people. 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.

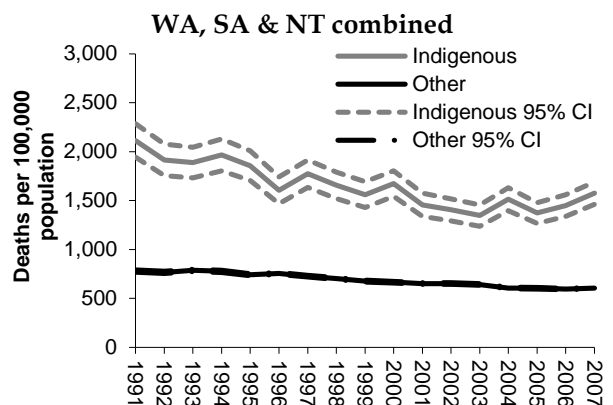
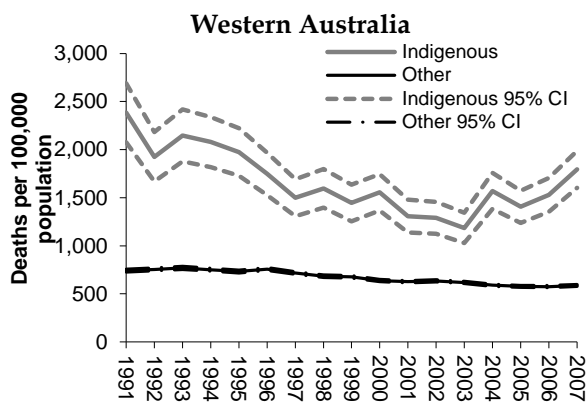
Note: 2007 and 2008 mortality data preliminary.

Source: Unpublished ABS analysis.



Time series

- Over the period 1991–2007, there were significant declines in recorded mortality rates in Western Australia for Indigenous Australians. The fitted trend implies an average yearly decline in the rate of around 48 deaths per 100,000 population (equivalent to a 32% reduction in the rate over this period) (Figure 1.22.2).
- There were also significant declines in recorded mortality rates for other Australians in Western Australia between 1991 and 2007 (average yearly decline in the rate of around 14 per 100,000; equivalent to a 29% reduction in the rate over this period).
- There were significant declines in all-cause mortality rates for Indigenous and other Australians in Western Australia, South Australia and the Northern Territory combined between 1991 and 2007.



Source: AIHW analyses of National Mortality Database.

Figure 1.22.2: Age-standardised mortality rates by Indigenous status, Western Australia and WA, SA & NT combined, 1991 to 2007

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

- Over the period 2003–2007, the most common cause of death among Indigenous Australians in Western Australia was circulatory diseases (25%), followed by cancer (16%) and external causes (injury and poisoning) (15%). Indigenous Australians died from these causes of death between 2.5 and 3 times the rate of non-Indigenous Australians respectively (Table 1.23.1).
- Over the period 2003–2007, Indigenous Australians in Western Australia died from diabetes at 9 times the rate, and from kidney diseases at 4.5 times the rate, of non-Indigenous Australians.
- The leading causes of mortality for Indigenous Australians in Western Australia were similar to those for Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory combined.

Excess deaths

- 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 deaths from all-causes.
- Diseases of the circulatory system accounted for the highest proportion of excess deaths among Indigenous Australians in Western Australia over the period 2003–2007 (24% of male deaths and 25% of female deaths). Other major causes of excess deaths were external causes (injury and poisoning), endocrine, metabolic and nutritional diseases, diseases of the respiratory system, and digestive diseases (Table 1.23.2).

Table 1.23.1: Causes of mortality, by Indigenous status, Western Australia and NSW, Qld, WA, SA & NT combined, 2003–2007^{(a)(b)(c)}

Underlying cause of death	Number		Per cent		Rate per 100,000 ^(d)		Ratio ^(e)
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	
Western Australia							
Circulatory diseases	512	18,180	24.5	33.0	442.4	194.8	2.3*
External causes	317	3,614	15.2	6.6	120.4	37.3	3.2*
Cancer	337	17,230	16.1	31.3	291.5	180.2	1.6*
Endocrine, metabolic & nutritional disorders	199	2,148	9.5	3.9	164.2	22.9	7.2*
<i>Diabetes^(f)</i>	173	1,540	8.3	2.8	147.8	16.5	9.0*
Respiratory diseases	173	4,294	8.3	7.8	157.3	46.1	3.4*
Digestive diseases	126	1,868	6.0	3.4	72.7	19.7	3.7*
Conditions originating in perinatal period	43	193	2.1	0.4	6.7	2.1	3.2*
Nervous system diseases	65	2,511	3.1	4.6	45.2	26.9	1.7*
Kidney diseases	44	856	2.1	1.6	42.6	9.2	4.6*
Infectious & parasitic diseases	37	673	1.8	1.2	23.5	7.1	3.3*
Other causes ^(g)	236	3,519	11.3	6.4	135.6	37.6	3.6*
All-causes	2,089	55,086	100.0	100.0	1,502.0	583.9	2.6*
NSW, Qld, WA, SA & NT^{(h)(i)}							
Circulatory diseases	2,865	164,345	27.4	35.9	383.7	217.7	1.8*
External causes	1,543	26,086	14.7	5.7	86.2	36.1	2.4*
Cancer	1,828	135,559	17.5	29.6	231.4	180.8	1.3*
Endocrine, metabolic & nutritional disorders	838	15,554	8.0	3.4	111.6	20.7	5.4*
<i>Diabetes^(f)</i>	720	10,826	6.9	2.4	97.7	14.4	6.8*
Respiratory diseases	863	39,644	8.2	8.6	119.3	52.7	2.3*
Digestive diseases	626	15,372	6.0	3.4	59.1	20.5	2.9*
Conditions originating in perinatal period	263	1,872	2.5	0.4	6.0	2.8	2.1*
Nervous system diseases	262	16,146	2.5	3.5	26.3	21.5	1.2*
Kidney diseases	245	7,898	2.3	1.7	33.9	10.5	3.2*
Infectious & parasitic diseases	222	6,543	2.1	1.4	23.2	8.7	2.7*
Other causes ^(g)	915	29,333	8.7	6.4	86.1	39.3	2.2*
All-causes	10,470	458,352	100.0	100.0	1,166.8	611.3	1.9*

(continued)

Table 1.23.1 (continued): Causes of mortality, by Indigenous status, Western Australia and NSW, Qld, WA, SA & NT combined, 2003–2007^{(a)(b)(c)}

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $P < .05$ level.

- (a) Deaths are by year of registration of death and state/territory of usual residence.
- (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) Directly age-standardised using the Australian 2001 standard population.
- (e) Rate ratio Indigenous: non-Indigenous.
- (f) Data for diabetes are a subset of data presented for all endocrine, metabolic and nutritional disorders in this table.
- (g) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.
- (h) Data are reported for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory only. These four states and territories are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.
- (i) Rates exclude 5,756 registered deaths where the Indigenous status is not stated.

Source: AIHW analyses of National Mortality Database.

Table 1.23.2: Main causes of excess Indigenous deaths, by sex, Western Australia and NSW, Qld, WA, SA & NT combined, 2003–2007^{(a)(b)}

Underlying cause of death	Males			Females		
	Observed	Excess	% excess	Observed	Excess	% excess
	No.	No.	%	No.	No.	%
Western Australia						
Circulatory diseases	282	204	23.9	230	158	25.0
External causes	226	161	18.8	91	67	10.5
Respiratory diseases	97	78	9.1	76	59	9.3
Cancer	176	78	9.1	161	74	11.7
Digestive diseases	67	57	6.6	59	50	7.9
Endocrine, metabolic & nutritional disorders	95	85	9.9	104	94	14.9
Kidney diseases	22	19	2.2	22	19	2.9
Infectious & parasitic diseases	17	13	1.5	20	17	2.7
Nervous system diseases	43	32	3.7	22	8	1.3
Conditions originating in perinatal period	26	19	2.2	17	10	1.7
Other causes ^(c)	134	111	13.0	102	77	12.1
All-causes	1,185	855	100.0	904	632	100.0
NSW, Qld, WA, SA & NT^(d)						
Circulatory diseases	1,614	1,062	28.4	1,251	728	27.2
External causes	1,097	702	18.8	446	299	11.2
Respiratory diseases	481	344	9.2	382	253	9.5
Cancer	969	319	8.5	859	284	10.6
Digestive diseases	342	267	7.2	284	225	8.4
Endocrine, metabolic & nutritional disorders	400	337	9.0	438	380	14.2
Kidney diseases	116	94	2.5	129	104	3.9
Infectious & parasitic diseases	125	88	2.4	97	71	2.7
Nervous system diseases	168	99	2.6	94	20	0.8
Conditions originating in perinatal period	158	90	2.4	105	49	1.8
Other causes ^(c)	493	333	8.9	422	259	9.7
All-causes	5,963	3,736	100.0	4,507	2,673	100.0

(a) Deaths are by year of registration of death and state/territory of usual residence.

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

(c) Includes: diseases of the blood and blood-forming organs and certain disorders involving the immune system, mental & behavioural disorders, diseases of the eye and adnexa, diseases of the ear and mastoid process, diseases of the skin & subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system (excluding kidney diseases), pregnancy, childbirth & the puerperium, congenital malformations, deformations and chromosomal abnormalities, symptoms, signs and abnormal clinical findings not elsewhere classified.

(d) 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. They do not represent a quasi-Australian figure.

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: AIHW analyses of National Mortality Database.

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

- The most common types of avoidable conditions causing death among Aboriginal and Torres Strait Islander people in Western Australia were ischaemic heart disease (18%), followed by cancer (15%), in particular lung cancer, diabetes (11%) and road traffic injuries (9%). Indigenous Australians died from cancer at twice the rate of non-Indigenous Australians; from road traffic accidents at 5 times the rate; and from ischaemic heart disease and diabetes at five and 18 times the rate of non-Indigenous Australians respectively (Table 1.25.1).
- Indigenous Australians in Western Australia died from nephritis and nephrosis at 11 times the rate, from violence (assault) at 14 times the rate and from alcohol-related disease at 11 times the rate of non-Indigenous Australians. The rate ratio for nephritis and nephrosis was similar to that observed in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined.

Table 1.25.1: Avoidable mortality, by cause of death and Indigenous status, people aged 0–74 years, Western Australia and NSW, Qld, WA, SA & NT combined, 2003–2007^{(a)(b)(c)(d)}

Cause of death	Number ^(e)		Per cent		Age-standardised rate per 100,000 ^(f)		Ratio ^(g)
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	
Western Australia							
Ischaemic heart disease	221	2,529	18.2	18.5	144.0	27.4	5.3*
Cancer	176	5,318	14.5	38.8	126.3	56.8	2.2*
<i>Lung cancer^(h)</i>	58	1,849	4.8	13.5	45.8	19.9	2.3*
Diabetes	138	478	11.4	3.5	95.2	5.2	18.1*
Suicide	70	973	5.8	7.1	20.1	10.4	1.9*
Road traffic injuries	110	762	9.1	5.6	37.7	8.2	4.6*
Alcohol-related disease	85	356	7.0	2.6	41.4	3.7	11.2*
Selected invasive bacterial and protozoal infections	61	286	5.0	2.1	34.2	3.1	10.9*
Cerebrovascular disease	61	697	5.0	5.1	42.5	7.7	5.5*
Chronic obstructive pulmonary disease	38	534	3.1	3.9	30.7	6.0	5.1*
Nephritis and nephrosis	31	163	2.6	1.2	19.4	1.8	10.8*
Violence	27	61	2.2	0.4	9.3	0.7	14.1*
Birth defects	28	181	2.3	1.3	7.7	2.0	3.8*
Complications of perinatal period	25	110	2.1	0.8	4.1	1.3	3.2*
Rheumatic and other valvular heart disease	19	45	1.6	0.3	10.6	0.5	22*
Other ⁽ⁱ⁾	124	1,204	10.2	8.8	59.0	13.0	4.5*
Total avoidable deaths	1,214	13,697	100.0	100.0	682.3	147.8	4.6*

(continued)

Table 1.25.1 (continued): Avoidable mortality, by cause of death and Indigenous status, people aged 0–74 years, Western Australia and NSW, Qld, WA, SA & NT combined, 2003–2007^{(a)(b)(c)(d)}

Cause of death	Number ^(e)		Per cent		Age-standardised rate per 100,000 ^(f)		Ratio ^(g)
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	
NSW, Qld, WA, SA & NT⁽ⁱ⁾							
Ischaemic heart disease	1,253	21,319	19.8	19.5	123.7	30.9	4.0*
Cancer	1,006	41,029	15.9	37.6	107.6	58.8	1.8*
<i>Lung cancer^(h)</i>	398	14,227	6.3	13.0	45.8	20.4	2.2*
Diabetes	585	3,403	9.2	3.1	65.1	4.9	13.2*
Suicide	469	6,896	7.4	6.3	22.0	10.3	2.1*
Road traffic injuries	397	4,341	6.3	4.0	20.2	6.5	3.1*
Alcohol-related disease	394	2,867	6.2	2.6	29.8	4.1	7.3*
Selected invasive bacterial and protozoal infections	259	2,677	4.1	2.5	20.6	3.9	5.2*
Cerebrovascular disease	321	6,754	5.1	6.2	34.2	9.9	3.5*
Chronic obstructive pulmonary disease	290	5,164	4.6	4.7	36.3	7.5	4.8*
Nephritis and nephrosis	206	1,347	3.2	1.2	21.2	2.0	10.7*
Violence	132	563	2.1	0.5	6.7	0.8	7.9*
Birth defects	143	1,705	2.3	1.6	4.8	2.7	1.8*
Complications of perinatal period	145	959	2.3	0.9	3.5	1.5	2.3*
Rheumatic and other valvular heart disease	100	281	1.6	0.3	7.4	0.4	17.9*
Other ⁽ⁱ⁾	643	9,913	10.1	9.1	47.8	14.6	3.3*
Total avoidable deaths	6,343	109,218	100.0	100.0	550.9	159.0	3.5*

(continued)

Table 1.25.1 (continued): Avoidable mortality, by cause of death and Indigenous status, people aged 0–74 years, Western Australia and NSW, Qld, WA, SA & NT combined, 2003–2007^{(a)(b)(c)(d)}

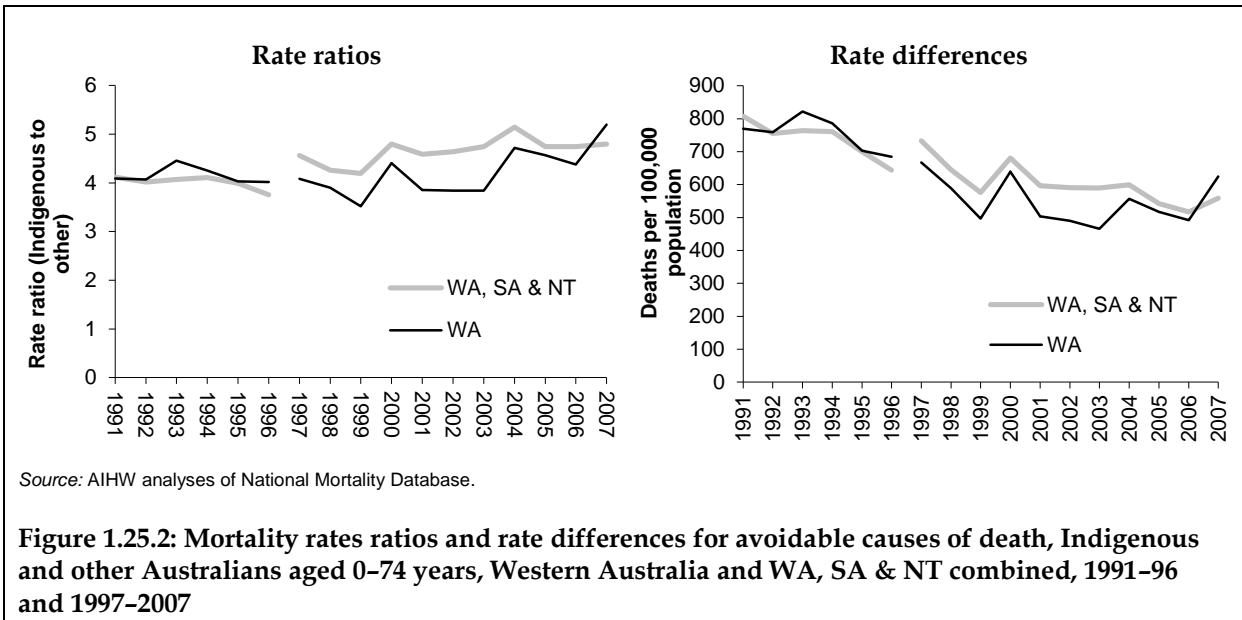
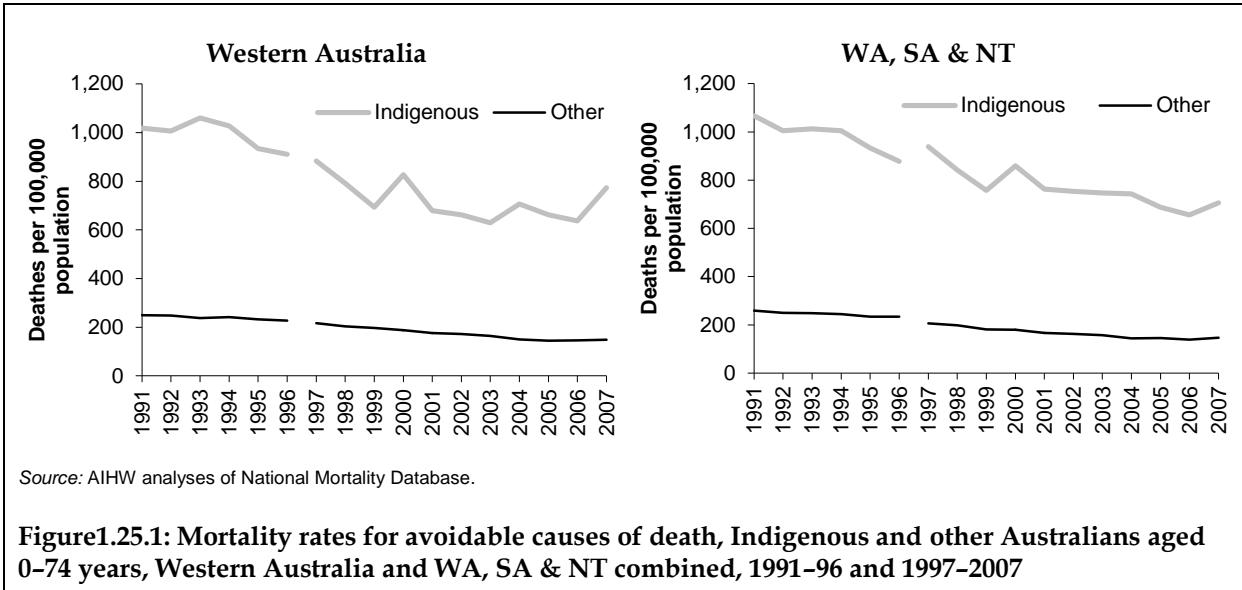
* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < .05$ level.

- (a) Data are reported for Queensland, Western Australia, South Australia and the Northern Territory only. These four 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) While 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 due to these data quality issues.
- (d) Deaths are by year of occurrence except the latest year which is based on year of registration.
- (e) It should be noted that 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.
- (f) Directly age-standardised using the Australian 2001 standard population.
- (g) Rate ratio Indigenous: non-Indigenous.
- (h) Data for lung cancer are a subset of data for all cancers presented in this table.
- (i) Other includes: tuberculosis, hepatitis, HIV/AIDS, viral pneumonia and influenza, thyroid disorders, illicit drug disorders, epilepsy, hypertensive heart disease, aortic aneurysm, obstructive uropathy & prostatic hyperplasia, deep vein thrombosis with pulmonary embolism, asthma, peptic ulcer disease, acute abdomen/appendicitis/intestinal obstruction/cholecystitis/lithiasis/pancreatitis/hernia, chronic liver disease, falls, fires/burns, accidental poisonings, drownings.
- (j) Data are reported for Queensland, Western Australia, South Australia and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification in mortality data. They do not represent a quasi-Australian figure.

Source: AIHW analysis of AIHW National Mortality Database.

Time series

- Over the period 1991–1996 in Western Australia, there were significant declines in mortality rates from avoidable causes of death among Indigenous Australians aged 0–74 years. The fitted trend implies an average yearly decline in the rate of around 23 deaths per 100,000 population which is equivalent to a 11% reduction in the rate over this period. Over the same period, there were also significant declines in mortality rates for avoidable causes for other Australians in Western Australia (9%) (Figure 1.25.1).
- Over the period 1997–2007 in Western Australia, there were significant declines in the mortality rates from avoidable causes among Indigenous Australians aged 0–74 years. The fitted trend implies an average yearly decline in the rate of around 14 per 100,000 which is equivalent to a 20% reduction in the rate over the period. Over the same period, there were significant declines in mortality rates for avoidable causes for other Australians in Western Australia (23%).
- Over both periods of study there were significant declines in mortality rates from avoidable causes among Indigenous and other Australians aged 0–74 years in Western Australia, South Australia and the Northern Territory combined.
- There were significant increases in the rate ratio between Indigenous and other Australian mortality rates from avoidable causes in Western Australia and in the three jurisdictions combined over the period 1997 to 2007 (Figure 1.25.2).



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

Discrete Indigenous communities

- Of the 50 discrete Indigenous communities in Western Australia that were not connected to a town water supply and that sent their drinking water away for testing in the 12 months prior to the 2006 CHINS, 38% (19) provided samples that failed testing, 60% provided samples that did not fail testing and for 2% of communities the test result was not known. Of the 164 discrete Indigenous communities in Australia that were not connected to a town water supply and that sent their drinking water away for testing, 29% provided samples that failed testing.
- In 2006 in Western Australia, 24% of discrete Indigenous communities experienced a sewerage overflow or leakage that lasted longer than 48 hours. Nationally 22% of Indigenous communities experienced a sewerage overflow or leakage lasting longer than 48 hours in 2006.

Table 2.01.1: Testing of drinking water in discrete Indigenous communities, Western Australia and Australia, 2006^{(a)(b)(c)}

	Western Australia		Australia			
	Number of communities	%	Number of communities	%	Reported usual pop'n.	%
Did not fail testing ^(d)	30	60.0	100	61.0	29,104	58.2
Failed testing ^(d)	19	38.0	48	29.3	12,059	24.1
Test result not known	1	2.0	16	9.7	8,880	17.7
Total communities water sent away for testing^(e)	50	94.3	164	78.1	50,043	n.a.
Not tested	3	5.7	45	21.4	4,796	n.a.
Total communities	53	100.0	209	100.0	54,839	100.0

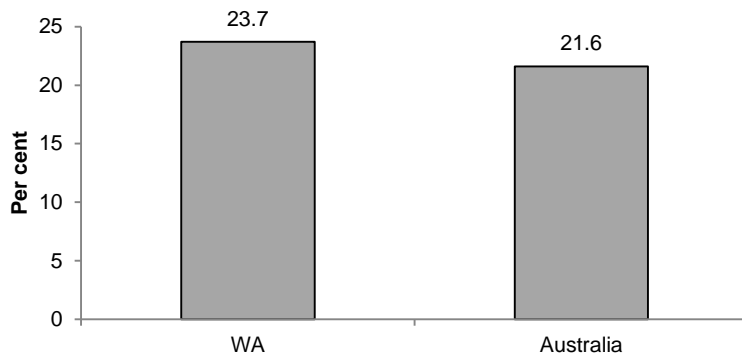
(a) In the 12 months prior to the survey.

(b) Excludes communities connected to town supply.

(c) All discrete Indigenous communities for which water testing data were collected.

(d) 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.

Source: ABS 2007a; FaHCSIA and AIHW analyses of CHINS 2006.



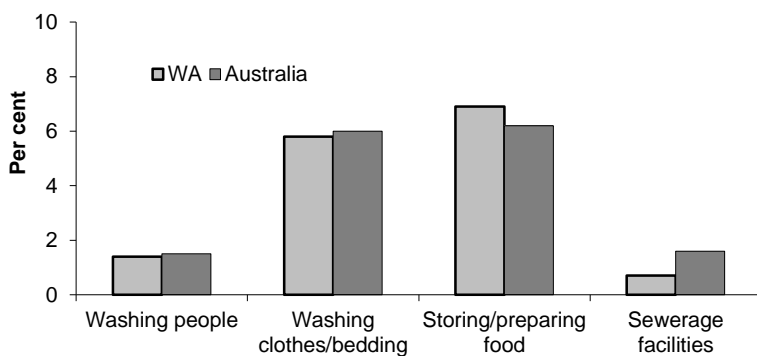
Note: Percentages calculated as a proportion of all discrete Indigenous communities with a reported usual population of 50 people or more, and communities which have a reported usual population of less than 50 people but which are not administered by a larger discrete Indigenous community or Resource Agency.

Source: FaHCSIA and AIHW analyses of CHINS 2006.

Figure 2.01.1: Percentage of discrete Indigenous communities experiencing sewerage overflows or leakages for longer than 48 hours, Western Australia and Australia, 2006

Healthy living practices

- In 2008 in Western Australia, 1.4% of Indigenous households reported that they did not have working facilities for washing people, 5.8% did not have facilities for washing clothes/bedding, 6.5% did not have facilities for storing/preparing food, and 0.7% did not have working sewerage systems.
- In 2008 in Australia, 1.5% of Indigenous households reported that they did not have working facilities for washing people, 6% did not have facilities for washing clothes/bedding, 6.2% did not have facilities for storing/preparing food, and 1.6% did not have working sewerage systems.



Note: Excludes households for which information about working facilities was not reported.

Source: AIHW analyses of NATSISS 2008.

Figure 2.01.2: Percentage of Indigenous households reporting lack of working facilities for each of the first four Health Living Practices, Western Australia and Australia, 2008

2.02 Overcrowding in housing

The proportion of Aboriginal and Torres Strait Islander people living in overcrowded households

- In 2008, in Western Australia, approximately 29% of Indigenous Australians aged 15 years and over were living in overcrowded households (according to the Canadian National Occupancy Standard) (ABS 2010e) compared to 2% of non-Indigenous Australians. The proportion of Indigenous Australians living in overcrowded households was higher in Western Australia than in Australia (29% compared to 25%) (Figure 2.02.1).
- In 2006 in Western Australia, overcrowding varied by tenure type with 42% of Indigenous households in housing co-operative, community or church group housing overcrowded according to the Canadian National Occupancy Standard (ABS 2010e). This compared to 21% of Indigenous households in state or territory housing authority housing, 10% of private and other renters and 7% of home owners or purchasers (Table 2.02.1).

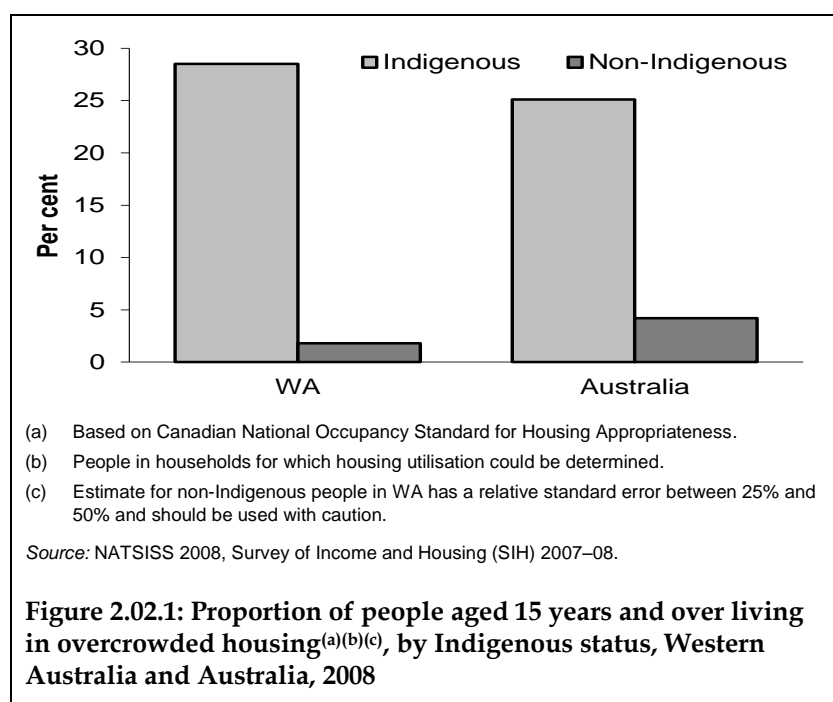


Table 2.02.1: Number and proportion of overcrowded households by Indigenous status, using the Canadian National Occupancy Standard, by tenure type, Western Australia and Australia, 2006

Tenure type	Indigenous		Non-Indigenous	
	Western Australia	Australia ^(a)	Western Australia	Australia ^(a)
No. of overcrowded Indigenous households				
Home owner/purchaser	366	3,687	5,183	94,314
Renter				
State or territory housing authority	894	4,970	595	12,692
Housing co-operative/community/church group	811	5,567	35	1,188
Private and other ^(b)	392	5,337	3,921	81,134
Not stated	21	233	74	1,091
<i>Total rented</i>	<i>2,118</i>	<i>16,107</i>	<i>4,625</i>	<i>96,105</i>
Other tenure types ^(c)	109	752	331	5,086
Total dwellings^(d)	2,615	20,734	10,308	198,151
Proportion of overcrowded households^(e) (%)				
Home owner/purchaser	7.2	6.9	1.1	2.0
Renter				
State or territory housing authority	20.5	15.9	2.6	4.9
Housing co-operative/community/church group	41.7	39.9	1.3	3.6
Private and other ^(b)	9.5	11.4	2.9	5.6
Not stated	17.9	19.0	4.8	6.3
<i>Total rented</i>	<i>20.1</i>	<i>17.3</i>	<i>2.8</i>	<i>5.5</i>
Other tenure types ^(c)	19.4	18.1	1.9	3.5
Total dwellings^(d)	16.0	13.6	1.6	3.0

(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 nfd.

(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.

Note: Households are considered overcrowded if one or more additional bedrooms are required to satisfy the Canadian National Occupancy Standard.

Source: ABS and AIHW analyses of 2006 Census data.

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

Children living in households with smokers

- In 2007–08, around 67% of Indigenous children aged 0–14 years in Western Australia lived in households with a daily smoker. In comparison, only 34% of non-Indigenous children aged 0–14 years in Western Australia lived in households with a daily smoker (Table 2.03.1).
- In the same period, around 65% of Indigenous children aged 0–14 in Australia lived in households with a daily smoker, compared with 32% of non-Indigenous children of the same age living in households with a daily smoker.
- Approximately 18% of Indigenous children aged 0–14 years Western Australia were living in households with a daily smoker who smoked at home indoors compared to 3% of non-Indigenous children of the same age. These numbers were lower than those reported for Indigenous and non-Indigenous children of the same age across Australia (22% and 7%, respectively).

Table 2.03.1: Children aged 0–14 years living in households with smokers, by Indigenous status of children, Western Australia and Australia, 2008 and 2007–08

			Western Australia	Australia
Proportion of children living with current daily smoker(s)^(a)	Indigenous	%	66.7	65.1
	Non-Indigenous	%	34.2	32.2
	Rate ratio		1.9*	2.0*
Proportion of children with daily smoker who smokes at home indoors in household^(a)	Indigenous	%	17.6	21.6
	Non-Indigenous	%	3.4	6.6
	Rate ratio		5.1*	3.3*
Total number of children aged 0–14 years^(b)	Indigenous	No.	25,405	193,249
	Non-Indigenous	No.	394,744	3,907,621

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

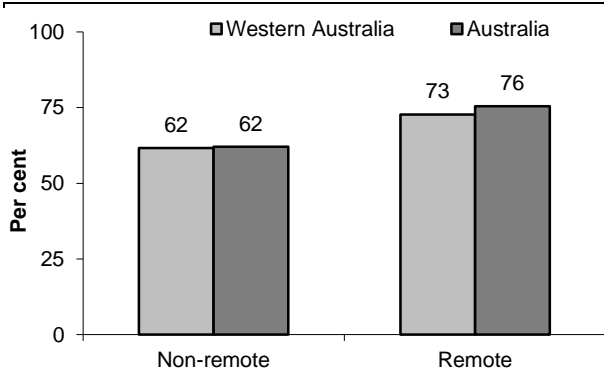
(a) Proportions exclude not stated responses.

(b) Includes households in which the smoking status of members was not stated.

Source: ABS and AIHW analysis of NATSISS 2008 and NHS 2007–08.

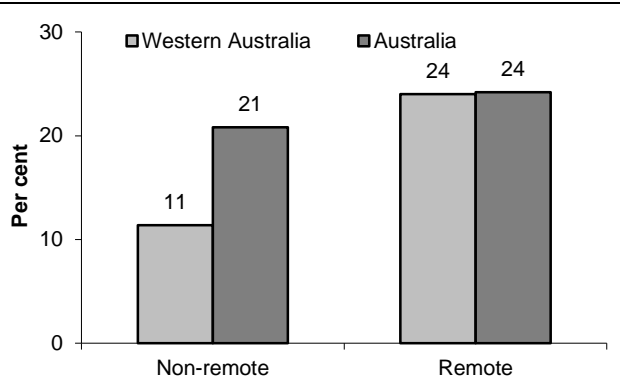
Children living in households with smokers by remoteness

- A higher proportion of Indigenous children aged 0–14 years in remote areas of Western Australia lived in households with a regular smoker (73%) than non-remote areas of Western Australia (62%). The same pattern was evident for Australia (Figure 2.03.1).
- A higher proportion of Indigenous children aged 0–14 years in remote areas of Western Australia lived in households with a regular smoker who smoked at home indoors (24%) than non-remote areas of Western Australia (11%). This trend is similar to the one reported for Australia (Figure 2.03.2).



*Note:*Proportions exclude not stated responses.
*Source:*AIHW analyses of NATSISS 2008.

Figure 2.03.1: Indigenous children aged 0–14 years in households with a daily smoker in the household, by remoteness, Western Australia and Australia, 2008



*Note:*Proportions exclude not stated responses.
*Source:*AIHW analyses of NATSISS 2008.

Figure 2.03.2: Indigenous children aged 0–14 years in households with a regular smoker who smokes at home indoors, by remoteness, Western Australia and Australia, 2008

2.04 Years 3, 5, 7 and 9 literacy and numeracy

The proportion of Year 3, 5, 7 and 9 students achieving national benchmarks for literacy and numeracy achievement

Reading

- In Western Australia in 2009, approximately 66% of Indigenous students achieved the Year 3 reading benchmark compared to 93% of non-Indigenous students; 56% of Indigenous students achieved the Year 5 reading benchmark compared to 92% of non-Indigenous students; 65% of Indigenous students achieved the Year 7 reading benchmark compared to 94% of non-Indigenous students; and 56% of Indigenous students achieved the Year 9 reading benchmark compared to 92% of non-Indigenous students. These proportions were lower than for Indigenous students nationally.

Writing

- In Western Australia in 2009, approximately 74% of Indigenous students achieved the Year 3 writing benchmark compared to 97% of non-Indigenous students; 62% of Indigenous students achieved the Year 5 writing benchmark compared to 94% of non-Indigenous students; 63% of Indigenous students achieved the Year 7 writing benchmark compared to 94% of non-Indigenous students; and 50% of Indigenous students achieved the Year 9 writing benchmark compared to 89% of non-Indigenous students. These proportions were lower than for Indigenous students nationally.

Spelling

- In Western Australia in 2009, approximately 61% of Indigenous students achieved the Year 3 spelling benchmark compared to 93% of non-Indigenous students; 63% of Indigenous students achieved the Year 5 spelling benchmark compared to 93% of non-Indigenous students; 64% of Indigenous students achieved the Year 7 spelling benchmark compared to 92% of non-Indigenous students; and 58% of Indigenous students achieved the Year 9 spelling benchmark compared to 90% of non-Indigenous students. These proportions were lower than for Indigenous students nationally.

Grammar and punctuation

- In Western Australia in 2009, approximately 56% of Indigenous students achieved the Year 3 grammar and punctuation benchmark compared to 91% of non-Indigenous students; 51% of Indigenous students achieved the Year 5 grammar and punctuation benchmark compared to 92% of non-Indigenous students; 52% of Indigenous students achieved the Year 7 grammar and punctuation benchmark compared to 93% of non-Indigenous students; and 49% of Indigenous students achieved the Year 9 grammar and punctuation benchmark compared to 91% of non-Indigenous students. These proportions were lower than for Indigenous students nationally.

Numeracy

- In Western Australia in 2009, approximately 69% of Indigenous students achieved the Year 3 numeracy benchmark compared to 95% of non-Indigenous students; 67% of Indigenous students achieved the Year 5 numeracy benchmark compared to 95% of non-Indigenous students; 72% of Indigenous students achieved the Year 7 numeracy benchmark compared to 95% of non-Indigenous students; and 67% of Indigenous students achieved the Year 9 numeracy benchmark compared to 96% of non-Indigenous students. These proportions were lower than for Indigenous students nationally.

Table 2.04.1: Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standard for reading, writing, spelling, grammar and punctuation, and numeracy, by Indigenous status, Western Australia and Australia, 2008–2009^(a)

	Western Australia									
	Indigenous					Non-Indigenous				
	Reading	Writing	Spelling	Grammar & punctuation	Numeracy	Reading	Writing	Spelling	Grammar & punctuation	Numeracy
Year 3										
2008	57.3	72.0	56.8	51.4	75.5	92.1	97.0	92.2	90.8	96.1
2009	66.3	74.1	60.9	56.1	68.8	93.4	96.9	93.2	91.4	94.5
Year 5										
2008	51.8	59.2	60.1	49.3	61.6	92.2	93.7	92.2	92.6	93.7
2009	56.2	62.0	62.8	51.4	67.4	91.8	94.3	92.6	92.2	95.0
Year 7										
2008	63.4	59.9	63.0	47.5	74.2	95.0	92.6	93.0	91.5	96.5
2009	65.2	62.5	64.0	51.7	71.7	94.3	93.5	92.3	92.5	95.4
Year 9										
2008	62.8	49.9	57.9	47.6	66.2	94.0	88.2	90.0	90.3	94.3
2009	56.4	50.1	57.9	49.3	67.4	92.4	88.7	89.7	91.0	95.5

(continued)

Table 2.04.1 (continued): Proportion of Year 3, 5, 7 and 9 students at or above the national minimum standard for reading, writing, spelling, grammar and punctuation, and numeracy, by Indigenous status, Western Australia and Australia, 2008–2009^(a)

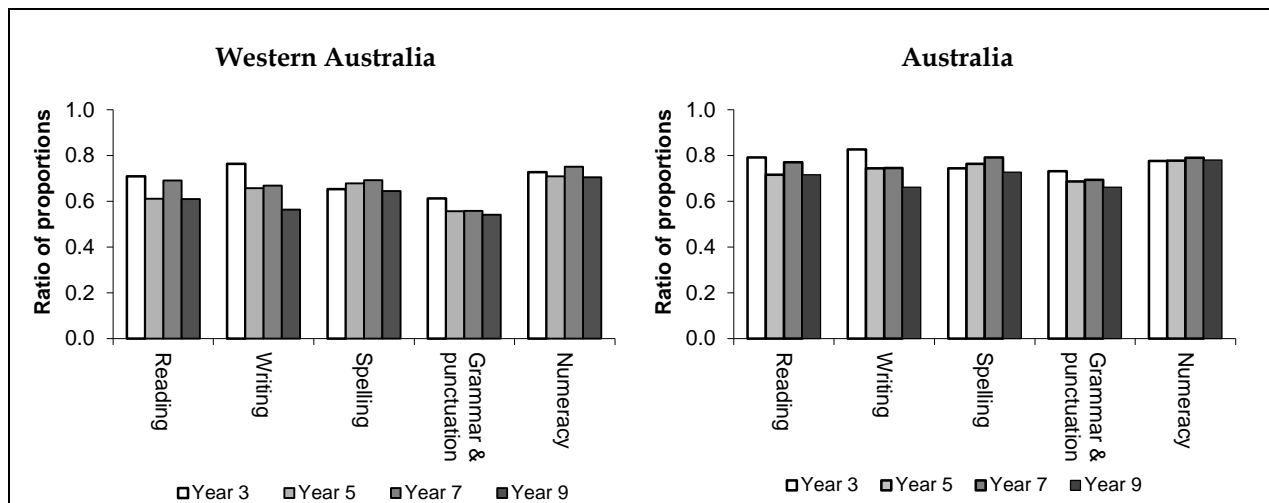
	Australia									
	Indigenous					Non-Indigenous				
	Reading	Writing	Spelling	Grammar & punctuation	Numeracy	Reading	Writing	Spelling	Grammar & punctuation	Numeracy
Year 3										
2008	68.3	78.8	69.2	65.3	78.6	93.5	96.4	93.9	93.3	96.0
2009	75.1	79.9	69.6	68.7	74.0	94.8	96.6	93.5	93.8	95.2
Year 5										
2008	63.4	69.7	69.7	64.1	69.2	92.6	93.9	93.0	93.5	94.0
2009	66.7	70.1	71.5	64.3	74.2	93.1	94.2	93.6	93.6	95.3
Year 7										
2008	71.9	67.9	71.8	62.7	78.6	95.4	93.2	93.6	93.2	96.4
2009	73.2	69.9	74.3	64.9	75.8	95.0	93.7	93.8	93.5	95.8
Year 9										
2008	70.7	59.7	67.8	60.7	72.5	94.2	88.8	91.0	91.5	94.8
2009	67.0	59.0	66.1	60.8	75.0	93.5	89.2	90.9	91.8	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: Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA) 2008; MCEECDYA 2009.

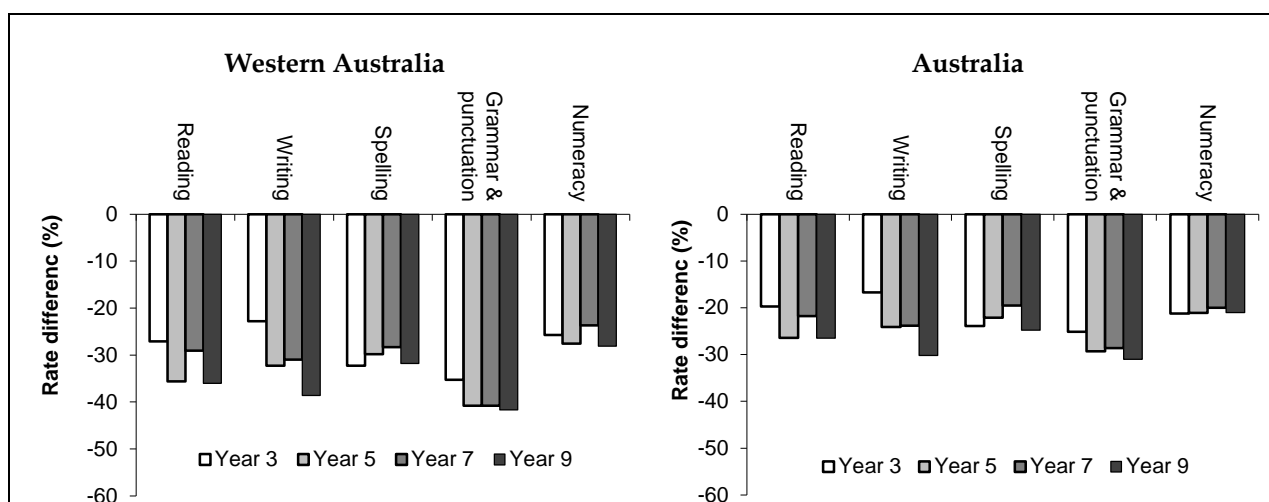
Ratio and difference of proportions of educational benchmarks

- Compared to the proportion of non-Indigenous students achieving educational benchmarks, the relative reading, writing, spelling, grammar and punctuation, and numeracy achievements of Indigenous students in Western Australia were generally lower than those of Indigenous students across Australia.
- When compared with non-Indigenous students, achievement levels of Indigenous students in Western Australia were lowest for writing in Year 9 and grammar/punctuation in Year 5, Year 7 and Year 9. For these areas the ratio between Indigenous and non-Indigenous students ranged between 0.54 to 0.56 and the rate difference ranged between -42% to -39%). This pattern was slightly different than that in Australia where the relative achievement levels of Indigenous students were lowest for writing and grammar/punctuation in Year 9.



Source: AIHW analyses of MCEECDYA 2009.

Figure 2.04.1: Ratio of proportion of Indigenous students achieving literacy and numeracy benchmarks to corresponding proportion of non-Indigenous students, Western Australia and Australia, 2009



Source: AIHW analyses of MCEECDYA 2009.

Figure 2.04.2: Difference between proportion of Indigenous students achieving literacy and numeracy benchmarks and corresponding proportion of non-Indigenous students, Western Australia and Australia, 2009

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 people

Apparent retention rates are the percentage of full-time students of a given cohort group who continue from the commencement of secondary schooling to a specified year level. The term apparent is used as 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 in Schools' students are included in retention calculations.

Year 10 and 12 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 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.

Apparent retention rates and attainment rates

- In 2009, in Western Australia, the apparent retention rate of full-time Indigenous students from Year 7/8 to Year 10 was 89% for males and 94% for females compared to 103% for non-Indigenous males and 104% for non-Indigenous females. Year 7/8 to Year 10 retention rates for Indigenous students in Western Australia were similar to those reported for total Australia.
- In the same year the apparent retention rate of full-time Indigenous students in Western Australia from Year 7/8 to Year 11 was 84% for males and 86% for females. This compared to 99% and 102% for non-Indigenous males and females respectively. Year 7/8 to Year 11 retention rates were higher for Western Australia than the national average.
- The apparent retention rate of full-time Indigenous students in Western Australia from Year 7/8 to Year 12 was much lower than for non-Indigenous students – 39% for Indigenous males and 40% for Indigenous females compared to 71% for non-Indigenous males and 84% for non-Indigenous females. Year 7/8 to Year 12 apparent retention rates for Indigenous students were slightly lower for Western Australia than nationally.
- Similarly, the apparent retention rate of full-time Indigenous students in Western Australia from Year 10 to Year 12 was much lower for Indigenous young people (42% for males and 41% for females compared to 70% and 82% for non-Indigenous males and females) and rates were lower for Western Australia than for Australia.
- In 2009, approximately 48% of Indigenous male Year 11 students and 51% of Indigenous female Year 11 students went on to achieve a Year 12 certificate in Western Australia. This compared to 77% and 85% of non-Indigenous male and female Year 11 students. The proportion of Indigenous Year 11 students that went on to achieve a Year 12 certificate was lower in Western Australia than nationally.

Table 2.05.1: Apparent retention and attainment rates, by Indigenous status and sex, Western Australia and Australia, 2009^{(a)(b)(c)}

	Western Australia ^(d)		Australia	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	%	%	%	%
Year 7/8 to Year 10^(e)				
Males	89.0	103.0	89.6	99.2
Females	93.8	103.7	92.3	101.1
Year 7/8 to Year 11^(e)				
Males	84.4	98.5	67.5	88.9
Females	86.4	102.1	71.6	94.8
Year 7/8 to Year 12^(e)				
Males	39.3	71.0	41.5	72.1
Females	40.2	84.1	49.5	82.7
Year 10 to Year 12^(f)				
Males	41.8	69.8	46.1	73.1
Females	40.8	81.5	54.3	82.5
Year 11 to Year 12^(g)				
Males	48.1	76.8	64.2	83.7
Females	50.8	85.0	69.6	88.5

(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) The inclusion or exclusion of part-time students can also have a significant effect on apparent retention rates.

(d) Data for Western Australia have been affected by changes in scope and coverage over time.

(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.

Source: ABS 2010a; ABS and AIHW analysis of National Schools Statistics Collection (NSSC).

2.06 Educational participation and attainment of Aboriginal and Torres Strait Islander adults

Educational participation (people undertaking formal education or training) and educational attainment (people who have completed a particular level of school education or non-school qualification)

- In 2008 in Western Australia, a higher proportion of Indigenous Australians aged 15 years and over was currently studying than non-Indigenous Australians (18% and 16% respectively). Throughout Australia 19% of Indigenous Australians and 16% of non-Indigenous Australians aged 15 years and over were currently studying (Table 2.06.1).
- A higher proportion of Indigenous Australians from Western Australia and nationally attended secondary school in 2008 than non-Indigenous Australians; however, the proportion of Indigenous Australians who attended a university or other higher education was less than half that of non-Indigenous Australians (Table 2.06.1).
- In Western Australia in 2008, non-Indigenous Australians aged 18 years and over were more likely than Indigenous Australians to have completed Year 12 (51% compared to 20%). In contrast a higher proportion of Indigenous adults reported that the highest year of school completed was Year 9 or below than non-Indigenous adults (27% compared to 12%). The proportion of Indigenous Australians who completed Year 12 was lower in Western Australia than for Australia (20% compared to 23%) (Figure 2.06.1).
- In 2008 in Western Australia, 40% of Indigenous Australians aged 25–64 years had a non-school qualification compared to 62% of non-Indigenous Australians. The most commonly held qualification was for a certificate course for both Indigenous and non-Indigenous Australians. A much lower proportion of Indigenous Australians had a bachelor degree or higher than non-Indigenous Australians (Table 2.06.2).

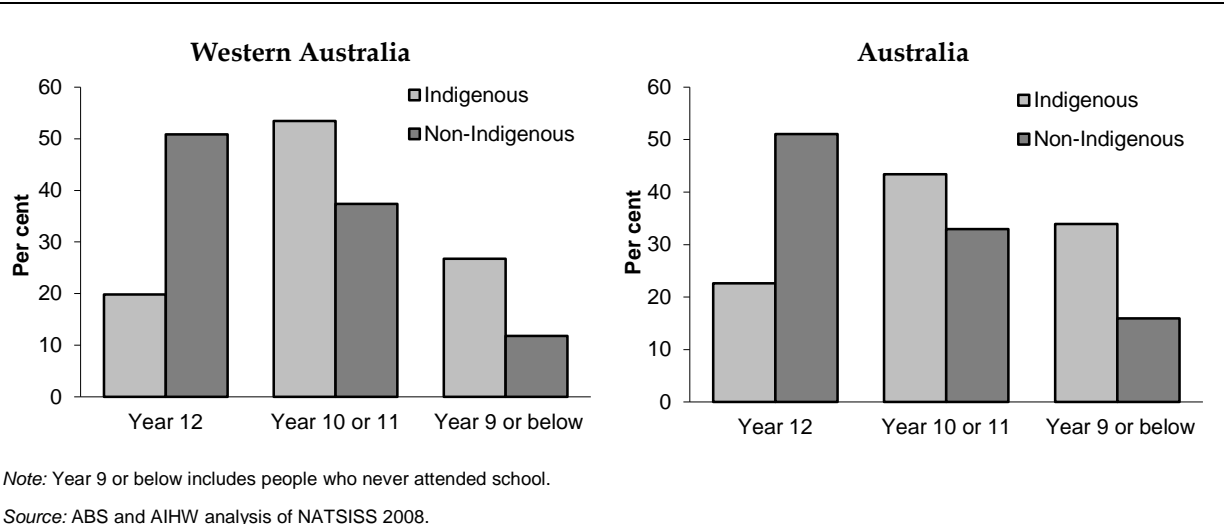


Figure 2.06.1: Highest level of school completed, by Indigenous status, people aged 18 years and over, Western Australia and Australia, 2008

Table 2.06.1: Educational institution currently attended, by Indigenous status, people aged 15 years and over, Western Australia and Australia, 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
WA	Indigenous	%	7.7*	6.5*	2.5*	18.2	81.8	100	43,826
	Non-Indigenous	%	4.3*	4.9*	5.5*	15.8	84.2	100	1,614,710
	Rate ratio ^(b)		1.8	1.3	0.5	1.2	1		
Australia	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 ^(b)		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) Indigenous rate divided by non-Indigenous rate.

Source: ABS and AIHW analysis of NATSISS 2008.

Table 2.06.2: Whether has a non-school qualification, by Indigenous status, people aged 25–64 years, Western Australia and Australia, 2008

	Highest non-school qualification^(a)		Bachelor degree or above^(b)	Advanced diploma/ diploma	Certificate	Total with non-school qualification^(c)	Does not have a non-school qualification	Total	Total number of people
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	
Australia	Indigenous	%	6.5*	5.6*	24.7	40.2*	59.9*	100.0	207,342
	Non-Indigenous	%	24.9*	9.8*	24.9	61.4*	38.6*	100.0	10,997,331
	Rate ratio		0.3	0.6	1.0	0.7	1.6

* 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.

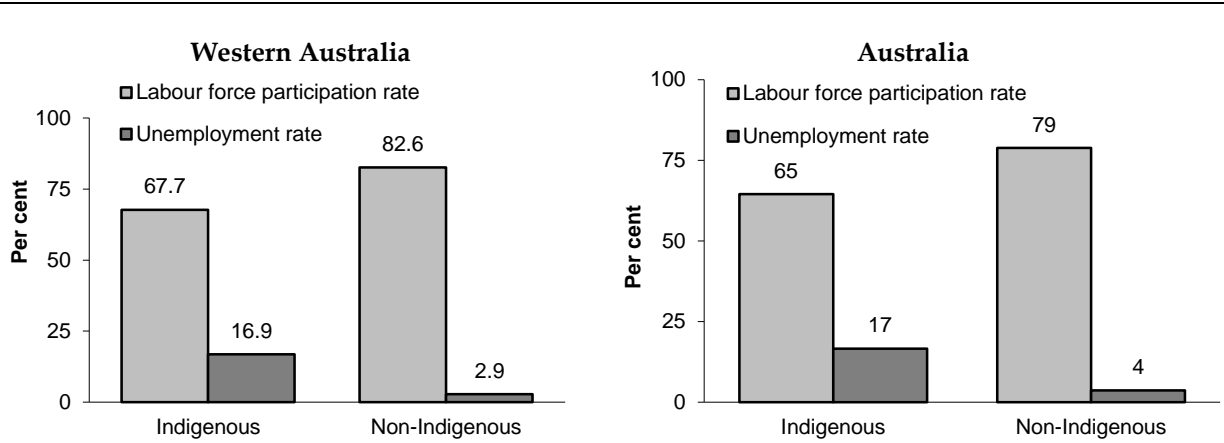
(c) Includes people with a non-school qualification undetermined.

Source: NATSISS 2008 and NHS 2007–08.

2.07 Employment status including Community Development Employment Projects (CDEP) participation

The employment status of Aboriginal and Torres Strait Islander peoples aged 15–64 years

- In 2008, the labour force participation rate for the Indigenous population of Western Australia aged 15–64 years was estimated to be 68%, with 17% of those in the labour force unemployed and looking for full- or part-time work. In comparison the labour force participation rate for the non-Indigenous population was 82%, with 3% of non-Indigenous participants unemployed (Figure 2.07.1).
- In 2008, the labour force participation rate for the Indigenous population of Australia aged 15–64 years was estimated to be 65%, with 17% of those in the labour force unemployed. In comparison the labour force participation rate for Australia was 79% for the non-Indigenous population, with 4% of participants unemployed.
- Of the Indigenous population of Western Australia aged between 15–64 years in 2008, around 56% were employed (10% in CDEP and 46% in non-CDEP) and 11% were unemployed. Of the non-Indigenous population 80% were employed and 2% were unemployed (Table 2.07.1).
- In Australia, around 54% of the Indigenous population aged between 15–64 years in 2008 were employed (6% in CDEP and 48% in non-CDEP) and 11% were unemployed. Of the non-Indigenous population, 76% were employed and 3% were unemployed.



Source: NATSISS 2008 and NHS 2007–08.

Figure 2.07.1: Unemployment and Labour Force Participation Rates, people aged 15–64 years, by Indigenous status, Western Australia and Australia, 2008

Table 2.07.1: Labour force status of people aged 15–64 years, by Indigenous status, Western Australia and Australia, 2008

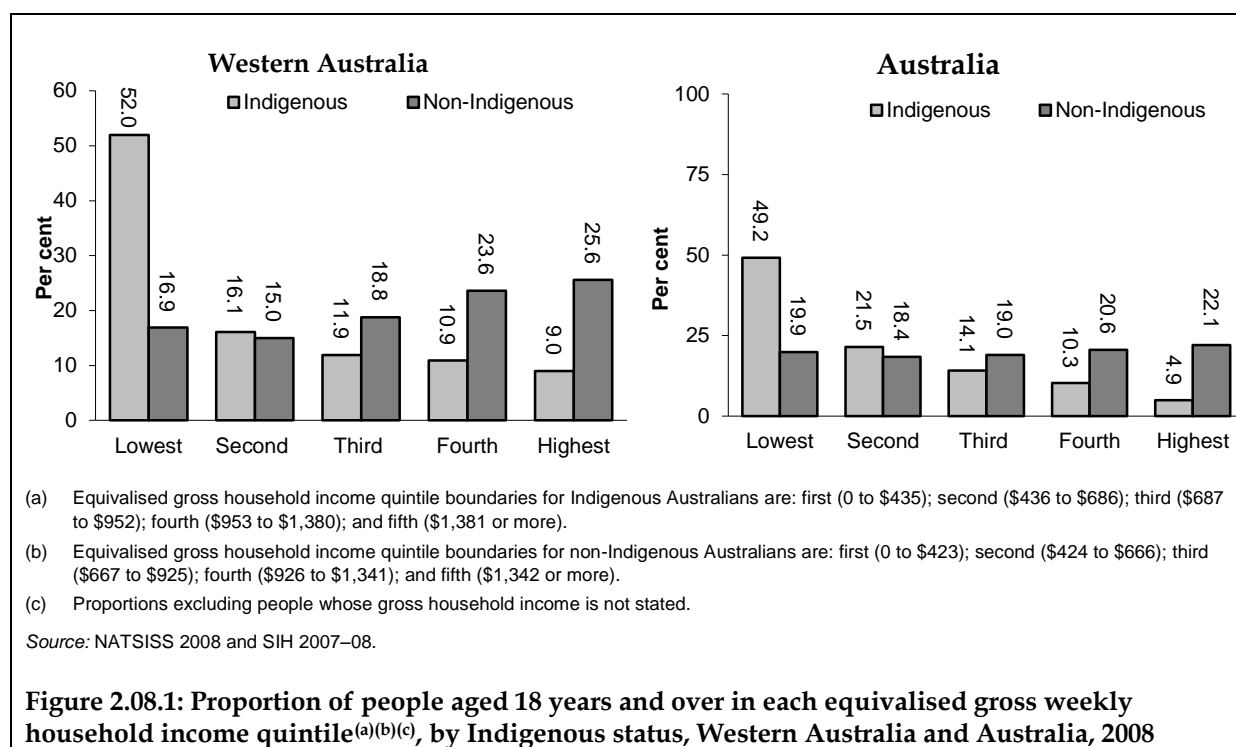
	Western Australia		Australia	
	Indig.	Non-Indig.	Indig.	Non-Indig.
	%	%	%	%
In the labour force				
Employed CDEP	10.2	..	5.6	..
Employed non-CDEP	46.1	..	48.2	..
Total employed	56.3	80.3	53.8	76.0
Unemployed	11.4	2.4	10.7	2.9
Not in the labour force	32.3	17.4	35.5	21.1
Total	100.0	100.0	100.0	100.0

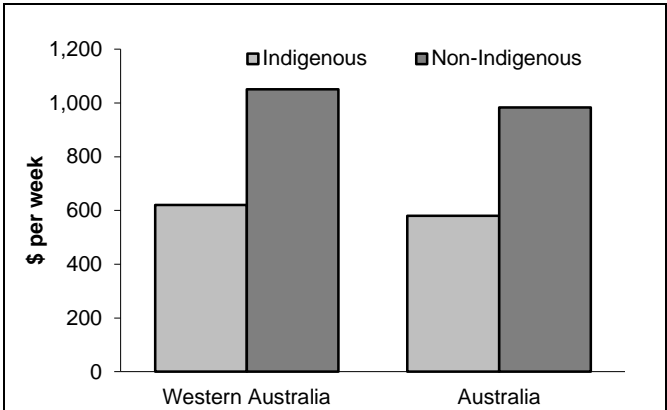
Source: NATSISS 2008 and NHS 2007–08.

2.08 Income

Equivalised gross household and individual income of Aboriginal and Torres Strait Islander people

- In 2008 in Western Australia, 52% of Indigenous Australians aged 18 years and over were in the lowest quintile of equivalised gross weekly household income (see Glossary) and 9% were in the highest quintile. The proportion of non-Indigenous Australians was more evenly spread across all five quintiles of equivalised gross weekly household income, with 17% in the lowest quintile and 26% in the highest quintile (Figure 2.08.1).
- This same pattern was evident for Australia, with 49% of Indigenous Australians aged 18 years and over in the lowest quintile of equivalised gross weekly household income and 5% in the highest quintile. Of non-Indigenous Australians in Australia, 20% were in the lowest quintile and 22% were in the highest quintile.
- In 2008 in Western Australia, the mean equivalised gross weekly household income for Indigenous Australians aged 18 years and over was \$621 per week compared to \$1,051 per week for non-Indigenous Australians. In the same period, the mean equivalised gross weekly household income for Indigenous Australians aged 18 years and over was \$580 compared to \$983 for non-Indigenous Australians (Figure 2.08.2).





Source: NATSISS 2008 and SIH 2007-08.

Figure 2.08.2: Mean equivalised gross household income (\$ per week), by Indigenous status, people aged 18 years and over, Western Australia and Australia, 2008

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

- In 2008, approximately 25% of Indigenous Australians aged 18 years and over in Western Australia owned or were purchasing their own home, 25% were private and other renters, and 48% were renters of some form of social housing (state or territory housing authority/housing cooperative or church group/Indigenous housing organisation or community housing). This compared to 66% of non-Indigenous Australians aged 18 years and over who owned or were purchasing their home, 24% private and other renters, and 3% renters of some form of social housing (Table 2.09.1).
- A slightly lower proportion of Indigenous households in Western Australia were home owners or purchasers than Indigenous households across Australia (28% compared to 33%) and a similar proportion of Indigenous households in Western Australia and across Australia were renters of Indigenous housing organisation or community housing (11% and 10%, respectively).

Table 2.09.1: Proportion of households and people^(a), by tenure type and Indigenous status, Western Australia and Australia, 2008

	Western Australia		Australia	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
People^(a)				
Home owners				
Owned without a mortgage	6.4	24.3	8.7	27.3
Being purchased	18.1	41.2	20.5	37.9
<i>Total home owners</i>	24.5	65.5	29.2	65.2
Renters				
Private and other renter ^(b)	^25.0	^24.4	29.3	25.3
State/territory housing authority	29.2	2.2	23.2	2.9
Housing co-operative or church group	n.p.	*0.5	^0.6	^0.3
Indigenous Housing Organisation/ Community housing	19.0	..	15.9	..
<i>Total renters^(c)</i>	73.4	27.1	69.2	28.5
Other tenure types ^(d)	n.p.	7.4	1.6	6.3
Total^(e)	100.0	100.0	100.0	100.0
Total number^(e)	38,729	1,529,520	289,327	15,553,828
Households				
Home owners				
Owned without a mortgage	6.9	25.6	9.9	29.3
Being purchased	20.8	39.4	22.6	36.5
<i>Total home owners</i>	27.7	65.1	32.5	65.8
Renters				
Private and other renter ^(b)	^30.2	^25.0	33.4	25.0
State/territory housing authority	28.8	3.1	21.7	3.9
Housing co-operative or church group	n.p.	**0.7	^0.6	^0.4
Indigenous Housing Organisation/ Community housing	10.7	..	9.6	..
<i>Total renters^(c)</i>	69.9	28.9	65.5	29.4
Other tenure types ^(d)	n.p.	6.1	2.0	4.8
Total^(e)	100.0	100.0	100.0	100.0
Total number^(e)	20,525	802,625	175,981	7,973,429

** Estimate has a relative standard error greater than 50% and is generally unreliable for use.

^ Difference between rates for Indigenous and non-Indigenous Australians are NOT statistically significant for these categories.

(a) People aged 18 years and over.

(b) Includes real estate agents, unrelated people, relatives, owner/managers of caravan parks, employers and other landlords.

(c) Includes landlord type not stated.

(d) Includes people living under life tenure schemes, those living in rent-free schemes and other tenure types nfd.

(e) Excludes tenure type not stated.

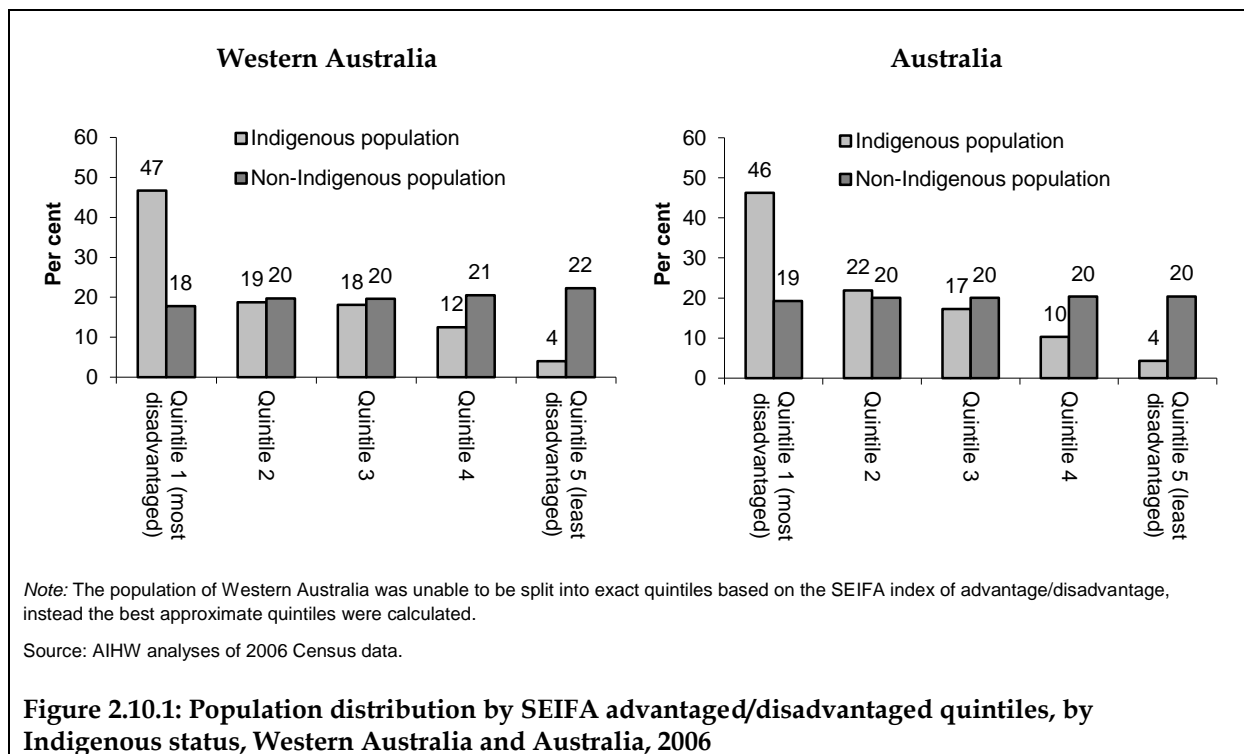
Source: NATSISS 2008 and NHS 2007–08.

2.10 Index of disadvantage

An analysis of the relative disadvantage within the Aboriginal and Torres Strait Islander population compared to the non-Indigenous population

The ABS has developed indexes to allow measurement of relative socioeconomic status at a small area level. These indexes summarise a range of socioeconomic variables associated with disadvantage. The index of advantage/disadvantage is a continuum of advantage to disadvantage and is available for both urban and rural areas. Low values indicate areas of disadvantage, and high values indicate areas of advantage. It takes into account variables such as the proportion of families with high incomes, people with a tertiary education, and employees in skilled occupations.

- In 2006, in Western Australia, a greater proportion of the Indigenous population was in the most disadvantaged quintile of socioeconomic status than the non-Indigenous population (47% compared to 18%) (Figure 2.10.1). Around 4% of the Indigenous population were in the least disadvantaged quintile compared to 22% of the non-Indigenous population.
- Compared to the total Indigenous population in Australia, Western Australia had similar proportions of Indigenous Australians in the most disadvantaged quintile and least disadvantaged quintile of socioeconomic status.



2.11 Dependency ratio

The **dependency ratio** is expressed as a percentage derived as follows:

$$\frac{\text{Percentage of population aged under 15 years} + \text{percentage of population aged 65+ years}}{\text{Percentage of population aged 15-64 years}}$$

It is used as a proxy 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 $\frac{\text{Percentage of population aged under 15 years}}{\text{Percentage of population aged 15-64 years}}$

Aged dependency ratio $\frac{\text{Percentage of population aged 65 years and over}}{\text{Percentage of population aged 15-64 years}}$

- The Indigenous population has a younger age structure than the non-Indigenous population. In 2010 in Western Australia, 34% of Indigenous Australians were aged less than 15 years compared with 19% of non-Indigenous people. People aged 65 years and over comprised 3% of the Indigenous population and 13% of the non-Indigenous population. These proportions were similar to those reported nationally.
- In 2010 in Western Australia, the dependency ratio for Indigenous Australians was 0.60 compared to 0.46 for non-Indigenous Australians. The youth dependency ratio for Indigenous Australians in Western Australia was higher than for non-Indigenous Australians (0.54 compared to 0.28), whereas the aged dependency ratio was lower (0.05 for Indigenous Australians compared to 0.19 for non-Indigenous Australians) (Table 2.11.1).
- This same pattern was evident throughout Australia where the dependency ratio was 0.63 for Indigenous Australians compared to 0.48 for non-Indigenous Australians, the youth dependency ratio was 0.57 for Indigenous Australians compared to 0.27 for non-Indigenous Australians, and the aged dependency ratio was 0.05 for Indigenous Australians compared to 0.21 for non-Indigenous Australians.

Table 2.11.1: Total, youth and aged dependency ratios, by Indigenous status, Western Australia and Australia, 2010

	Western Australia	Australia ^(a)
Indigenous		
Dependency ratio	0.60	0.63
Youth dependency ratio	0.54	0.57
Aged dependency ratio	0.05	0.05
Non-Indigenous		
Dependency ratio	0.46	0.48
Youth dependency ratio	0.28	0.27
Aged dependency ratio	0.19	0.21

(a) Includes other territories.

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

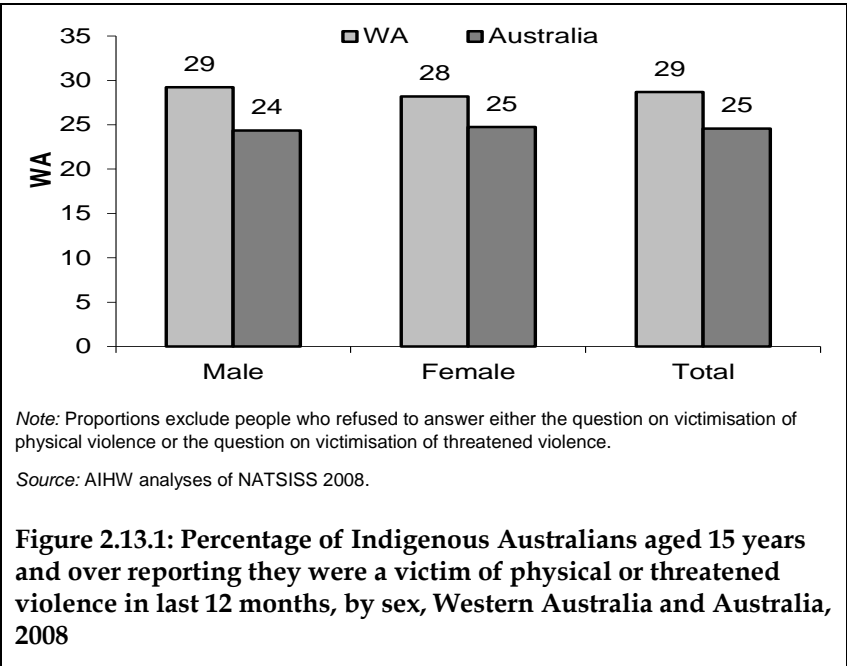
2.13 Community safety

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.

Victim of physical or threatened violence

- In 2008, a similar proportion of Indigenous males and Indigenous females aged 15 years and over reported being a victim of physical or threatened violence in the last 12 months in Western Australia (29% and 28%, respectively) (Figure 2.13.1).
- The proportion of Indigenous Australians aged 15 years and over that reported being a victim of physical or threatened violence in the last 12 months was slightly higher in Western Australia than across Australia (29% and 25%, respectively).
- In Western Australia, Indigenous Australians aged 18 years and over were around 1.9 times as likely to report being victims of physical or threatened violence in the last 12 months as non-Indigenous Australians. Across Australia, Indigenous Australians of the same age were about twice as likely to report being victims of physical or threatened violence (Table 2.13.1).



Stressors

- In 2008 in Western Australia, approximately 81% of Indigenous Australians aged 18 years and over, or their family members and close friends, experienced at least one stressor in the last 12 months compared to 49% of non-Indigenous Australians. The most common stressors experienced by Indigenous Australians aged 18 years and over and their family members or close friends were death of a family member or close friend (48%) and alcohol- or drug-related problems (31%).
- In Western Australia and across Australia, a similar proportion of Indigenous Australians aged 18 years and over felt themselves or their family members and close friends experienced overcrowding at home as a stressor (14% and 13%, respectively).

Table 2.13.1: Issues of community safety, people aged 18 years and over, by Indigenous status, Western Australia and Australia, 2008

	Western Australia		Australia	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	%	%	%	%
Victim of physical or threatened violence in last 12 months ^(a)	23.9*	12.9*	20.5*	10.8*
Stressors experienced by individual, family members and/or close friends in last 12 months^(b)				
Mental illness	15.6*	8.5*	17.1*	8.8*
Death of family member or close friend	47.8*	19.8*	40.4*	19.4*
Alcohol- or drug-related problems	31.1*	7.6*	24.2*	5.7*
Abuse or violent crime	10.9*	3.3*	7.6*	2.4*
Witness to violence	11.7*	3.4*	9.0*	2.2*
Trouble with the police	17.7*	3.3*	14.7*	2.6*
<i>One or more of the above stressors</i>	63.7*	31.1*	59.1*	30.2*
You, a family member or friend spent time in gaol	17.1	..	12.8	..
Overcrowding at home	13.5	..	12.7	..
Treated badly/discrimination	14.1	..	10.2	..
<i>Total experienced stressors^{(c)(d)}</i>	80.5*	49.4*	79.0*	49.1*
No stressors reported	19.5*	50.6*	21.0*	50.9*
Total	100.0	100.0	100.0	100.0

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

.. Data not collected for non-Indigenous Australians.

(a) For this variable only, non-Indigenous comparison has been sourced from General Social Survey 06 (GSS06).

(b) In the 2008 NATSISS, Indigenous Australians were asked about 24 separate stressors, and in the 2007–08 NHS, non-Indigenous Australians were asked about 14 separate stressors.

(c) Sum of components may exceed total, as people may have reported more than one type of stressor.

(d) Includes all other types of stressors not listed here.

Note: Excludes stressors not stated.

Source: NATSISS 2008 and NHS 2007–08.

Neighbourhood community problems

- Of Indigenous Australians aged 15 years and over in Western Australia, 77% reported neighbourhood/community problems present compared to 74% across Australia.
- Alcohol and dangerous/noisy driving were most commonly reported as a neighbourhood/community problem in Western Australia (50% for alcohol and 49% for dangerous/noisy driving). Across Australia dangerous/noisy driving and theft were most commonly reported as a neighbourhood/community problem (46% for dangerous/noisy driving and 43% for theft).

Table 2.13.2: Neighbourhood/community problems, Indigenous Australians aged 15 years and over, Western Australia and Australia, 2008

	Western Australia	Australia
	%	%
Neighbourhood/community problem present		
Theft ^(a)	47.7	42.5
Problems involving youth	36.7	34.4
Prowlers/loiterers	23.3	19.1
Vandalism/graffiti/damage to property	42.0	35.3
Dangerous or noisy driving	49.3	46.1
Alcohol	49.9	41.3
Illegal drugs	43.3	36.4
Family violence	34.1	24.8
Assault	30.1	22.7
Sexual assault	12.5	11.7
Problems with your neighbours	17.2	15.4
Levels of neighbourhood conflict	14.7	14.1
Level of personal safety day or night	14.9	13.8
<i>Total with neighbourhood/community problems</i>	76.6	74.2
No neighbourhood/community problems reported	23.5	25.8
Total	100.0	100.0
Total number	44,097	327,101

(a) Excludes unknown responses.

Source: AIHW analysis of NATSISS 2008.

2.14 Contact with the 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

People in prison custody

- As at 30 June 2009, there were 1,790 Indigenous and 2,629 non-Indigenous Australians in prison custody in Western Australia. Nationally there were 7,386 Indigenous and 21,554 non-Indigenous Australians in prison custody (Table 2.14.1).
- The age-standardised rate of imprisonment for Indigenous Australians in Western Australia was 3,329 per 100,000, which was 20 times the rate of non-Indigenous Australians (163 per 100,000).
- The age-standardised rate of imprisonment for Indigenous and non-Indigenous Australians was higher in Western Australia (3,329 and 163 per 100,000) than the national rates (1,891 and 136 per 100,000).
- A higher proportion of Indigenous prisoners were males than females (91% males in Western Australia and 92% males in Australia). This trend was also present for total prisoners.
- Over the period 2000–2009 in Western Australia, the crude imprisonment rate of Indigenous Australians increased significantly, by an average of 153 per 100,000 population per year, equivalent to an increase of 47% for the period. The national crude imprisonment rate for Indigenous Australians also increased significantly by around 73 per 100,000 per year, equivalent to an increase of 40% for the period.

Table 2.14.1: People in prison custody, by Indigenous status and sex, Western Australia and Australia, 30 June 2009

	Indigenous					
	Number			Crude rate ^(b)	Age-standardised rate ^(c)	
	Males	Females	People ^(a)			
WA	1,633	157	1,790	4,075.4	3,328.7	
Australia	6,783	603	7,386	2,309.8	1,890.7	
	Non-Indigenous					
	Number			Crude rate ^(b)	Age-standardised rate ^(c)	Age-standardised rate ratio ^(d)
	Males	Females	People ^(a)			
WA	2,445	184	2,629	159.1	163.0	20.4
Australia	20,063	1,493	21,554	130.9	135.6	13.9

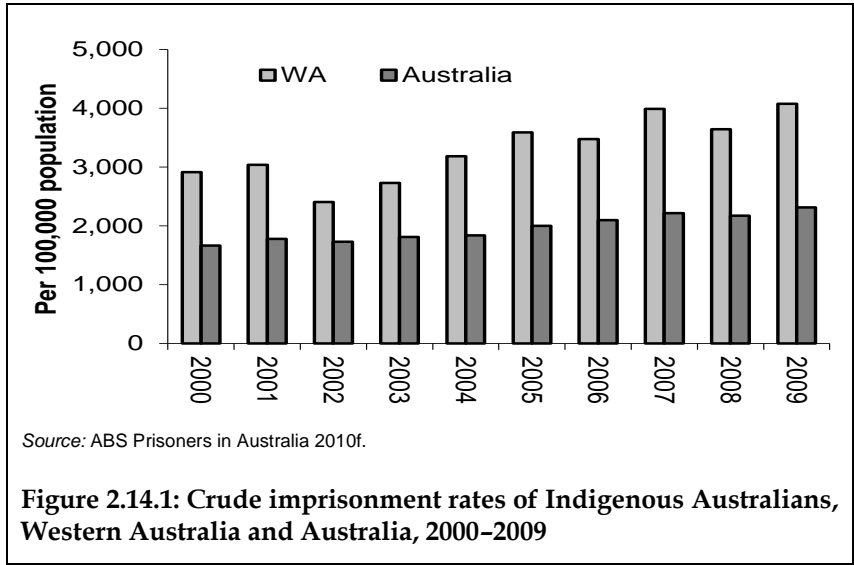
(a) Includes sex not stated.

(b) Number per 100,000 adult population.

(c) Number per 100,000 adult population directly age-standardised to 2001 Australian standard population.

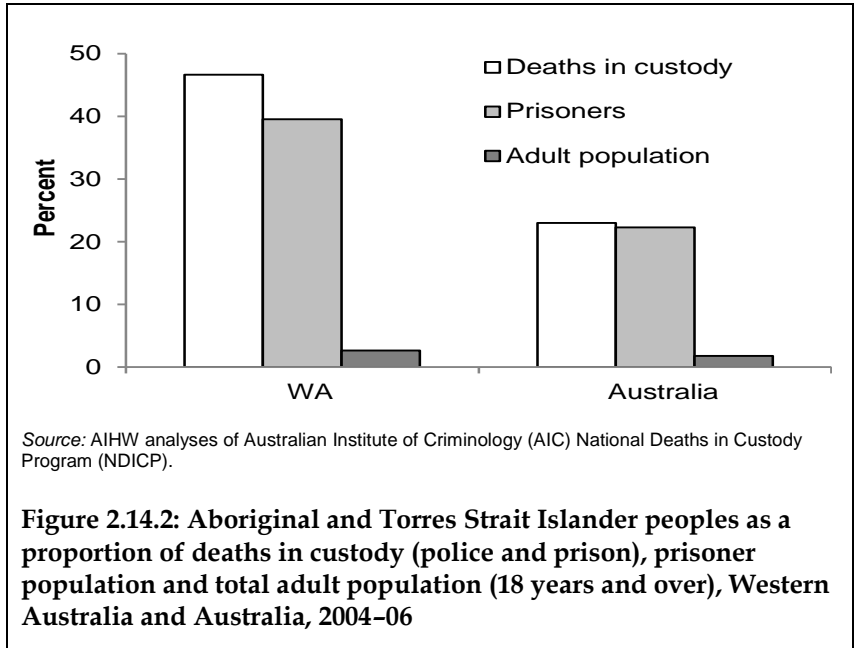
(d) The ratio of Indigenous to non-Indigenous imprisonment is calculated by dividing the Indigenous age-standardised rate by the non-Indigenous age-standardised rate.

Source: ABS 2009.



Deaths in prison custody

- In 2004-06 in Western Australia, Indigenous Australians represented around 47% of deaths in custody (police and prison), 40% of the prisoner population and 2.5% of the adult population. This compares to 23% of deaths in custody, 22% of prisoners and 1.7% of the adult population nationally.

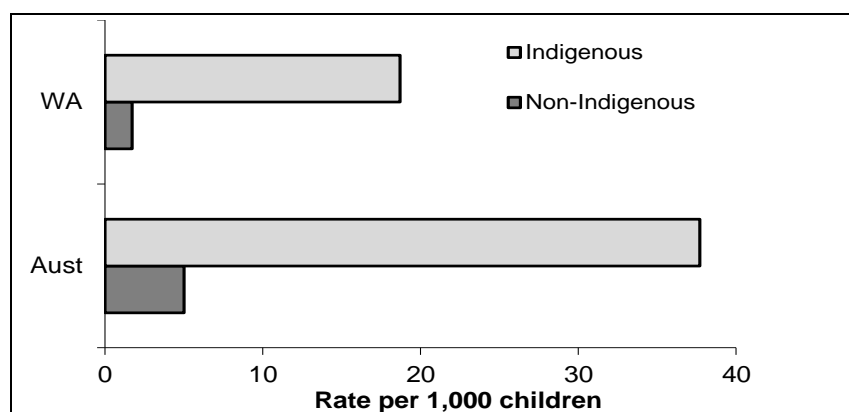


2.15 Child protection

Aboriginal and Torres Strait Islander children in substantiations, on care and protection orders and in out-of-home care

Substantiations: refer to child protection notifications made to relevant authorities during the year ended 30 June 2009, which were investigated and the investigation was finalised by 31 August 2009, and it was concluded that there was reasonable cause to believe that the child had been, was being or was likely to be abused or neglected or otherwise harmed.

- In 2008–09 in Western Australia, Indigenous children aged 0–16 years were more likely to be the subject of substantiations than other children aged 0–16 years (19 per 1,000 compared to 2 per 1,000) (Figure 2.15.1).
- Substantiation rates for both Indigenous children and non-Indigenous children were lower in Western Australia than across Australia.
- The proportion of Aboriginal and Torres Strait Islander children in Western Australia who were subjects of substantiations increased over a 3-year period (2006–07 to 2008–09) with a substantial rise from 2005–06 to 2006–07 (Table 2.15.1).
- The proportion of other children in Western Australia who were subjects of substantiations has remained comparatively stable over a 3-year period from 2006–07 to 2008–09 (Table 2.15.1).
- As at 30 June 2009, 75% of Aboriginal and Torres Strait Islander children in out-of-home care in Western Australia were placed with relative/kin, other Indigenous caregivers or Indigenous residential care (Table 2.15.2).



Source: AIHW 2010c.

Figure 2.15.1: Children aged 0–16 years who were the subjects of substantiations: rate per 1,000 children, by Indigenous status, Western Australia and Australia, 2008–09

Table 2.15.1: Number and rates of Aboriginal and Torres Strait Islander and other children aged 0–16 years who were the subject of substantiated notifications, Western Australia and Australia, 1998–99 to 2008–09

Year	Western Australia		Australia ^(a)	
	Indigenous	Other	Indigenous	Other
Number of children				
1998–99	598	532	n.a.	n.a.
1999–00	329	724	n.a.	n.a.
2000–01	355	760	n.a.	n.a.
2001–02	386	718	n.a.	n.a.
2002–03 ^(b)	275	571	n.a.	n.a.
2003–04	322	599	n.a.	n.a.
2004–05	353	682	n.a.	n.a.
2005–06	316	603	6,033	28,322
2006–07	438	716	7,076	26,784
2007–08	520	863	7,313	24,602
2008–09	545	909	8,135	24,343
Rate per 1,000 children				
1998–99	11.6	2.0	n.a.	n.a.
1999–00	12.7	1.7	n.a.	n.a.
2000–01	13.6	1.8	n.a.	n.a.
2001–02	13.5	1.7	n.a.	n.a.
2002–03 ^(b)	9.7	1.3	n.a.	n.a.
2003–04	11.2	1.4	n.a.	n.a.
2004–05	12.2	1.6	n.a.	n.a.
2005–06	10.9	1.4	29.4	6.5
2006–07	15.0	1.6	34.3	6.1
2007–08	17.7	1.9	35.3	5.5
2008–09	18.7	1.7 ^(c)	37.7	5.0 ^(c)

(a) Australia data were not available before 2005–06.

(b) The decline in the number of substantiations is due to the decreased number of notifications in Western Australia.

(c) 2008–09 rates are for non-Indigenous children and exclude those children of unknown Indigenous status.

Notes

1. Because of the small number involved, children aged 17 years were not included in this table. The substantiation rate for 17 year olds is, compared with the rate for younger children, very low. Including 17 year olds.
2. Rates calculated using ABS Indigenous population estimates and projections (low series) based on the 2001 Census.
3. Improvements in the quality of the data on Indigenous status are one of the major issues to be considered when analysing trends for Aboriginal and Torres Strait Islander children. Increases in the rates of Aboriginal and Torres Strait Islander children in the child protection system over time may be due to improvements in the quality of the data.

Source: AIHW Child protection Australia: 1999; 2000; 2001; 2002; 2003; 2004; 2005; 2006; 2007; 2008; 2009; 2010c.

Table 2.15.2: Aboriginal and Torres Strait Islander children in out-of-home care: Indigenous status and relationship of carer, Western Australia, 30 June 2009

Relationship	Western Australia ^(a)
	Per cent
Indigenous relative/kin	50.9
Other Indigenous caregiver	14.2
Other relative/kin	8.1
Indigenous residential care	2.2
Total placed with relative/kin, other Indigenous caregivers or Indigenous residential care	75.3
Other caregiver	18.5
Other residential care	6.1
Total not placed with relative/kin, other Indigenous caregivers or Indigenous residential care	24.7
Total	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.

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 2010c.

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

Motor vehicle access

- In 2006 in Western Australia, 70% of Indigenous households and 90% of other households reported having at least one registered vehicle. Nationally 72% of Indigenous households and 87% of other households reported having at least one registered vehicle.
- The ratio of people to registered vehicles was higher for Indigenous households, with 1.57 people per vehicle in Western Australia, compared to 1.07 people per vehicle for other households. Nationally the ratio was 1.59 for Indigenous Australians and 1.19 for other people.

Table 2.16.1: Households with at least one registered vehicle, by Indigenous status, Western Australia and Australia, 2006

	Ratio of people 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						
Western Australia	1.57	1.07	1.08	70.0	90.2	89.7
Australia ^(e)	1.59	1.19	1.19	71.9	87.2	86.9

(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 people of Aboriginal or Torres Strait Islander origin or where a lone person is of Aboriginal or Torres Strait Islander origin.

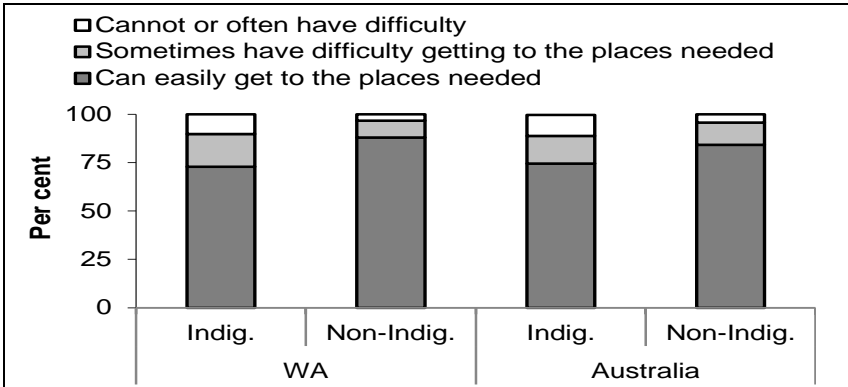
(d) Includes households where Indigenous status was 'not stated'.

(e) Includes Territories of Christmas Island and Cocos Islands.

Source: ABS and AIHW analysis of 2006 Census data.

Transport access, difficulty and use

- Indigenous Australians in Western Australia and Australia were more likely to report having difficulty getting to the places they needed to than non-Indigenous Australians. In 2008, 27% of Indigenous Australians living in Western Australia reported that they sometimes or often have difficulty, or cannot get to places needed compared to 12% of non-Indigenous Australians. In Australia, 25% of Indigenous Australians reported that they sometimes or often have difficulty, or cannot get to places needed compared to 16% of non-Indigenous Australians (Figure 2.16.1).



Source: ABS and AIHW analyses of NATSISS 2008 and General Social Survey (GSS) 2006.

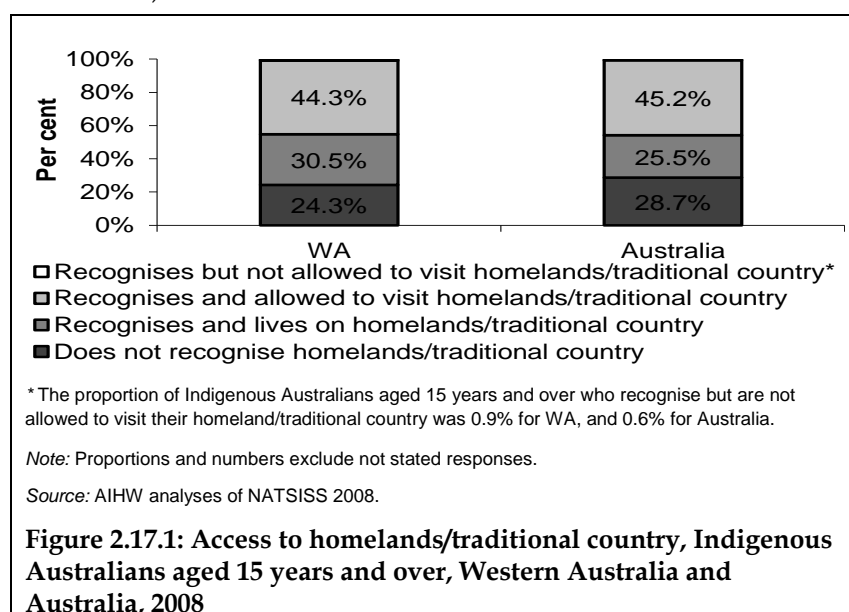
Figure 2.16.1: Difficulty with transport, by Indigenous status, Western Australia and Australia, people aged 18 years and over, 2008

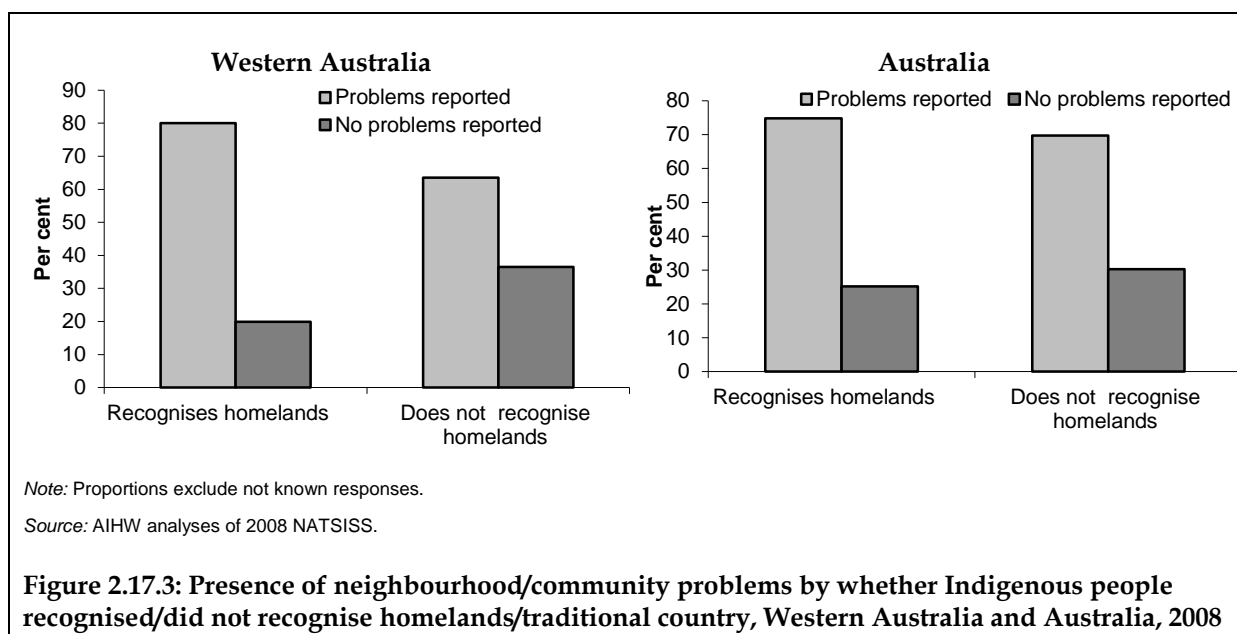
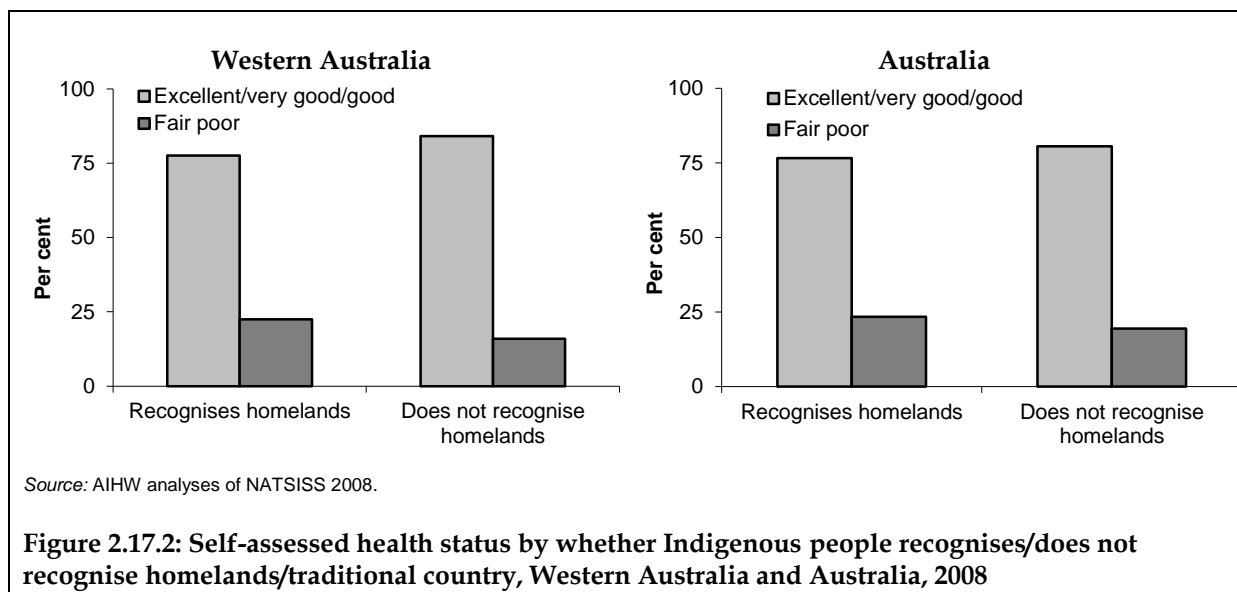
2.17 Indigenous people with access to their traditional lands

The proportion of Aboriginal and Torres Strait Islander peoples living on or visiting traditional areas of land with which they have ancestral and/or cultural links

Access to traditional lands

- In 2008, 44% of Indigenous Australians aged 15 years and over in Western Australia recognised and were allowed to visit their homelands/traditional country. Throughout Australia 45% of Indigenous Australians recognised their homelands and were allowed to visit (Figure 2.17.1).
- Approximately 31% of Indigenous Australians in Western Australia and 26% of Indigenous Australians in Australia lived on their homeland.
- Approximately 24% of Indigenous Australians in Western Australia reported they did not recognise their homelands and 0.9% reported they were not allowed to visit their homelands. This compared to 29% and 0.6% for Indigenous Australians in Australia.
- In 2008 in Western Australia, Indigenous Australians who did not recognise their homelands/traditional country were more likely to report excellent/very good/good health (84%) than those who did recognise their homelands/traditional country (78%). The data for Australia showed similar patterns though the difference was smaller (81% for Indigenous people who did not recognise their homelands/traditional country compared with 77% for Indigenous people who recognised their homelands/traditional country) (Figure 2.17.2).
- Indigenous Australians in Western Australia who recognised their homelands/traditional country were more likely to report presence of neighbourhood/community problems than Indigenous Australians who did not recognise their homelands/traditional country (80% and 64%, respectively) (Figure 2.17.3).



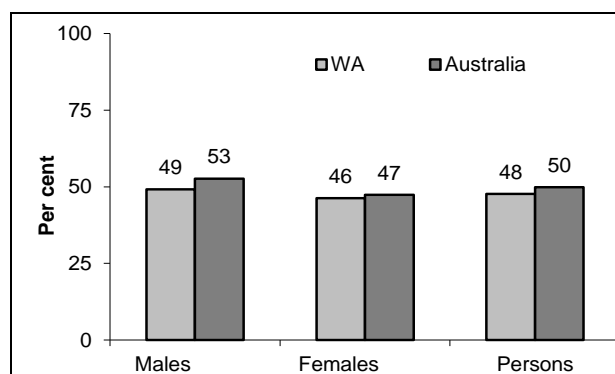


2.18 Tobacco use

The proportion of Indigenous Australians who are current regular smokers

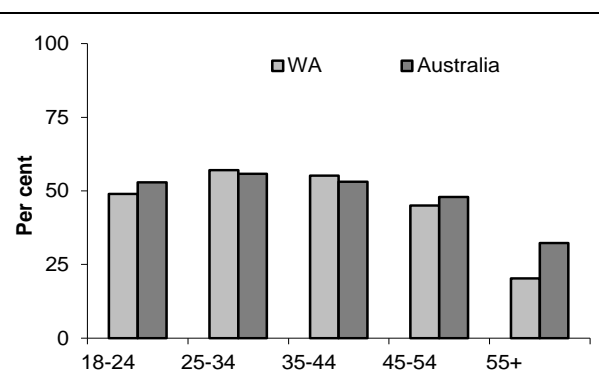
Smoking status by sex and age group

- In 2008 in Western Australia, approximately 49% of Indigenous males and 46% of Indigenous females aged 18 years and over were current smokers. Across Australia, 53% of Indigenous males and 47% of Indigenous females were current smokers (Figure 2.18.1).
- In Western Australia, Indigenous adults aged 25–34 years were most likely to report being current smokers (57%), followed by those aged 35–44 and 18–24 years (55% and 49%, respectively). The data for the total of Australia showed similar features with those aged 25–34 most likely to report being current smokers (56%), followed by those aged 18–24 and 35–44 years (both 53%) (Figure 2.18.2).



Source: AIHW analyses of NATSISS 2008.

Figure 2.18.1: Per cent of Indigenous people aged 18 years and over reporting they are a current smoker, by sex, Western Australia and Australia, 2008

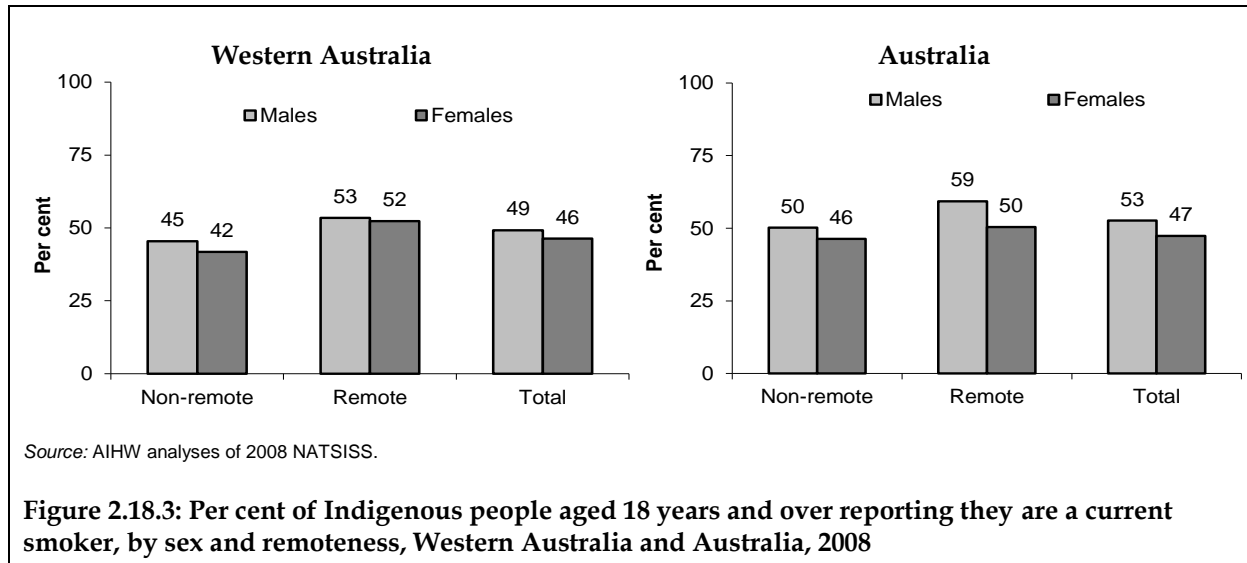


Source: AIHW analyses of NATSISS 2008.

Figure 2.18.2: Per cent of Indigenous people aged 18 years and over reporting they are a current smoker, by age, Western Australia and Australia, 2008

Smoking status by remoteness

- In 2008, Indigenous adults in remote Western Australia were more likely to be current smokers (53% for males and 52% for females) than Indigenous adults in non-remote Western Australia (45% for males and 42% for females). A similar pattern was evident in Australia (Figure 2.18.3).



2.19 Tobacco smoking during pregnancy

The proportion of Indigenous mothers who smoked during pregnancy

- In Western Australia in 2007, Aboriginal and Torres Strait Islander mothers were 3.8 times as likely as non-Indigenous mothers to report smoking during pregnancy. This was more than the national ratio (excluding Victoria) of 3.4 (Table 2.19.1).
- In Western Australia in 2007, 54% of Indigenous mothers, and 14% of non-Indigenous mothers smoked during pregnancy. Nationally (excluding Victoria) 51% of Indigenous mothers and 15% of non-Indigenous mothers smoked during pregnancy (Table 2.19.1).

Table 2.19.1: Tobacco smoking status of mothers during pregnancy, by Indigenous status, Western Australia and NSW, Qld, WA, SA, Tas, ACT & NT combined, 2007^{(a)(b)}

Smoking status	Western Australia	Total
	Number	
Indigenous		
Smoked	938	5,273
Did not smoke	814	4,682
Not stated	n.p.	234
Total	1,752	10,189
Non-Indigenous		
Smoked	3,947	30,821
Did not smoke	23,931	176,004
Not stated	n.p.	1,044
Total	27,878	207,869
	Proportion^(c)	
Indigenous		
Smoked	54.0	50.5
Did not smoke	46.0	47.4
Total^(d)	100.0	100.0
Non-Indigenous		
Smoked	14.0	14.8
Did not smoke	86.0	84.7
Total^(d)	100.0	100.0
	Ratio^(e)	
Smoked	3.8	3.4
Did not smoke	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.

(c) Proportions are directly age-standardised using the Australian female population aged 15–44 years who gave birth in 2007.

(d) Includes mothers for whom smoking status was not stated.

(e) 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. Mother's tobacco smoking status during pregnancy is self-reported.

Source: AIHW analyses of NPSU National Perinatal Data Collection.

2.20 Risky and high-risk alcohol consumption

The proportion of Aboriginal and Torres Strait Islander people who consume alcohol at risky or high-risk levels

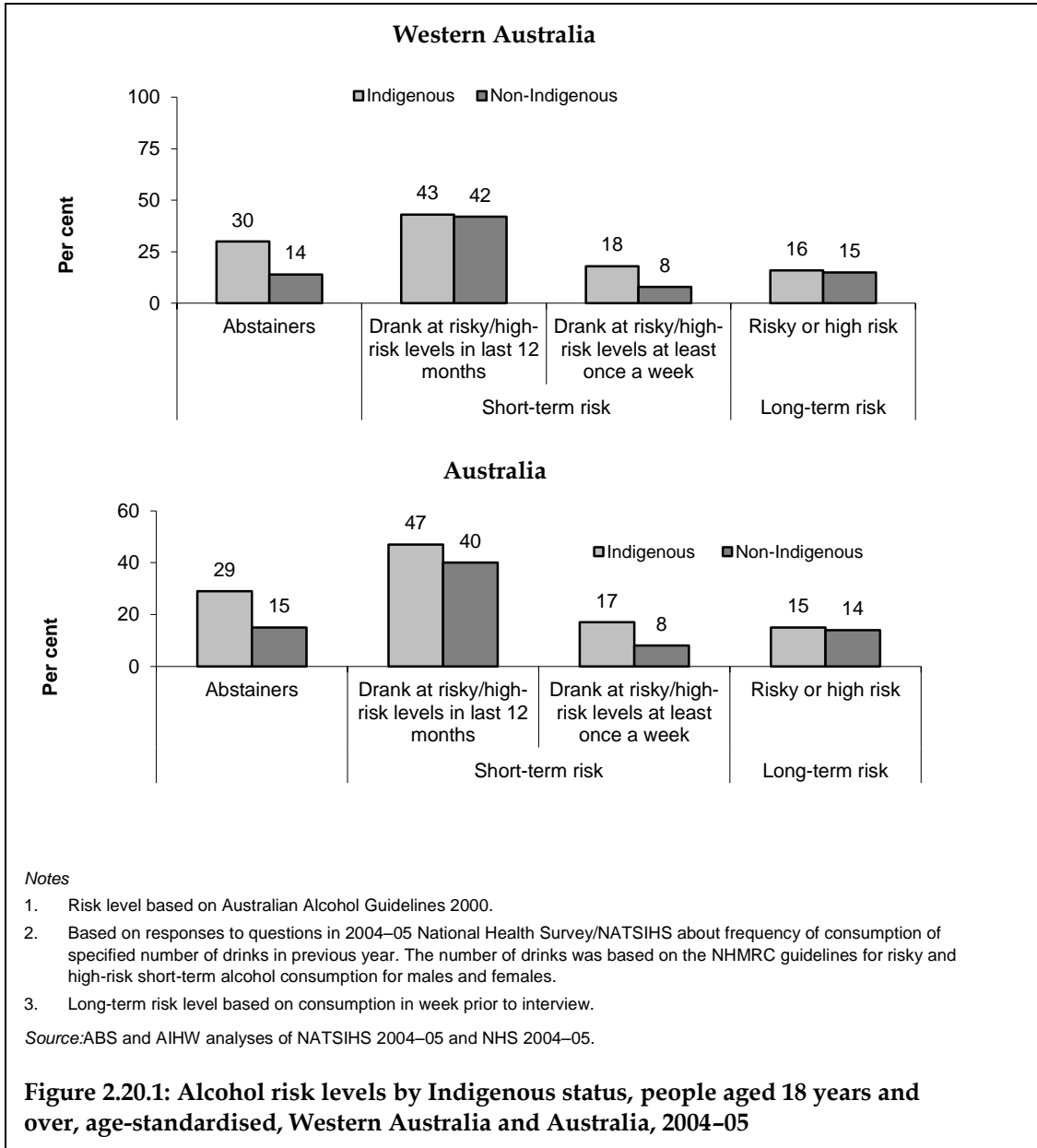
The consumption of alcohol at risky and high-risk levels was defined as alcohol consumption which exceeds the National Health and Medical Research Council (NHMRC) guidelines for low-risk drinking in the short or long term. These guidelines are outlined below:

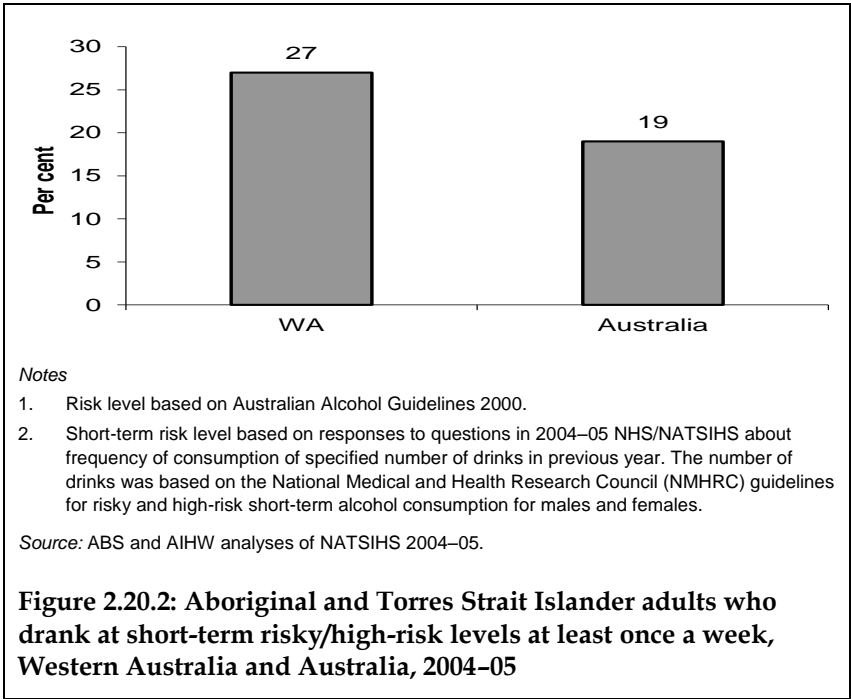
Risky/high-risk drinking

- Short-term risky drinking is consumption in excess of six but less than 11 standard drinks on any 1 day for males, and in excess of four but less than seven standard drinks for females.
- Short-term high-risk drinking is consumption of 11 or more standard drinks on any 1 day for males, and in excess of seven standard drinks for females.
- 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 per week) for males, and in excess of two but less than five standard drinks per day (amounting to 15 but less than 28 per week) for females.
- Long-term high-risk drinking is average consumption in excess of six standard drinks per day (amounting to 43 or more per week) for males, and in excess of four standard drinks per day (amounting to 29 or more per week) for females.

Self-reported alcohol consumption and risk levels

- In 2004–05 in Western Australia, Indigenous adults were more likely than non-Indigenous adults to report having abstained from alcohol consumption in the last 12 months (30% compared to 14%) (Figure 2.20.1).
- In Western Australia approximately 43% of Indigenous adults drank at short-term risky/high-risk levels in the last 12 months, and 18% reported drinking at short-term risky/high-risk levels at least once a week. This is compared to 42% of non-Indigenous adults who reported drinking at short-term risky/high-risk levels in the last 12 months and 8% who reported drinking at this level at least once a week.
- Approximately 16% of Indigenous adults in Western Australia and 15% of Indigenous adults in Australia drank at long-term risky/high-risk levels in the last 12 months.
- A higher proportion of Indigenous Australians in Western Australia drank at short-term risky/high-risk levels at least once a week (27%) than in Australia (19%) (Figure 2.20.2).





2.21 Drug and other substance use including inhalants

The use of drugs and other substances, including substances inhaled for psychoactive effects, among Aboriginal and Torres Strait Islander people

Substance use by sex

- In 2008 in Western Australia, a higher proportion of Indigenous males aged 18 years and over reported substance use in the last 12 months (31%) than Indigenous females (20%) of the same age. Across Australia, Indigenous males (30%) were also more likely to report substance use in the last 12 months than Indigenous females (18%).
- In Western Australia, approximately 54% of Indigenous males and 37% of Indigenous females aged 18 years and over reported that they had ever used substances. These proportions were similar to those reported for Indigenous males and females in Australia (54% and 38% respectively).
- Marijuana, hashish and cannabis resin were the most commonly reported type of substance used by Indigenous adults. In 2008, 21% of Indigenous adults in Western Australia used marijuana, hashish or cannabis resin, slightly higher than the rate reported for Australia (18%).

Table 2.21.1: Substance use, Indigenous Australians aged 18 years and over, by sex, Western Australia and Australia, 2008

	Western Australia			Australia		
	Males	Females	People	Males	Females	People
	%	%	%	%	%	%
Used substances in last 12 months						
Marijuana, hashish or cannabis resin	25.1	16.7	20.5	24.3	11.6	17.6
Amphetamines or speed	6.4	2.3	4.1	6.1	2.8	4.3
Ecstasy or designer drugs	3.3	1.5	2.4	4.8	2.1	3.4
LSD or synthetic hallucinogens	0.7	0.6	0.7	1.5	0.5	0.9
Pain-killers or analgesics for non-medical purposes	7.1	3.7	5.3	5.3	4.5	4.8
Naturally occurring hallucinogens	0.8	0.2	0.5	1.1	0.2	0.6
Cocaine	1.3	0.3	0.8	1.2	0.5	0.8
Other analgesics	0.8	0.3	0.5	0.6	0.2	0.4
Volatile solvents	1.6	0.5	1.0	0.6	0.2	0.4
Tranquillisers or sleeping pills for non-medical purposes	2.8	1.3	2.0	1.8	1.2	1.5
Kava	0.6	0.4	0.5	1.8	0.7	1.2
Total used substance in last 12 months	31.4	19.7	25.1	29.8	17.6	23.3
Used substance but not in last 12 months	22.5	17.5	19.8	24.4	19.8	22.0
Total used substance^(a)	54.0	37.2	44.9	54.3	37.5	45.3
Never used substance	45.6	62.4	54.7	45.4	61.7	54.1
Not stated ^(b)	0.4	0.5	0.4	0.3	0.8	0.6
Total^(c)	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes 'whether used in last 12 months' not known.

(b) This category comprises people who accepted the substance use form but did not state if they had ever used substances.

(c) Excludes 'form not answered'.

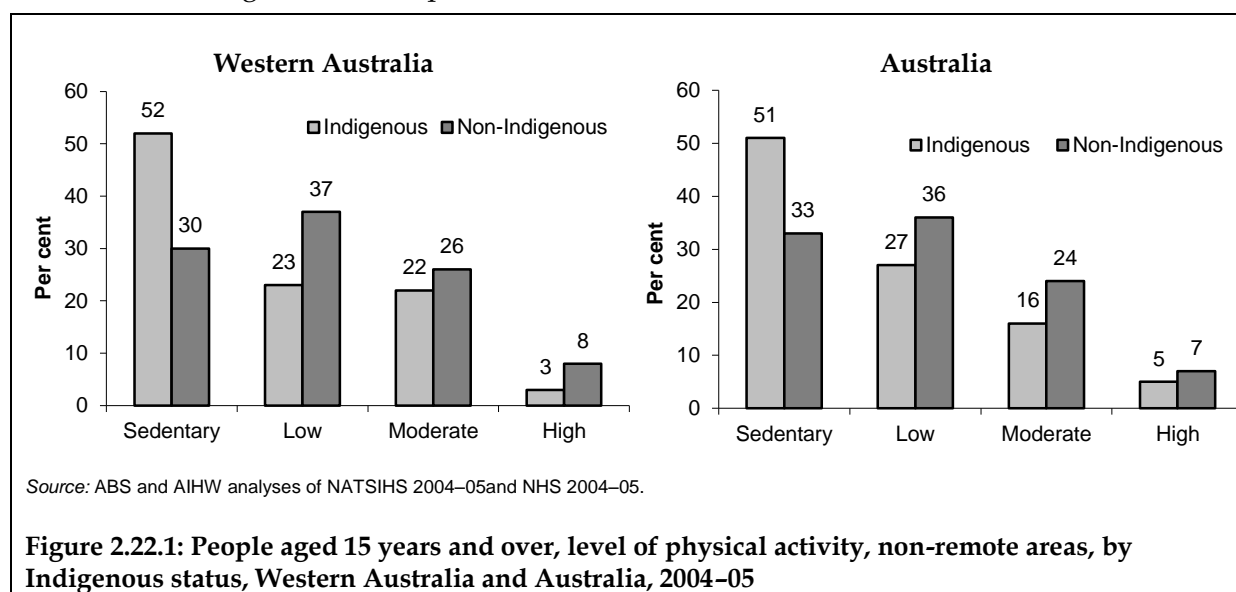
Source: AIHW analyses of NATSISS 2008.

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

Physical activity

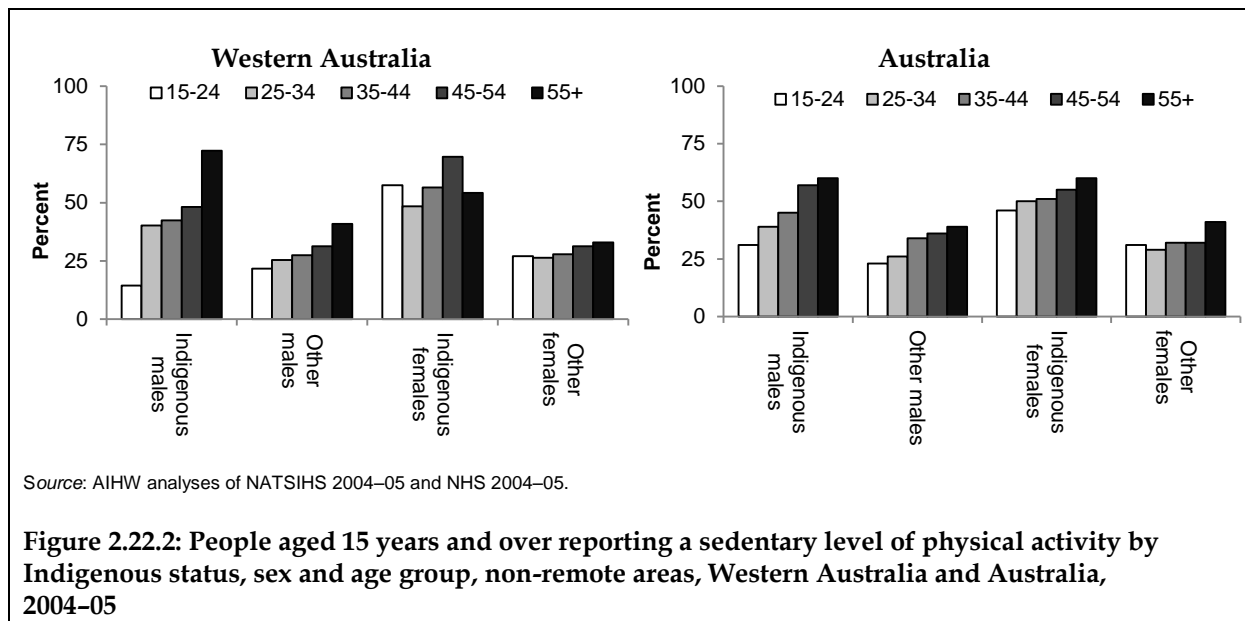
- In 2004–05 in non-remote areas of Western Australia, approximately 46% of Indigenous Australians aged 15 years and over reported sedentary levels of exercise, 25% reported low levels of exercise, 24% reported moderate levels of exercise and 5% reported high levels of exercise.
- A higher proportion of Indigenous than non-Indigenous Australians in Western Australia reported their exercise level as sedentary in 2004–05. After adjusting for differences in age structure between the Indigenous and non-Indigenous populations, approximately 52% of Indigenous Australians aged 15 years and over in non-remote areas reported their exercise level as sedentary in the 2 weeks prior to survey, 23% as low, 22% as moderate, and 3% as high. This compared to 30% of non-Indigenous Australians who reported their exercise level as sedentary, 37% as low, 26% as moderate, and 8% as high. This same pattern was evident for Australia.



Physical activity by age and sex

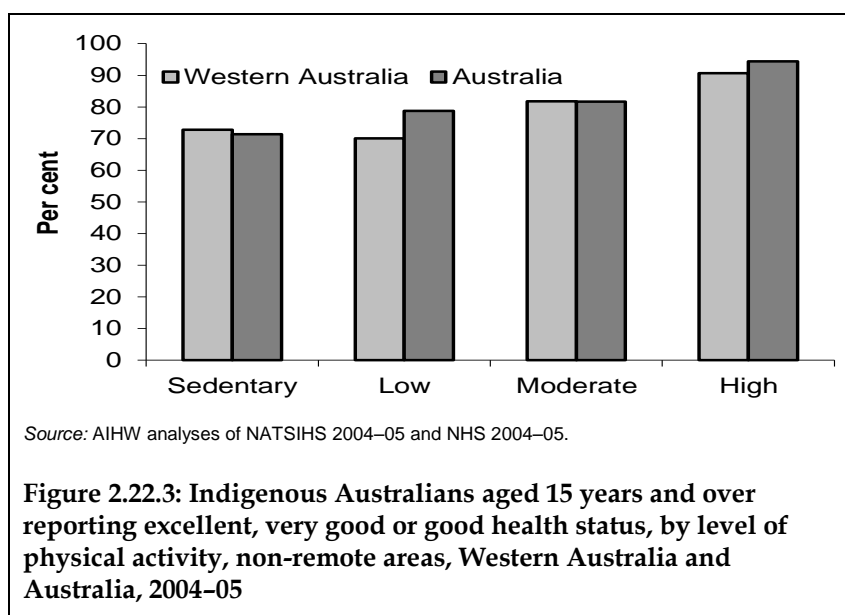
- Indigenous males and females in Western Australia were more likely to report a sedentary level of physical activity than non-Indigenous people across all age groups with the exception of males aged 15–24 years.
- In Western Australia, the proportion of Indigenous males reporting a sedentary level of physical activity was highest among those aged 55 years and over (72%) and lowest among those aged 15–24 years (14%). The proportion of Indigenous females reporting a sedentary level of physical activity was highest among those aged 45–54 years (70%) and lowest among those aged 25–34 years (48%). The proportion of other males and females in Western Australia who reported a sedentary level of physical activity generally increased with age.

- Across all the age groups with the exception of those aged 55 years and over, a higher proportion of Indigenous females than Indigenous males in Western Australia reported that their level of exercise was sedentary.



Physical activity by selected health characteristics

- In 2004–05, approximately 73% of Indigenous people in non-remote Western Australia with a sedentary level of physical activity reported excellent/very good/good health status compared to 91% with high physical activity. This same pattern was evident in Australia.



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

Dietary habits

- In 2004–05 in Western Australia, 93% of Indigenous Australians aged 12 years and over reported eating vegetables daily and 85% reported eating fruit daily. These proportions were similar to those reported for Indigenous Australians aged 12 years and over in Australia (95% and 86% respectively).
- Over the same period in Western Australia, 99% of non-Indigenous Australians aged 12 years and over reported eating vegetables daily and 94% reported eating fruit daily, and across Australia these proportions were similar (99% and 93% respectively).
- In Western Australia approximately 96% of Indigenous and 95% of non-Indigenous Australians aged 12 years and over reported drinking milk. In both Western Australia and across Australia, the most common type of milk usually consumed was whole milk.
- The proportion of Indigenous Australians reporting usually adding salt after cooking was higher in Western Australia (57%) than in Australia (46%).

Table 2.23.1: Selected dietary habits, by sex, remoteness and Indigenous status, people aged 12 years and over, Western Australia and Australia, 2004–05

Dietary behaviours	Western Australia				Australia			
	Indigenous			Non-Indigenous	Indigenous			Non-Indigenous
	Remote	Non-remote	Total Indig.	Total non-Indig.	Remote	Non-remote	Total Indig.	Total non-Indig.
	%	%	%	%	%	%	%	%
Vegetable intake								
Eats vegetables daily	87	99	93	99	84	98	95	99
Does not eat vegetables daily	13	1	7	1	15	2	5	1
Total^(a)	100	100	100	100	100	100	100	100
Fruit intake								
Eats fruit daily	77	93	85	94	80	88	86	93
Does not eat fruit daily	23	7	15	6	20	12	14	7
Total^(a)	100	100	100	100	100	100	100	100
Usual type of milk consumed								
Whole	87	71	78	41	87	76	79	45
Low/reduced fat	5	22	14	39	4	14	11	31
Skim	2	3	2	10	2	5	5	13
Total drinks milk^(b)	95	96	95	95	95	97	96	95
Does not drink milk	4	4	4	5	5	3	4	5
Total^(c)	100	100	100	100	100	100	100	100
Salt added after cooking								
Never/rarely	12	29	21	..	16	35	30	..
Sometimes	24	19	21	..	30	23	25	..
Usually	62	52	57	..	53	43	46	..
Total^(d)	100	100	100	..	100	100	100	..

(a) Includes 'whether eats fruit/vegetables' not known.

(b) Includes 'soy milk' and other types of milk.

(c) Includes 'usual type of milk' not known.

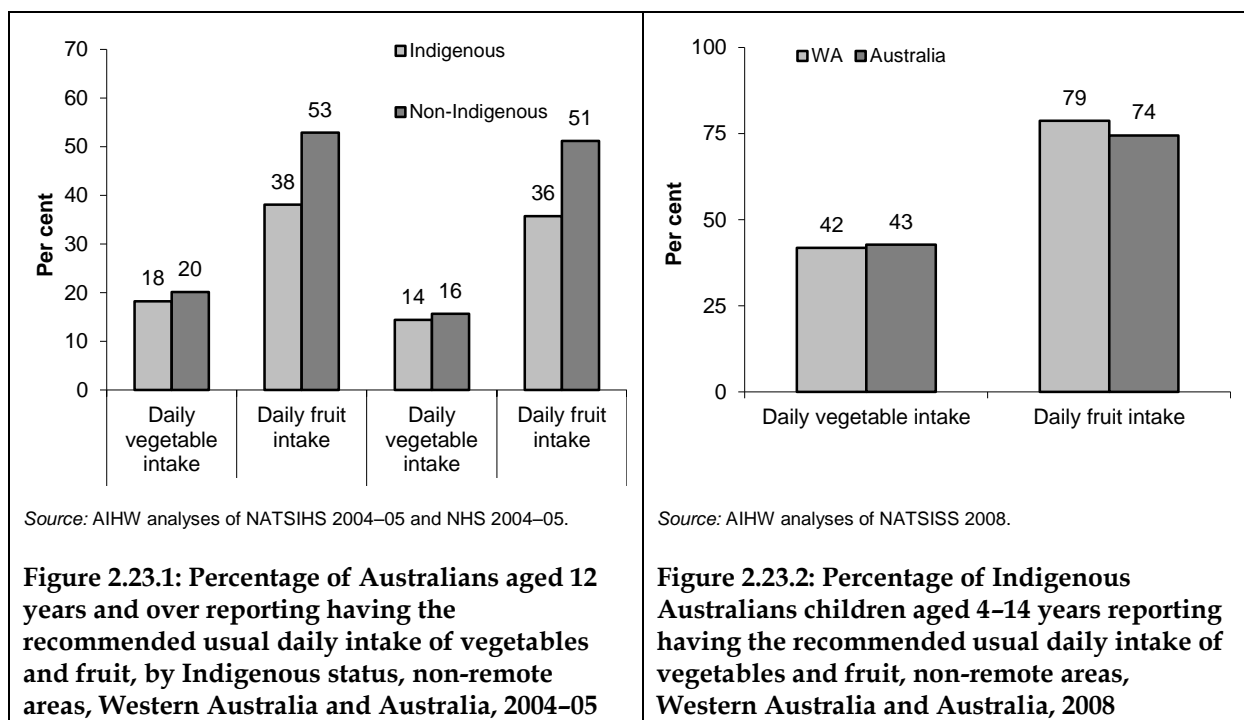
(d) Includes 'frequency salt is added after cooking' not known.

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

Fruit and vegetable intake

The National Health and Medical Research Council guidelines recommend the minimum of five serves of vegetables per day and two serves of fruit per day for adults aged 19 years and over. The guidelines also recommend the minimum daily intake of vegetables and fruit for children and adolescents according to age. For those aged 4–7 years, the recommended daily intake is two serves of vegetables and one serve of fruit; for those aged 8–11 years, the recommended daily intake is three serves of vegetables and one serve of fruit; for those aged 12–18 years, the recommended daily intake is four serves of vegetables and three serves of fruit.

- In 2004–05, among Indigenous Australians aged 12 years and over living in non-remote areas of Western Australia, 18% reported having the recommended daily intake of vegetables and 38% reported having the recommended daily intake of fruit. Compared with Indigenous Australians, a slightly higher proportion of non-Indigenous Australians in these areas reported having the recommended daily intake of vegetables (20%) and a much higher proportion reported having the recommended daily intake of fruit (53%) (Figure 2.23.1).
- The similar pattern was observed across non-remote areas of Australia – a slightly higher proportion of non-Indigenous people reported having the recommended daily intake of vegetables, and a much higher proportion reported having the recommended daily intake of fruit when compared with Indigenous Australians (Figure 2.23.1).
- In 2008, of Indigenous children aged 4 to 14 years living in non-remote areas of Western Australia, 42% reported having the recommended daily intake of vegetables and 79% reported having the recommended daily intake of fruit. In comparison, among Indigenous children of the same aged living in non-remote areas of Australia, 43% reported having the recommended daily intake of vegetables and 74% reported having the recommended daily intake of fruit (Figure 2.23.2).



2.24 Breastfeeding practices

The breastfeeding status of Aboriginal and Torres Strait islander infants, breastfeeding duration, breastfeeding and other sources of food and reasons why mothers stopped breastfeeding

Breastfeeding status

- In 2008 in Western Australia, approximately 85% of Indigenous infants aged 0–3 years had ever been breastfed compared to 77% of Indigenous infants of the same age in Australia; approximately 31% of Indigenous infants aged 0–3 years in Western Australia were currently being breastfed compared to 21% of Indigenous infants of the same age in Australia; and the median age at which Indigenous children stopped being completely breastfed was 22 weeks in Western Australia, older than the median age reported for Australia (17 weeks).

Table 2.24.1: Breastfeeding status, Indigenous infants aged 0–3 years, Western Australia and Australia, 2008

Breastfeeding measure	Western Australia	Australia
	Proportion (%)	
Child breastfed		
Currently breastfeeding	30.6	20.7
Not currently breastfeeding		
Age child stopped being completely breastfed		
Less than 6 months	28.3	33.7
Between 6 and 12 months	7.4*	10.4
12 months or older	18.0	11.6
Total ^(a)	54.1	56.6
Ever breastfed ^(b)	84.7	77.3
Never breastfed	15.3	22.7
Total^(c)	100.0	100.0
Total people	6,623	52,648
Median ^(d) age at which child stopped being completely breastfed (weeks)	22	17
Mean age at which child stopped being completely breastfed (weeks)	36	27

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

(a) Includes age at which child stopped breastfeeding not stated.

(b) Includes not known if child currently breastfed.

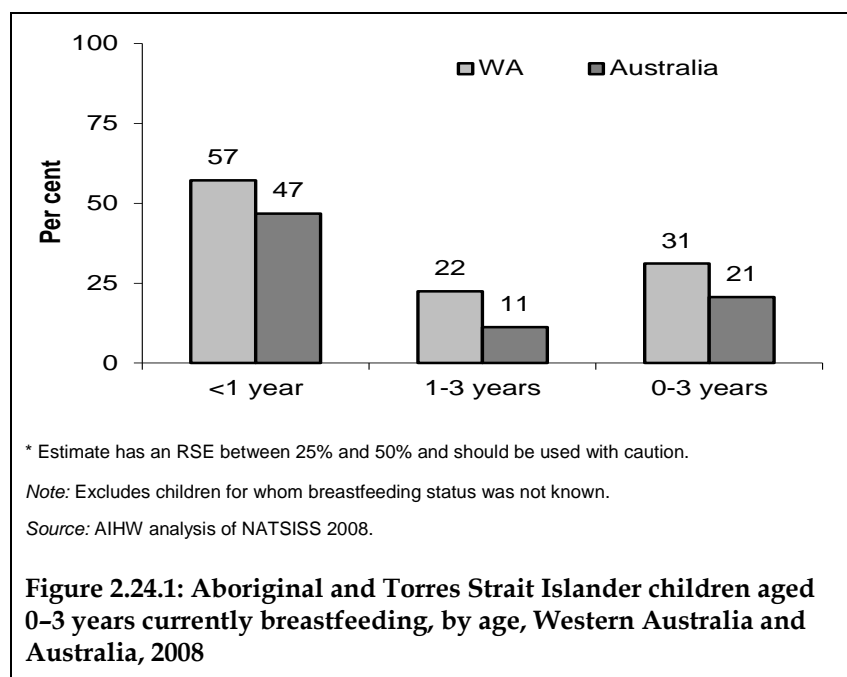
(c) Excludes children for whom breastfeeding status was not known.

(d) Median provides a more reliable measure of breastfeeding duration.

Source: NATSISS 2008.

Breastfeeding status by age

- In 2008, 57% Indigenous infants under 1 year old in Western Australia were currently breastfed, higher than the rate reported across Australia (47%).



Age at which first given solid food

- In 2008, among Indigenous infants aged 0-3 years in Western Australia, 41% were first regularly given solid food when they were between 3 and 6 months old, and 38% were first regularly given solid food when they were between 6 and 9 months old. Across Australia, 43% of the infants were first regularly given solid food when they were between 3 and 6 months old, and 30% were first regularly given solid food when they were between 6 and 9 months old.
- A smaller proportion of Indigenous infants aged 0-3 years in Western Australia were regularly given solid food compared to Indigenous infants of the same age across Australia (78% and 91%, respectively).

Table 2.24.2: Age at which first regularly given solid food, Indigenous infants aged 0-3 years, Western Australia and Australia, 2008

	Western Australia	Australia
Less than 3 months	2.0**	4.7
3 to <6 months	40.6	43.1
6 to <9 months	37.7	30.1
9 months or more	9.8*	8.1
Age not known	2.9*	4.9
<i>Total given solid food^(a)</i>	78.2	90.9
Solid food not given	7.2*	9.1
Total^(b)	100.0	100.0

* Estimate has an RSE between 25% and 50%, and should be used with caution.

** Estimate has an RSE greater than 50%, and is considered too unreliable for general purpose.

(a) Children who have been given solid food regularly.

(b) Excludes whether given solid food 'unknown'.

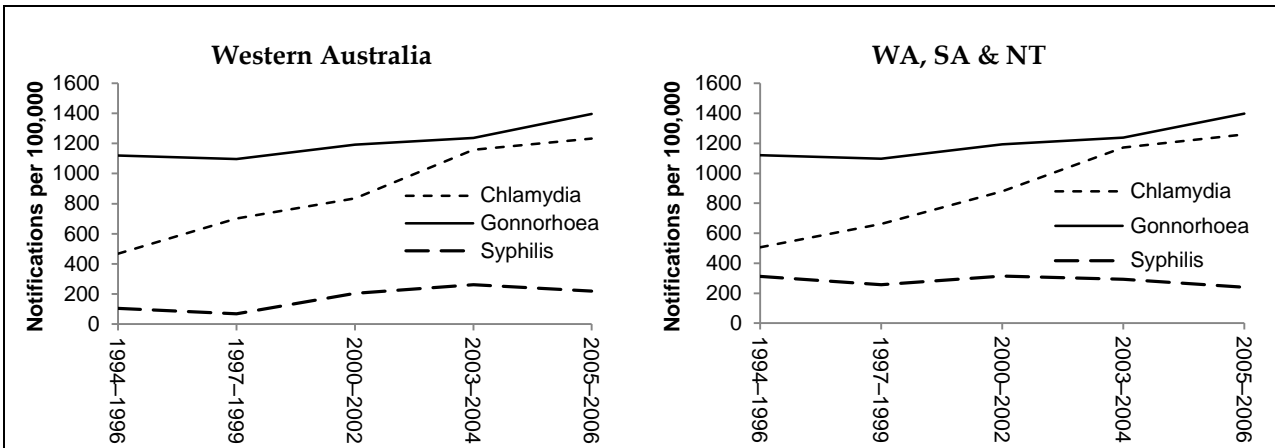
Source: AIHW analysis of NATSISS 2008.

2.25 Unsafe sexual practices

Proportion of Aboriginal and Torres Strait Islander peoples engaging in unsafe sexual practices

Sexually transmitted infection (STI) notifications

- In 2005–06 in Western Australia, there were 2,347 notifications for chlamydia, 2,434 notifications for gonorrhoea and 195 notifications for syphilis among Indigenous Australians.
- During the period 1994–96 to 2005–06 in Western Australia, there were significant increases in notification rates for Indigenous Australians for chlamydia, gonorrhoea and syphilis. Notification rates increased by an average yearly amount of around 75 per 100,000 for chlamydia, 25 per 100,000 for gonorrhoea and 16 per 100,000 for syphilis (Figure 2.25.1).
- During the period 1994–96 to 2005–06 there were also significant increases in the notification rates for Indigenous Australians for chlamydia and gonorrhoea in Western Australia, South Australia and the Northern Territory combined.



Source: AIHW analyses of NNDSS.

Figure 2.25.1: Notification rates per 100,000 for chlamydia, gonorrhoea and syphilis, by Indigenous status, Western Australia and WA, SA & NT combined, 1994-96 to 2005-06

Teenage pregnancies

Teenage pregnancy is one proxy indicator of unsafe sexual practices. It does not measure all cases, just those involving pregnancies in the under 20 years age group. It should be noted that not all unsafe sexual practices result in teenage pregnancy and not all teenage pregnancies would be unplanned. So this proxy measure overestimates unplanned pregnancies and underestimates all cases of unsafe sexual practices.

- In 2005–07, there were 1,228 women in Western Australia who gave birth aged less than 20 years who identified as Aboriginal or Torres Strait Islander. This represented 24% of all Indigenous mothers at a rate of 68 per 1,000 women aged 12 to 20 years. In comparison, only 4% of all non-Indigenous mothers were aged less than 20 years at a rate of 10 per 1,000 women (Table 2.25.1).
- The rate of Indigenous women aged less than 20 years who gave birth in Western Australia was higher than the national rate (68 compared to 47 per 1,000 women).

Table 2.25.1: Women aged less than 20 years who gave birth, by Indigenous status, Western Australia and Australia^{(a)(b)}, 2005–07

	Number		Per cent		Rate per 1,000 women aged 12 to <20 years ^(c)		
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Ratio
WA	1,228	3,314	23.8	4.2	67.5	10.3	6.6
Australia^(d)	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) Based on Australian female population aged 15–44 years. Rates will be calculated when ERP data available.

(d) Includes missing, non-Australian resident, not stated and not stated Australia residents.

Note: Excludes not stated Indigenous status.

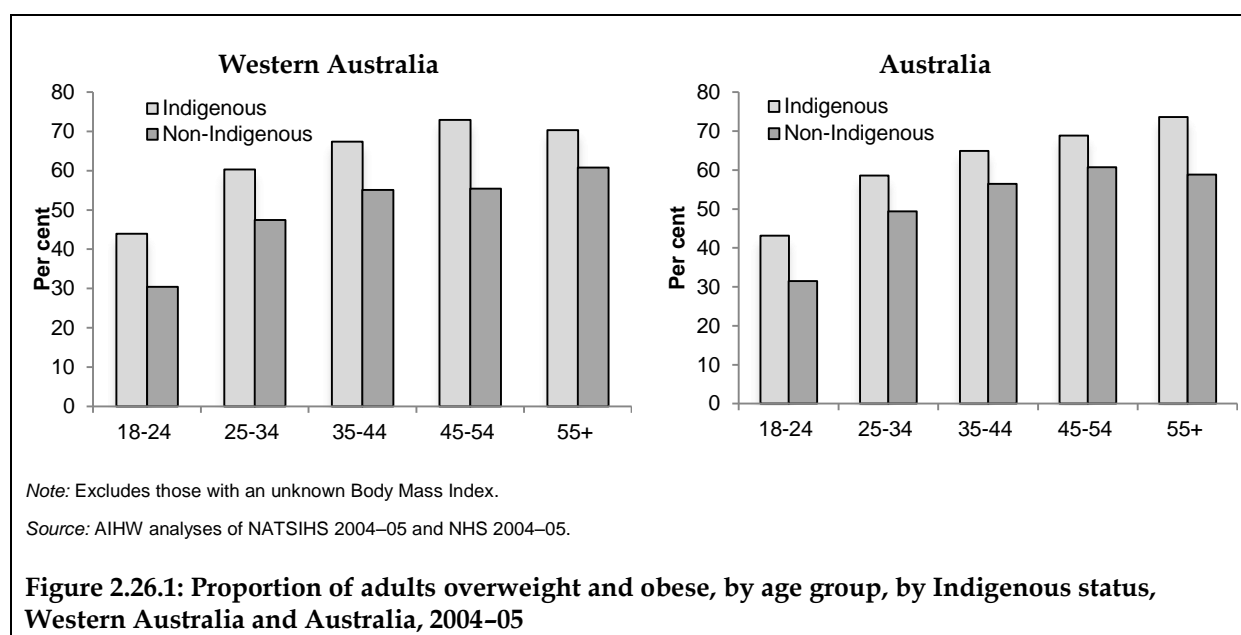
Source: AIHW analyses of National Perinatal Statistics Unit National Perinatal Data Collection.

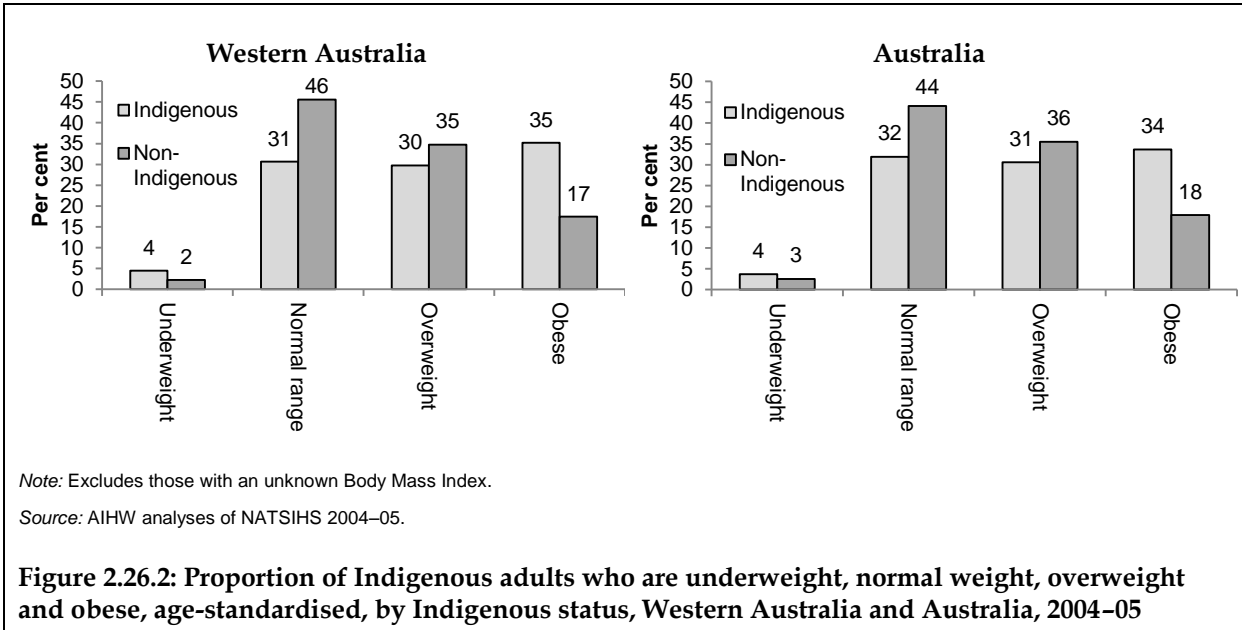
2.26 Prevalence of overweight and obesity

The prevalence of overweight and obesity among Aboriginal and Torres Strait Islander adults and children

Prevalence of overweight and obesity

- In 2004–05, a higher proportion of Indigenous adults were overweight or obese than non-Indigenous adults across all age groups (Figure 2.26.1).
- In Western Australia, Indigenous adults aged 45–54 years were most likely to be overweight or obese (73%) while non-Indigenous adults aged 55 years and over were most likely to be overweight or obese (61%).
- After adjusting for differences in age structure, approximately 4% of Indigenous adults in Western Australia whose Body Mass Index was known were underweight, 31% were of acceptable weight, 30% were overweight and 35% were obese. This compared to 2%, 46%, 35% and 17% for non-Indigenous adults in Western Australia in these BMI categories respectively (Figure 2.26.2).
- A similar proportion of Indigenous adults in Western Australia and Australia were overweight and obese.





Health system performance (Tier 3)

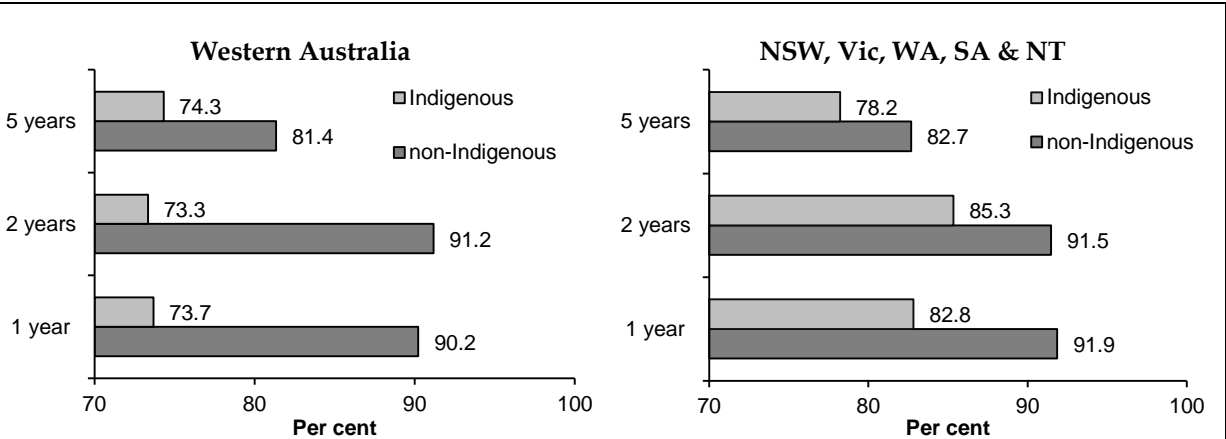
3.02 Immunisation

Vaccination coverage rates among Indigenous Australian children and adults

Childhood immunisation

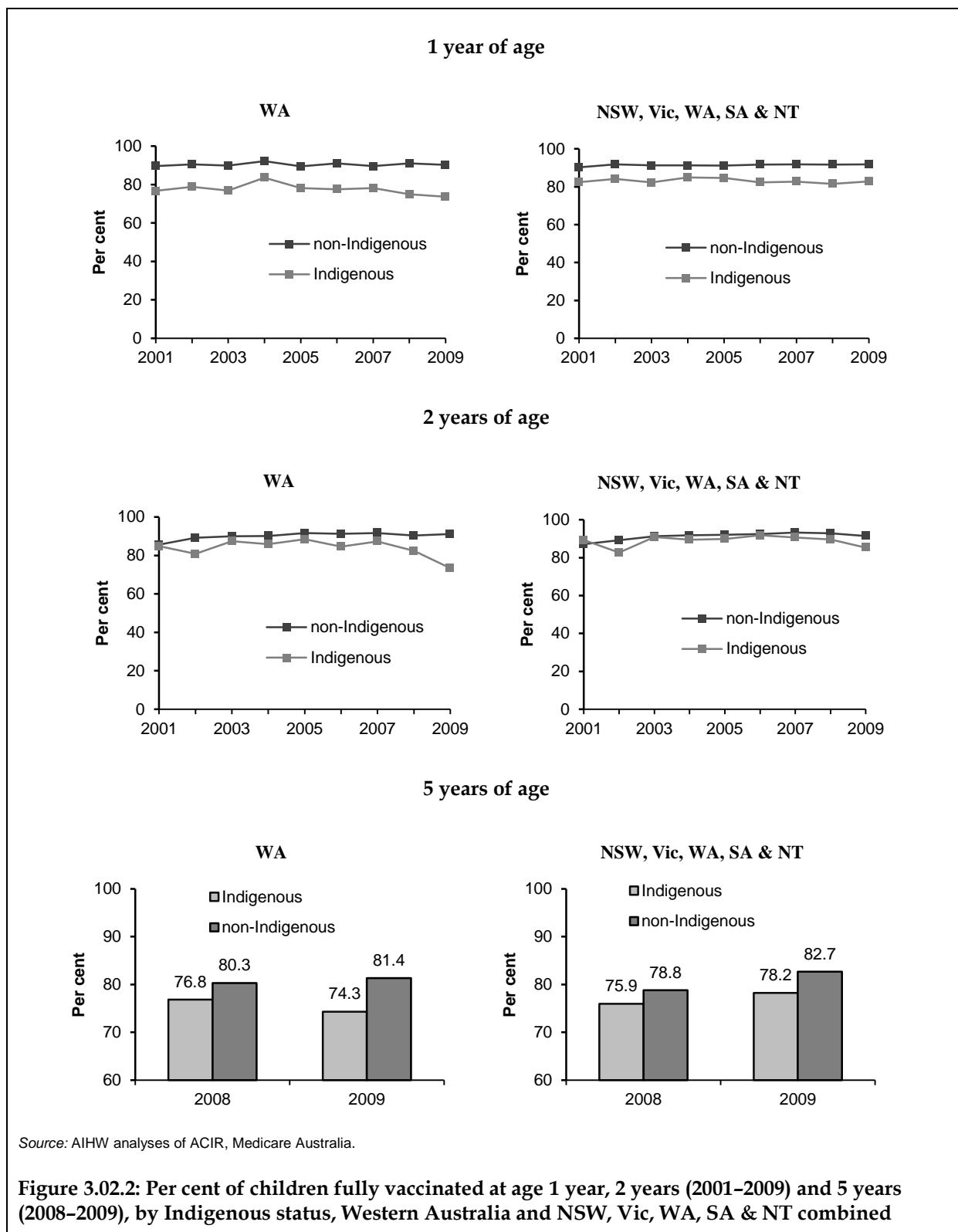
The vaccination schedule for children in 2010 can be found in the Aboriginal and Torres Strait Islander Health Performance Framework report (AIHW 2011).

- As at 31 December 2009, the proportion of Aboriginal and Torres Strait Islander children in Western Australia who were fully immunised was considerably lower than the proportion for other children at 1 year of age (74% compared to 90%), 2 years of age (73% compared to 91%) and 5 years of age (74% compared to 81%) (Figure 3.02.1).
- This same pattern was evident in New South Wales, Victoria, Western Australia, South Australia and the Northern Territory combined, although the proportion of children who were fully vaccinated was higher for both Indigenous and non-Indigenous children (83% compared to 92% for 1 year, 85% and 92% at 2 years, and 78% and 83% at 5 years).
- Between 2001 and 2009 in Western Australia, the proportion of Aboriginal and Torres Strait Islander children who were fully vaccinated at 1 year of age first increased from 77% in 2001 to 84% in 2004 and then decreased continuously to 74% in 2009. For 2 years of age the proportion fluctuated with a maximum 88% in 2005 and a minimum 73% in 2009. For 5 years of age, the proportion decreased from 77% in 2008 to 74% in 2009.
- In New South Wales, Victoria, Western Australia, South Australia and the Northern Territory combined, the proportion of Indigenous children aged 1 year who were fully vaccinated was similar from 2001 to 2009, while the proportion of Indigenous children aged 2 years fluctuated in this period. The proportion of Indigenous children fully vaccinated at age 5 increased over the period 2008 to 2009.



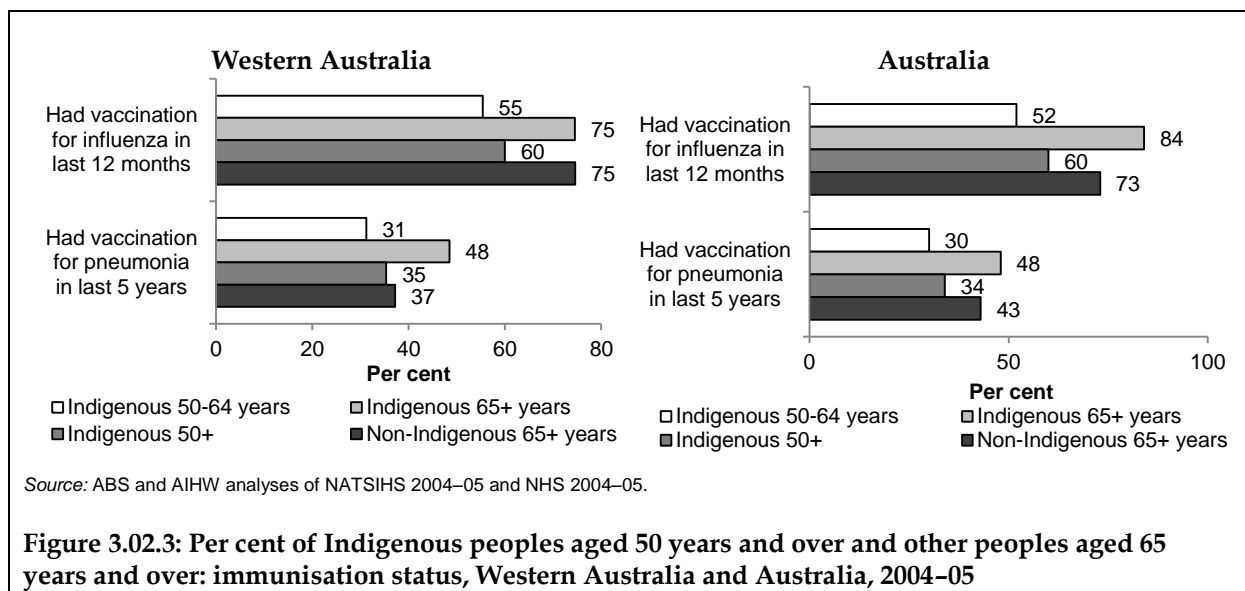
Source: AIHW analyses of Australian Childhood Immunisation Register (ACIR), Medicare Australia.

Figure 3.02.1: Per cent of Aboriginal and Torres Strait Islander children fully vaccinated at age 1 year, 2 years and 6 years, Western Australia and NSW, Vic, WA, SA & NT combined, 31 December 2009



Adult immunisation

- In 2004–05, approximately 60% of Indigenous people aged 50 years and over in Western Australia had been vaccinated against influenza in the last 12 months and 35% had been vaccinated against pneumonia in the last 5 years. These proportions were similar to those reported for Australia (60% and 34% respectively) (Figure 3.02.3).
- In Western Australia, a similar proportion of Indigenous people aged 65 years and over had been vaccinated against influenza in the last 12 months compared to non-Indigenous people of the same age group (both around 75%). For the total Australian population, a higher proportion of Indigenous people aged 65 years and over had been vaccinated against influenza (84%) than non-Indigenous people of the same age group (73%).
- In Western Australia, a higher proportion (48%) of Indigenous people aged 65 years and over had been vaccinated against pneumonia in the last 5 years than non-Indigenous people of the same age group (37%). This corresponded to the trend observed nationally, where a higher proportion of Indigenous people aged 65 years and over had also been vaccinated against pneumonia (48%) than non-Indigenous people (43%).

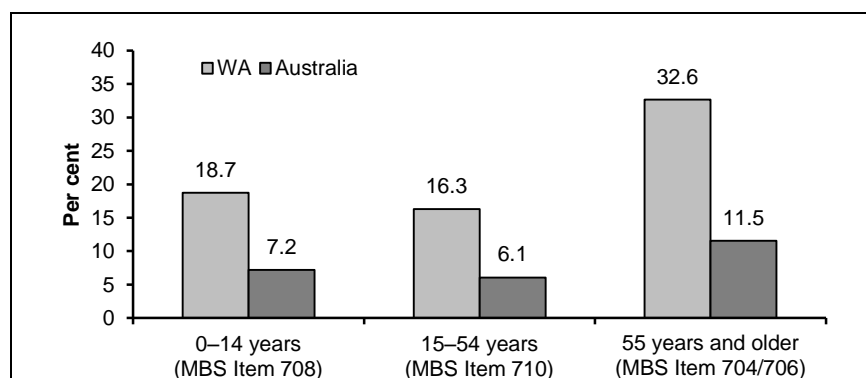


3.03 Early detection and early treatment

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 peoples

Medicare data

- In Western Australia during the period July 2008 to June 2009:
 - 19% of Indigenous children aged 0–14 years had an annual child health check (MBS item 708)
 - 16% of Indigenous people aged 15–54 years had a 2-yearly health check (MBS item 710)
 - 33% of Indigenous people aged 55 years and older had an annual health assessment (MBS item 704/706)
 - 18% of total people aged 75 years and over had an annual health assessment (700/702).
- The proportion of Indigenous people in Western Australia undertaking health checks and assessments between July 2008 and June 2009 was much higher than for Australia across all age groups (Figure 3.03.1).



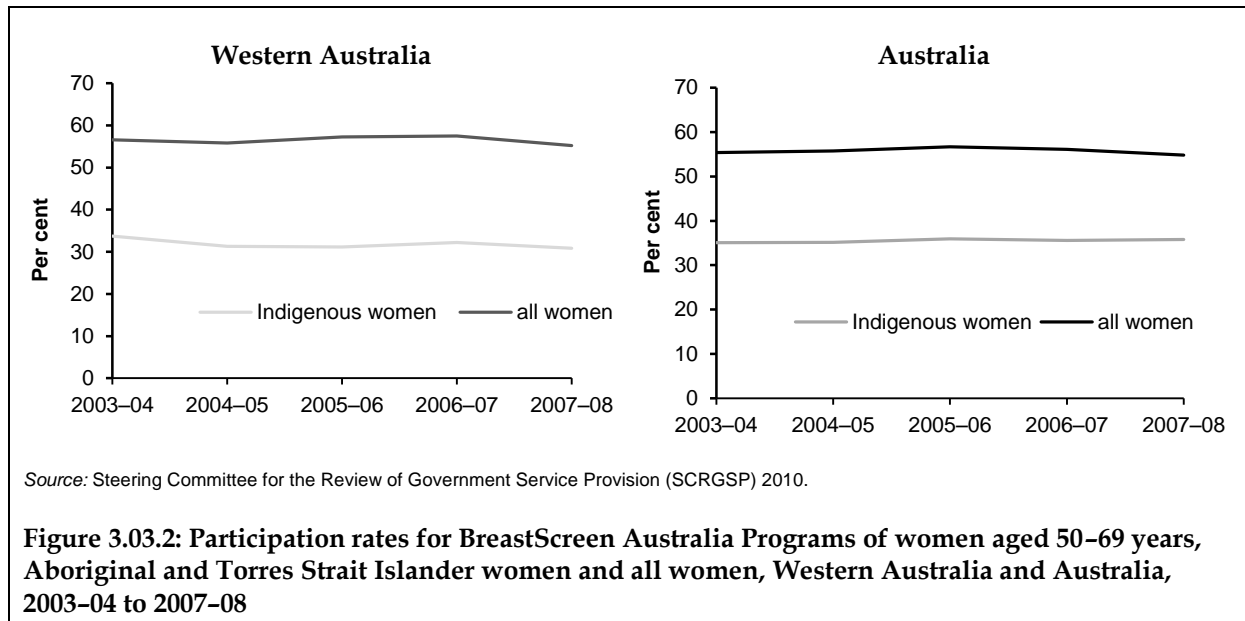
Source: AIHW analyses of Medicare data.

Figure 3.03.1: Per cent of target group received Medicare Benefits Schedule Health Assessments and Health Checks for Indigenous Australians, Western Australia and Australia, July 2008 to June 2009

Breastscreening

- In 2007–08 in Western Australia, the proportion of Indigenous women aged 50–69 years participating in the BreastScreen Australia program was markedly lower than the rate for all women in that age group (31% compared to 55%). In Australia 36% of Indigenous women and 55% of total women aged 50–69 years participated in the BreastScreen Australia program.

- In Western Australia, the proportion of Indigenous women who participated in the BreastScreen Australia program slightly decreased from 34% in 2003–04 to 31% in 2007–08, equivalent to a 9% decrease. The proportion of all women who participated in the program was steady from 2003–04 to 2006–07 before a 2.3% drop 2007–08 (Figure 3.03.2).

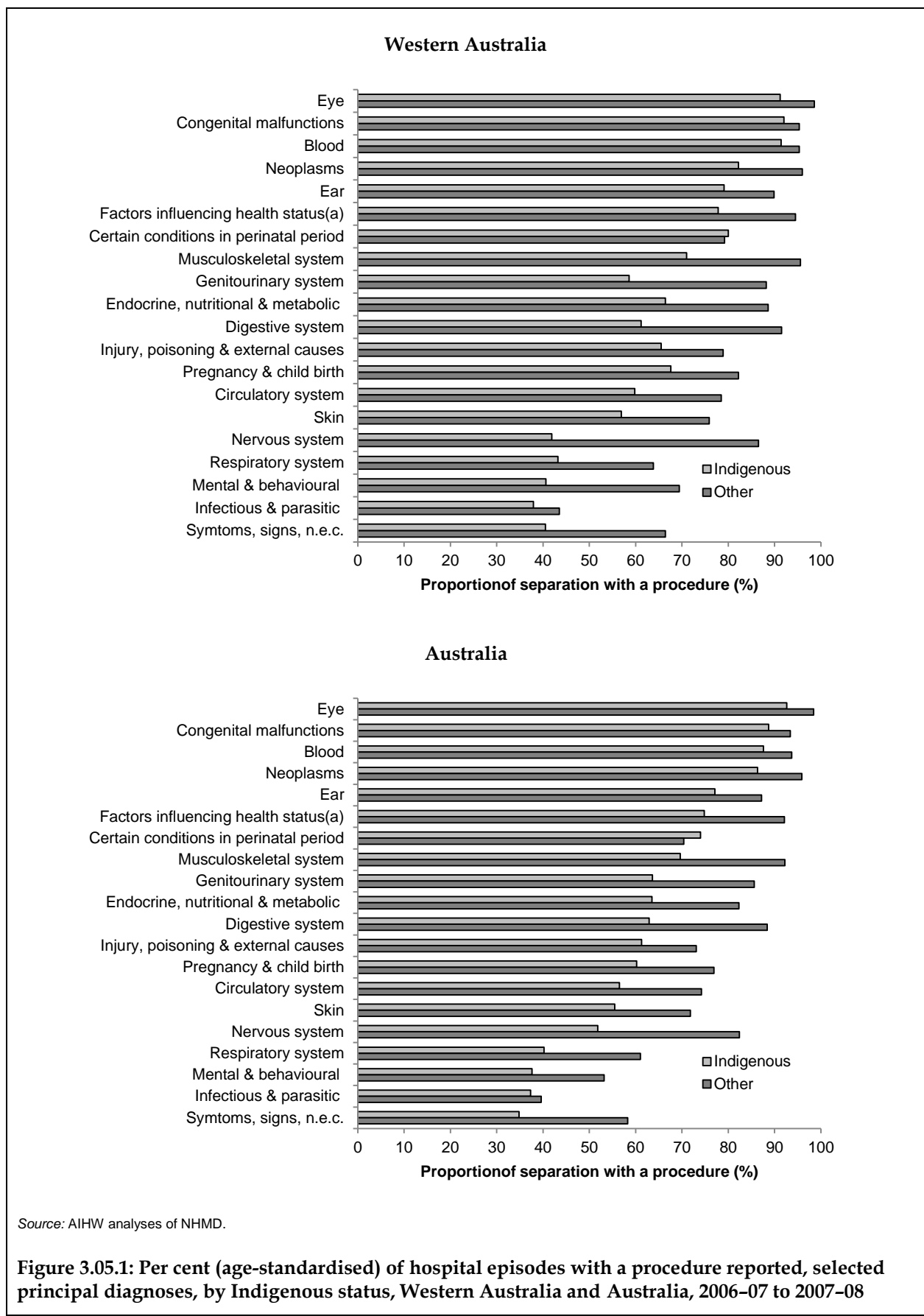


3.05 Differential access to key hospital procedures

The key hospital procedure differentials between Aboriginal and Torres Strait Islander peoples and other Australians as measured through standardised rates, ratios and rate differences in hospital separations with the same principal diagnosis

Studies have shown that while Aboriginal and Torres Strait Islander people are more likely to be hospitalised than other people, they are less likely to receive a medical or surgical procedure while in hospital (ABS & AIHW 2008).

- Between July 2006 and June 2008 in Western Australia, overall approximately 61% of hospitalisations of Indigenous Australians had a procedure reported compared to 86% of hospitalisations of other Australians. Nationally, these proportions were 59% and 81% respectively.
- The proportion of separations with a procedure reported by principal diagnosis was lower for Indigenous patients than for other patients for almost all of the diagnosis chapters. For example, for diseases of the nervous system, 42% of separations for Indigenous patients had a procedure reported, compared with 87% of separations for other patients (Figure 3.05.1).
- Congenital malfunctions, conditions in the perinatal period and diseases of the blood were the only diagnosis chapters for which proportions of hospitalisations with a procedure reported were similar for Indigenous and other Australians in Western Australia.



Source: AIHW analyses of NHMD.

Figure 3.05.1: Per cent (age-standardised) of hospital episodes with a procedure reported, selected principal diagnoses, by Indigenous status, Western Australia and Australia, 2006-07 to 2007-08

3.06 Ambulatory care sensitive hospital admissions

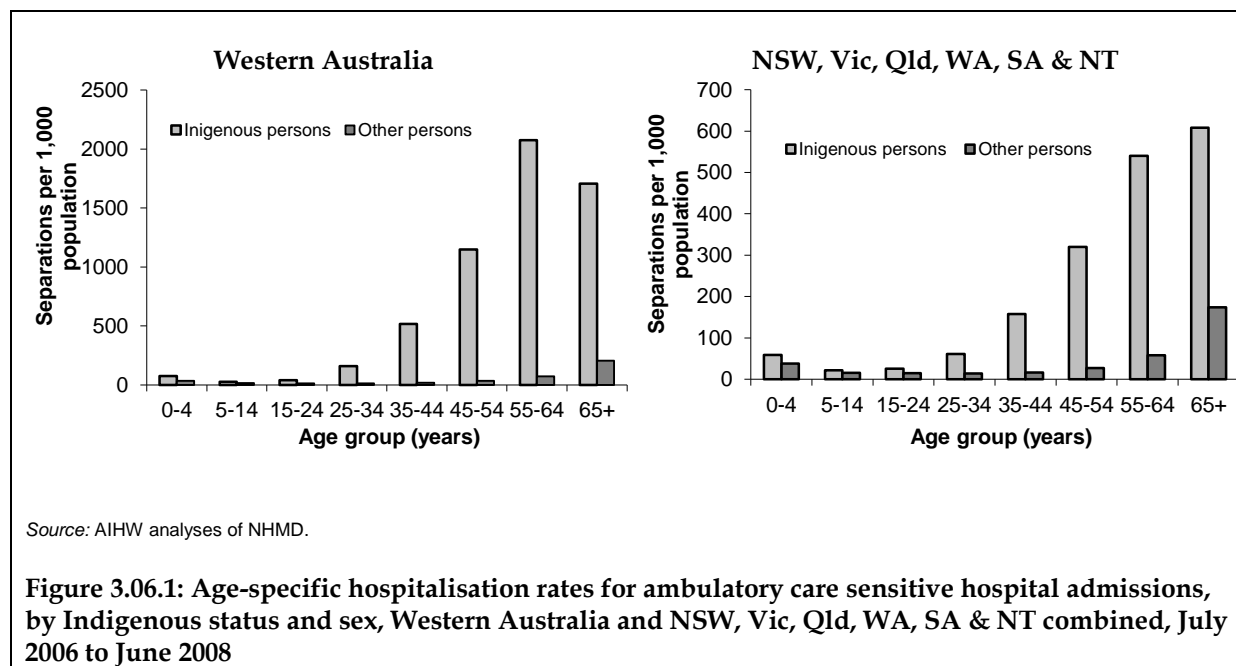
The number of hospital admissions for ambulatory care sensitive conditions for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and ratio

Ambulatory care sensitive conditions can be broken down into three categories:

1. vaccine-preventable conditions, including influenza, pneumonia, tetanus, measles, mumps, rubella, diphtheria, pertussis and polio
2. potentially preventable acute conditions, including dehydration, gastroenteritis, kidney infection, perforated ulcer, cellulitis, pelvic inflammatory disease, ear, nose and throat infections, and dental conditions
3. potentially preventable chronic conditions, including diabetes, asthma, angina, hypertension, congestive heart failure and chronic obstructive pulmonary disease.

Hospitalisations by age

- In the 2-year period July 2006 to June 2008, Indigenous people in Western Australia were hospitalised for ambulatory care sensitive conditions at 14 times the rate of other people in Western Australia (669 compared to 49 per 1,000 population). This was much higher than the rate ratio of five for New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined.
- Indigenous people in Western Australia had higher hospitalisation rates than other people for ambulatory care sensitive conditions across all age groups. Ratios of hospitalisation rates from Indigenous to other people were markedly high in the 35–44, 45–54 and 55–64 year age groups (29, 33 and 29 respectively) (Figure 3.06.1).
- Hospitalisation rates for ambulatory care sensitive conditions for Indigenous people in Western Australia were highest in the 55–64 year age group (2,075 per 1,000 population), whilst for other people rates were highest among those aged 65 years and older (206 per 1,000).
- Hospitalisation rates for ambulatory care sensitive conditions for Indigenous people were higher in Western Australia than the six jurisdictions combined across all age groups.



Hospitalisations by diagnosis

- In the 2-year period July 2006 to June 2008, diabetes complications (609 per 1,000) were the most common type of ambulatory sensitive condition among Indigenous Australians in Western Australia, followed by chronic obstructive pulmonary disease (COPD) (13 per 1,000) and convulsions and epilepsy (10 per 1,000). Indigenous Australians were hospitalised over 20 times of the rate of other Australians for diabetes complications, at about 6 times the rate of other Australians for COPD, and about 9 times the rate of other Australians for convulsions and epilepsy. Diabetes complications, convulsions and epilepsy, and chronic obstructive pulmonary disease were the most common types of ambulatory care sensitive conditions for which Indigenous Australians in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined were hospitalised for during this period (Table 3.06.1).
- In Western Australia, Indigenous Australians were hospitalised for potentially preventable chronic conditions at around 18 times the rate, for potentially preventable acute conditions at more than 3 times the rate and for vaccine-preventable conditions at more than 7 times the rate of other Australians (Figure 3.06.2).
- Hospitalisation rates for Indigenous Australians for potentially preventable chronic conditions were much higher in Western Australia than in the six jurisdictions combined. Hospitalisation rates for vaccine-preventable conditions and potentially preventable acute conditions were also higher in Western Australia than in the six jurisdictions combined.

Table 3.06.1: Top 10 ambulatory care sensitive hospital admissions, by Indigenous status, Western Australia and NSW, Vic, Qld, WA, SA and NT combined, July 2006 to June 2008^{(a)(b)(c)(d)}

	Number		Rate per 1,000 ^(e)		Ratio ^(g)
	Indigenous	Other ^(f)	Indigenous	Other ^(f)	
Western Australia					
Diabetes complications	45,740	117,467	609.4	28.5	21.4*
Convulsions and epilepsy	1,171	4,541	10.0	1.1	8.9*
Chronic obstructive pulmonary disease	742	8,736	13.3	2.2	6.2*
Ear, nose and throat infections	765	5,829	4.3	1.5	2.9*
Dental problems	699	13,702	3.9	3.4	1.2*
Cellulitis	826	5,028	6.6	1.2	5.4*
Asthma	722	5,297	5.0	1.3	3.7*
Pyelonephritis	801	8,112	8.9	2.0	4.4*
Angina	396	5,849	5.5	1.4	3.9*
Congestive cardiac failure	562	6,852	8.7	1.7	5.1*
<i>Subtotal</i>	<i>52,424</i>	<i>181,413</i>	<i>675.6</i>	<i>44.4</i>	<i>15.2*</i>
Total^(h)	52,634	198,789	668.6	48.6	13.7*
NSW, Vic, Qld, WA, SA & NT					
Diabetes complications	82,788	863,248	165.2	20.3	8.1*
Convulsions and epilepsy	6,034	57,173	7.0	1.5	4.8*
Chronic obstructive pulmonary disease	4,928	108,919	11.8	2.5	4.6*
Ear, nose and throat infections	4,171	62,769	3.1	1.6	1.9*
Dental problems	4,115	105,302	3.1	2.7	1.1*
Cellulitis	3,911	63,349	4.6	1.5	3.0*
Asthma	3,850	67,979	3.7	1.8	2.1*
Pyelonephritis	3,793	90,787	6.1	2.2	2.8*
Angina	2,534	73,118	5.2	1.7	3.0*
Congestive cardiac failure	2,480	84,418	5.9	2.0	3.0*
<i>Subtotal</i>	<i>118,604</i>	<i>1,577,062</i>	<i>215.7</i>	<i>37.9</i>	<i>5.7*</i>
Total^(h)	120,308	1,749,006	212.3	42.2	5.0*

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

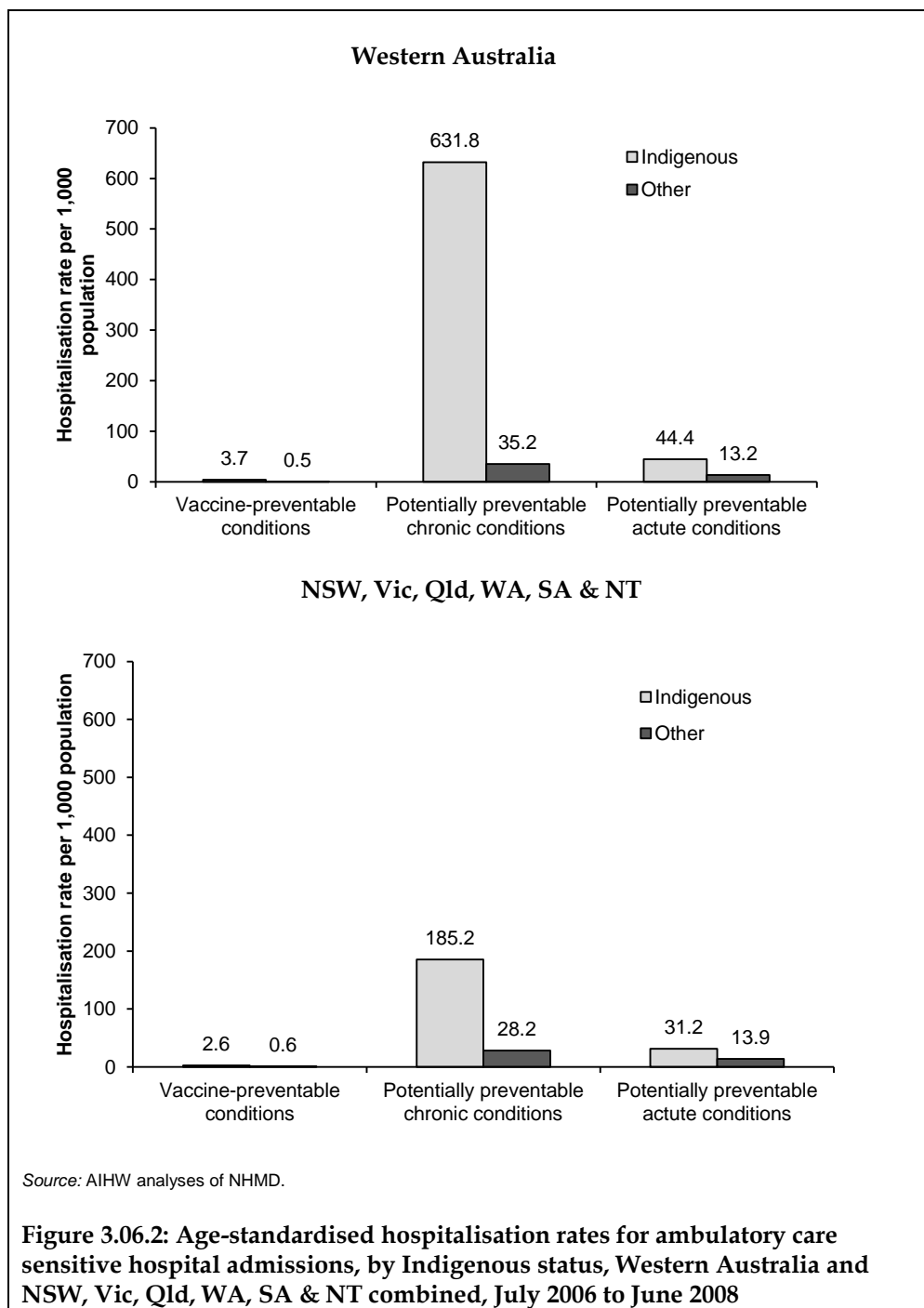
(e) Directly age-standardised using the Australian 2001 standard population.

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

(g) Rate ratio Indigenous: Other.

(h) All ambulatory care sensitive hospital admissions. Note that the sum of the number of hospitalisations for each condition exceeds the total as more than one ambulatory care sensitive condition can be diagnosed for each hospital separation.

Source: Analyses of AIHW NHMD.

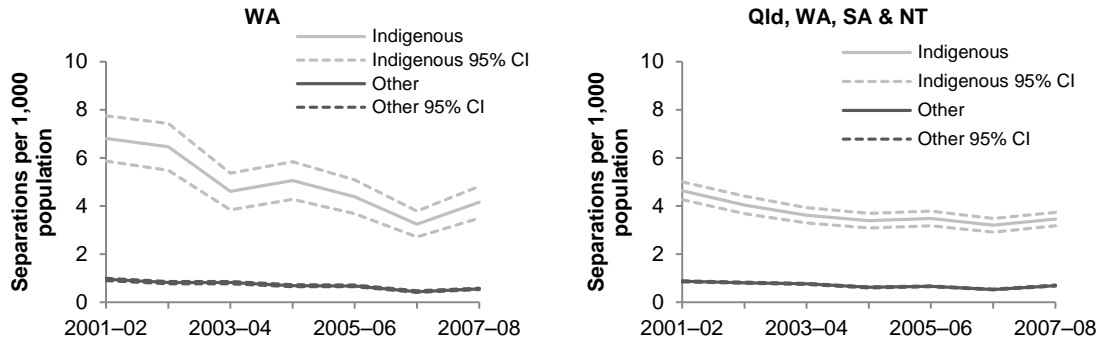


Hospitalisation trends

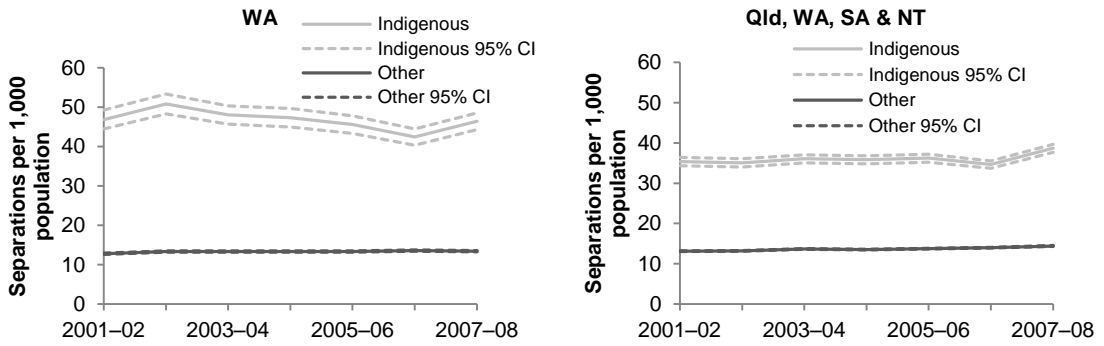
- Over the period 2001–02 to 2007–08 in Western Australia for Indigenous Australians:
 - there were significant declines in the hospitalisation rate for vaccine-preventable conditions. The average yearly decrease was 0.5 per 1,000 population, equivalent to a 46% decline over this period
 - there were no significant changes in the hospitalisation rate for potentially preventable acute conditions

- there were significant increases in the hospitalisation rate for potentially preventable chronic conditions. The average yearly increase was 89 per 1,000 population, equivalent to a 303% increase over this period.
- Over the same period in Western Australia for other people:
 - there were significant declines in the hospitalisation rate for vaccine-preventable conditions. The average yearly decrease was 0.1 per 1,000 population, equivalent to a 47% decline over this period
 - there were significant increases in the hospitalisation rate for potentially preventable acute conditions. The average yearly increase was 0.1 per 1,000 population, equivalent to a 4% increase over this period
 - there were significant increases in the hospitalisation rate for potentially preventable chronic conditions. The average yearly increase was 4.0 per 1,000 population, equivalent to a 154% increase over this period.
- Over this period in Queensland, Western Australia, South Australia and the Northern Territory combined:
 - there were significant declines in hospitalisation rates for vaccine-preventable conditions among both Indigenous Australians and other people
 - there were no significant changes in the hospitalisation rate for potentially preventable acute conditions among Indigenous Australians. However, the rate for other people increased significantly
 - there were significant increases in hospitalisation rates for potentially preventable chronic conditions among both Indigenous Australians and other people.

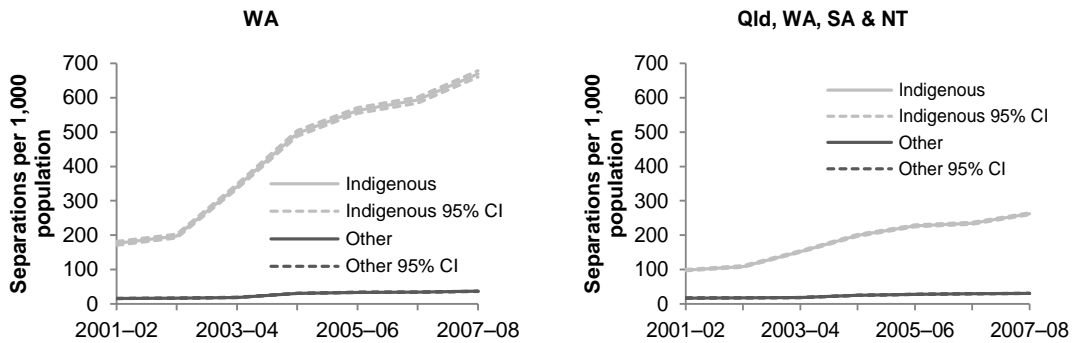
Vaccine-preventable conditions



Acute conditions



Chronic conditions



Source: AIHW analyses of NHMD.

Figure 3.06.3: Age-standardised hospitalisation rates for ambulatory care sensitive hospital admissions, by Indigenous status, Western Australia and Qld, WA, SA & NT combined, 2001-02 to 2007-08

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

Indigenous communities

For the 2006 Community Housing and Infrastructure Needs Survey (CHINS), data on health promotion programs were only collected from communities who 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, around 61% of discrete Indigenous communities in Western Australia reported that one or more health promotion programs had been conducted in the community, with immunisation reported by 52%, women's health programs reported by 48%, ear health programs reported by 44%, well babies programs reported by 41% and men's health programs reported by 39% of communities (Table 3.07.1, Figure 3.07.1).
- Western Australia had a lower proportion of health programs conducted in discrete Indigenous communities than in Australia (61% compared to 67%).

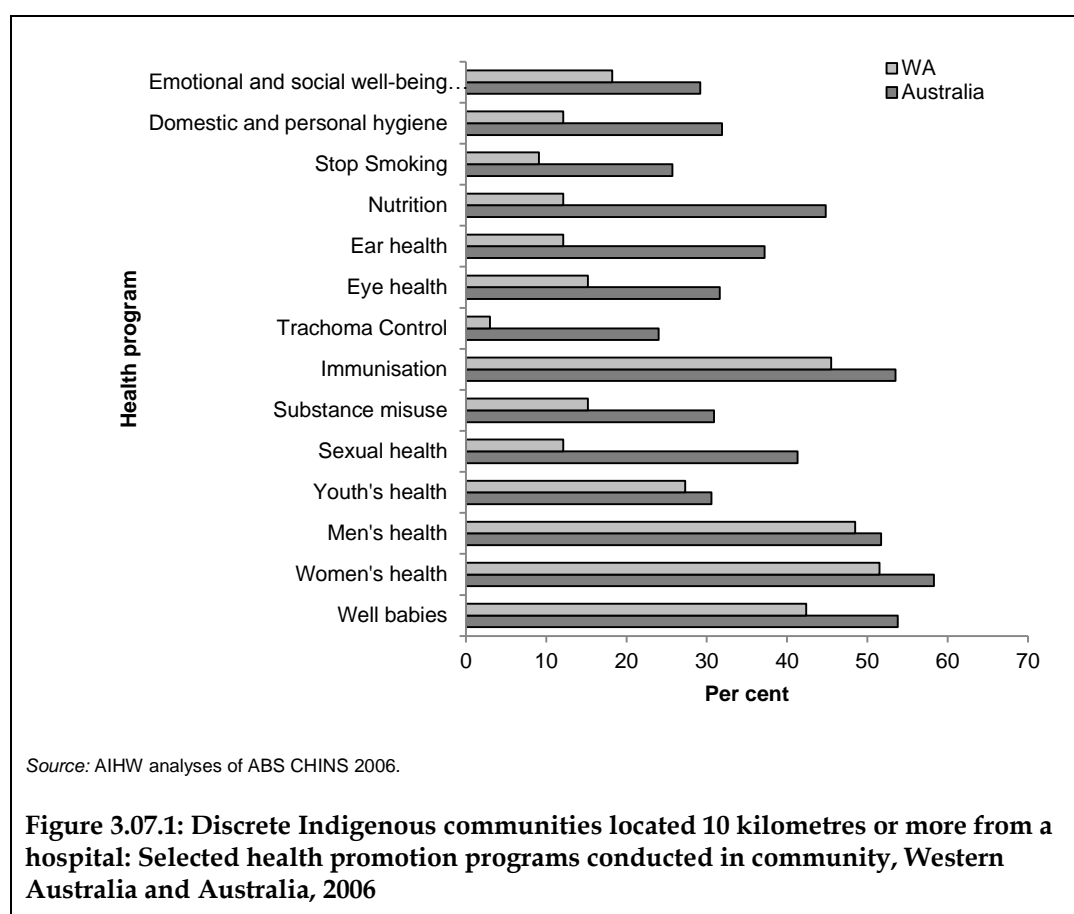


Table 3.07.1: Discrete Indigenous communities^(a) located 10 kilometres or more from a hospital: Selected health promotion programs conducted in community, Western Australia and Australia, 2006

Health promotion program	WA		Australia	
	No.	%	No.	%
Well babies	29	40.8	155	53.8
Women's health	34	47.9	168	58.3
Men's health	28	39.4	149	51.7
Youth's health	19	26.8	88	30.6
Sexual health	27	38.0	119	41.3
Substance misuse	20	28.2	89	30.9
Immunisation	37	52.1	154	53.5
Trachoma Control	25	35.2	69	24.0
Eye health	21	29.6	91	31.6
Ear health	31	43.7	107	37.2
Nutrition	28	39.4	129	44.8
Stop Smoking	23	32.4	74	25.7
Domestic and personal hygiene	23	32.4	92	31.9
Emotional and social wellbeing or mental health	24	33.8	84	29.2
Sub-total with at least one health promotion program	43	60.6	194	67.4
Sub-total with no health promotion programs	28	39.4	93	32.3
Not stated	–	–	1	0.3
Total^(b)	71	100.0	288	100.0

(a) With a population of 50 or more, or a reported usual population of less than 50 but which were not linked to a parent community or resource agency.

(b) Excludes communities where distance to nearest hospital was not stated.

Source: AIHW analyses of ABS CHINS 2006.

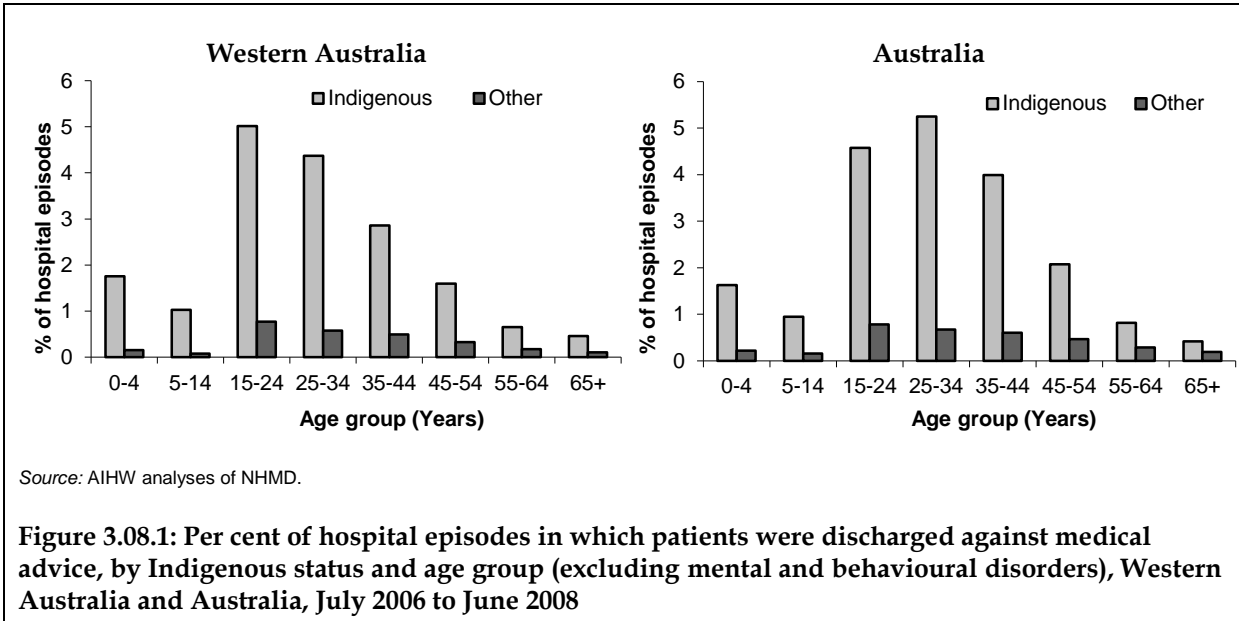
3.08 Discharge against medical advice

The rate at which Aboriginal and Torres Strait Islander peoples leave hospital against medical advice or are discharged at their own risk

- Overall, for the 2-year period July 2006 to June 2008, 2.2% of hospitalisations of Indigenous Australians in Western Australia involved discharge against medical advice (excluding hospitalisations with a principal diagnosis of mental and behavioural disorders). This proportion was lower than that for the whole of Australia (2.5%).
- After adjusting for differences in age structure, Indigenous people were 6.6 times as likely as other people to discharge against medical advice in Western Australia. Nationally, the rate ratio was 5.9.

Hospitalisations by age

- For the 2-year period July 2006 to June 2008, Indigenous people in Western Australia were much more likely to discharge from hospital against medical advice than other people across all age groups. This same pattern was evident in Australia (Figure 3.08.1).
- In Western Australia, Indigenous people aged 15–24 years were most likely to discharge from hospital against medical advice (5%). Indigenous people in this age group discharged against medical advice at 6.5 times the rate of other people. In Australia, Indigenous people aged 25–34 years were most likely to discharge from hospital against medical advice (5.2%; ratio of 7.8).

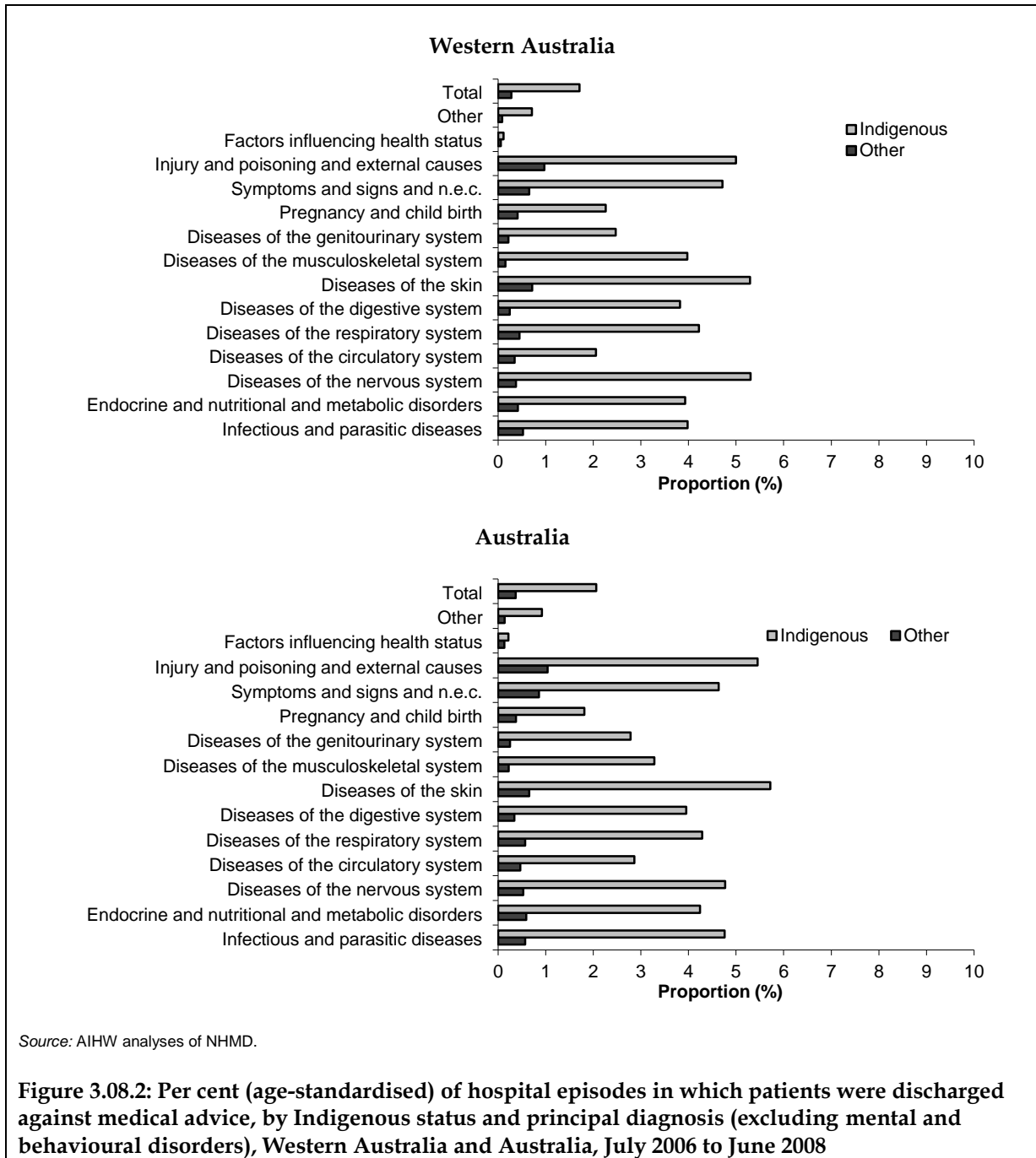


Hospitalisations by diagnosis

- The most common principal diagnoses of hospitalisations for which Indigenous people in Western Australia discharged against medical advice were diseases of the nervous system (5.3%) and diseases of the skin (5.3%). Indigenous people discharged from

hospital against medical advice at 14 and 7.4 times the rate of other people for these diagnoses respectively (Figure 3.08.2).

- In Western Australia, the greatest disparities between proportions of hospitalisations involving discharge against medical advice for Indigenous and other Australians were for hospitalisations with a principal diagnoses of musculoskeletal conditions (ratio of 25) and digestive system diseases (ratio of 16).
- The ratio of proportions of hospitalisations resulting in discharge against medical advice for Indigenous people in Western Australia to the proportions in Australia ranged from 0.8 (diseases of the skin) to 1.7 (diseases of the musculoskeletal system).



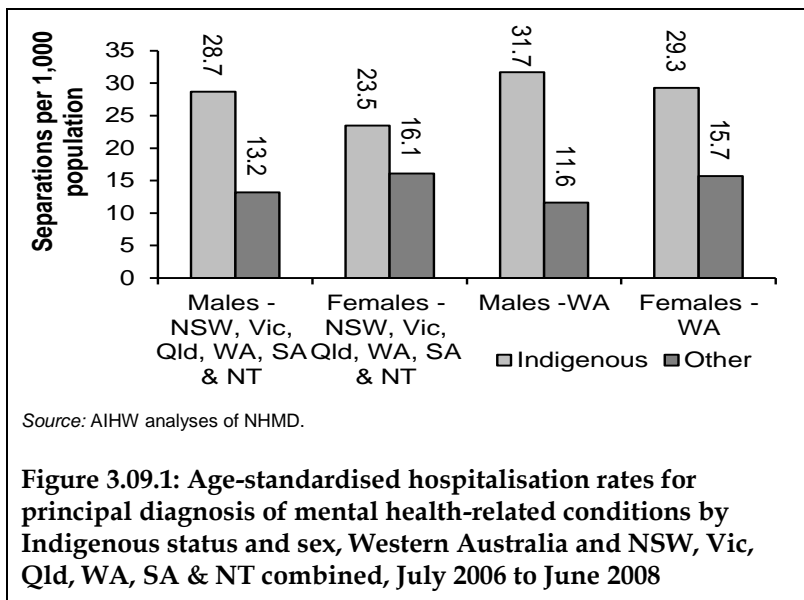
3.09 Access to mental health services

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 peoples

Hospitalisations

Hospitalisations by Indigenous status

- In the 2-year period July 2006 to June 2008, there were 3,909 hospitalisations of Indigenous people for mental health-related conditions in Western Australia.
- In the 2-year period July 2006 to June 2008, in Western Australia, Indigenous males and females were hospitalised for mental health-related conditions at a higher rate than other males and females. Indigenous males were hospitalised at 2.7 times the rate of other males, and Indigenous females were hospitalised at around twice the rate of other females (Figure 3.09.1).
- 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, while the rate for Indigenous females was 1.5 times the rate of other females.
- Indigenous males and females in Western Australia were hospitalised for mental health-related conditions at higher rates (32 and 29 per 1,000) than Indigenous males and females in the six jurisdictions combined (29 and 24 per 1,000).

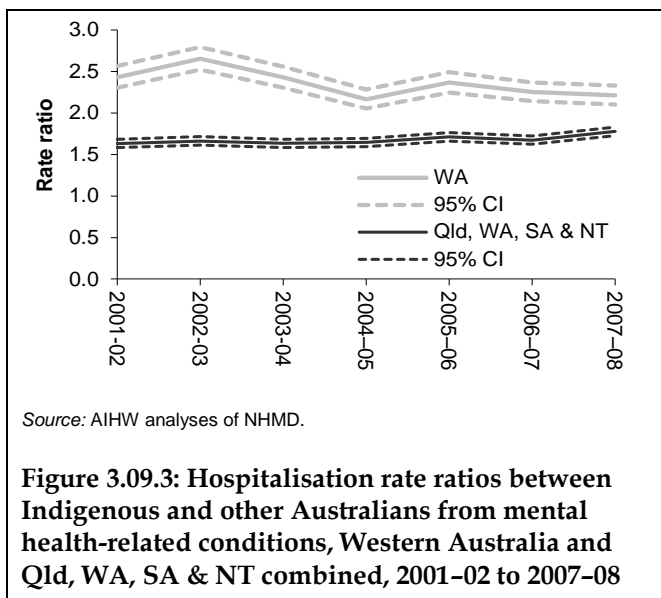
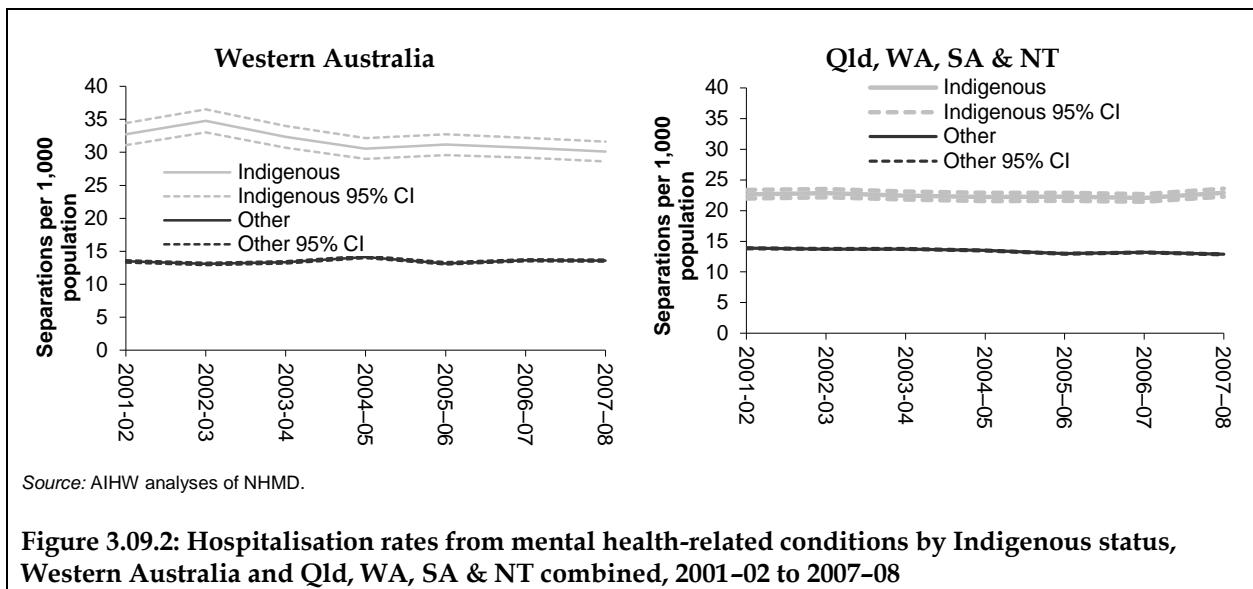


Hospitalisation trends

- In Western Australia there was a significant decline in hospitalisation rates for mental health-related conditions among Indigenous people during the period 2001-02 to 2007-08, with an average yearly decrease of 0.6 per 1,000 population. Over the same

period there were no significant changes in hospitalisation rates for mental health related conditions among other people.

- In Queensland, Western Australia, South Australia and the Northern Territory combined there was no significant change in hospitalisation rates for mental health-related conditions among Indigenous people over the same period. The hospitalisation rate of other people decreased significantly, with an average yearly decline in the rate of 0.2 per 1,000.
- There were significant decreases in the hospitalisation rate ratio and rate difference between Indigenous and other Australia for mental health related conditions in Western Australia during the period 2001-02 to 2007-08. However over the same period, for the four jurisdictions combined, there was a significant increase in the rate ratio, and no significant changes in the rate difference (Figure 3.09.3).



Community mental health care services

- In 2007–08, there were 28,831 client contacts with community mental health care services by people who identified as Aboriginal or Torres Strait Islander in Western Australia (5.2% of total service contacts in Western Australia).
- In 2007–08, Indigenous people in Western Australia were 1.6 times as likely as non-Indigenous people to be clients of a community mental health service (412 per 1,000 compared to 256 per 1,000 population respectively) (Table 3.09.1).
- In Australia, Indigenous people were 2.5 times as likely as non-Indigenous people to have a community mental health care service contact, and the number of service contacts per 1,000 population was higher than for Western Australia (737 compared to 412 per 1,000 respectively).

Table 3.09.1: Community mental health care service contacts per 1,000 population, by Indigenous status, Western Australia and Australia, 2007–08

	WA	Australia
	Number	
Indigenous	28,831	362,429
Non-Indigenous	508,389	5,577,420
Not stated	17,338	434,418
Total	554,558	6,374,267
	Rate per 1,000 population^(a)	
Indigenous	412	737
Other Australians ^(b)	256	294
Ratio ^(c)	1.6	2.5
Total	262	304

(a) Rates were directly age-standardised using the Australian 2001 standard population.

(b) 'Other' includes service contacts for non-Indigenous clients and those for whom Indigenous status was not stated.

(c) Rate ratio Indigenous: Other.

Source: AIHW National Community Mental Health Care Database (NCMHCD).

Residential mental health care services

- In 2007–08, there were seven client contacts with residential mental health care services by people who identified as Aboriginal or Torres Strait Islander in Western Australia (3% of total service contacts in Western Australia).
- In 2007–08 in Western Australia, Indigenous people were less likely than non-Indigenous people to be clients of a residential mental health care service (1.0 per 1,000 compared to 1.1 per 1,000 respectively) (Table 3.09.2).
- Throughout Australia, Indigenous people were 1.3 times as likely as non-Indigenous people to be clients of a residential mental health care service (1.9 per 1,000 compared to 1.5 per 1,000 respectively).

Table 3.09.2: Residential mental health care service contacts per 1,000 population, by Indigenous status, Western Australia and Australia, 2007-08

	WA	Australia
	Number	
Indigenous	7	87
Non-Indigenous	233	2,962
Not stated	0	173
Total	240	3,222
	Rate per 1,000 population^(a)	
Indigenous	1.0	1.9
Other Australians ^(b)	1.1	1.5
Ratio ^(c)	0.9	1.3
Total	1.1	1.5

(a) Rates were directly age-standardised using the Australian 2001 standard population.

(b) 'Other' includes service contacts for non-Indigenous clients and those for whom Indigenous status was not stated.

(c) Rate ratio Indigenous: Other.

Note: Shading indicates that the Indigenous identification in the National Community Mental Health Care Database (NCMHCD) in these jurisdictions is in need of improvement. This is based on information provided by state and territory health authorities on the quality of their data in the NCMHCD. Data from these states and territories should be interpreted with caution due to likely under identification of Indigenous Australians.

Source: AIHW National Residential Mental Health Care Database (NRMHCD).

3.10 Aboriginal and Torres Strait Islander Australians in the health workforce

Number and proportion of Aboriginal and Torres Strait Islander Australians in the health workforce

- In 2006, there were 486 people aged 15 years and over in Western Australia who identified as Aboriginal or Torres Strait Islander who were employed in the health workforce.
- In 2006 in Western Australia, Aboriginal and Torres Strait Islander people aged 15 years and over accounted for 1.0% of the total health workforce which was lower than the proportion of Western Australian population that is Indigenous (3.4%).
- For Australia as a whole, Aboriginal and Torres Strait Islander people accounted for 1.0% of the total health workforce, which is also lower than the proportion of the population that is Indigenous (2.5%).



Source: ABS and AIHW analyses of 2006 Census of Population and Housing.

Figure 3.10.1: Aboriginal and Torres Strait Islander peoples aged 15 years and over in health workforce as a proportion of total health workforce, Western Australia and Australia, 2006

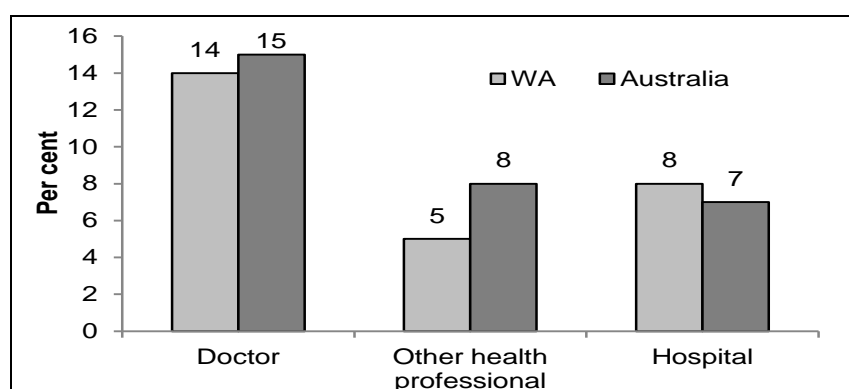
3.11 Competent governance

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

Experiences of not visiting a health professional when required

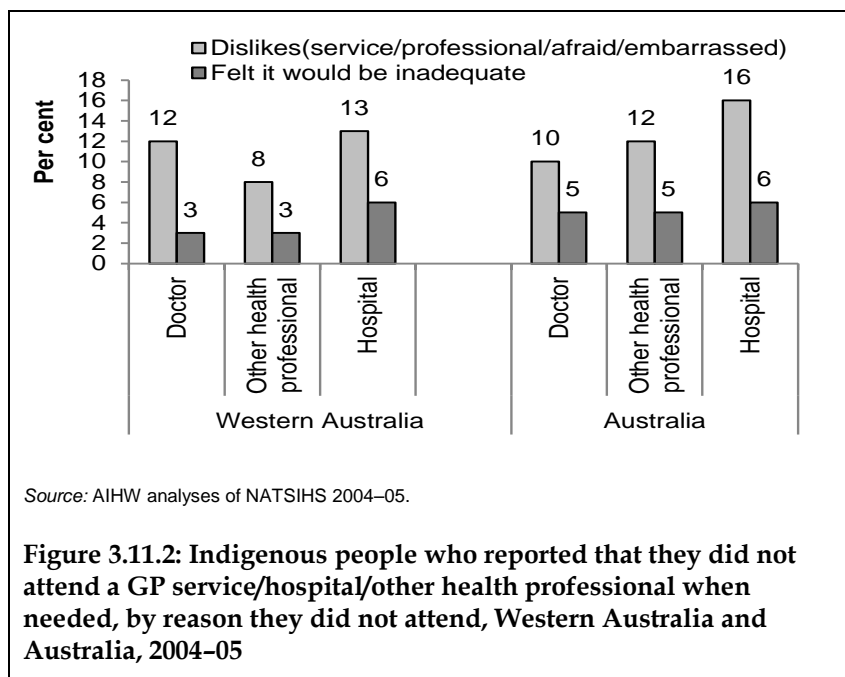
The 2004–05 National Aboriginal and Torres Strait Islander Health Survey collected data on the reasons why Indigenous Australians did not visit a doctor or other health professional in the last 12 months when they needed to.

- In 2004–05 in Western Australia, 14% of Indigenous Australians reported that they did not visit a doctor in the last 12 months when they needed to. Over the same period, 5% of Indigenous Australians reported that they did not visit other health professionals when needed and 8% reported that they did not visit a hospital when needed.
- The proportions of Indigenous Australians in Western Australia that did not visit a doctor or other health professional when needed were lower than those for all Indigenous Australians, while the proportion for Indigenous Australians in Western Australia that did not visit a hospital when needed was higher than the national proportion for all Indigenous Australians (Figure 3.11.1).
- Of those Indigenous Australians in Western Australia who needed to visit a doctor but didn't, approximately 12% reported that they did not go due to dislikes of the service/professional, felt embarrassed or afraid; and 3% reported that they did not go because they felt the service would be inadequate (Figure 3.11.2). Among Indigenous Australians who needed to visit other health professionals but didn't, these proportions were 8% and 3% respectively; and among Indigenous Australians who needed to visit a hospital but didn't, these proportions were 13% and 6% respectively.



Source: AIHW analyses of NATSIHS 2004–05.

Figure 3.11.1: Proportion of Indigenous people who reported that they did not attend a GP service/hospital/other health professional when needed, Western Australia and Australia, 2004–05



Aboriginal and Torres Strait Islander representation on health/hospital boards

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.

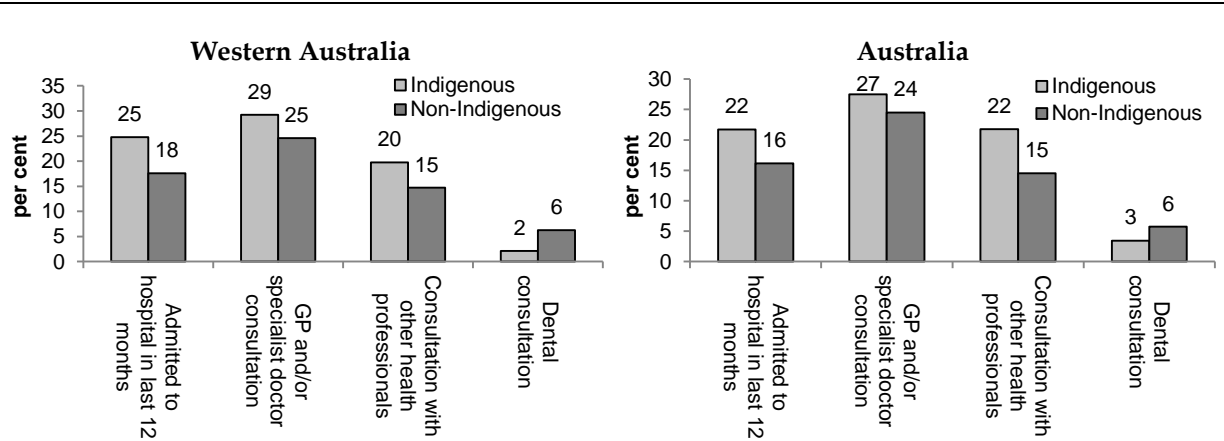
In 2002-03 all existing hospital boards were disbanded. In 2003-04, 17 new District Health Advisory Councils (DHACs) were established, 15 of which had Aboriginal and Torres Strait Islander people as members. The 17 DHACs have been established to achieve diverse representation from the community and have input into service planning, plus propose creative, community-based ideas for improving service access and quality.

3.12 Access to services by types of service compared to need

Access to services by types of service compared to need (for example, primary care, hospital, dental and allied health and post-acute care and palliative care)

Self-reported access to health care

- After adjusting for differences in age structure, a higher proportion (25%) of Indigenous Australians aged 15 years and over in Western Australia reported that they were admitted to hospital in last 12 months than non-Indigenous Australians of the same age (18%).
- In the 2 weeks prior to the NATSIHS, a higher proportion of Indigenous Australians aged 15 years and over in Western Australia reported that they consulted a GP and/or specialist doctor (29%), and consulted other health professionals (20%) than non-Indigenous Australians (25% and 15% respectively).
- In the previous 2 weeks, a considerably lower proportion of Indigenous Australians aged 15 years and over in Western Australia reported they consulted a dentist (2%) than non-Indigenous Australians (6%).
- The above trends were also observed in Australia where more Indigenous people than non-Indigenous people accessed various types of health care except for dental care (non-Indigenous Australians were 2 times as likely as Indigenous Australians to consult dentists).



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

Figure 3.12.1: Per cent of people aged 15 years and over who accessed health care, by type of health care, within the last 12 months (hospital) or the last 2 weeks (other health care), by Indigenous status, age-standardised, Western Australia and Australia, 2004–05

Failure to access health care

- In 2004–05, approximately 21% of Indigenous Australians in Western Australia reported they needed to go to a dentist in the last 12 months but didn't, 14% needed to go to a doctor, 5% needed to go to another health professional and 8% needed to go to hospital but didn't.
- The most common reason why Indigenous people in Western Australia did not go to a dentist when needed was cost (30%), followed by transport/distance and feeling afraid, embarrassed or a dislike of the service (both around 19%). In comparison, the most common reason why Indigenous people across Australia did not go to a dentist when needed was cost (29%), followed by waiting time being too long or not available at the time required (22%), and feeling afraid, embarrassed or a dislike of the service (21%).
- The most common reason why Indigenous people in Western Australia did not go to a doctor when needed was deciding not to seek care (38%), followed by transport/distance (17%). The most common reason why Indigenous people across Australia did not go to a doctor when needed was deciding not to seek care (26%), followed by too busy (24%).
- The most common reasons why Indigenous people in Western Australia did not go to another health professional when needed were too busy (27%) and deciding not to seek care (22%). In comparison, the most common reasons why Indigenous people in Australia did not go to another health professional when needed were cost (28%) and too busy (25%).
- The most common reasons why Indigenous people in both Western Australia and across Australia did not visit a hospital when needed were deciding not to seek care (33% for Western Australia and 25% for Australia) and transport/distance (28% for Western Australia and 19% for Australia).

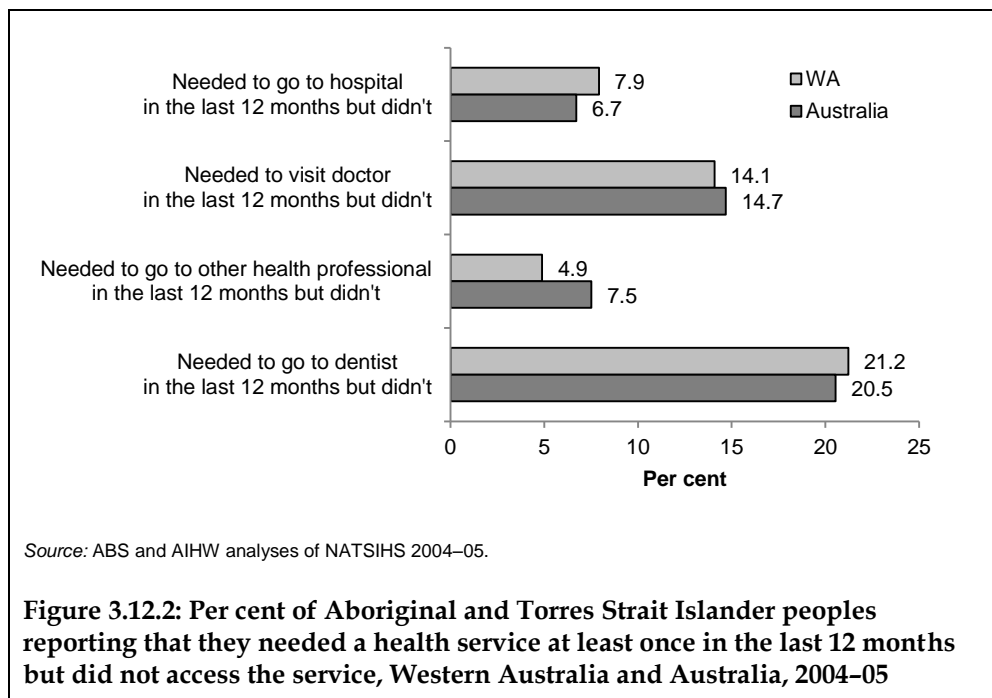


Table 3.12.1: Whether needed to go to a doctor, hospital, dentist or other health professional, by reasons didn't go, Aboriginal and Torres Strait Islander peoples, Western Australia and Australia, 2004–05

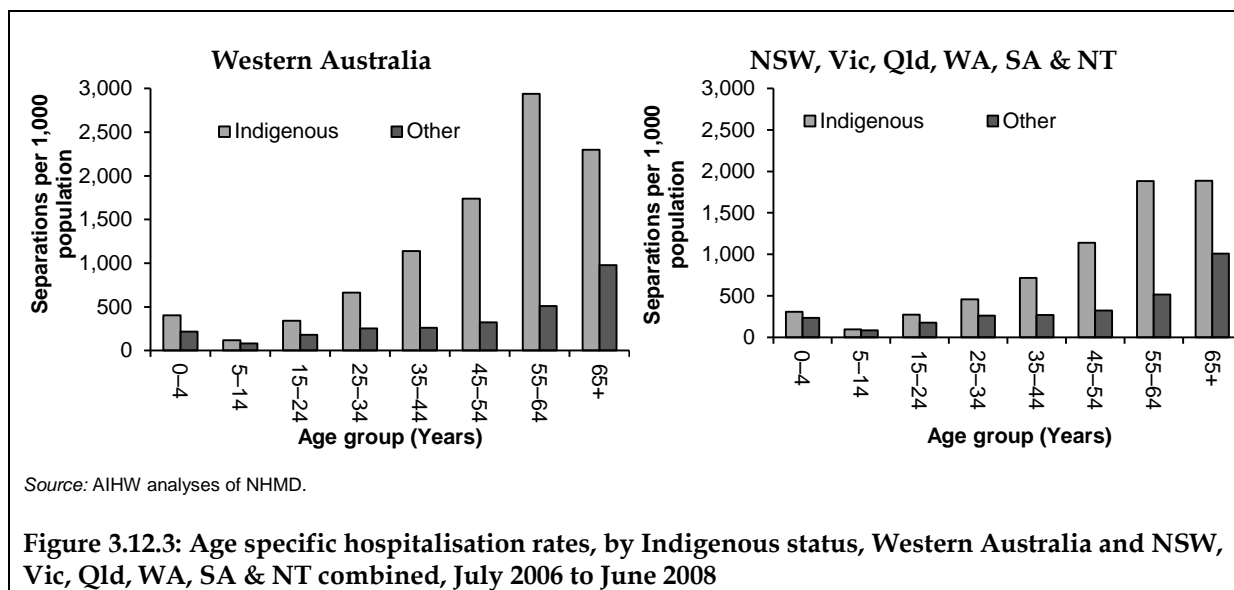
	Doctor		Hospital		Dentist		Other health professional	
	WA	Aust.	WA	Aust.	WA	Aust.	WA	Aust.
	%	%	%	%	%	%	%	%
Needed to go to service in the last 12 months but didn't	14	15	8	7	21	21	5	8
Reasons didn't visit								
Cost	7	12	3	4	30	29	19	28
Transport/Distance	17	14	28	19	19	11	12	8
Waiting time too long or not available at time required	15	14	4	16	18	22	16	9
Not available in area	3	4	2	3	16	8	18	7
Too busy (including work, personal or family responsibilities)	15	24	13	16	11	14	27	25
Dislikes (service/professional/afraid/embarrassed)	12	10	13	16	19	21	8	12
Felt it would be inadequate	3	5	6	6	1	2	3	5
Decided not to seek care	38	26	33	25	15	13	22	17
Other	9	11	11	15	8	9	12	12

Source: ABS and AIHW analyses of NATSIHS 2004–05.

Hospitalisations

Hospitalisations by age

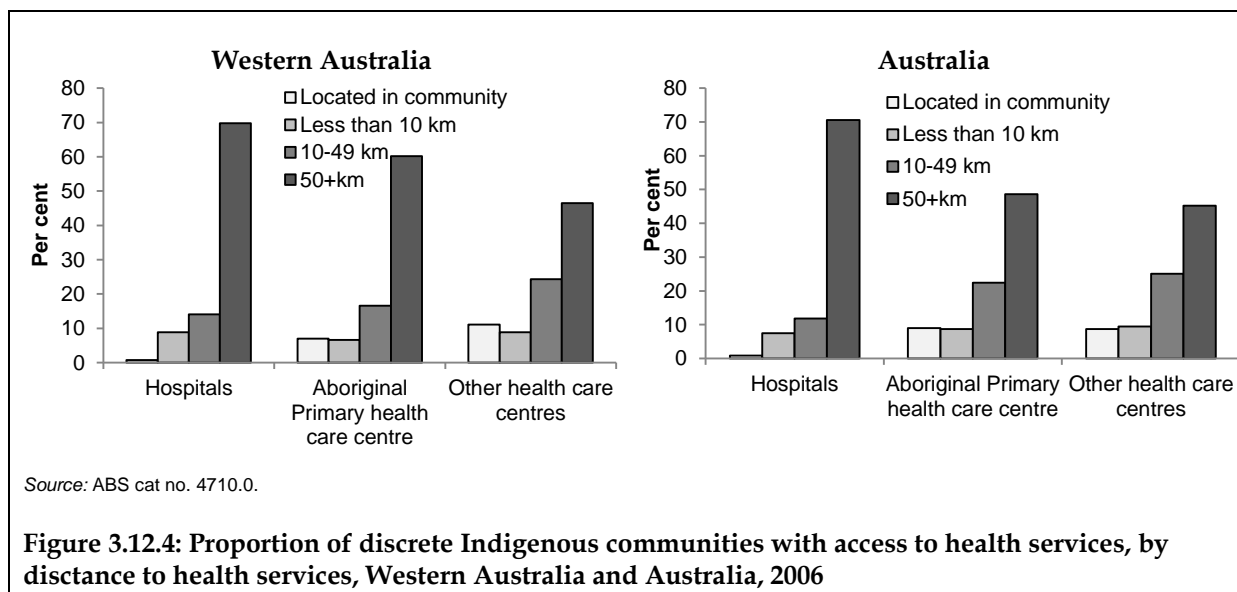
- In the 2-year period July 2006 to June 2008, Indigenous people in Western Australia had higher hospitalisation rates than other people across all age groups.
- In Western Australia, the hospitalisation rate was highest in 55–64 years age group for Indigenous people (2,940 per 1,000), and in the age group of 65 years and over for other people (977 per 1,000).
- Hospitalisation rates for Indigenous people were higher in Western Australia than in New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined across all age groups.
- In Western Australia, the greatest difference in hospitalisation rates between Indigenous and other Australians occurred in the 55–64 year age group where Indigenous people were hospitalised at almost 6 times of the rate of other people in the same age group.
- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous people in the 45–54 and 55–64 year age groups were hospitalised at around 3.5 times of the rate for other people.



Access to services—discrete Indigenous communities

The 2006 Community Housing and Infrastructure Needs Survey collected information on access to hospitals, Aboriginal Primary Health Care Centres and other (state-funded) health care centres.

- In 2006 in Western Australia, the majority of discrete Indigenous communities were located 50km or more from the nearest hospital, Aboriginal Primary Health Care Centre and other health care centres. Around 1% of communities had a hospital located within the community and 9% had a hospital located within 10km. Around 7% of communities had an Aboriginal Primary Health Care Centre located in the community and 7% had an Aboriginal Primary Health Care Centre located within 10km. Approximately 11% of communities had other health care centres located in the community and 9% had other health care centres located within 10km.
- This was similar to the pattern observed for all Indigenous communities in Australia, where 1% of discrete Indigenous communities had a hospital located in the community and 7% had a hospital located within 10km; 9% of communities had an Aboriginal Primary Health Care Centre located within the community and 9% had an Aboriginal Primary Health Care Centre located within 10km; and 9% of communities had other health care centres located within the community and 10% had other health care centres located less than 10km away.



3.14 Access to after-hours primary care

Access to after-hours primary health care by Aboriginal and Torres Strait Islander people

Emergency department episodes

There are many reasons for which people may present at after-hours emergency departments, including difficulties surrounding accessing primary care during school and work hours.

- In 2006–07 to 2007–08, there were 522,894 episodes of care provided after hours in emergency departments in Western Australia, 41,889 (8.0%) of which were for patients identified as Aboriginal or Torres Strait Islander. Of all presentations to emergency departments, 49% of Indigenous and 48% of non-Indigenous patients were for after-hours care (Table 3.14.1).
- In 2006–07 to 2007–08, there were 309,108 episodes of after-hours care provided by emergency departments for triage categories 4 (semi-urgent) and 5 (non-urgent) in Western Australia, 26,605 (8.6%) of which were for patients identified as Aboriginal and Torres Strait Islander. Around 47% of episodes to emergency departments for triage categories semi-urgent and non-urgent were after hours for both Indigenous and non-Indigenous Australians.
- Around 59% of Indigenous presentations to emergency departments after hours in Western Australia were for semi-urgent or non-urgent triage categories.

Table 3.14.1: Presentations to emergency departments after hours by Indigenous status of the patient, Western Australia and Australia, 2006–07 to 2007–08

	Semi-urgent & non-urgent		Total presentations	
	WA	Australia	WA	Australia
After-hours presentations				
Indigenous	26,605	139,703	41,889	225,183
Non-Indigenous	262,142	2,711,173	444,504	4,703,231
Not stated	20,361	119,030	36,501	214,801
Total	309,108	2,969,907	522,894	5,143,215
Total emergency department presentations				
	Number			
Indigenous	56,199	302,457	84,887	467,115
Non-Indigenous	558,760	5,889,981	926,790	9,915,822
Not stated	41,711	246,337	72,956	432,767
Total	656,670	6,438,775	1,084,633	10,815,704
Proportion of after-hours presentations out of all presentations to ED				
Indigenous	47.3	46.2	49.3	48.2
Non-Indigenous	46.9	46.0	48.0	47.4
Not stated	48.8	48.3	50.0	49.6
Total	47.1	46.1	48.2	47.6

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 and for 2007–08. Therefore this data will only cover a subset of after-hours emergency episodes of care.

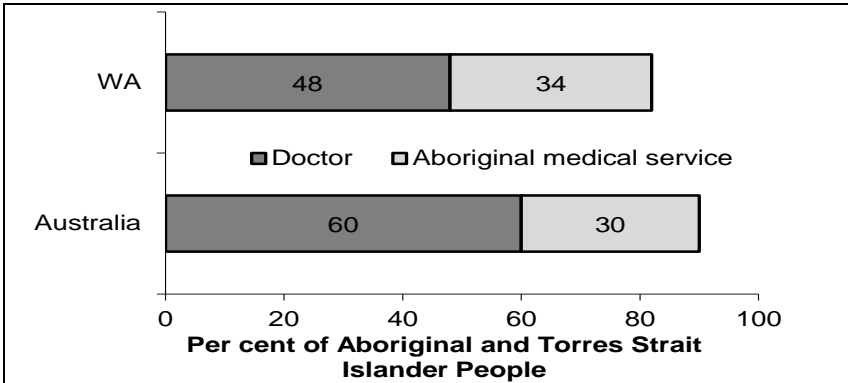
Source: AIHW analyses of National Non-admitted Patient Emergency Department Care Database (NAPEDCD).

3.15 Extent to which individuals have a regular GP or health service

Number and proportion of individuals who have a regular general practitioner (GP) or health service

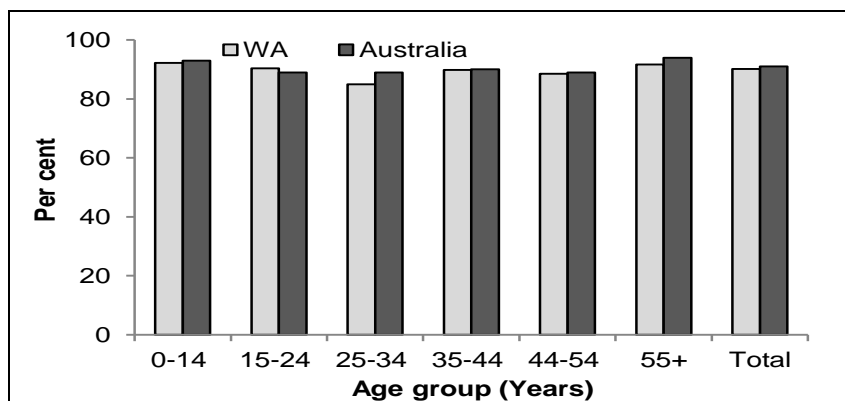
Whether visited same doctor/health service

- In 2004–05 in Western Australia, 48% of Indigenous people reported that they usually went to a doctor if they had a problem with their health, and 34% reported that they went to an Aboriginal medical service if they had a problem with their health (Figure 3.15.1).
- Throughout Australia, 60% of Indigenous Australians went to a doctor if they had a problem with their health, and 30% went to an Aboriginal medical service.
- In Western Australia, Indigenous people aged 0–14 and 55 years and over were most likely to report that they usually went to the same doctor or health service (92%) (Figure 3.15.2).
- Overall, a similar proportion of Indigenous Australians in Western Australia (90%) and Australia reported they usually went to the same GP or medical service.



Source: ABS and AIHW analyses of NATSIHS 2004–05.

Figure 3.15.1: Where usually go if problem with health, Aboriginal and Torres Strait Islander peoples, Western Australia and Australia, 2004–05

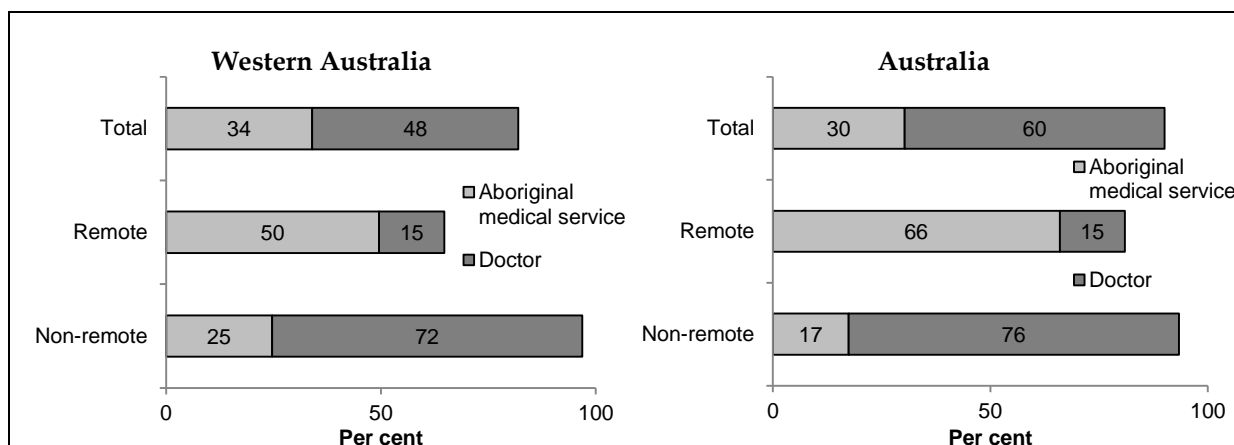


Source: ABS and AIHW analyses of NATSIHS 2004-05.

Figure 3.15.2: Whether usually goes to the same GP/medical service, by age group, Aboriginal and Torres Strait Islander peoples, Western Australia and Australia, 2004-05

Whether visited same doctor/health service by remoteness

- The proportion of Indigenous Australians in Western Australia using Aboriginal medical services for their regular health care increased with remoteness from 25% in non-remote areas to 50% in remote areas. The proportion of Indigenous Australians using a doctor for their regular health care decreased with remoteness from 72% in non-remote areas to 15% in remote areas (Figure 3.15.3).
- In non-remote areas, Indigenous Australians in Western Australia were more likely to use Aboriginal medical services for their regular health care (25%) than Indigenous Australians nationally (17%). In contrast, in remote areas, Indigenous Australians in Western Australia were less likely to use Aboriginal medical services for their regular health care (50%) than Indigenous Australians in Australia (66%).



Source: AIHW analyses of NATSIHS 2004-05.

Figure 3.15.3: Where usually go if problem with health, by remoteness area, Aboriginal and Torres Strait Islander peoples, Western Australia and Australia, 2004-05

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

Asthma plans

- In 2004–05, approximately 6% of Indigenous Australians and 3% of non-Indigenous Australians in Western Australia in non-remote areas reported having asthma as a long-term condition. These proportions were lower than the national prevalence of asthma reported by Indigenous and non-Indigenous Australians (18% and 10% respectively) (Table 3.16.1).
- Of people with asthma in non-remote areas, 17% of Indigenous people in Western Australia had a written asthma plan compared to 15% of non-Indigenous proportions. These proportions were lower than those reported for Indigenous and non-Indigenous Australians with asthma in Australia (25% and 22% respectively).
- The proportion of Indigenous people in Western Australia with asthma who had a written asthma plan was highest among those aged 0–4 years and 5–14 years (27% and 35% respectively) (Figure 3.16.1).

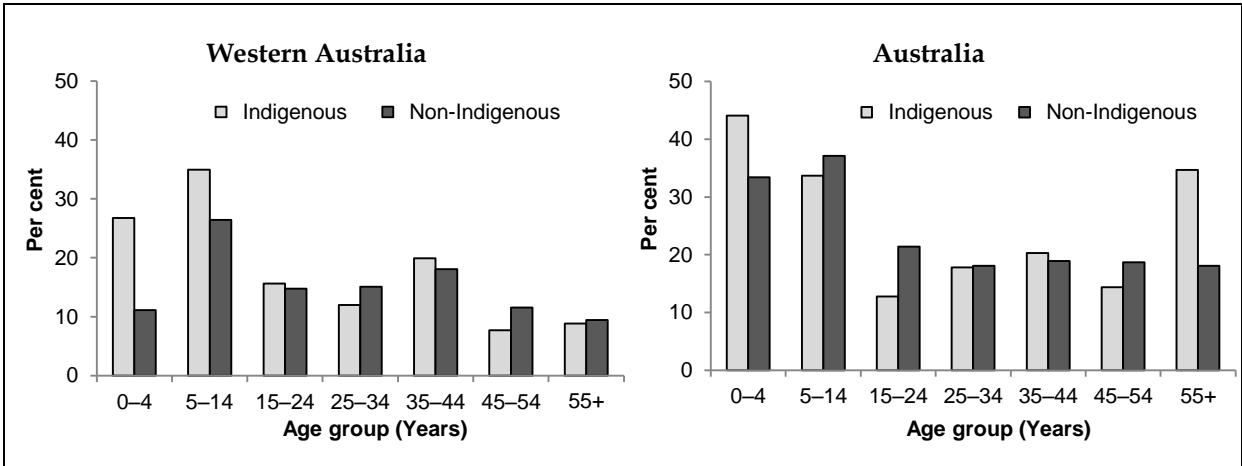
Table 3.16.1: Whether person(s) in non-remote areas have a written asthma action plan by Indigenous status, non-remote areas, Western Australia and Australia, 2004–05

Jurisdiction	Does have a written asthma action plan	Does not have a written asthma action plan	Never heard of a written asthma action plan	Total ^(a)	Total with asthma	Total people with asthma
	%	%	%	%	%	No.
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	..
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	..

(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.

Note: Data have been directly age-standardised using the 2001 Australian standard population.

Source: AIHW analyses of NATSIHS 2004–05 and NHS 2004–05.



Source: AIHW analyses of NATSIHS 2004-05 and NHS 2004-05.

Figure 3.16.1: Proportion of people with asthma in non-remote areas who have a written asthma action plan, by Indigenous status and age group, non-remote areas, Western Australia and Australia, 2004-05

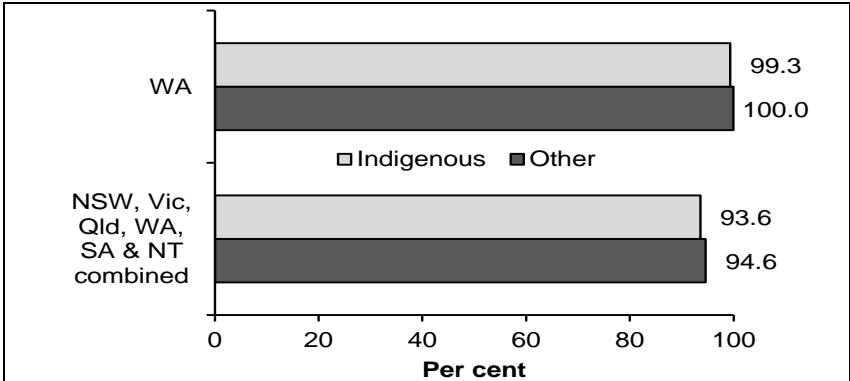
3.17 Accreditation

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

Hospitalisation accreditation

- As shown in Figure 3.17.1, between July 2006 and June 2008 in Western Australia, almost all of hospital admitted episodes for Indigenous people and all of hospital admitted episodes for other people occurred in accredited hospitals.
- In New South Wales, Victoria, Queensland, Western Australia, South Australia and the Northern Territory combined, 94% of hospital admitted episodes for Indigenous people and 95% of episodes for other people occurred in accredited hospitals.

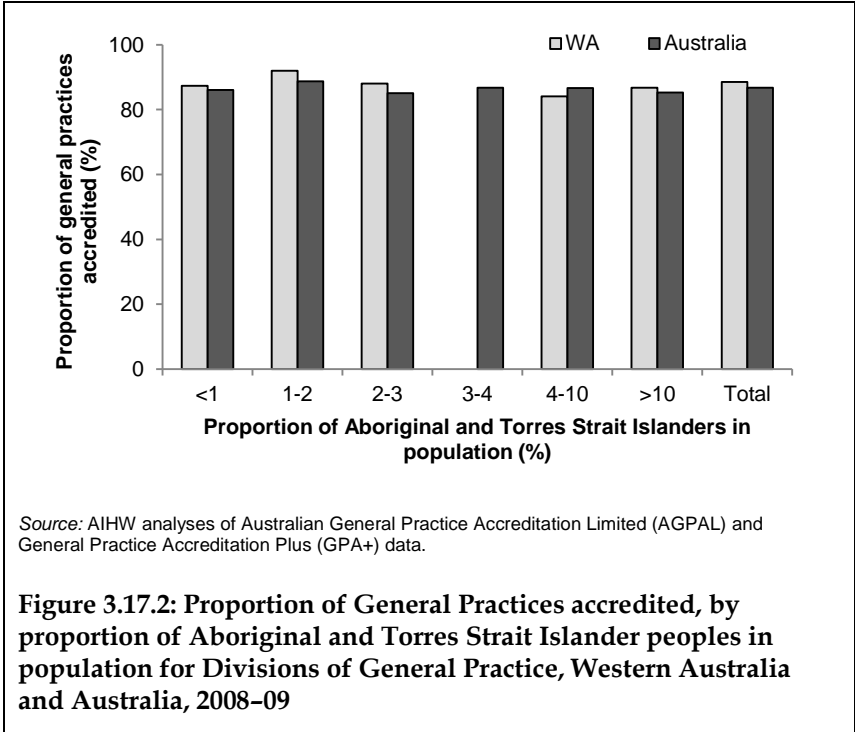


Source: AIHW analyses of National Public Hospitals Establishment Database.

Figure 3.17.1: Per cent of hospital admitted patient episodes in accredited hospitals, by Indigenous status, Western Australia and NSW, Vic, Qld, WA, SA & NT combined, July 2006 to June 2008

General practice accreditation

- In 2008–09 in Western Australia, 486 general practice divisions were accredited and 63 divisions were registered but not yet accredited. The proportion of accredited divisions among all the registered divisions was 89%, compared to 87% in Australia.
- In Western Australia, the proportion of accredited general practice divisions ranged from 84% in areas where 4–10% of the population was Indigenous to 92% in areas where 1–2% of the population was Indigenous (Figure 3.17.2). Note that there were no general practices divisions in Western Australia where 3–4% of the population was Indigenous.
- In Australia, the proportion of accredited general practice divisions ranged from 85% in areas where 2–3% of the population was Indigenous to 89% in areas where 1–2% of the population was Indigenous.



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

Higher education sector

- In 2008 in Western Australia:
 - There were 153 enrolments in health-related courses by Indigenous undergraduate students. This made up 1.7% of total undergraduate enrolments in health-related courses.
 - There were 25 completions of health-related courses by Indigenous undergraduate students. This made up 1.5% of total undergraduate completions in health-related courses (Table 1.18.1).
- In Australia, enrolments in health-related courses by Indigenous undergraduate students made up 1.6% of total undergraduate enrolments in health-related courses. Completions in health-related courses by Indigenous undergraduate students made up 1.0% of total undergraduate completions in health-related courses.
- In Western Australia, the most common type of health-related course in which Indigenous students were enrolled was public health (85 enrolments). Nationally, nursing was the most common type of health-related course in which Indigenous students were enrolled (582 enrolments).

Table 3.18.1: Number of undergraduate students enrolled and completed health-related courses in the Tertiary Education sector, by qualification type, Western Australia and Australia, 2008

	Enrolled			Completed		
	Aboriginal & Torres Strait Islander	Total	Per cent Aboriginal & Torres Strait Islander (%)	Aboriginal & Torres Strait Islander	Total	Per cent Aboriginal & Torres Strait Islander (%)
Western Australia						
Medical studies	19	1,812	1.0	n.p.	256	n.p.
Nursing	35	3,533	1.0	n.p.	781	n.p.
Pharmacy	0	441	0.0	0	97	0.0
Dental studies	n.p.	304	n.p.	0	76	0.0
Optical science	0	0	..	0	0	n.p.
Public health	85	1,045	8.1	16	179	8.9
Radiography	0	0	..	0	0	n.p.
Rehabilitation therapies	n.p.	1,866	n.p.	n.p.	279	n.p.
Total^(a)	153	9,001	1.7	25	1,668	1.5
Australia						
Medical Studies	128	12,165	1.1	13	2,024	0.6
Nursing	582	32,807	1.8	71	7,453	1.0
Pharmacy	n.p.	4,643	n.p.	n.p.	964	n.p.
Dental Studies	20	2,330	0.9	n.p.	503	n.p.
Optical Science	n.p.	547	n.p.	0	133	0.0
Public Health	298	4,486	6.6	47	754	6.2
Radiography	n.p.	1,883	n.p.	n.p.	435	n.p.
Rehabilitation therapies	73	12,273	0.6	12	2,365	0.5
Total^(a)	1,120	70,953	1.6	152	14,601	1.0

(a) The data take into account the coding of Combined Courses to two fields of education. As a consequence, counting both fields of education for Combined Courses means that the totals may be less than the sum of all fields of education.

Source: AIHW analyses of Department of Education, Employment and Workplace Relations (DEEWR) Higher Education Statistics Collection.

Vocational education and training (VET) sector

- In 2008 in Western Australia, there were 1,455 Indigenous students enrolled in health-related courses in the VET sector and 102 Indigenous students who completed a health-related course in the VET sector. This made up 16% and 6.5% of total VET enrolments and completions in health-related courses respectively (Table 3.18.2).
- In 2008 in Australia, there were 6,143 Indigenous students enrolled in health-related courses in the VET sector, and 395 Indigenous students who completed a health-related course in the VET sector. This made up around 6% of total VET enrolments and 4% of completions in health-related courses.
- In Western Australia, the most common type of health-related course in which Indigenous VET students were enrolled or had completed in 2008 was public health (1,321 enrolled and 64 completed). Public health was also the most common type of health-related course in which Indigenous VET students were enrolled or had completed nationally.

Table 3.18.2: Vocational education and training (VET) sector students enrolled and completed health-related courses, Western Australia and Australia, 2008

	Enrolled			Completed		
	Aboriginal & Torres Strait Islander	Total	Per cent Aboriginal & Torres Strait Islander (%)	Aboriginal & Torres Strait Islander	Total	Per cent Aboriginal & Torres Strait Islander (%)
Western Australia						
Medical Studies	0	78	0.0	0	n.p.	0.0
Nursing	104	1,764	5.9	n.p.	451	n.p.
Pharmacy	0	13	0.0	0	0	n.a.
Dental Studies	n.p.	402	n.p.	0	192	0.0
Optical Science	0	11	0.0	0	0	n.a.
Public Health	1,321	5,737	23.0	64	670	9.6
Rehabilitation therapies	0	7	0.0	0	n.p.	0.0
Complementary Therapies	24	392	6.1	n.p.	105	n.p.
Other Health	n.p.	469	n.p.	0	132	0.0
Total	1,455	8,873	16.4	102	1,566	6.5
Australia						
Medical Studies	n.p.	507	n.p.	0	n.p.	0.0
Nursing	421	19,503	2.2	98	3,090	3.2
Pharmacy	0	68	0.0	0	n.p.	0.0
Dental Studies	70	3,886	1.8	11	1,307	0.8
Optical Science	n.p.	969	n.p.	0	109	0.0
Public Health	4,094	38,045	10.8	182	2,592	7.0
Rehabilitation therapies	11	661	1.7	n.p.	159	n.p.
Complementary Therapies	59	3,221	1.8	n.p.	866	n.p.
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

Source: AIHW analyses of National Centre for Vocational Education Research (NCVER), National VET Provider Collection 2008.

3.19 Expenditure on Aboriginal and Torres Strait Islander health compared to need

Expenditure on health for Aboriginal and Torres Strait Islander people

This measure is presented on both a total population basis and per capita basis as well as disaggregated to reflect expenditure on acute health care, primary health care and population health, as a reflection of met need.

- In 2006–07 in Western Australia, the state government was estimated to have spent, on average, \$4,224 per Indigenous person compared with \$1,599 per non-Indigenous person. This represents an Indigenous/non-Indigenous expenditure ratio of 2.6:1.
- Overall throughout Australia, state/territory governments were estimated to have spent, on average, \$3,846 per Indigenous people compared to \$1,651 per non-Indigenous person, equating to an Indigenous/non-Indigenous expenditure ratio of 2.3:1.
- The Western Australian Government spent more per person for Aboriginal and Torres Strait Islander peoples than for non-Indigenous people for the majority of types of health goods and services. A similar amount was spent on Indigenous and non-Indigenous people for public health, dental and health administration.
- The highest expenditure per person for Indigenous and non-Indigenous people in Western Australia was for public hospital services (\$3,338 and \$1,159), followed by admitted patient services (\$2,589 and \$941).

Table 3.19.1: Estimated state/territory health expenditure per person for Indigenous and non-Indigenous people, by program, Western Australia and Australia, 2006–07

Health good or service type	Expenditure per person (\$)			
	WA		Australia	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Hospitals				
Admitted patient services ^(a)	2,589	941	2,102	1,000
Non-admitted patients	748	218	627	282
Public hospital services	3,338	1,159	2,728	1,282
Patient transport	191	50	194	76
Community health	501	229	665	174
Public health	56	62	155	55
Dental	29	30	59	26
Research	12	30	16	16
Health administration n.e.c.	24	25
Total	4,224	1,599	3,846	1,651
Indigenous: Non-Indigenous ratio	2.6	..	2.3	..

(a) Admitted patient expenditure adjusted for Aboriginal and Torres Strait Islander peoples under-identification.

Source: AIHW 2009.

3.20 Recruitment and retention of clinical and 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

- As at 30 June 2008 in Western Australia, 37 (7%) of full-time equivalent (FTE) health staff positions, 7 (2.6%) of administrative and support staff positions and 2 (13.5 %) of other staff funded by the Australian Government were vacant.
- For Australia, 7.2% of the FTE Australian Government-funded health staff positions, 3.3% of administrative and support staff positions and 9.6% of other staff were vacant as at 30 June 2008.



Source: AIHW analyses of OSR data 2010.

Figure 3.20.1: Vacancies as a percentage of total positions (FTE) in Aboriginal health care services, Western Australia and Australia, as at 30 June 2008

Glossary

Aboriginal: A person of Aboriginal descent who identifies as an Aboriginal and is accepted as such by the community in which he or she lives.

benchmarking: A continuous process of measuring quality or performance against the highest standards.

perinatal: Pertaining to or occurring in the period shortly before or after birth (usually up to 28 days after).

Equivalised gross weekly household income: Equivalised income is the amount of income available per person after adjusting for household size.

Appendix 1 Data sources and quality

The Australian Childhood Immunisation Register

The Australian Childhood Immunisation Register (ACIR) is a national register that records details of vaccinations given to children under 7 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.

Data quality issues relating to reporting of Indigenous Australians

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 which the Australian Government is currently investigating.

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 7 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 Australian Capital Territory, 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.

Selected other data quality issues

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. A range of providers including general practitioners, councils, Aboriginal medical services and the state and territory health authorities notify immunisations to Medicare.

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 National Immunisation Program Schedule (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 NIPS 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 7 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 a recognised immunisation provider supplies details of an eligible immunisation (DoHA 2006).

Australia and New Zealand Dialysis and Transplant Registry

The Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) has supplied the data reported here on Indigenous people with end-stage renal disease (ESRD). 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, people 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 people treated for ESRD. It compiles data on incidence and prevalence, renal complications, comorbidities 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).

Data quality issues relating to reporting of Indigenous Australians

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 nurse or 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).

Selected other data quality issues

The Australia and New Zealand Dialysis and Transplant Registry (ANZDATA) has supplied the data reported here on Indigenous people with end-stage renal disease (ESRD). Data sets provided for analysis are de-identified. The interpretation and reporting of these data are the responsibility of the authors and in no way should be seen as an official policy or interpretation of the registry. Data is collected from all dialysis and transplant units in Australia and New Zealand at 31st December. This encompasses virtually all patient events that have occurred in the past 12 months as well as a 'snapshot' of all dialysis and transplants patients on those dates.

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 Australian Bureau of Statistics (ABS) conducted the 2006 CHINS on behalf of, and with full funding from, the Department of Families, Community Services and Indigenous Affairs (FaCSIA). Information collected includes:

- details of current housing stock, dwelling management practices and selected income and expenditure arrangements of Indigenous organisations that provide housing to Aboriginal and Torres Strait Islander people
- details of housing and related infrastructure, such as water, electricity, sewerage, drainage, rubbish collection and disposal, as well as other facilities such as transport, communication, education, sport and health services, available in discrete Aboriginal and Torres Strait Islander communities.

The 2006 information was collected on 496 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 people or more. Information was also collected for communities which had a reported usual population of less than 50 people but which were not administered by a larger discrete Indigenous community or Resource Agency (375 communities). The 812 other communities which had reported usual populations of less than 50 people 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.

Selected other data quality issues

Community Housing and Infrastructure Needs Survey (CHINS)

The 2006 CHINS collected information on a variety of topics from discrete Aboriginal and Torres Strait Islander communities throughout Australia and on Indigenous organisations that provide rental housing to Indigenous people. In 2006, CHINS information was collected on 496 Indigenous organisations, which managed a total of 21,854 permanent dwellings. The majority of those dwellings were located in the Northern Territory (6,448), Queensland (6,230), New South Wales (4,176) and Western Australia (3,462) (ABS 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, community representatives often estimated the community population 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).

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 that service providers collect 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 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.

Data quality issues relating to reporting of Indigenous Australians

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 owing 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 and 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.

DEEWR Higher Education Statistics Collection

The Australian Government Department of Education, Employment and Workplace Relations (DEEWR) is the responsible agency for the Higher Education Statistics Collection, which includes information from higher education institutions such as universities and colleges of advanced education. This data collection contains statistics relating to students enrolled in higher education courses between 1 January and 31 December of each year in each Australian higher education provider.

Although universities design and produce their own enrolment forms, DEEWR has provided institutions with suggested wording for questions relating to Indigenous status (ABS 2003).

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*.

Selected other 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 for institutions to use 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 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%) of which were for patients identified as Aboriginal or Torres Strait Islanders.

Data quality issues relating to reporting of Indigenous Australians

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).

Selected other data quality issues

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, some states and territories provided data for some smaller hospitals.

The coverage of the National Non-admitted Patient Emergency Department Care Database is estimated at about 78% of records for 2006-07 and 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.

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 NSSC is an annual collection of data on schools, students, staff in primary and secondary schools throughout Australia. Student data are collected through a school census in August of each year and the ABS publishes selected results annually in *Schools Australia*. The data for this census is 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 has 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 quality issues relating to reporting of Indigenous Australians

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.

Indigenous identification

Parents or guardians are asked to identify their child as Aboriginal, Torres Strait Islander, both or neither, when enrolling them 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.

Selected other data quality issues

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 Tasmanian education 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.

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 Australian 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 also 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 2010a).

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.

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.

Selected other data quality issues

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 2005).

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 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 sexually transmissible infections (STIs). Only Queensland and the Northern Territory had adequate identification for donovanosis.

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

Although data on hepatitis C are 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>>.

Data quality issues relating to reporting of Indigenous Australians

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.

Selected other data quality issues

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, as hepatitis C primarily occurs among those with a history of injecting drug use.

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

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 that midwives and other staff complete, 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 (NPESU). 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 2006a, 2007b, 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.

Data quality issues relating to reporting of Indigenous Australians

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. (AIHW: 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.

Selected other data quality issues

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 numbers of deaths, interpretation can be limited as to whether differences in mortality rates are due to statistical fluctuations or differential ascertainment.

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 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).

Selected other 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 overcome 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 2006b).

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 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 people 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.

Selected other 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 people 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 people 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 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 rate 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).

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, the family, health worker or funeral director does not report a proportion of these deceased as Aboriginal or Torres Strait Islander 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 were supplied by the ABS from the ABS Cause of Death database. For further information see *Causes of death, Australia, 2008* (ABS 2010c).

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 quality issues relating to reporting of Indigenous Australians

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 2009). 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 2007c).

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 2006c).

Problems associated with identification result in an underestimation of deaths and hospital separations for Indigenous people.

Selected other data quality issues

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.

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).

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 under way 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 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 the 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 it 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.

Data quality issues relating to reporting of Indigenous Australians

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, 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 over 10 years of adequate identification of Indigenous deaths in their recording systems. The late inclusion of a 'not stated' category for Indigenous status in 1998 has also influenced the quality of the time series data. 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 2006a).

Indigenous mortality rate for NSW is lower than the non-Indigenous mortality rate due to quality issue with Indigenous data for this state (ABS 2010d).

Selected other data quality issues

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.

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 2007c). 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. Parents register births whereas doctors and funeral directors complete death registration forms. 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 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 Child Protection Australia

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 AIHW 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 2010c). 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.

Selected other 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 practices in relation to the intensity of follow-up of notifications which are affected by a number of factors. For these reasons time series comparisons may not be statistically valid.

In addition, one-off global changes may occur in the legal and procedural regime of a particular jurisdiction, which may make comparisons between time series data from before and after such change invalid.

Child abuse

Child protection policies and practices are continually under development. As such, they impact on the number of children in the child protection system in different ways. Therefore, trends in child protection numbers should be interpreted carefully.

The definition of what constitutes child abuse and neglect has changed and broadened over time (AIFS: Bromfield & Holzer 2008). Naturally, any broadening of the definition of child abuse and neglect is likely to increase notifications and substantiations. The focus of child protection in many jurisdictions has shifted away from the identification and investigation of narrowly defined incidents of child abuse and neglect. Instead, the focus has moved towards a broader assessment of whether a child or young person has suffered harm.

Care and protection orders

For the 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 2010c).

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.

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 to the AIHW on the characteristics, diagnoses and care of admitted patients in public and private hospitals.

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 people 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.

Data quality issues relating to reporting of Indigenous Australians

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 people 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. These six jurisdictions cover 96% of the Indigenous population. 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.

Selected other data quality issues

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.

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%.

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.

Survey of Income and Housing

The ABS conducts the Survey of Income and Housing (SIH) every 2 years, with the first survey held in 1994–95. The survey was developed in order to provide broad aggregates for households within Australia. The current survey was conducted during the period of August 2007 and June 2008 and 9,345 households participated through a personal interview at their usual place of residence. The dwellings were selected through a stratified, multistage cluster design and the survey was conducted over 12 months to be representative of a yearly pattern. Participants were asked information regarding their household, including characteristics, costs, assets and liabilities and individual personal characteristics for residents aged over 15 years.

Selected other data quality issues

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 the survey did not cover households in very remote areas. The survey does state that due to the small population in these areas it is likely this will have minimal impact.

Australian General Practice Accreditation Limited and the General Practice Accreditation Plus

Selected other data quality issues

AGPAL

Australian General Practice Accreditation Limited (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 Statistical Local Area (SLA).

GPA+

Data on practices that General Practice Accreditation Plus (GPA+) has accredited have not been routinely reported, but may in the future become available.

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