

Part IX

ABORIGINAL AND TORRES STRAIT ISLANDER CHILDREN

43 Health and wellbeing of Indigenous children

Aboriginal and Torres Strait Islander Australians tend to have much worse health than other Australians. On average, they die at younger ages and are more likely to experience disability and reduced quality of life because of ill health (AIHW 2008b). This health disadvantage begins at an early age and continues to adversely affect their wellbeing throughout life. At all ages, the burden of disease and injury among Indigenous Australians is higher than for other Australians. For Indigenous children, this burden is driven by neonatal causes (such as low birthweight), mental disorders, congenital anomalies and asthma.

The health inequality of Indigenous Australians, compared with the rest of the population, reflects broader disadvantage across a range of socioeconomic factors that affect health and wellbeing. There is good evidence from Australia and other developed countries to show that low socioeconomic status, which arises from problems such as low levels of education, employment and income, is associated with poor health and increased exposure to health risk factors (Blakely et al. 2004; Turrell & Mathers 2000). The Indigenous population is disadvantaged on a range of socioeconomic dimensions compared with the non-Indigenous population: they report lower incomes, higher rates of unemployment, lower educational attainment and lower rates of home ownership (AIHW 2007a, 2008b).

This socioeconomic disadvantage places Indigenous Australians at greater risk to factors such as smoking, poor nutrition, alcohol misuse, overcrowded living conditions and violence (ABS & AIHW 2008).

However, conventional measures of socioeconomic disadvantage do not explain all the health differences between Indigenous and non-Indigenous Australians (Carson et al. 2007; Glover et al. 2004). The determinants of health are many and complex—cultural, historical, environmental and socioeconomic factors all contribute to health and wellbeing. Aspects of the living, working and social conditions of Indigenous Australians, along with a reduced sense of control over their own lives, may also explain the generally poorer health of Aboriginal and Torres Strait Islander peoples (AIHW 2008b).

Part IX presents an overview of the health and wellbeing of Aboriginal and Torres Strait Islander children, and highlights areas where there are opportunities for further gains. It draws together the information on Indigenous children presented throughout the report, but also includes additional information on issues affecting these children. This Part follows the general framework of the overall report. It begins with a comparative table of indicator results for which data are available, and proceeds to discuss data quality issues, demographics and families, and key issues in the following areas:

- health status
- determinants of health
- health system performance
- early learning and development
- families and communities
- safety and security.

COMPARATIVE SNAPSHOT OF INDIGENOUS CHILD HEALTH AND WELLBEING

Indicator		Indigenous	Non-Indigenous	Rate ratio	Chapter
How healthy are Australia's children?					
Mortality	Infant mortality per 1,000 live born infants (2006)	12	4.3	2.9	4
	Sudden infant death syndrome (SIDS) deaths per 100,000 live births (2002–2006)	106	20	5.4	4
	Deaths per 100,000 children aged 1–14 years (2006)	39	13	2.9	4
Chronic conditions	Percentage of children aged 0–14 years with asthma as a long-term condition (2004–05)	14	11	1.2	5
Congenital anomalies	Rate of selected congenital anomalies among infants per 10,000 births (1998–2003):				
	neural tube defects	11	4.3	2.6	7
	Down syndrome	11	11	1.0	7
	abdominal wall defects	7	4.3	1.5	7
	orofacial clefts	25	17	1.5	7
How well are we promoting healthy child development?					
Dental health	Percentage of children decay-free (2002):				
	at age 6 years	21	54	0.4	10
	at age 12 years	48	60	0.9	10
	Mean number of decayed, missing or filled teeth (DMFT) at 12 years (2002)	1.8	1.0	1.8	10
How well are Australia's children learning and developing?					
Literacy and numeracy	Percentage of children in Year 5 who achieved at or above the national minimum standards (2008):				
	reading	63	91 ^(a)	0.7	16
	numeracy	69	93 ^(a)	0.7	16
What factors can affect children adversely?					
Teenage births	Age-specific birth rate per 1,000 15–19 year old women (2006)	80	15	5.4	18
Birthweight	Percentage of live born infants of low birthweight (2006)	12	6	2.0	21
Tobacco use	Percentage of children aged 12–15 years who are current smokers (2005)	17	7	2.4	24
What kind of families and communities do Australia's children live in?					
Children in non-parental care	Number of children per 1,000 aged 0–14 years in out-of-home care (2008)	44	5 ^(b)	9.2	28
Parental health status	Percentage of parents with mental health problems (2006)	29	21	*	29
Social capital	Percentage of households with children aged 0–14 years where respondent was able to get support in time of crisis from persons living outside the household	91	95	1.0	31
How safe and secure are Australia's children?					
Injuries	Age-specific death rates from all injuries for children aged 0–14 years, per 100,000 (2006)	21	7	3.2	32
	Injury hospitalisation rate for children aged 0–14 years, per 100,000 (2006–07)	1,941	1,378	1.4	32
	Assault hospitalisation rate for children aged 0–14 years, per 100,000 (2006–07)	106	15	7.2	32
Child abuse and neglect	Children aged 0–12 years who were the subject of a substantiation of a child protection notification received in 2007–08, per 1000	45	6 ^(b)	8.0	34
	Children aged 0–12 years who were the subject of care and protection orders, per 1,000 (2008)	44	5 ^(b)	8.2	34
Homelessness	Number of accompanying children aged 0–14 years attending agencies funded under the Supported Accommodation Assistance Program, per 1,000 (2006–07)	87	12	7.3	36
Children and crime	Number of children aged 10–14 years who are under juvenile justice supervision, per 1,000 (2006–07)	20	0.8	23.8	37
How well is the system performing in delivering quality health and wellbeing actions to Australia's children?					
Childhood immunisation	Percentage of children on the Australian Childhood Immunisation Register who are fully immunised at 2 years of age as at 30 September 2008	91	93 ^(b)	1.0	39

* Difference between Indigenous and non-Indigenous is not statistically significant.

(a) Indicates that the comparison group is 'all children', rather than non-Indigenous children.

(b) Indicates that the comparison group is 'other children', rather than non-Indigenous children.

Note: Rate ratio is Indigenous rate divided by non-Indigenous rate. See *Appendix 1 Methods* for further explanation of rate ratios.

QUALITY OF INFORMATION ON INDIGENOUS CHILDREN

There has been much progress in collecting information on the health and wellbeing of Aboriginal and Torres Strait Islander peoples over the last decade, but many logistical, analytical and conceptual challenges remain (AIHW & ABS 2006). This is due partly to varying levels of identification of Indigenous people in administrative records and partly to the statistical and practical challenges of surveying a population that is relatively small and less accessible—2.5% of the total population, one-quarter of whom live in remote or very remote areas. Improving both the counting of Indigenous Australians in the ABS Census of Population and Housing and identifying them in administrative data sets are key strategies towards better quality information about the Indigenous population.

For Australia generally, administrative data sets and household surveys are used to provide useful information on specific diseases, risk factors, living conditions, and access to and use of services. These include birth and death registrations, hospital use, disease registers, use of community services, and health and social surveys.

The coverage of Indigenous Australians in birth registrations is improving, but Indigenous deaths registrations are not yet complete enough in all states and territories to provide national estimates. Indigenous identification has been assessed by the ABS and AIHW as adequate for reporting in Queensland, Western Australia, South Australia and the Northern Territory (from 1998 onwards). These four jurisdictions represent around 60% of the Indigenous child population aged 0–14 years in Australia.

Until recently, only data from Queensland, Western Australia, South Australia and the Northern Territory were used to provide information on hospital use by Indigenous Australians. The extent of under-counting of Indigenous people in hospital records has been assessed recently by the AIHW. The results show that there have been significant improvements in the quality of Indigenous identification in both New South Wales and Victoria. Therefore, data from all jurisdictions, except Tasmania and the Australian Capital Territory, can now be used for reporting on hospital use by Indigenous Australians. These six jurisdictions represent 96% of the Indigenous child population aged 0–14 years in Australia.

Refer to *Appendix 1 Methods* for further information on the presentation of deaths and hospital data for Indigenous Australians.

Data gaps

As discussed, accurately assessing the health and wellbeing of Indigenous children is difficult. Although there are a number of surveys specifically about the Indigenous population, such as the ABS National Aboriginal and Torres Strait Islander Health and Social Survey, these surveys do not collect information for many of the key national indicators in this report.

Additionally, aspects of health, development and wellbeing may be thought about differently by Indigenous Australians, compared with other Australians. This may require the development and use of specific survey instruments for the Indigenous population, which can make comparisons between the population groups difficult.

The small size of the Indigenous child population is a further impediment and not just due to the difficulties of surveying a small population. Estimates based on a small number of events are subject to uncertainty, and data for many of the key national indicators are therefore not sufficiently robust to present.

As a result, there are many areas considered integral to child health, development and wellbeing where there is a lack of robust information to assess how well Indigenous children are faring, or how they compare with non-Indigenous children. In terms of the key national indicators in this report (including the Children's Headline Indicators), robust national data on Indigenous children are not available for almost half of the indicators. Data are not available for indicators in the following areas:

- chronic conditions (new cases of cancer and diabetes)
- disability
- mental health
- breastfeeding
- physical activity
- overweight and obesity
- alcohol use
- survival for leukaemia
- alcohol use in pregnancy

- neonatal hearing screening
- parental health status (parents rating their health as 'fair' or 'poor'; parents with disability)
- early learning (children aged < 1 year being read to by an adult)
- quality child care
- attendance at early childhood education programs
- transition to primary school
- attendance at primary school
- family functioning
- family economic situation
- neighbourhood safety
- school relationships and bullying
- children as victims of violence
- children in grandparent families
- child protection resubstantiations.

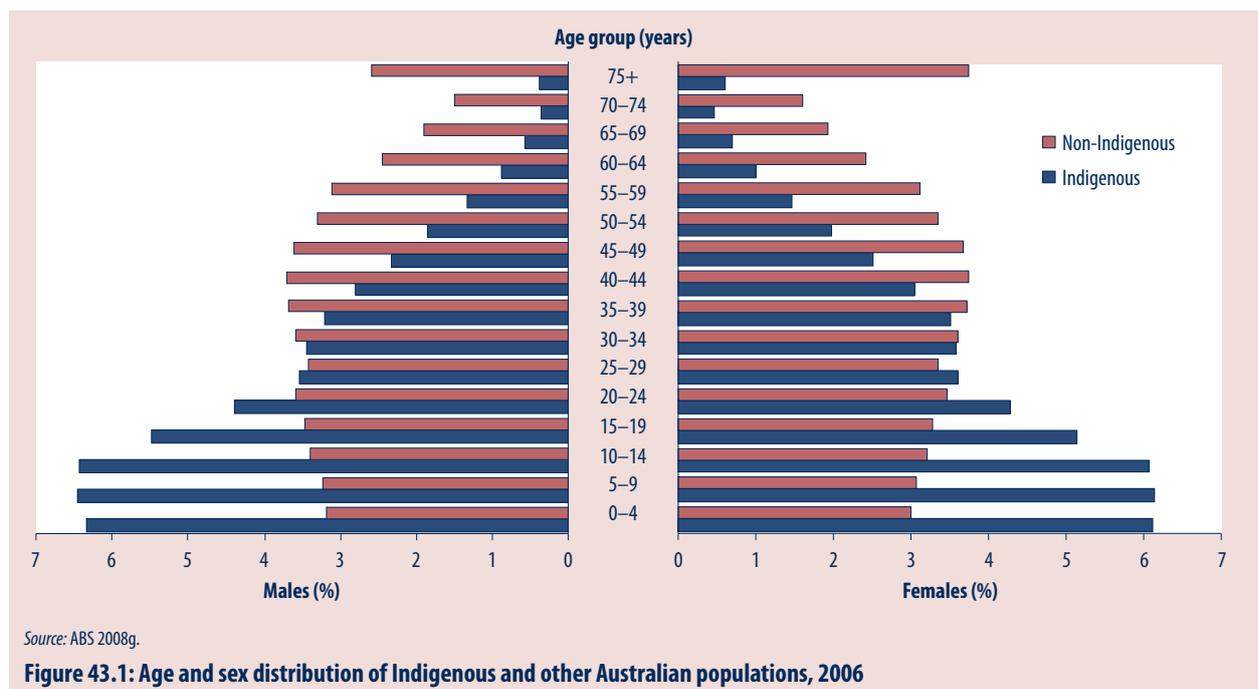
Where national data are not available, information is presented in this report from states and territories, smaller research studies or sources that may not have comparable data for non-Indigenous children.

INDIGENOUS AUSTRALIAN CHILDREN: DEMOGRAPHIC OVERVIEW

This section describes Australia's Indigenous child population in terms of its size, composition and geographical distribution. It provides a context for the health and wellbeing information presented in this chapter; and, importantly, provides information for service planning and delivery.

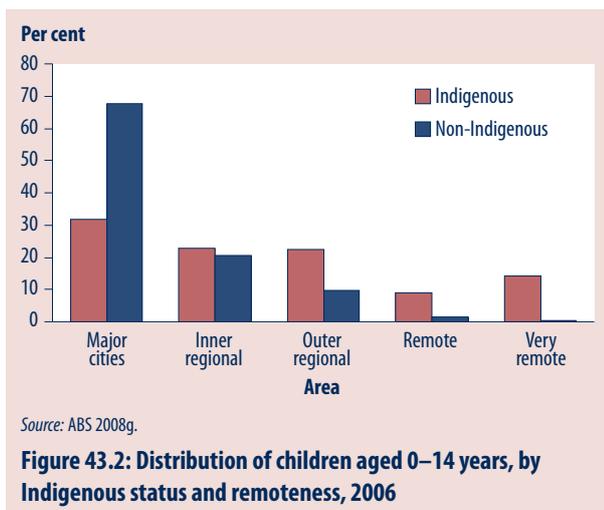
There were an estimated 194,200 Aboriginal and Torres Strait Islander children aged 0–14 years in Australia in 2006, representing 4.8% of all children in Australia (ABS 2008g) (see Table 2.2).

In contrast to the non-Indigenous population, the Indigenous population has a much younger age structure (Figure 43.1). This reflects the higher birth rate among Indigenous women compared with all Australian women (2.4 births compared with 1.9 in 2007), as well as the higher mortality rate among Indigenous Australians. Indigenous children aged less than 15 years make up 38% of the total Indigenous population, whereas non-Indigenous children in this age group represent about 20% of the total non-Indigenous Australian population. Conversely, those aged 65 years and over comprise only 3% of the Indigenous population, compared with 13% of the non-Indigenous Australian population.



Where do Indigenous children live?

The majority of Indigenous Australian children live in *Major cities and regional areas*—77%, or 149,400 children in 2006. However, a greater proportion of Indigenous children (24%) live in *Remote and very remote* areas compared with non-Indigenous Australian children (3%) (Figure 43.2; see also Table 2.4). Indigenous children accounted for 38% of all children in *Remote and very remote* areas, despite accounting for less than 5% of all children in Australia in 2006.



The majority of Aboriginal and Torres Strait Islander children lived in New South Wales (30% of the Indigenous child population), Queensland (29%), Western Australia (13%) and the Northern Territory (12%) in 2006. Indigenous children comprised 44% of the Northern Territory child population, but 7% or less in all other states and territories (Table 43.1).

INDIGENOUS FAMILIES

There is evidence that Indigenous Australians have more extensive and complex family relationships than most non-Indigenous Australians. These important relationships may be difficult to translate into Anglo-Celtic terms, which are built around the nuclear family, and in some cases this results in a loss of complexity or miscategorisation of the relationships in Indigenous families (Morphy 2006). Indigenous households differ from non-Indigenous households in that they tend to be larger, non-nuclear and more fluid in composition (ABS & AIHW 2008).

Penman, citing Daly and Smith (1999), wrote that:

Indigenous households who make common provision for food and the like are often spread over more than one dwelling, just as Indigenous residents in the one dwelling may sleep there but eat elsewhere (Penman 2008).

These extended family structures are important for Indigenous Australians living in remote, traditionally orientated communities and also those living in more densely populated and urbanised areas, and these relationships may form an important safety net for many children (Daly & Smith 2005; Morphy 2006).

The ABS has acknowledged that the household and family structures used in the 2006 Census may not 'fully reflect the richness and complexity of household and family relationships relevant to the Indigenous population...' (ABS 2008k). Despite these limitations, the Census is still the preferred source of information on the composition of Indigenous households.

Table 43.1: Distribution of Indigenous children across the states and territories, June 2006

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia ^(a)
Per cent of state or territory child population^(b)									
0–4 years	4.4	1.3	7.1	6.5	3.7	7.2	2.5	43.9	4.9
5–9 years	4.4	1.3	6.8	6.6	3.7	6.9	2.6	44.1	4.9
10–14 years	4.4	1.2	6.4	6.0	3.4	7.0	2.4	42.6	4.6
0–14 years	4.4	1.3	6.8	6.3	3.6	7.0	2.5	43.5	4.8
Per cent of Indigenous population 0–14 years^(c)									
0–14 years	30.0	6.4	29.0	13.4	5.3	3.5	0.8	11.5	100.0

(a) Includes 'Other Territories' comprising Jervis Bay Territory, Christmas Island and the Cocos (Keeling) Islands.

(b) The denominator is the state/territory population of the same age.

(c) The denominator is the total Indigenous Australian population aged 0–14 years.

Source: ABS 2008g.

An 'Indigenous household' was defined in the Census as any household that had at least one person of any age as a resident at the time of the Census who identified as Aboriginal and/or Torres Strait Islander.

Household structure

According to the 2006 Census, Indigenous households were, on average, larger than other Australian households (3.3 people compared with 2.5, respectively), and there were more children aged under 15 years per household (1.1 compared with 0.5). One-third of Indigenous households with dependent children had three or more children and 15% had four or more children, compared with one-fifth and 5% of other Australian households, respectively (ABS 2008k).

Compared with other Australian households, Indigenous households were also:

- more than 3 times as likely to be one-parent families with dependent children (23% compared with 7%), or multi-family households (5% compared with 1%)
- less likely to be one-family households without dependent children (25% compared with 37%), or lone person households (14% compared with 25%) (Table 43.2).

Table 43.2: Household composition, occupied private dwellings, 2006 (per cent)

Household type	Indigenous households	Other households
One-family households		
Couples with dependent children ^(a)	28.2	26.4
One-parent families with dependent children ^(a)	23.0	6.8
Families without dependent children ^(a)	24.8	37.1
Multi-family households	5.3	1.2
Group households	4.9	3.9
Lone person households	13.8	24.6
Total (per cent)	100.0	100.0
Total (number)	166,668	6,977,424

(a) A dependent child is either under 15 years of age or a dependent student aged 15–24 years. In 2006, 90% of the 178,292 Indigenous dependent children living in occupied private dwellings were children aged under 15 years.

Notes

1. Proportions exclude 'Not classifiable households'.
2. An Indigenous household is any household that had at least one person of any age as a resident at the time who identified as Aboriginal and/or Torres Strait Islander.

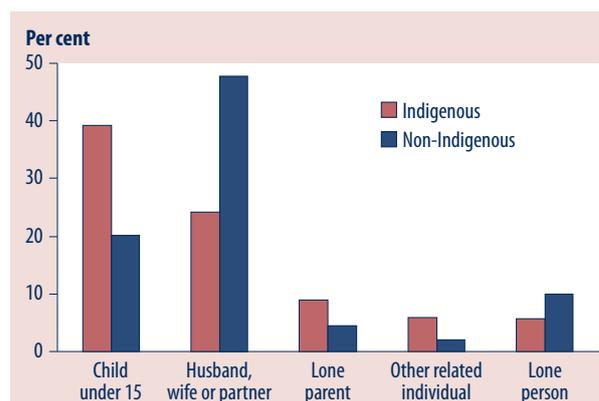
Source: ABS 2008k.

The structure of Indigenous households varied with remoteness in 2006:

- One-parent families, families without dependent children and group households were more common in *Major cities* than in *Very remote* areas. For example, one-parent families with dependent children comprised 24% of Indigenous households in *Major cities* compared with 14% in *Very remote* areas.
- Couples with dependent children and multi-family households were more common in *Very remote* areas than in *Major cities*—20% of Indigenous households in *Very remote* areas were multi-family households compared with 4% in *Major cities*.

Relationships within households

The patterns seen for Indigenous household composition are reflected in household relationships. Of Indigenous Australians who lived in a private dwelling in 2006, 39% were children aged under 15 years, almost twice the proportion for non-Indigenous Australians (20%). This was consistent with the younger age profile of the Indigenous population (see Figure 43.1). In contrast, Indigenous Australians were half as likely as non-Indigenous Australians to report that they were a husband, wife or partner (24% compared with 48%), were more likely to be lone parents (9% compared with 5%) or 'other related individuals' (6% compared with 2%), and less likely to live alone (6% compared with 10%) (Figure 43.3).



Source: ABS 2008k.

Figure 43.3: Selected relationships in household for persons in occupied private dwellings, by Indigenous status, 2006

HEALTH STATUS

As with the Aboriginal and Torres Strait Islander population as a whole, Indigenous children suffer poorer health than their non-Indigenous counterparts. Indigenous children experience higher rates of death, and are more likely to be born with certain congenital anomalies and to live with some chronic health conditions. Indigenous children are also more likely to suffer health problems that are seldom found in developed countries, and are virtually unknown in non-Indigenous Australian children. This reflects their greater socioeconomic disadvantage and poorer socio-environmental living conditions, especially in remote areas. Such health problems include rheumatic heart disease, trachoma, scabies, invasive pneumococcal disease and the consequences of severe ear infections.

This section looks at factors directly related to health status, including mortality and health conditions such as chronic conditions, congenital anomalies, disability and mental health.

Mortality

Mortality rates and cause of death are key indicators of the health of a population. Indigenous infant and child deaths were 3 times that of non-Indigenous children in 2002–2006, reflecting the large disparities in environmental, health and social conditions experienced by Indigenous children (see also *Chapter 4 Mortality*).

Infant mortality

The infant mortality rate is measured as the number of deaths of infants less than 1 year of age in a given year, expressed per 1,000 live births in the same year. Disparities in infant mortality, such as those seen between Indigenous and non-Indigenous Australian infants, are indications of inequalities in social and economic status and in the availability of health care (Freemantle et al. 2006).

In 2002–2006, one-fifth of infant deaths (461 out of 2,431) were identified as Indigenous (data are for Queensland, Western Australia, South Australia and the Northern Territory only):

- The mortality rate for Indigenous infants was 3 times the rate of non-Indigenous infants—12.5 per 1,000 live births compared with 4.3, respectively.
- Perinatal conditions were the leading cause of death for Indigenous infants (46% of infant deaths), followed by symptoms, signs and abnormal findings (22%) and congenital anomalies (12%) (Table 43.3). The leading causes for non-Indigenous infants were perinatal conditions (50%), congenital anomalies (23%) and symptoms, signs and abnormal findings (11%).
- The greatest disparities in cause of death between Indigenous and non-Indigenous infants were for respiratory conditions; symptoms, signs and abnormal findings (including SIDS); and injury (including poisoning), with Indigenous rates 9, 6 and 4 times the non-Indigenous rates, respectively.

Table 43.3: Leading causes of infant death by Indigenous status, Qld, WA, SA and NT, 2002–2006

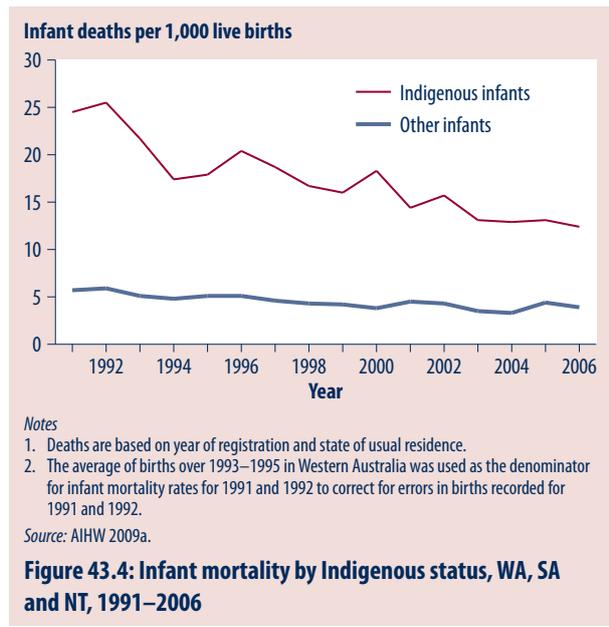
Cause of death	Indigenous		Non-Indigenous		Rate ratio
	Number	Number per 1,000	Number	Number per 1,000	
Perinatal conditions	211	5.7	954	2.1	2.7
Symptoms, signs and abnormal findings	100	2.7	216	0.5	5.6
Congenital anomalies	56	1.5	445	1.0	1.5
Respiratory conditions	35	0.9	49	0.1	8.6
Injury and poisoning	22	0.6	61	0.1	4.4
Other	37	1.0	186	0.4	2.4
Total	461	12.5	1,911	4.3	2.9

Notes

1. Refer to Table A1.2 for ICD-10 codes.
2. Indigenous rate divided by non-Indigenous rate. See *Appendix 1 Methods* for further explanation of rate ratios.

Source: AIHW National Mortality Database.

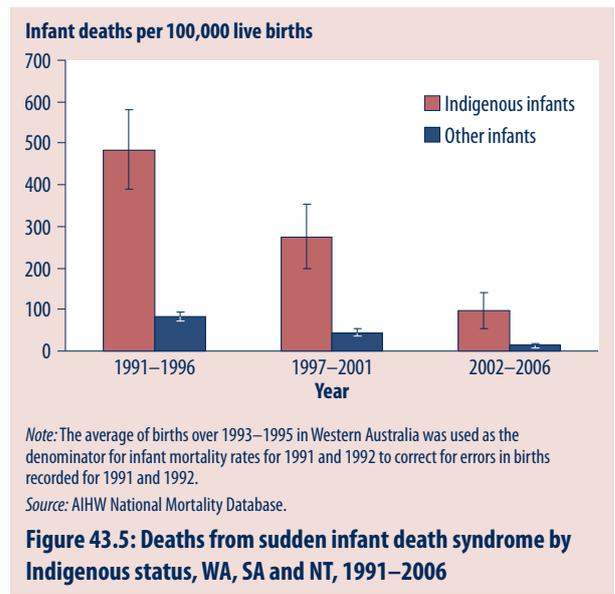
There has been a statistically significant decline in the infant mortality rate for Indigenous and other infants in Western Australia, South Australia and the Northern Territory between 1991 and 2006 (Figure 43.4). The Indigenous infant mortality rate fell by 47% over this period, compared with 34% for other infants (average yearly declines of around 0.8 and 0.1 per 1,000 live births, respectively) (AIHW 2009a).



SUDDEN INFANT DEATH SYNDROME

In 2002–2006, Indigenous infants were 5.4 times as likely to die from SIDS as non-Indigenous infants, with rates of 106 and 20 per 100,000 live births, respectively—this difference was statistically significant (data are for Queensland, Western Australia, South Australia and the Northern Territory only).

Almost one-third of all SIDS deaths (175 of 540) occurring between 1991 and 2006 were for Indigenous infants (data for Western Australia, South Australia and the Northern Territory only). The gap between SIDS rates for Indigenous and other Australian infants narrowed progressively between 1991 and 2006 (from a gap of 401 per 100,000 children in 1991–1996 to 83 in 2002–2006) (Figure 43.5). The SIDS rate for Indigenous infants may be higher than that presented due to changes in the investigation and reporting of SIDS and/or the under-reporting of Indigenous status in death registrations (see also Chapter 4).



Child mortality

In 2002–2006, 16% of deaths of children aged 1–14 years were identified as Indigenous (195 of 1,189 deaths) (data are for Queensland, Western Australia, South Australia and the Northern Territory only):

- Indigenous children were around 3 times as likely to die as non-Indigenous children (39 per 100,000 children and 13, respectively) (Table 43.4).
- Injury (including poisoning) was the leading cause of death for Indigenous children, accounting for almost half of deaths (46%). This was followed by diseases of the nervous system (12%) and diseases of the circulatory system (8%). Injury (including poisoning) and cancer were leading causes of death for non-Indigenous children, followed by diseases of the nervous system.
- The greatest disparities in cause of death between Indigenous and non-Indigenous children were for diseases of the circulatory system; signs, symptoms and abnormal findings; diseases of the nervous system; and injury (including poisoning). Due to the small number of Indigenous deaths due to these conditions, these results should be interpreted with caution.

Table 43.4: Leading causes of death among children aged 1–14 years by Indigenous status, Qld, WA, SA and NT, 2002–2006

Cause of death	Indigenous		Non-Indigenous		Rate ratio
	Number	Number per 100,000	Number	Number per 100,000	
Injury and poisoning	89	17.6	389	5.3	3.3
Diseases of the nervous system	23	4.6	95	1.3	3.5
Diseases of the circulatory system	16	3.2	37	0.5	6.2
Symptoms, signs and abnormal findings	15	3.0	58	0.8	3.7
Cancer	14	2.8	180	2.5	1.1
Other	38	7.5	207	2.8	2.6
Total	195	38.6	966	13.3	2.9

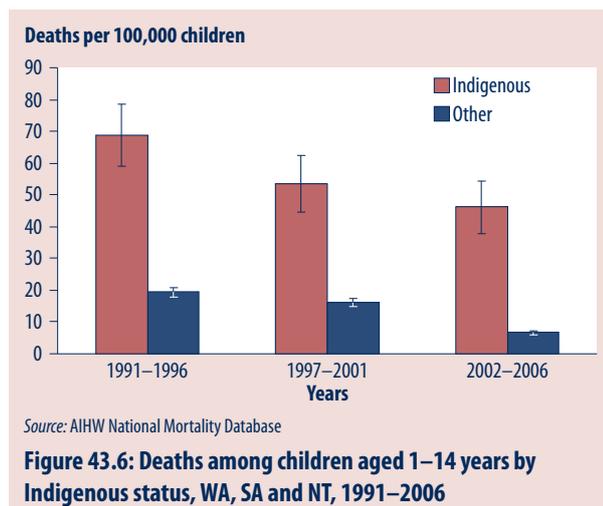
Notes

1. Refer to Table A1.2 for ICD-10 codes.
2. Indigenous rate divided by non-Indigenous rate.

Source: AIHW National Mortality Database.

Between 1991–1996 and 2002–2006, among children aged 1–14 years (data for Western Australia, South Australia and the Northern Territory only):

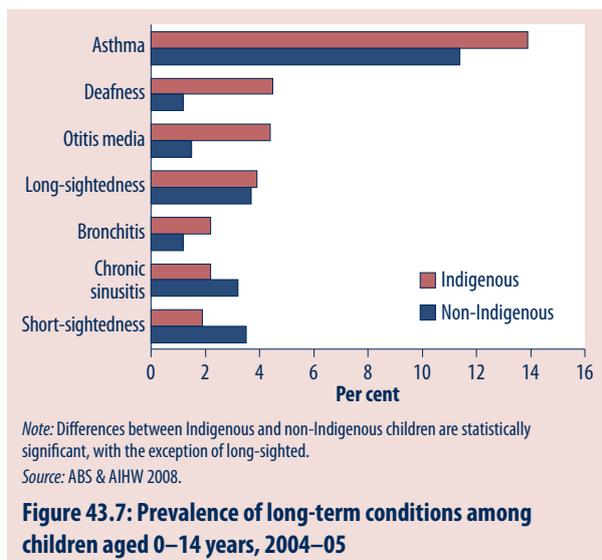
- There was a statistically significant decrease in death rates for Indigenous and other children (69 to 46 per 100,000 Indigenous children and 19 to 7 per 100,000 other children, respectively) (Figure 43.6).
- The gap in deaths rates between Indigenous and other children narrowed from 49 deaths per 100,000 children to 39.

**Chronic conditions**

A chronic condition is an ongoing impairment characterised by a diagnosis of a specific physical or mental condition, functional limitation, and service use or need beyond routine care (see *Chapter 5* for further information). Information on chronic diseases among Indigenous children is limited due to the small number of representative studies in this population. The ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey provides the most recent national estimates of the prevalence of long-term health conditions among Indigenous children.

According to this survey, in 2004–05, among children aged 0–14 years:

- There was no statistically significant difference in the overall prevalence of a long-term condition between Indigenous children (44%) and non-Indigenous children (41%).
- Among Indigenous children, the prevalence of respiratory diseases (asthma and bronchitis) and diseases of the ear and mastoid (deafness and otitis media) were statistically significantly higher than for non-Indigenous children (Figure 43.7).
- Indigenous children had a statistically significantly lower prevalence of chronic sinusitis and short-sightedness than non-Indigenous children.



Eye health

There is limited information on the eye health of Indigenous children. According to the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey, there was little difference in the prevalence of all long-term eye conditions between Indigenous and non-Indigenous children aged 0–14 years (8% compared with 10%, respectively) (AIHW 2008g).

Recent data from the Northern Territory Emergency Response Child Health Checks indicate that 8% of Indigenous children aged 6–15 years had trachoma in at least one eye and that visual impairment was found to be very low (less than 1%) (AIHW & DoHA 2008). In a study of selected Indigenous communities in Western Australia, South Australia and the Northern Territory, the overall prevalence of trachoma was found to be 18% and 14% in 2006 and 2007, respectively, among Indigenous children aged 1–9 years (Tellis et al. 2008).

Skin infections

There are no national data on the incidence and prevalence of skin infections among Indigenous children. Data from the Northern Territory Child Health Checks show that 31% of Indigenous children had a skin condition, 10% had four or more skin sores, and 8% had scabies (AIHW & DoHA 2008). In a study by Clucas and colleagues (2008), the prevalence of scabies was found to be around 50% among Indigenous children in some remote Indigenous communities in the Northern Territory in 2005. Scabies sores may increase the risk of other infections that lead to acute rheumatic fever (see Box 43.1) and kidney disease (Clucas et al. 2008).

In 2006–07, hospital separations for skin diseases were over 3 times as high among Indigenous children aged 0–14 years than among non-Indigenous children (1,030 and 292 per 100,000 children, respectively) (data exclude Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory).

Box 43.1: Acute rheumatic fever and rheumatic heart disease among Indigenous children

Both acute rheumatic fever (ARF) and its consequence, rheumatic heart disease (RHD), are preventable causes of ill health and death. Indigenous Australians have the highest recorded rates of ARF and RHD in the world, and this is almost exclusively restricted to regional and remote areas in Northern and Central Australia (Carapetis et al. 2007). In contrast, these conditions are very rare in other Australians.

ARF is a delayed complication of untreated throat infection with Group A streptococcus bacteria ('strep throat'), but may also follow streptococcal skin sores. ARF occurs mainly in children and young adults. RHD is caused by the long-term damage done to the heart muscle or heart valves by ARF—RHD increases the risk of recurrent infections and further heart damage (AIHW: Field 2004).

ARF is believed to be under-reported, partly because it is difficult to diagnose. Therefore, the reported incidence is likely to be an underestimate (AIHW: Field 2004).

Incidence of acute rheumatic fever

For new and recurrent cases of ARF in the Top End of the Northern Territory and Central Australia between 2003 and 2006 (AIHW 2009a):

- Almost all cases (247) were for Indigenous people (98.4%).
- Over half of cases among Indigenous people were for 5–14 year olds (133 of 247), with rates of 2.0 per 1,000 for Indigenous boys and 2.9 for Indigenous girls.

Prevalence of rheumatic heart disease

There were 326 cases of RHD among Indigenous children aged 0–14 years living in the Top End of the Northern Territory and Central Australia as at 31 December 2006. The rate of RHD among these children was 16 per 1,000 children—more than 50 times as high as non-Indigenous children (AIHW 2009a).

Diabetes

At the national level, there are no reliable estimates of the prevalence or incidence of diabetes among Indigenous children aged 0–14 years. A New South Wales study of young people aged 10–18 years between 2001 and 2006 found no significant difference in incidence rates for Type 1 diabetes between Indigenous and non-Indigenous young people (15 per 100,000 and 21 per 100,000 young people, respectively). However, Type 2 diabetes was 6 times as high among Indigenous than non-Indigenous young people (13 per 100,000 young people and 2, respectively) (Craig et al. 2007).

In 2006–07, there were 149 hospital separations for diabetes for Indigenous children aged 0–14 years. The rate for Indigenous children was 4 times as high as for other Australian children, with rates of 273 per 100,000 children and 69, respectively (data exclude Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory).

Disability

Overall, Indigenous Australians experience higher rates of disability than other Australians (ABS & AIHW 2008); however, information specifically about the prevalence and type of disability among Indigenous children is limited and there are currently no reliable national estimates.

The ABS 2006 Census of Population and Housing asked questions about the need for assistance with core activities of self-care, mobility and communication. Indigenous children aged 0–14 years were 30% more likely than non-Indigenous children to require assistance with a core activity (ABS & AIHW 2008).

The 2000–2002 Western Australian Aboriginal Child Health Survey found that between 1.2% and 2.2% of Indigenous children aged 4 to 17 years required assistance with self-care and more than one in four (between 25% and 29%) were limited in one or more sensory functions (hearing, vision, or speech), or experienced pain (Zubrick et al. 2004).

Although the current national picture on disability among Indigenous children is patchy, a long-held view that rates are high (AIHW 1997) is supported by evidence on common health conditions. Aboriginal children have high rates of hearing problems due to recurrent, often untreated, middle ear infection, which is associated with a high rate of learning disability (Couzos et al. 2001; Zubrick et al. 2004). The high incidence of acute rheumatic fever among Aboriginal children and the high prevalence of rheumatic heart disease (see Box 43.1) and some congenital anomalies are further indications of disability related to preventable chronic health conditions at young ages.

See *Chapter 6* for further information on disability.

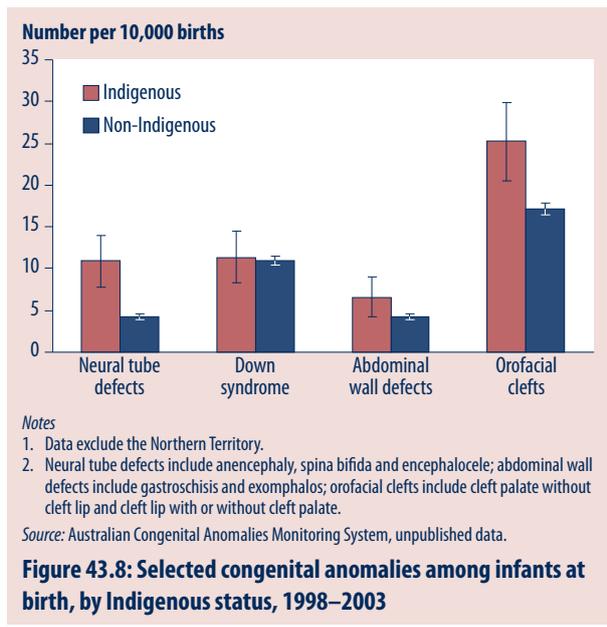
Congenital anomalies

Congenital anomalies can cause death or contribute significantly to morbidity—they are a major cause of short- and long-term disability, and have lifelong implications for health and development.

Over the 6 year period, 1998–2003:

- Indigenous infants were more than twice as likely as non-Indigenous infants to be born with neural tube defects—a congenital anomaly that is largely preventable through maternal folic acid supplementation. Abeywardana and Sullivan (2008b) found a decreasing trend in the rate of Indigenous infants born with neural tube defects between 1998 and 2005, although the rate has remained higher than for non-Indigenous infants. This trend may be affected by under-reporting of Indigenous status.
- Birth rates for orofacial clefts were 50% higher among Indigenous infants compared with non-Indigenous infants.
- The birth rate of Down syndrome, a genetic disorder, was similar for Indigenous and non-Indigenous infants. Similarly, no statistically significant difference was found for abdominal wall defects (Figure 43.8).

See *Chapter 7* for further information on congenital anomalies.



Mental health

From the perspective of Indigenous Australians, mental health and social and emotional wellbeing are part of a holistic understanding of life that encompasses not only the wellbeing of the individual, but also the wellbeing of their family and community (Swan & Raphael 1995). Social and emotional wellbeing refers to more than simply the presence or absence of illness; it also incorporates a strengths perspective that refers to wellness (ABS & AIHW 2008).

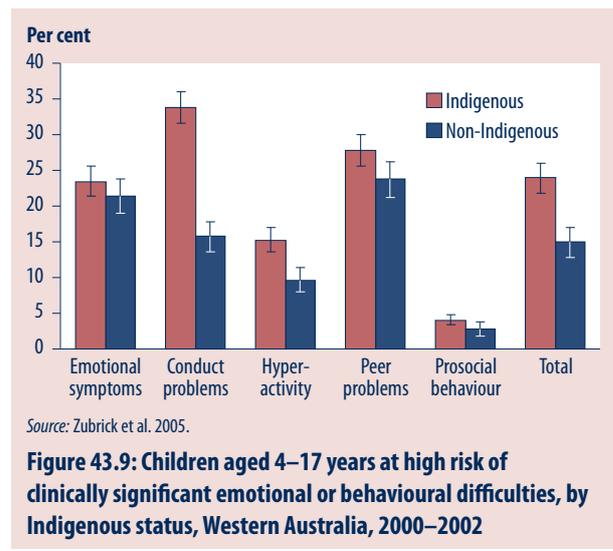
While there is a scarcity of national data on the mental health and wellbeing of Indigenous children, results from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey indicate that Indigenous adults were twice as likely as non-Indigenous adults to report high or very high levels of psychological stress and were 40% more likely to have experienced a life stressor in the previous 12 months (AIHW 2009e). Comparable measures for Indigenous children have not been developed; however, information is available from this survey on mental and behavioural problems among children, as parent-reported long-term conditions. According to this survey, Indigenous children aged 4–14 years were statistically significantly more likely to have a mental or behavioural problem as a long-term condition than non-Indigenous children (13% compared with 8%).

The Strengths and Difficulties Questionnaire (Goodman 2001), used in the Western Australian Aboriginal Child Health Survey, collected information on children’s mental health and behaviour. According to the 2000–2002 Western Australian survey:

- Indigenous children were statistically significantly more likely to be at high risk of a clinically significant emotional or behavioural difficulty, compared with non-Indigenous children (24% and 15%, respectively) (Figure 43.9).
- Of the specific emotional or behavioural difficulties, Indigenous children were statistically significantly more likely to be at high risk of conduct problems (34%) and hyperactivity (15%) compared with non-Indigenous children (16% and 10%, respectively).

Reflecting the higher prevalence of mental health conditions among Indigenous children, as indicated by data from the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey, Indigenous children also have a higher hospital separation rate for mental and behavioural disorders. In 2006–07, Indigenous children aged 4–14 years were admitted to hospital for a mental and behavioural disorder at a rate 40% higher than for other Australian children (rates of 314 and 223 per 100,000 children, respectively) (data exclude Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory).

See *Chapter 8* for further information on mental health.



DETERMINANTS OF HEALTH

The health and wellbeing of individuals and populations is influenced and determined by many factors acting in various combinations, that is, the causes of health and wellbeing are multifactorial. Cultural, socioeconomic and physical factors have a demonstrated strong association with disease and ill health (ABS & AIHW 2008) and interact to result in the poorer health and wellbeing of Indigenous Australians (Abbot & Close 2002; Booth & Carroll 2005). This section considers health risk and protective factors.

Maternal health and risk factors

Overall, the health of Indigenous mothers and their babies is poorer compared with their non-Indigenous counterparts, reflecting the relative social and economic disadvantage experienced by many Indigenous families. Poor maternal health and wellbeing before conception and during pregnancy and lactation can affect the health and wellbeing of the infant, particularly through a poor diet, chronic infection, and exposure to alcohol or tobacco. These risk factors pose a greater risk to the developing fetus early in pregnancy, often before women know that they are pregnant and can modify their risk behaviours.

A poor diet before and during pregnancy and lactation can lead to deficiencies of vitamins and minerals such as iron, folate and iodine. Deficiencies of these micronutrients are known to contribute to poor maternal and infant health (Allen 2005). Although these deficiencies can be managed by improving the diet of the mother and through supplementation, for some Indigenous communities access to a quality diet that includes fresh fruit and vegetables may be limited by cost and geographical remoteness.

Teenage motherhood and fetal exposure to risk factors such as alcohol and tobacco pose significant risks to the health and wellbeing of the infant and contribute to a higher risk of low birthweight and to poorer outcomes, such as higher infant mortality rates.

Teenage births

Teenage mothers are more likely to delay having their pregnancy confirmed and/or seek antenatal care, and may continue to engage in risky behaviours such as binge drinking and tobacco use.

There are social and cultural factors that increase the vulnerability of Indigenous adolescents to early pregnancy and birth, including poverty, early school leaving, community norms, and lower awareness of services and contraception use. Furthermore, a large proportion of Indigenous adolescents live in remote and very remote areas (23% of 15–19 year old women in 2006) where educational and employment opportunities for youth are limited and access to appropriate services can be difficult due to lack of choice, a lack of female doctors and distance. Culturally appropriate service provision to young Indigenous women is important; however, patient confidentiality issues may arise in Indigenous-specific services, particularly in remote areas (Slowinski 2001).

In 2006, the Indigenous teenage birth rate was 5 times the non-Indigenous rate—80 births per 1,000 Indigenous 15–19 year olds, compared with 15 for non-Indigenous teenagers (Table 43.5). This high birth rate among Indigenous women at younger ages contributes to the relatively high birth rate of Indigenous women overall (2.4 babies per woman in 2007—around 25% higher than for all women (1.9) (ABS 2008d)).

See *Chapter 18* for further information on teenage births.

Smoking and alcohol use in pregnancy

Smoking and alcohol use in pregnancy are associated with poor health outcomes for mother and child.

Although it is not known how many Indigenous women reduce or quit smoking while pregnant, it is known that, in 2006, more than half (52%) of Aboriginal and Torres Strait Islander mothers reported smoking during pregnancy—more than 3 times the rate of non-Indigenous mothers (16%) (excludes data from Victoria) (Table 43.5). Wood and colleagues (2008) found that Indigenous women's understanding of the health consequences of smoking during pregnancy was low, and that smoking cessation during pregnancy was not a priority due to the social and economic pressures they faced in their lives.

In the Northern Territory in 2002, one in ten (9.8%) women reported at the time of their first antenatal visit that they consumed alcohol in pregnancy (first trimester). There has been little change over time in the proportion of Indigenous women in the Northern Territory consuming alcohol during pregnancy (d'Espaignet et al. 1999; Stewart & Li 2005).

See *Chapter 19* and *Chapter 20* for further information on smoking and alcohol use in pregnancy.

Birthweight

Many of the factors that contribute to low birthweight such as young maternal age, smoking, excessive alcohol consumption and poor nutrition are modifiable and susceptible to intervention.

In 2006, Indigenous mothers were twice as likely as non-Indigenous mothers to have a low birthweight infant (13% compared with 6%, respectively) (Table 43.5). During the period 1991–2004, there was a small, but statistically significant, widening in the gap between Indigenous and non-Indigenous infants of low birthweight (Leeds et al. 2007).

The proportion of low birthweight infants born to Indigenous mothers was similar across all remoteness areas of Australia in 2006. However, the mean birthweight of babies born to Indigenous mothers differed by remoteness of the mother's usual place of residence—in 2001–2004, Indigenous mothers in *Major cities* had heavier babies (mean 3,188 grams) than those in *Very remote* areas (mean 3,123 grams) (Leeds et al. 2007).

See *Chapter 21* for further information on birthweight.

Table 43.5: Selected risk factors for infant health, by Indigenous status, 2006

	Teenage births	Smoking in pregnancy	Low birthweight
	Number per 1,000	Per cent	Per cent
Indigenous	79.6	52.2	12.4
Non-Indigenous	14.7	15.6	6.2
Rate ratio	5.4	3.3	2.0

Notes

1. Smoked during pregnancy is defined as the proportion of mothers who smoked at any time during pregnancy. Excludes data from Victoria.

2. Low birthweight is defined as birthweight less than 2,500 grams.

Source: AIHW National Perinatal Data Collection.

Breastfeeding

There is currently no national data collection to gather consistent information on breastfeeding, and different studies have measured breastfeeding using different definitions (see Box 9.1 in *Chapter 9*), making comparison between studies difficult.

The ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey and 2004–05 National Health Survey collected information on breastfeeding. According to these surveys, among infants aged 0–3 years in non-remote areas:

- Indigenous infants were less likely to have ever been breastfed than non-Indigenous infants (79% compared with 88%) (AIHW 2009a).
- An estimated 80% of Indigenous infants aged 1 year in 2004–05 were breastfed (either exclusive or complementary) at less than 1 month of age, dropping to 62% and 48% at 4 and 6 months of age, respectively. The corresponding proportions for non-Indigenous infants were 88%, 58% and 52%.

With regard to exclusive breastfeeding, according to the 2000–2002 Western Australian Aboriginal Child Health Survey, over half (53%) of Indigenous infants aged less than 6 months were reported as being exclusively breastfed, dropping to 7% at age 6–11 months. The survey also found that the proportion of Indigenous children who had ever been breastfed increased with remoteness, as did the length of time for which children were breastfed (Zubrick et al. 2004).

See *Chapter 9* for further information on breastfeeding.

Dental health

The dental health of Indigenous children is poorer than for non-Indigenous children, as measured by the number of decayed, missing or filled deciduous or permanent teeth (dmft and DMFT scores, respectively) and the proportion of children who are decay-free. Indigenous children are more likely than non-Indigenous children to be living outside of major cities, in areas where fluoride in the water supply is not of optimal concentration and the accessibility and affordability of dental health services are critical issues (AIHW DRSU: Jamieson et al. 2007). These factors may contribute to their poorer dental health outcomes.

The 2002 Child Dental Health Survey found that, based on data from Victoria, Queensland, South Australia and the Northern Territory:

- The mean number of decayed, missing or filled teeth for Indigenous 6 year olds was 4.8 (dmft) and among 12 year olds was 1.8 (DMFT). On average, Indigenous children had more decayed, missing or filled teeth than non-Indigenous children (2.6 and 1.8 times as many for 6 and 12 year olds, respectively).
- The proportion of children decay-free at age 6 years was much lower for Indigenous children (21% compared with 54% for non-Indigenous children) and was also lower at age 12 years (48% compared with 60% for non-Indigenous children).

See *Chapter 10* for further information on dental health.

Overweight and obesity

There are currently no robust national data available on overweight and obesity among Indigenous children. However, it is known that in the general population rates of self-reported obesity among Indigenous adults are higher than for other Australian adults (AIHW 2008b). This may reflect dietary changes over a long period from the traditional fibre-rich, high protein, low saturated fat diet of many Indigenous communities to one that is high in refined carbohydrates and saturated fats (Burns & Thompson 2008).

Growth faltering is particularly a problem among Indigenous children. A complex mix of factors, including poor nutrition, acute and chronic infections, and parasitic diseases, combine to hinder the healthy growth of Indigenous children in remote communities (McDonald et al. 2008). Among Indigenous children under 5 years in remote Northern Territory communities, high levels of underweight (15%), stunting (11%) and wasting (9%) were found. In a healthy population profile, the expected prevalence of underweight is around 2% (Li et al. 2007).

See *Chapter 11* and *Chapter 22* for further information on physical activity and nutrition, and overweight and obesity.

Tobacco use and exposure to environmental tobacco smoke

The detrimental health effects of tobacco smoking are well established. Data from the Australian Secondary School Students' Alcohol and Drug Survey show that, in 2005, 17% of Indigenous students aged 12 to 15 years were current smokers (had smoked in the week before the survey), higher than the 7% of non-Indigenous students. The proportion of Indigenous students who were current smokers had declined by 10 percentage points between 1996 and 2005 (from 27% to 17%), while the proportion of non-Indigenous current smokers declined by 11 percentage points (from 18% to 7%) over the same period (White et al. 2009).

There is evidence that Indigenous adults are much more likely to smoke tobacco than non-Indigenous adults. In 2004–05, after adjusting for age differences, half (50%) of Indigenous Australians aged 18 years and over were current daily smokers, more than twice the rate for non-Indigenous Australians (ABS & AIHW 2008). This could have the effect of normalising smoking for Indigenous

children resulting in increased smoking uptake, and it could also expose them to environmental tobacco smoke which poses a substantial risk to their health. Analysis of the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey and National Health Survey show that among children aged 0–14 years:

- Indigenous children were around 3 times as likely to have been exposed to tobacco smoke in the home as non-Indigenous children (28% and 9%, respectively).
- Indigenous children living in *Very remote* areas were more likely to have been exposed to tobacco smoke in the home (41%) than were Indigenous children in *Major cities, Inner regional, Outer regional* or *Remote* areas (between 20% and 29% of children living in these areas) (AIHW 2009a).

See *Chapter 23* and *Chapter 24* for further information on environmental tobacco smoke and tobacco use among children.

Alcohol misuse

Indigenous Australians are hospitalised for diagnoses related to alcohol use at a greater rate than non-Indigenous Australians, and are more likely to die from alcohol-related causes (AIHW 2009a). This suggests that harm from alcohol consumption is greater among Indigenous than non-Indigenous Australians; however, there is currently no reliable national information available on the extent of alcohol consumption among Indigenous children.

According to the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey and National Health Survey, after age-standardisation, around twice the proportion of Indigenous adults reported that they had not drunk alcohol in the previous 12 months (29% of Indigenous Australians compared with 15% of non-Indigenous Australians). Despite this, a greater proportion of Indigenous adults had drunk at risky or high risk levels for short-term harm in the previous 12 months (47% compared with 40% of non-Indigenous adults), and similar proportions of Indigenous and non-Indigenous adults had drunk at risky or high-risk levels for long-term harm in the week before the survey (15% and 14%, respectively) (AIHW 2009a).

See *Chapter 25* for information on alcohol misuse among all Australian children.

HEALTH SYSTEM PERFORMANCE

The capacity of the health system to deliver high-quality services plays a major role in influencing the health and wellbeing of children.

Activities of a health system can range from clinical and preventive services and programs through to efforts to improve the physical, social and economic environment for groups or individuals. Further, various strategies within a health system aim at developing individuals' personal skills to exercise more control over their own environments and decision making, and enhancing a community's capacity to provide culturally relevant services (AIHW 2006a). There are many aspects of health system performance, with some more relevant to the Indigenous population, such as the recruitment and retention of Indigenous people in Indigenous-specific health services.

The information presented here has particular relevance for Indigenous children. See *Part VIII* for further information on system performance.

Antenatal care

Antenatal care provides essential information and support to expectant mothers throughout pregnancy, and can greatly reduce the risk of mortality during childbirth. A number of factors which have been found to contribute to successful antenatal services in Indigenous communities include community-based or community-controlled services; integrated services; respect for Indigenous people and culture; and a focus on communication, relationship building and trust (see Herceg 2005 for further information).

In 2005, in New South Wales, Queensland, South Australia and the Northern Territory, about 96% of Indigenous mothers, and 99% of non-Indigenous mothers, attended at least one antenatal care session—there was little difference according to remoteness (AIHW 2009a).

Immunisation and notifiable diseases

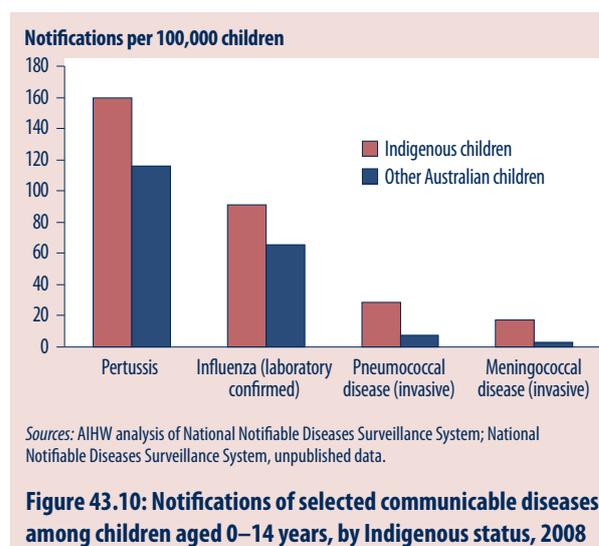
Information on immunisation coverage of Indigenous children and other children are available from the ACIR (see *Appendix 2 Data sources*). Indigenous identification in the ACIR has improved in recent years, reaching 95% of the estimated Indigenous child population in 2005, and a minimum coverage of at least 75% across all jurisdictions (NCIRS 2008).

Immunisation coverage at 2 years of age was similar for Indigenous and other Australian children as at 30 September 2008 (91% and 93%, respectively). In contrast, coverage at one year of age was lower for Indigenous children (85%) compared with other children (92%).

Notification rates for vaccine-preventable diseases are influenced by immunisation coverage. According to the National Notifiable Diseases Surveillance System, among children aged 0–14 years in 2008:

- The pertussis notification rate was higher among Indigenous than other children (160 per 100,000 children and 116, respectively) (Figure 43.10). Pertussis notification rates for Indigenous and other children have increased sharply since 2007 when rates were 12 per 100,000 children and 16, respectively.
- Notification rates for invasive meningococcal disease and invasive pneumococcal disease were around 6 and 4 times as high among Indigenous children as other children.
- There were less than 5 notifications of hepatitis A among Indigenous children, a substantial fall from 142 notifications in 1998. Hepatitis A notifications for other children were also low in 2008 (less than 5 notifications), down from 431 in 1998.
- Laboratory-confirmed influenza notifications were 40% higher for Indigenous children than for other children (91 per 100,000 children and 66, respectively).

See *Chapter 39* for further information on immunisation and notifiable diseases.



EARLY LEARNING AND DEVELOPMENT

There is a positive association between education and health. Education may allow people to access and then make better use of health-related information, and often leads to higher incomes that allow purchases that can positively affect health, for example, medication and health insurance. On the other hand, poor health may prevent children from attending school (ABS & AIHW 2008). The educational experience of children is also important. Carson and colleagues (2007) cite research suggesting that, at least historically, a 'western education' may not have been a positive experience for Indigenous Australians as there was a lack of cultural awareness and respect; the western educational system failed to 'conserve and reaffirm elements of traditional culture'.

Despite general improvements, in 2006 Indigenous Australians continued to achieve poorer educational outcomes than non-Indigenous Australians in terms of retention to Year 12 and proportion with non-school qualifications (ABS & AIHW 2008). Circumstances more often experienced by Indigenous children such as living in a geographically remote location, speaking English as a second language or suffering a chronic health condition can lead to poorer educational outcomes for Indigenous children (Zubrick et al. 2006).

Improving the educational experience and outcomes for Indigenous Australians, and in the process closing the gap between Indigenous and non-Indigenous students, is a priority for the Australian, state and territory governments (MCEETYA 2008a).

Attending early childhood education programs

The ABS 2005 Child Care Survey, used in *Chapter 13* for children attending preschool or long day care, does not permit a breakdown by Indigenous status. There are a range of other data sources that report on Indigenous preschool participation, including the ABS Census of Population and Housing, and administrative data from the states and territories that is published in the *Report on government services*. Due to differences in survey methodologies, these sources returned different counts of Indigenous preschool attendees. The National Preschool Census is used here because the level of Indigenous education program funding provided has been linked to the Indigenous enrolment

figures collected in the National Preschool Census since 1998 (DEEWR 2008c). It should be noted that enrolment figures do not necessarily reflect attendance.

The National Preschool Census showed that in 2007:

- There were 9,627 Indigenous children enrolled in preschool programs Australia-wide, a 10% increase compared with 2002 (DEEWR 2008c, 2008d). Indigenous children comprised about 5% of the 212,402 total children enrolled in 2007.
- A comparatively high proportion of Indigenous children were enrolled in government preschools (56% compared with 24% of all children).
- Indigenous children were far more likely to have attended a preschool in a provincial or remote region than all children (73% compared with 31% of all children).

The COAG has also committed to providing universal access to early childhood education programs to all 4 year olds for 15 hours per week, for a minimum of 40 weeks per year, by 2013, with a particular focus on Indigenous 4 year olds in remote Indigenous communities (COAG 2008b).

See *Chapter 13* for further information on children attending early childhood education programs.

Transition to primary school

Children entering school with basic skills for life and learning are more likely to experience a successful transition to primary school. The Australian Early Development Index (AEDI) is used to assess the performance of children across a number of domains that are important for a successful transition to school. It will be able to provide this information for Indigenous children at the state, territory and national level once implemented Australia-wide.

In the meantime, the data presented here are derived from Indigenous Education Program performance reports of the Australian Government Department of Education, Employment and Workplace Relations. Indigenous Education Program funded preschools report on the literacy and numeracy awareness of students and assess students' readiness for entry into primary school in the following year. It should be noted that literacy and numeracy readiness is just one aspect of overall school readiness.

In 2006, a smaller proportion of Indigenous children met the literacy and numeracy requirements compared with non-Indigenous children:

- Australia-wide, 74% of Indigenous children and 88% of non-Indigenous children were assessed as being literacy ready for primary school in the following year. The corresponding proportions for being numeracy ready were 71% and 87%.
- Indigenous children who attended government preschools were less likely to be assessed as being literacy or numeracy ready when compared with Indigenous students in non-government preschools (DEEWR unpublished data).

A study that assessed programs to help with the transition of Indigenous children to primary school found some common characteristics among successful programs. Some of these included:

- a focus on relationship building
- a meaningful, relevant and challenging curriculum that makes clear the benefits that school can provide
- valuing Indigenous culture within the program and school
- recognising the strengths within Indigenous communities and tapping into existing programs and networks (Dockett et al. 2008).

See *Chapter 14* for further information on transition to primary school.

Attendance at primary school

School attendance among Aboriginal and Torres Strait Islander students is of particular concern. Data for this section are primarily drawn from the *National report on schooling in Australia 2007* (MCEETYA 2009). Attendance data from this report is available by year level and state and territory for each school sector (government, Catholic or independent).

As the data cannot be aggregated further, the attendance of Year 5 students is presented here.

In 2007, Indigenous Year 5 students generally had lower attendance rates than non-Indigenous students:

- In the government sector, the average attendance for Indigenous students was generally between 5 and 7 percentage points lower, with larger gaps seen in the Northern Territory and Western Australia (18 and 12

percentage points, respectively), and a smaller difference in Tasmania (2 percentage points) (Figure 43.11).

According to the ABS 2007 National School Statistics Collection, 89% of Indigenous Year 5 students were enrolled in government schools (unpublished data).

- The attendance rates for Year 5 Indigenous students were also generally lower than the non-Indigenous rates in the Catholic and independent sectors. Smaller proportions of Indigenous Year 5 students were enrolled in these schools in 2007 (8% and 3%, respectively).

In 2007, there was more variation in the attendance of Indigenous students than of non-Indigenous students across Years 1 to 7 (MCEETYA 2009). This variation was greater in the Catholic and independent sectors than for the government sector, which is possibly the result of the smaller number of Indigenous students enrolled in Catholic and independent schools.



Data from the Western Australian Aboriginal Child Health Survey, conducted in 2000–2002, also found lower attendance rates for Indigenous students. The median number of days missed by Indigenous students aged 4–17 years was 26 days (12.5% of the school year), compared with 8 days for all Western Australian students in the 1993 Western Australian Child Health Survey. Factors found to be associated with higher rates of absenteeism were speaking a language other than English (such as an Indigenous language), a teacher-assessed risk of clinically significant emotional or behavioural difficulties, a lower level of academic performance, having a carer with fewer years of formal education, not living in a home that was owned or being purchased by a member of the household, and not having accessed day care or early childhood education (Zubrick et al. 2006).

See Chapter 15 for further information on attendance at primary school.

Literacy and numeracy

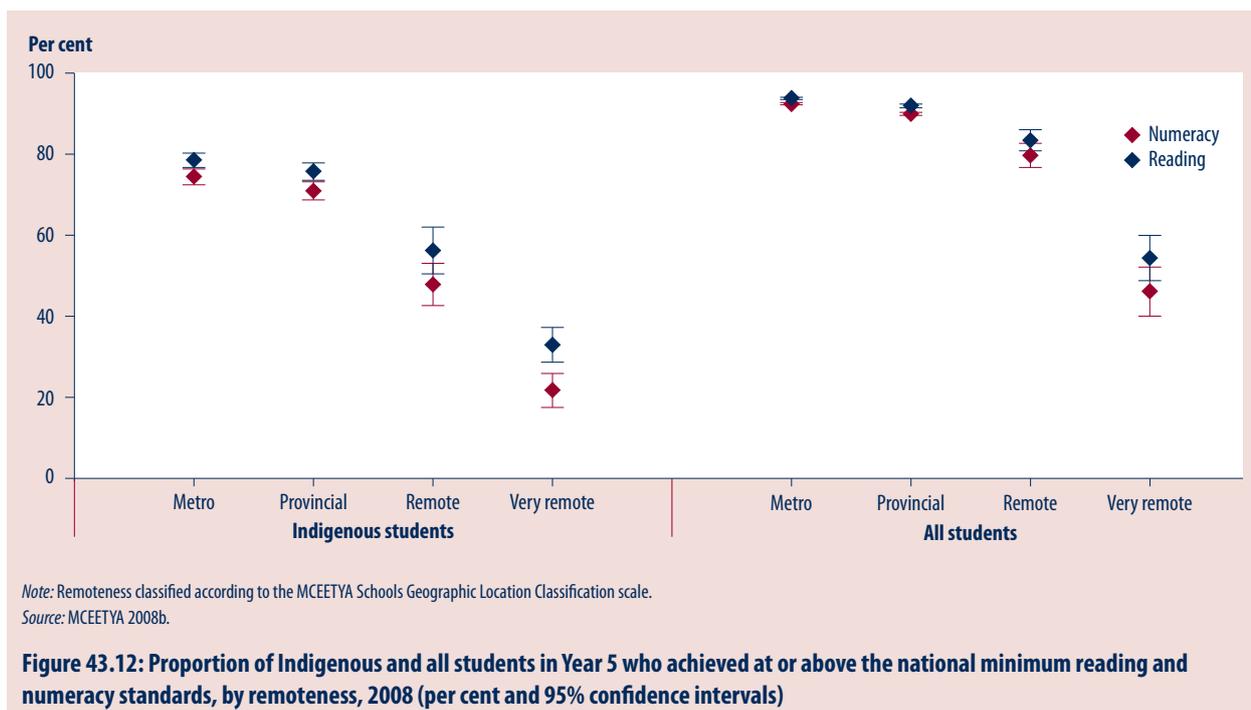
Indigenous Year 5 students assessed as part of the National Assessment Program—Literacy and Numeracy (NAPLAN) were less likely to have achieved the minimum standards for reading and numeracy—63% and 69% respectively, 28 and 24 percentage points lower than the proportion of all students who met the minimum

standards. The gap between the proportion of Indigenous and all students who met the minimum standards was larger for Year 5 than for either Year 3 or Year 7 (24 and 16 percentage points for reading and numeracy respectively in Year 3; 22 and 17 percentage points in Year 7).

The proportion of Indigenous year 5 students meeting the minimum standards varied with the remoteness of the school:

- Of Indigenous students in *Metropolitan* areas, 74% and 79% met the reading and numeracy minimum standards, compared with 92% and 94% of all students in *Metropolitan* areas (Figure 43.12).
- Indigenous students in *Very remote* areas were the least likely to have met the minimum standards—22% for reading and 33% for numeracy. This was also the case for all students (46% for reading and 54% for numeracy). As Indigenous children make up 59% of the child population in *Very remote* areas, it is likely that the lower proportion of Indigenous children achieving the minimum standards had a significant effect on the proportion for all students in *Very remote* areas.

The introduction of the NAPLAN has meant that 2008 data could not be compared with results from previous years. Between 1999 and 2007, some progress was made towards closing the gap between the proportion of Indigenous and all Year 5 students who met the reading



benchmark; the gap narrowed by 5 percentage points over this time, from a 27 percentage point gap in 1999 to a 22 percentage point gap in 2007. A statistically significant change in the numeracy gap was not seen over this period (MCEETYA 2008c). In 2008, the Australian Government committed to halve the gap in literacy and numeracy achievement between Indigenous and non-Indigenous children within the decade (Rudd 2008).

See *Chapter 16* for further information on literacy and numeracy.

FAMILIES AND COMMUNITIES

Family functioning

Family functioning is about how families interact, communicate, make decisions, solve problems and maintain relationships. There are currently no national data on the functioning of families with children aged 0–14 years, and this is also the case for Indigenous families and children.

The 2000–2002 Western Australian Aboriginal Child Health Survey measured family functioning using a culturally appropriate scale developed specifically for the survey—it included questions on support, communication, financial management and traditions within the family. Most Indigenous families scored highly on the scale (Silburn et al. 2006).

Financial strain, a low-quality diet for the children, and having a primary carer who was ‘not at all’ interested in religion or spirituality were found to be independently associated with poor family functioning. The level of education of the primary carer was also associated; families where the primary carer had not attended school were more likely to have had ‘poor’ family functioning than families where the primary carer had attended school for 1 to 12 years. Perhaps unexpectedly, families where the primary carer had 13 or more years of education were also more likely to have had poor family functioning.

Some factors were associated with ‘very good’ but were not associated with ‘poor’ family functioning. Carers who had been forcibly removed from their family, and those who had a medical condition that limited their daily activities were more likely to have been living in a family with ‘very good’ family

functioning than those carers who were neither forcibly removed or suffering such a medical condition.

See *Chapter 26* for further information on family functioning.

Family economic situation

By several economic measures, Indigenous Australians are faring more poorly than other Australians.

Figures derived from the 2006 Census of Population and Housing showed that, on average, Indigenous Australians had lower equivalised household incomes than other Australians (\$460 per week compared with \$740 per week). Between the 2001 and 2006 Censuses, the equivalised household income for Indigenous Australians increased by 9% in real terms, which matched the increase recorded for non-Indigenous Australians over the same period (ABS 2008k).

Employment is generally the most important determinant of income (ABS 2009). At the time of the 2006 Census, Indigenous Australians had a lower labour force participation rate (that is, either working or unemployed but actively looking for work) and a higher unemployment rate, than non-Indigenous Australians (ABS 2008k). Daly and Smith (2005), in research based on the 2001 Census, found that 47% of Indigenous families (couple and one-parent) with dependants were jobless families, (that is, they had no parent working)—more than twice the rate of other Australian families, at 20%.

See *Chapter 27* for further information on family economic situation.

Children in non-parental care

Indigenous children are over-represented in formal out-of-home care under the auspices of the child protection system—they were 9 times as likely to be in out-of-home care compared with other children (44 in every 1,000 children aged 0–14 years compared with 5) (Table 43.6). The over-representation has been a consistent trend over the past decade, and one that appears to be accelerating. There are a number of factors that contribute to this over-representation, including the intergenerational effects of separation from family and culture, socioeconomic disadvantage, domestic violence, unemployment, and alcohol and substance abuse; however, improved Indigenous identification may also be a factor (Ring & Wenitong 2007; Stanley et al. 2003; see also AIHW 2009c).

Table 43.6: Children aged 0–14 years in out-of-home care by Indigenous status, 30 June 2008

Age	Relatives/kin		Foster care		Residential care		Other		Total	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Aboriginal or Torres Strait Islander children										
<1 year	112	8.6	208	16	4	0.3	2	0.2	326	25
1–4 years	1,058	21	1,078	22	16	0.3	27	0.5	2,179	44
5–9 years	1,673	28	1,147	19	25	0.4	37	0.6	2,882	48
10–14 years	1,555	25	962	16	122	2.0	48	0.8	2,687	44
Total	4,398	24	3,395	18	167	0.9	114	0.6	8,074	44
Other children										
<1 year	244	0.9	493	1.8	16	0.1	4	<0.1	757	2.8
1–4 years	1,892	1.8	2,464	2.4	30	<0.1	59	0.1	4,445	4.3
5–9 years	2,817	2.2	3,341	2.6	98	0.1	135	0.1	6,391	5.0
10–14 years	2,910	2.2	3,442	2.6	534	0.4	164	0.1	7,050	5.3
Total	7,863	2.0	9,740	2.5	678	0.2	362	0.1	18,643	4.8

Note: Rate per 1,000 children.

Source: AIHW Child Protection Data Collection.

Indigenous children aged 5 to 9 years were the age group most likely to have been in out-of-home care (48 in every 1,000 children), while infants were the least likely (25 in every 1,000). Indigenous children were staying with relatives or kin at 12 times the rate of other children, and were staying in foster, residential or other care settings at between 5 and 7 times the rate. This greater over-representation in relative or kin care may be a reflection of the Aboriginal Child Placement Principle, which states a preference for Aboriginal children who are unable to live with immediate family to remain living within their community (Lock 1997).

See *Chapter 28* for further information on children in non-parental care.

Social capital

Social capital can be considered to be networks of social relationships characterised by norms of trust and reciprocity. Several authors, when discussing social capital in an Indigenous context, highlight different types of relationships. Examples of these types are 'bonding', 'bridging' or 'linking' relationships (ABS 2004b; Baum 2007; Hunter 2004). Bonding relationships occur 'between relatively closely knit groups who are likely to share many characteristics in common' (Baum 2007), while bridging or linking relationships occur between people who have less in common, such as different cultural backgrounds or different positions in

society. Indigenous Australians may be rich in bonding relationships, but relatively poor in bridging or linking relationships (Baum 2007). Bonding relationships can reduce social isolation and provide sources of support in times of need, while bridging and linking relationships can provide a connection with 'mainstream' sources of employment, health care or education.

This adds complexity to the measurement of social capital, as it is not just the existence or number of relationships that matters, but who the relationships are with. It has also been suggested that social capital 'is essentially a western concept that has not been adapted to Indigenous cultural understandings' (Baum 2007).

According to the ABS 2002 National Aboriginal and Torres Strait Islander Social Survey, the majority (91%) of households with an Indigenous respondent with children aged 0–14 years were able to get support in a time of crisis from someone living outside the household. This was slightly lower than the proportion of all households with children (95%). The most common sources of support for Indigenous respondents were family members (89% of households), friends (60%), or neighbours (21%), and these were also the most common sources of support for all respondents in households with children (88%, 75%, and 32%, respectively) (AIHW analysis of the 2002 National Aboriginal and Torres Strait Islander Social Survey and General Social Survey confidentialised unit record files).

Access to support in a time of crisis varied by the labour force status of the respondent and by remoteness:

- Households where the respondent was employed were more likely to have access to support in a time of crisis (94% compared with 87% of households where the respondent was unemployed).
- A greater proportion of respondents from households in non-remote locations (*Major cities, Inner and outer regional areas*) had access to support than those in remote locations (*Remote and very remote areas*) (92% compared with 88%).

See *Chapter 31* for further information on social capital.

Indigenous culture

The ABS 2002 National Aboriginal and Torres Strait Islander Social Survey also collected information on participation in cultural activities by Indigenous Australians. Of Indigenous Australians aged 15 years and over living in a one-family household with children aged 0–14 years:

- 70% had attended a cultural event in the 12 months before the survey
- a little over half (53%) identified with a clan, tribal or language group
- 17% spoke an Indigenous language (Table 43.7).

Respondents living in a remote location were more likely to have responded positively to each of these measures of cultural participation (Table 43.7). In particular, 42% of respondents living in a remote location spoke an Indigenous language compared with 9% of respondents living in non-remote locations. Those who were unemployed had lower rates of positive response than

those who were employed or not in the labour force.

Those who were members of couple families with children were more likely to identify with clan, tribal or language groups or to speak an Indigenous language, but were less likely to have attended a cultural event in the 12 months before the survey, compared with one-parent families.

SAFETY AND SECURITY

The family and community environment has a vital role to play in protecting children from physical and emotional harm, which can have a significant impact on the health and wellbeing of children in both the short term and throughout life.

Injuries

Injuries sustained during childhood can have profound and lifelong effects on health and development by causing death, permanent physical disabilities or long-term cognitive or psychological damage (for example, traumatic brain injury). Hospitalisation and mortality rates due to injury are higher among Indigenous children than non-Indigenous children. Refer to *Appendix 1 Methods* for technical notes regarding the analysis of injury data.

Injury hospitalisations

The overall hospital separation rate due to injury is higher for Indigenous children than for other children, and for each leading specific cause (Table 43.8). In 2006–07, among children aged 0–14 years:

- The injury hospital separation rate was 40% higher for Indigenous children than for other children.

Table 43.7: Indigenous Australians aged 15 years and over living in one-family households with children aged 0–14 years: measures of Indigenous cultural participation, 2002 (per cent)

	Family type		Employment status			Remoteness ^(a)		Total
	Couple family	One-parent family	Employed	Unemployed	NILF ^(b)	Remote	Non-remote	
Attended cultural event(s) in last 12 months ^(c)	68.0	73.4	70.5	62.7	71.8	86.4	64.9	69.8
Identifies with clan, tribal or language group ^(c)	54.5	50.9	56.7	44.1	52.5	72.9	47.4	53.2
Speaks an Indigenous language	19.8	10.9	18.2	11.1	17.1	41.6	9.3	16.7

(a) Remote includes *Remote* and *Very remote* areas; Non-remote includes *Major cities, Inner regional* and *Outer regional* areas.

(b) NILF: Not in Labour Force.

(c) Proportions exclude a small number of records where a response for these questions was not returned.

Source: AIHW analysis of ABS 2002 National Aboriginal and Torres Strait Islander Social Survey confidentialised unit record file.

Table 43.8: Injury hospital separations for children aged 0–14 years, leading external cause 2006–07, by Indigenous status (per 100,000)

External cause	Indigenous children		Other children		Rate ratio
	Number	Rate	Number	Rate	
Falls	1,184	676.7	22,857	585.8	1.2
Land transport accidents	396	226.3	7,430	190.4	1.2
Assault	186	106.3	576	14.8	7.2
Accidental poisoning	167	95.4	1,896	48.6	2.0
Burns and scalds	128	73.2	1,492	38.2	1.9
Exposure to smoke, fire and flames	91	52.0	296	7.6	6.9
All injuries	3,397	1,941.4	53,752	1,377.6	1.4

Notes

- Exposure to inanimate mechanical forces, accidental exposure to other and unspecified factors, and exposure to animate mechanical forces were also leading causes of injury hospitalisation for children. These categories are diverse and are not useful for reporting purposes.
- Rate ratio is Indigenous rate divided by Other rate. See *Appendix 1 Methods* for further explanation of rate ratios.
- For data quality reasons, data exclude Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory.

Source: AIHW National Hospital Morbidity Database.

- Falls were the leading cause of injury for Indigenous children, accounting for 35% of all injury hospital separations for Indigenous children. The rate for Indigenous children was 20% greater than for other children.
- Land transport accidents accounted for around one in nine (12%) injury hospital separations of Indigenous children—a rate of 226 per 100,000 children. The rate for Indigenous children was 20% greater than for other children.
- Among the leading causes of injury, the greatest disparity between Indigenous and other children was for assault. Overall, the assault hospital separation rate for Indigenous children was 7 times the rate for other children; however, this differed by sex. Indigenous boys were almost 5 times as likely as other boys to be hospitalised for assault (rates of 97 and 21 per 100,000 children, respectively), whereas Indigenous girls were 14 times as likely as other girls to be hospitalised (116 and 8, respectively).

Injury mortality

In 2002–2006, injury contributed to 116 deaths of Indigenous children aged 0–14 years—a rate of 21 per 100,000 children. The injury death rate for Indigenous children was more than 3 times the rate for non-Indigenous children (477 deaths or 7 per 100,000 non-Indigenous children) (data from Queensland, Western Australia, South Australia and the Northern Territory only).

During this period, land transport accidents were the leading cause of injury death for both Indigenous and

non-Indigenous children (38 and 172 deaths, respectively), and the rate for Indigenous children was more than 3 times the non-Indigenous rate (7 and 2 per 100,000 children).

See *Chapter 32* for further information on injuries among children.

Child abuse and neglect

Aboriginal and Torres Strait Islander children are over-represented in the child protection system. The reasons for this are complex and include the intergenerational effects of separation from family and culture (a legacy of the Stolen Generations), perceptions arising from the cultural differences in child-rearing practices, and the relative socioeconomic disadvantage of Indigenous Australians (HREOC 1997; Stanley et al. 2003).

Data presented here relate to substantiations of notifications received in 2007–08, and care and protection orders. When there has been a substantiation of child abuse or neglect, children may be placed on a care and protection order when further intervention is required.

In 2007–08, among children aged 0–12 years:

- A total of 6,265 Indigenous children were the subject of a substantiation of a notification received in 2007–08—a rate of 45 per 1,000 children¹. The rate for Indigenous children was 8 times the rate for other Australian children (5.6 per 1,000 children) (Figure 43.13).

¹ In 2007–08, the Indigenous status of a relatively high proportion of children in Queensland and Tasmania was unknown, and therefore the number of substantiations for Indigenous children should be interpreted with caution. The rate of substantiations for Indigenous and other children exclude data from Queensland and Tasmania.

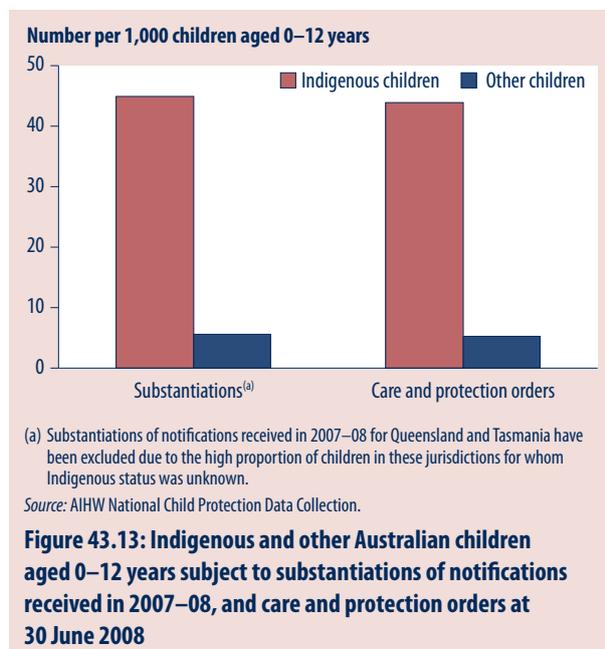
- A recorded 6,989 Indigenous children were the subject of a care and protection order—a rate of 44 per 1,000 children. The rate for Indigenous children was 8 times that of other Australian children (5.3 orders per 1,000 children).

Over recent years, the number of substantiations and care and protection orders for Indigenous children has increased markedly:

- Between 2004–05 and 2007–08, the number of Indigenous children who were the subject of a child protection substantiation increased by 50%, while for other children the number of substantiations decreased by 16%.
- Between June 2005 and June 2008 the number of Indigenous children who were put on a care and protection order increased by 63% compared with a 30% increase for other children.

It should be noted that the quality of Indigenous data varies across jurisdictions and over time. Increases in the number of Indigenous children in the child protection system could be a result of improvements in Indigenous identification as well as increases in the actual numbers.

See *Chapter 34* for further information on child abuse and neglect.



Children as victims of violence

There are no national data available on the incidence of physical and sexual assault among Indigenous children. The information that is available indicates that the occurrence of violence in Indigenous communities and among Indigenous people is disproportionately high in comparison with the Australian population as a whole (Memcott et al. 2001).

Data from New South Wales and the AIHW National Child Protection Data Collection show that Aboriginal and Torres Strait Islander children were over-represented among victims of physical or sexual assault (Aboriginal Child Sexual Assault Taskforce 2006; AIHW 2009c).

Of the cases of child sexual assault recorded by police in New South Wales in 2004, 82% were female victims, and Indigenous females under 16 years were over-represented among this group (469 per 100,000 compared with 192 for non-Indigenous females under 16) (Aboriginal Child Sexual Assault Taskforce 2006).

Indigenous children were overrepresented among those for whom a substantiated physical or sexual abuse notification was received during 2007–08. Indigenous children made up 20% and 16% of all children who were the subject of substantiations where sexual or physical abuse was the main type of abuse (see Box 34.1 in *Chapter 34* for definitions) (AIHW 2009c). This is despite comprising only around 5% of all children aged 0–17 years.

See *Chapter 35* for further information on children as victims of violence.

Housing

The condition of housing can affect the health of residents. There is evidence that the housing of some Indigenous Australians, such as those living in more remote regions or in Indigenous communities, may be increasing their risk of adverse health effects.

A survey of 4,343 houses in Indigenous communities across four states and the Northern Territory conducted between 1999 and 2006 found that many houses did not meet health and safety criteria and, in the majority of cases, houses provided unhealthy living conditions due to a lack of maintenance or poor initial construction:

- only 11% of houses were deemed to be electrically safe at initial assessment
- only 50% of houses had a tub or bath in which a child could be washed
- only 35% had a functioning shower
- just 6% had adequate facilities to store, prepare and cook meals (Torzillo et al. 2008).

The inability to wash a child can increase their risk of diseases such as diarrhoea and skin infections—diseases that are suffered at a higher rate by Indigenous children (see *Skin infections* in this chapter; Healthabitat 2009). Indigenous Australians are also more likely to suffer a range of diseases where poor diet may be a contributing factor, and the ability to safely store, prepare and cook food could help to improve the diet.

Overcrowding

Overcrowding can lead to the spread of infectious diseases such as meningococcal meningitis or septicaemia, tuberculosis, acute rheumatic fever, respiratory diseases and skin infections (Bailie & Runcie 2001; Waters 2001). It has also been associated with poorer self-reported health and higher rates of smoking (Waters 2001).

Information from the ABS 2006 Census of Population and Housing showed that Indigenous households were, on average, larger than other Australian households, with 3.4 residents per household compared with 2.6 in non-Indigenous households. Over one-quarter (27%) of the Indigenous population were living in overcrowded households (ABS & AIHW 2008).

Overcrowding can be a subjective concept and there is a cultural dimension that needs to be considered (Memcott et al. 2003). In a survey conducted in remote Northern Territory communities, the average number of permanent residents per house was 8.9, and 3.2 per bedroom. Residents of these households may not have considered these conditions to be overcrowded, as those occupying individual rooms may have been doing so in accordance with cultural norms and/or kinship ties, and the overall household may have constituted an extended family (Memcott et al. 2003). Nevertheless, this cultural tendency towards larger households, particularly if not taken into account when housing is designed, can have negative effects on health and wellbeing.

Homelessness

Indigenous Australians are over-represented both in Supported Accommodation Assistance Program (SAAP) services and in the homeless population enumerated in the Counting the Homeless project (see *Chapter 36*). The causes of this over-representation are complex and require important cultural elements to be taken into account (Berry et al. 2001; Memcott et al. 2003). Keys Young (1998) identified five broad causes of Indigenous homelessness: spiritual homelessness, overcrowding, transient homelessness, an unsafe home, and having nowhere to go. These causes were either unique to Indigenous Australians (for example, spiritual homelessness) or had taken on particular importance either because of the scale of the problem they posed, or because the nature of the problem was somewhat different to that faced by the non-Indigenous population.

In 2006–07, 27% of accompanying children aged 0–17 years in SAAP were Indigenous, despite accounting for only around 5% of all 0–17 year olds (AIHW 2009d).

In 2006–07, for accompanying children aged 0–17 years:

- SAAP agencies located outside *Major cities* provided 63% of accompanying child support periods for Indigenous children, compared with only 33% of the support periods for non-Indigenous accompanying children.
- Indigenous accompanying children received the majority of their support periods from SAAP agencies primarily targeting women escaping domestic or family violence (58%); greater than the proportion for non-Indigenous accompanying children (48%).
- Indigenous accompanying children most often required SAAP accommodation (in 74% of their closed support periods), meals (in 57%) and shower or hygiene services (in 53%). These services were provided by the agency and/or the child was referred elsewhere to receive them in 96% or more of the closed support periods in which they were required.

See *Chapter 36* for further information on homelessness.

Children and crime

Children who have been found guilty of a criminal offence or who are awaiting sentencing may be placed in juvenile justice supervision in the community or in detention. Indigenous children 10–14 years are over-represented in juvenile justice supervision, accounting for over half of all children under supervision in 2006–07:

- Indigenous children were 24 times as likely to have been under juvenile justice supervision at some time during the year as other Australian children (20 and 1 per 1,000 children, respectively). This pattern was similar for both Indigenous boys and girls—24 and 20 times the rates for other children, respectively (see Figure 37.2).
- Rates were higher for Indigenous children compared with other children for both community-based supervision (25 times) and detention (28 times).
- Rates of community-based supervision and detention have remained stable for Indigenous children between 2003–04 and 2006–07.

See *Chapter 37* for further information on children in juvenile justice supervision.