Indicators for monitoring health, development and wellbeing of Australia's children

Session: Child health

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Introduction

This paper is based on a statistical report 'A picture of Australia's children' published by the Australian Institute of Health and Welfare (AIHW) in May 2005. This report focuses on a wide set of individual, environmental, family and community factors influencing the overall health and wellbeing of children aged 0–14 years. These include health status (mortality, morbidity, disability, and mental health), risk and protective factors for health and wellbeing (such as breastfeeding, immunisation, low birthweight, overweight & obesity, maternal smoking, injuries, child abuse & neglect, homelessness) and family, social and community factors (family structure, economic security, neighbourhood safety, social capital). Although very little data are available in a number of important areas, the report attempted to provide the best possible up-to-date data on all these areas (see AIHW 2005a).

What is AIHW?

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As an independent statutory agency, the Institute works with many government and non-government bodies across the nation to generate reliable, regular and current facts and figures on the health and welfare of Australians. The Institute publishes many reports and discussion papers, drawing on a wide range of data collections. All of our major reports and products are available and downloadable free of charge on our internet home page (www.aihw.gov.au).

The constituency for our products and services includes the Australian Government, state and territory agencies; local government; non-government organisations; service providers; researchers; industry; the media; consumer organisations; the general public; and international agencies. The Institute also works with the major interested parties to develop and promote standardised data definitions and collection methods, new national collections, the linking of separate national collections, and key summary statistics (or indicators).

The Institute's products are policy relevant, producing a growing number of high quality and timely publications across the health and welfare spectrum, and providing statistics and information for community discussion and decision-making at all levels.

Background to *A picture of Australia's children*

Childhood, particularly early childhood, has become a key priority for governments and non-government organisations across Australia. This is in response to emerging issues of concern for Australia's children in the context of rapid social change, as well as compelling evidence about the importance of the early years for laying the foundations for children's later competence and physical wellbeing, and about the types of early interventions proving beneficial for positively influencing child outcomes. The biological, social, community, family and economic influences on children are important predictors of health, educational, psychosocial, behavioural and criminal outcomes ((Zubrick et al. 2000a; Prior et al. 2000).

This recognition prompted the Australian Government to work towards a National Agenda for Early Childhood, which seeks to bring together everyone working on child-related areas to develop a 'road map' to achieve the best outcomes for children. The main areas that have become the focus of the National Agenda are:

- **healthy young families**—improved care during pregnancy and the postnatal period, promotion of health behaviours, early recognition of children with, or at risk of having, ill-health, and effective early intervention;
- **early learning and care**—access to quality early learning and care services, support for parents and other primary carers such as a child's first teacher, successful transitions to school, coherent approach to care, education and family support, and early identification of and intervention for children at risk of developmental and behavioural problems;
- **supporting families and parents**—improved access to family support services, such as parenting education programs and relationship support, which assist parents to provide an optimal home environment for children; family assistance including income support and child care to assist parents achieve a work/family balance; and improved access to quality assured parenting information; and
- **child-friendly communities**—fostering flexible and responsive services at the local level, creating better links and coordination among community services, reducing levels of family violence, assessment of risks to children in communities, and community provision of children's activity, play and learning opportunities.

Central to the National Agenda is the capacity to be able to monitor regularly over time how Australia's children are faring, and how certain population groups, such as Indigenous children and children from rural and regional Australia, are faring by comparison (ACCAP 2004). The aim of this report was to provide the latest available data as well as the long-term data on children that inform the community, policy makers, researchers and other interested stakeholders.

How the report was structured

The report was based on a set of key national indicators of health, development and wellbeing of Australia's children, developed by the AIHW in collaboration with an expert committee. This indicator set aims to encompass reporting on the wider social, community and economic contexts in which children in Australia are growing up and how these influences affect outcomes for children. This approach is consistent with the international research literature and the shift in government policy towards early intervention and prevention. Recent research findings have emphasised the importance of early childhood exposures (such as family environment, social interaction, and education) in shaping children's health, development and wellbeing later in life (for a summary of this research, see Waters et al. 2002; McCain & Mustard 2002). The development of national indicators for Australia's children has been guided by an advisory group of key experts in the areas of child health, development and wellbeing (see AIHW 2004a for further details). In addition, the indicators were discussed at a workshop hosted by the Australian Council for Children and Parenting (ACCAP), in March 2004. This workshop brought together a variety of leading academic experts, and government and non-government stakeholders, to consider a national reporting framework for Australia's children. The key national indicators selected for this report have also been influenced by international indicator development in Europe

(European Union Community Health 2002), in Canada (Canadian Council On Social Development 2002), and in America (Federal Interagency Forum on Child and Family Statistics 2003), as well as indicator development within Australia (Waters et al. 2002; Zubrick et al. 2000a). The key national indicators of children's health, development and wellbeing that have emerged out of the consultative process outlined above have formed the basis for this report.

Key indicators

The key indicators (see Box 1) are organised around answering questions vital to assessing the health and wellbeing of Australia's children. Health is often defined as the presence or absence of diseases, disabilities and deficits (Pollard & Lee 2003) but such a narrow definition overlooks the way in which health, particularly child health, is the product of a complex web of prenatal, social, cultural, demographic, family, neighbourhood, and economic and political factors. This interconnectedness is better represented by the definition of health favoured by the World Health Organization (WHO 1978): 'a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity'. In Australia, there are no nationally representative datasets to show how all of these domains influence child health, development and wellbeing outcomes. However, evidence from research indicates that many childhood experiences translate into long-term consequences often spanning into adulthood (Graham & Power 2004). In developing indicators, we have taken into account all factors that have an impact on children's overall health, development and wellbeing outcomes.

The key indicators therefore attempt to describe:

- how healthy Australian children are (the level of mortality, morbidity and disability);
- how well healthy child development is promoted in Australia through breastfeeding, immunisation;
- what influences are affecting children's health and wellbeing (e.g. birthweight and prematurity, alcohol and tobacco use and exposure to environmental tobacco smoke);
- whether Australian children are growing up in a safe and secure environment (accidental injuries, children needing accommodation, children facing abuse and neglect, and children as victims of violence); and
- whether Australian children have opportunities for early learning, and how well they are performing at school.

Under each question, there are a number of indicator domains which encompass key indicators that are used to answer these questions.

Box 1: Key National Indicators of Children's Health, Development and Wellbeing

How healthy are Australia's children?	
Indicator domain	**Indicator/measure**
Mortality	Infant mortality rate
	Sudden infant death syndrome (SIDS) rate for infants
	Death rate for children aged 1–14 years
	Injury death rate for children aged 0–14 years
	Suicide death rate for children aged 10–14 years
Morbidity	Proportion of children aged 0–14 years with asthma as a long-term condition
	New cases of cancer per 100,000 children aged 0–14 years
	Five-year relative survival rate for leukaemia in children aged 0–14 years
	New cases of children aged 0–14 years receiving insulin on the National Diabetes Register as a rate per 100,000 children
Disability	Proportion of children aged 0–14 years with severe or profound core activity restrictions
Mental health	Proportion of children aged 4–14 years with mental health problems
	Proportion of children aged 6–14 years with mental health disorders (ADHD, depressive disorder, conduct disorder)

How well are we promoting healthy child development?	
Immunisation	Proportion of children who are fully vaccinated at 1, 2 and 6 years of age
Breastfeeding	Proportion of infants exclusively breast fed at ages 3 and 6 months
Dental health	Proportion of children decay free at 6 years and percentage of children decay free at 12 years
	Mean dmft (decayed, missing or filled teeth) score at age 6 years and mean DMFT score at age 12 years

What factors can affect children adversely?	
Birth weight and premature births	Proportion of infants weighing less than 2,500 grams at birth
Exposure to tobacco smoke	Proportion of women smoking during pregnancy
Healthy weight	Proportion of children aged 2–14 years whose body weight is at an acceptable/unacceptable level as measured by BMI scores
Tobacco and alcohol use	Proportion of children aged 12–14 who are current smokers
	Proportion of children aged 12–14 who have engaged in high risk (5 or more drinks in a row) drinking at least once in the last two weeks
Tobacco smoking during pregnancy	Proportion of households with children aged 0–14 years where adults smoke inside

How safe and secure are Australia's children?	
Neighbourhood safety	Proportion of households with children aged 0–14 years where neighbourhood is perceived as unsafe
Injuries to children	Road transport accident death rate for children aged 0–14 years
	Accidental drowning death rate for children aged 0–14 years
	Assault death rate for children aged 0–14 years
	Hospitalisation rate for children aged 0–14 years for injuries from assault
	Hospitalisation rate for children aged 0–14 years for injuries from accidental injuries (poisoning, burns and scalds, pedestrian accidents, pedal cycling)
Abuse and neglect	Rate of children aged 0–14 years who are the subject of child protection substantiation
	Rate of children aged 0–14 years who are the subject of care and protection orders
Homelessness	Rate of children aged 0–15 years accompanying a parent or guardian seeking assistance from Supported Accommodation Assistance Program
Victims of crime	Rate of children aged 0–14 years who have been the victim of physical and sexual assault
Involvement with the juvenile justice system	Rate of children aged 10-14 years who are in detention in juvenile justice facilities

How well are Australia's children learning and developing?	
Early learning and school readiness	Proportion of children aged <1 year and 4 years of age who are read to by an adult on a regular basis
	Proportion of children aged 3–4 years enrolled at preschool
Educational benchmarks	Percentages of children in year 3, 5 and 7 meeting national literacy (reading & writing) and numeracy benchmarks
Social and Emotional Development	Under development Data gaps being address by Longitudinal Study of Australian Children

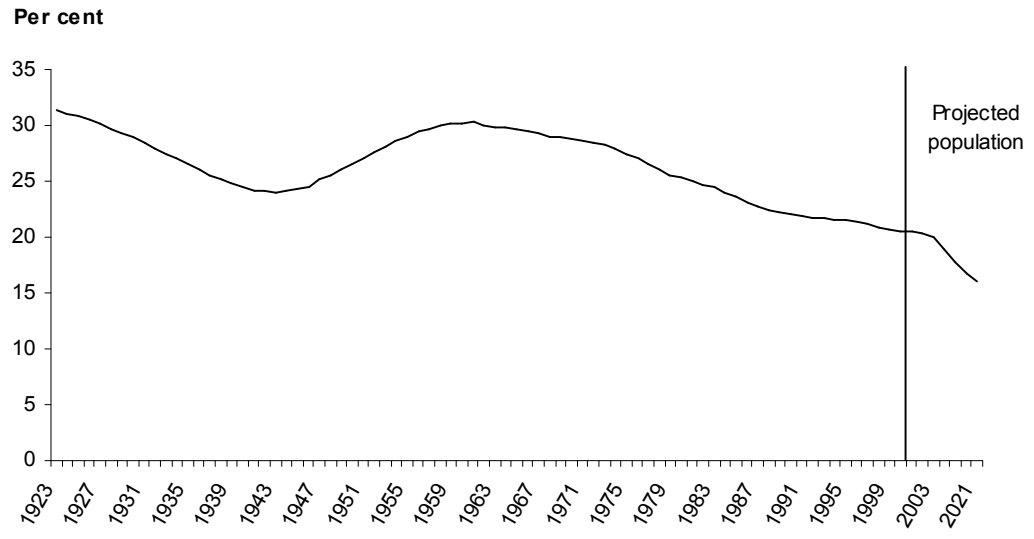
What kind of families do Australian children live in?	
Family functioning	Proportion of children aged 4–12 years living in families where family cohesion is low
Children in non-parental care	Rate of children aged 0–14 years in out-of-home care
Economic security	Proportion of children aged 0–14 years living in families where no parent is employed
Social support networks	Proportion of households with children under 15 years of age where respondent was able to get support in time of crisis from persons living outside the household
Parents with disability and chronic illness	Proportion of parents with a severe or profound core activity restriction
	Proportion of parents rating their health as 'fair' or 'poor'
Parental mental health	Proportion of parents with a mental health problem

Summary of findings

Before going into the findings of the report, it is useful to give a brief overview of the child population of Australia including its size, its distribution among states & territories and regions, and its cultural diversity. The status of the population provides a context for exploring many issues influencing children's health, development and wellbeing. The size and composition of the child population is important for policy making and planning for various services required by children including schools, child care and health and welfare services. In addition to children's own characteristics, parents' demographic and socioeconomic characteristics also have an important impact on the health and wellbeing of children.

Child population of Australia

The child population as defined in this publication includes children aged 0–14 years. The Australian Bureau of Statistics (ABS) estimated the child population as at 30 June 2003 was approximately 3.9 million (20% of the total Australian population). Although the number of children has been increasing each year, the child population as a proportion of the total population has been declining. A decade ago the child population in Australia represented 22% of the total population. Since the early 1920s, with the exception of baby-boom years, the child population as a proportion of the total population has steadily declined (Figure 1)—reflecting changing fertility patterns over the period.



Source: ABS various years (a), ABS 2004a.

Figure 1: Children as a proportion of the total Australian population, 1923–2023

During the early 1920s in Australia, the total fertility rate (TFR) (defined as the average number of babies that a woman could expect to bear during her lifetime, if she experienced current age-specific fertility rates throughout her reproductive life) was 3.1 births per

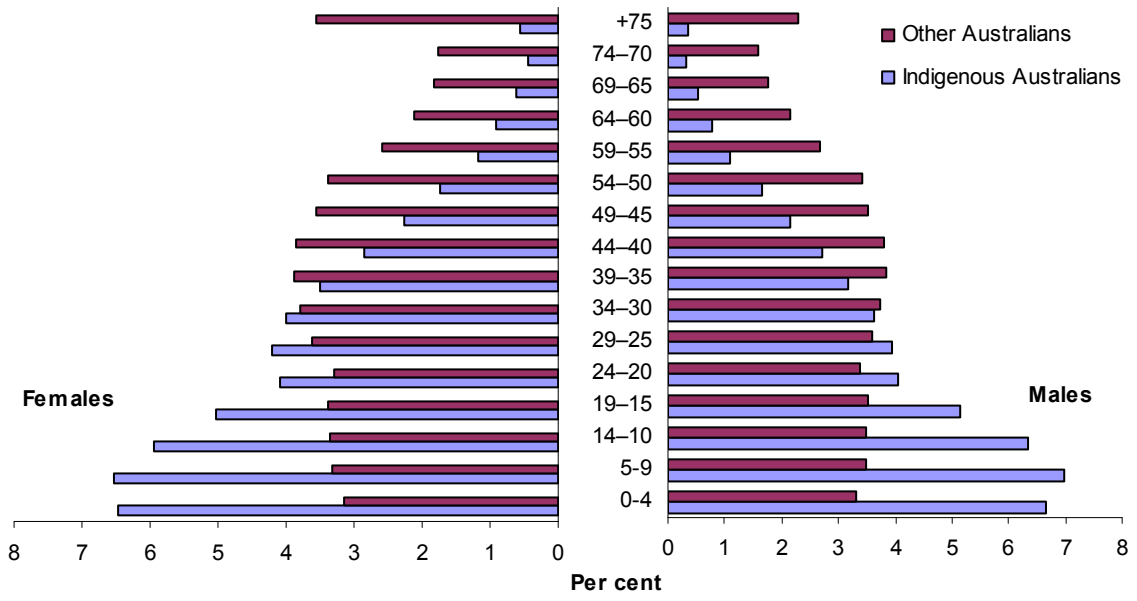
woman. The TFR fell to low levels during the Great Depression of the 1930s, reaching its lowest point of 2.1 babies per woman in 1934. The TFR rose rapidly following World War II, reaching a peak of 3.5 babies per woman at the height of the baby boom in 1961. Since then Australian fertility rates have declined for a variety of reasons including the availability of the oral contraceptive pill, laws making abortion more available, late age of child bearing and women choosing not to have children altogether (ABS 2003a). In 2002, the total fertility rate was 1.75 births per woman.

ABS population projections indicate further reductions in the relative size of the child population are likely to occur in the future, making the child population an even smaller proportion of the total population (ABS 2004a).

Characteristics of Australian children

Age and sex

The age and sex distribution of the Australian population also highlights the declining child population (Figure 2). This decline, as explained above, is a reflection of a falling birth rate and a trend towards a later age of child bearing in Australia. The population pyramid, therefore, shows a bulge towards the middle with a reasonably large proportion of people in the older age groups.



Source: ABS 2003b

Figure 2: Indigenous and other Australian populations, by age and sex, 2001

The Indigenous Australian population, in contrast to the age structure of the rest of the Australian population, has a much younger age structure (Figure 2). In 2001, Indigenous children aged 0–14 years accounted for 39% of the Indigenous Australian population. This reflects the higher birth rate that prevails among the Indigenous population and also the higher levels of mortality at all ages. For this reason, any comparisons made between the

Indigenous and other Australian populations need to be age standardised to a selected standard population to control for the effect of differing age structures.

Geographical location

Geographical location refers to the ASGC (Australian Standard Geographical Classification) Remoteness Areas classification released by the ABS in 2001. ASGC Remoteness can be interpreted as 'access to a range of services, some of which are available in smaller and others in larger centres: the remoteness of a location can thus be measured in terms of how far one has to travel to centres of various sizes' (DHAC & GISCA 2001).

In 2003, 64% of Australian children lived in Major Cities, 22% in Inner Regional areas and 11% in Outer Regional areas. Children living in Remote or Very Remote areas accounted for approximately 3% of the child population (Table 1).

Over half of the Northern Territory child population (51%) lived in Remote or Very Remote areas.

Table 1: Distribution of children aged 0–14 years across ASGC remoteness categories, 2003 (per cent)

Remoteness category	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Major Cities	69.4	70.9	49.9	66.8	68.5	. .	99.8	. .	63.5
Inner Regional	21.9	23.4	26.8	13.6	13.9	62.1	0.2	. .	22.2
Outer Regional	7.8	5.6	18.7	10.8	12.9	35.6	. .	49.1	11.2
Remote	0.7	0.1	2.9	5.6	3.6	1.8	. .	21.2	2.0
Very Remote	0.1	. .	1.8	3.2	1.1	0.5	. .	29.7	1.2

. . Not applicable.

Source: ABS 2003b.

Population diversity

The Australian population is a diverse one with its Indigenous and migrant populations. At the 2001 census there were about 179,000 Indigenous Australian children. These children made up 4.5% of the total Australian child population in 2001 (Table 2).

Table 2: Selected characteristics of Indigenous Australian children aged 0–14 years, 2001 (per cent)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Indigenous as a % of the child population	4.0	1.1	6.4	6.4	3.4	7.1	2.3	40.5	4.5
Indigenous as a % of all Indigenous children	30.1	6.0	28.0	14.3	5.5	3.8	0.8	11.4	100.0
Total Indigenous (N)	**53,873**	**10,794**	**50,189**	**25,622**	**9,778**	**6,878**	**1,497**	**20,428**	**179,128**

Source: ABS 2003c.

Most Indigenous Australian children were in New South Wales (30% of the total number of Indigenous children) followed by Queensland, where 28% of the Indigenous children lived. Although only 11% of Australia's Indigenous children lived in the Northern Territory, they accounted for nearly 40% of the territory's child population.

In 2001, 5.8% (230,000 children) were born in another country. This figure does not include children born to overseas-born parents. Overseas-born people live mainly in Major Cities: in 2001, over 80% were living in an urban area (ABS 2004b).

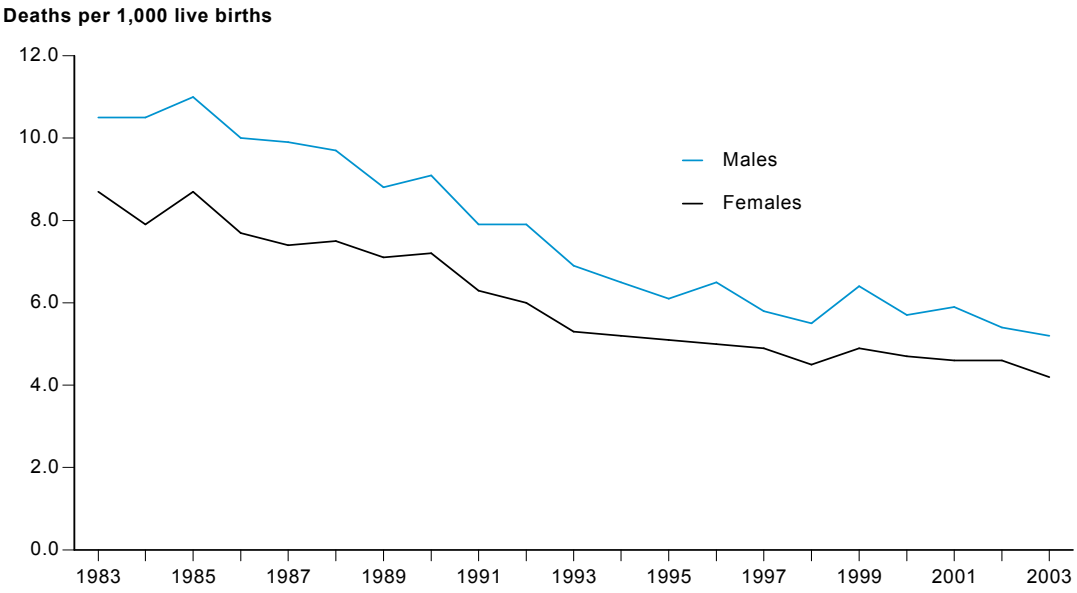
Health and wellbeing of Australia's children

How healthy are Australia's children?

The health status of Australian children is quite good as indicated by the remarkable decline in mortality among infants and children aged 1–14 years. The expectation of life at birth in Australia is also one of the highest in the world.

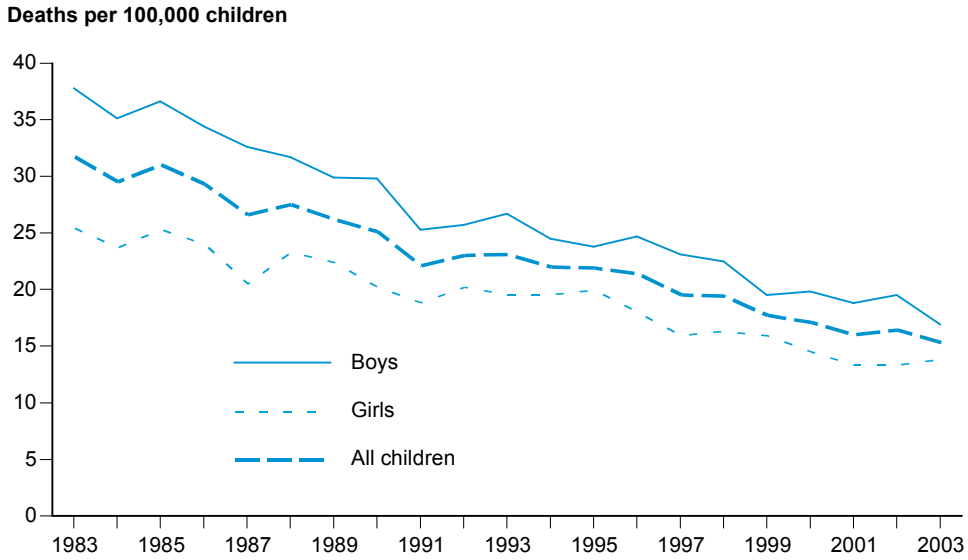
- The infant mortality rate in Australia halved over the last two decades, from 9.6 per 1,000 live births in 1983 to 4.8 in 2003. Based on current age-specific mortality rates, male infants born today are expected to live to an average age of 77.8 years and female infants 82.8 years (see Figure 3).

Figure 3 : Infant mortality rate, 1983–2003



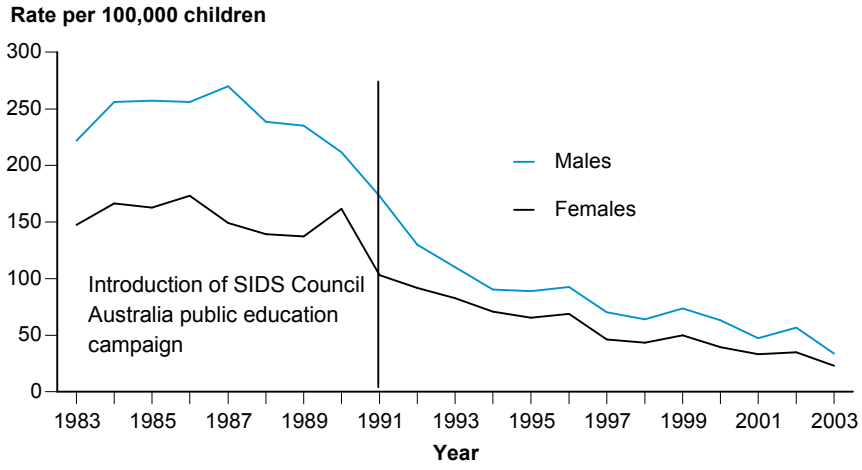
- Over the last two decades, mortality among children aged 1–14 years has also declined by over 50%. Most deaths to children occur in the early childhood period of 1–4 years of age, and this group has also experienced a 45% decline in death rate between 1983 and 2003 (Figure 4).

Figure 4: Death rate for children aged 1–14 years, 1983–2003



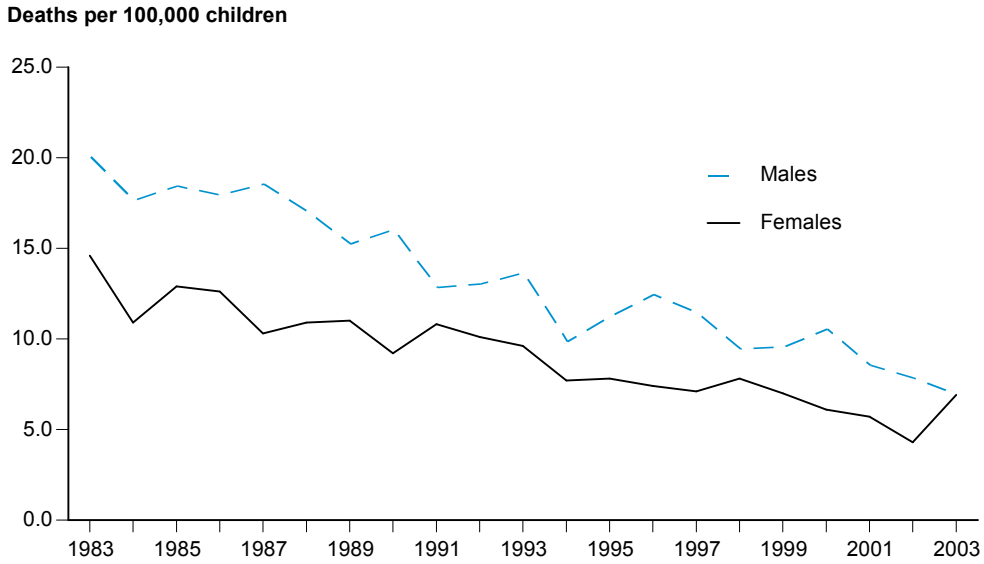
- A major contributing factor for falling mortality during infancy is the declining rate of deaths from SIDS. Between 1983 and 2003, SIDS deaths declined by 84%, but in 2003, SIDS was still responsible for 26% of infant deaths (Figure 5).

Figure 5: Infant deaths from SIDS, 1983–2003



- Injury and poisoning was the major cause of death among children aged 1–14 years, accounting for 40% of all deaths to children in 2003. However, between 1983 and 2003, the child death rate from injury and poisoning declined by about 60% (Figure 6).

Figure 6: Injury death rates for children aged 0–14 years, 1983–2003



- Chronic conditions such as asthma, diabetes and cancer contribute significantly to the disease burden among children in Australia. In 2001, an estimate of 527,000 children aged 0–14 years had asthma as a long-term condition, a prevalence rate of 13.2%.
- In 2000–01, the average annual rate of new cases of Type 1 diabetes was around 20 per 100,000 among children aged 0–14 years.
- Between 1982 and 2001, the age standardised incidence rate of cancer for children aged 0–14 years increased by an average of 0.6% per year. The overall five-year survival from leukaemia increased significantly from 62.4% to 69.7% between 1982–86 and 1992–97.
- In 2003, there were approximately 320,000 children with a disability in Australia, accounting for 8% of the total child population aged 0–14 years. Slightly over half these children had a severe or profound core activity restriction. Core activities are defined as self-care (bathing, dressing, eating, using toilet), mobility (moving around at home and away from home, getting into or out of bed or chair, using public transport), and communication (understanding and being understood by others). A person with a profound restriction is unable to perform a core activity, or always needs assistance with that activity, while a person with a severe restriction sometimes needs assistance to perform the activity.
- The most recent mental health data for children are from a study conducted among 4,500 children in 1998. This survey indicated that 14% of children aged 4–14 years had mental health problems. Mental health problems in this report are classified as either externalising problems or internalising problems. Externalising problems relate to anti-social or under-controlled behaviour such as delinquency and aggression. Internalising problems relate to inhibited or over-controlled behaviour such as anxiety and depression (Sawyer et al. 2000).
- Of the specific disorders in 1998, ADHD was the most prevalent among children aged 6–14 years, reported in 17.8% of boys and 7.9% of girls. However, Sawyer et al. (2000:20) suggest that the prevalence of ADHD could have been overestimated, as

some children reported to have ADHD 'may have been more appropriately diagnosed with another disorder not included in the survey'.

- Depressive disorder was reported in 3.7% of boys and 2.6% of girls. It has been suggested that the prevalence of this disorder could have been underestimated, as the prevalence was based on parent report and parents may not always recognise subjective distress experienced by children (Sawyer et al. 2000).
- Conduct disorder was reported in 4.4% of boys, and 1.8% of girls.

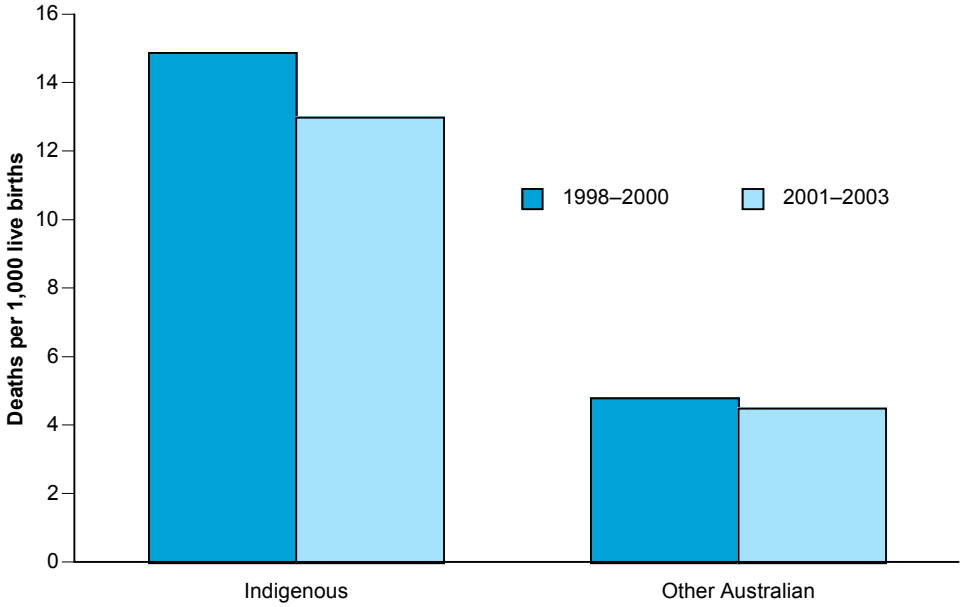
Although most Australian children are healthy, there are sub-population groups for whom additional health gains can still be achieved.

- Aboriginal and Torres Strait islander children have poorer health and wellbeing than other Australian children but data limitations hinder exact comparisons. While infant mortality has improved between 1993 and 2003 decreasing by approximately 3.3% per year, Indigenous Australian children had worse outcomes against most indicators.

Deaths for Indigenous infants in the jurisdictions where data are considered to be of sufficient quality for reporting represented 6.3% of total Indigenous deaths and 72% of total deaths of all children aged 0–14 years. The life expectancy at birth for Indigenous Australians for the period 1996–2001 was 59.4 years for males and 64.8 for females, approximately 18–20 years behind the average life expectancy at birth for all Australians.

The rate of deaths for Indigenous infants (13.0 per 1,000 live births) was nearly three times that of non-Indigenous infants (4.5 per 1,000 live births) (Figure 7).

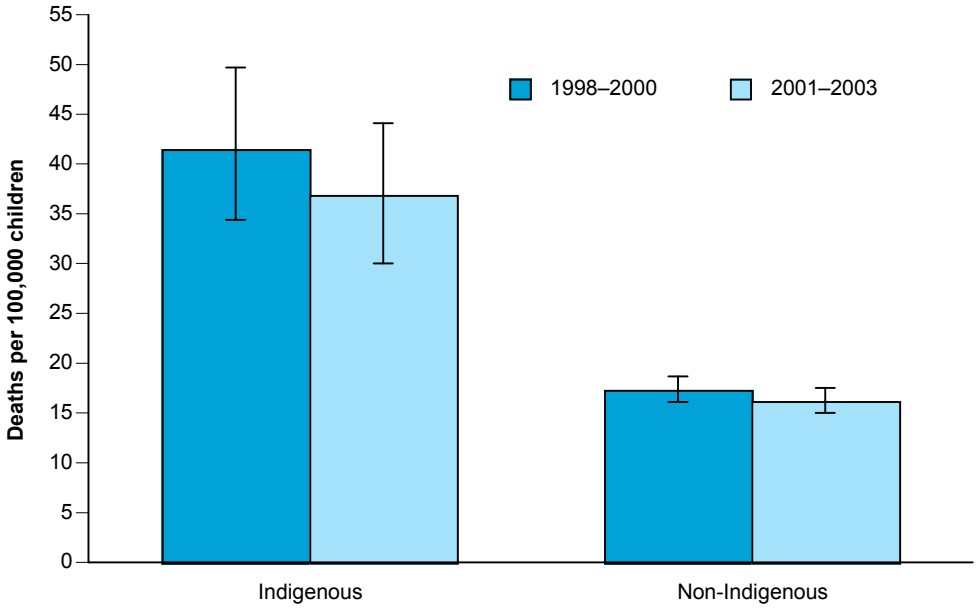
Figure 7: Infant death rate by Indigenous status, 1998–2000 and 2001–2003



- According to data from Queensland, Western Australia, South Australia and the Northern Territory, Indigenous Australian children aged 1–14 years died in 2001–03 at a rate of 36.9 per 100,000 children, compared with 16.2 deaths per 100,000 among other Australian children. However, Indigenous children from these jurisdictions experienced 11% decline in mortality between 1998–2000 and 2001–03 but this decline was not statistically significant (Figure 8).

- In general, Indigenous children of all age groups experienced higher rates of mortality than other Australian children. However, the difference was highest in the age groups 1–4 and 10–14 where the Indigenous mortality rate was around three times that of non-Indigenous children.

Figure 8: Death rate for children aged 1–14 years by Indigenous status, 1998–00 and 2001–03



Less advantaged socioeconomic backgrounds have an adverse effect on children's health and wellbeing. Infants from the least advantaged socioeconomic areas are twice as likely as those from the least disadvantaged areas to die before they reach their first birthday.

Socioeconomic status

Socioeconomic status is an important risk factor for poor health outcomes in a population with those people of lower socioeconomic status tending to have higher rates of mortality (AIHW 2004a; AIHW: Dunn et al. 2002). Low socioeconomic status also has a highly adverse effect on the health and wellbeing of children. Wilkinson & Marmot (2003) showed that the effect of socioeconomic disadvantage is not limited to the extreme poor but that even those at the middle levels of society exhibit poorer health than do the wealthy. Children born into disadvantaged families are more likely to experience serious health problems and to die at an earlier age (Blakely et al. 2003).

Socioeconomic disadvantage was measured using the Socioeconomic Index for Areas (SEIFA)—Index of Relative Socioeconomic Disadvantage developed by the Australian Bureau of Statistics for use at the Statistical Local Area level (ABS 2001a). This index is derived from selected attributes including low income, low educational attainment, high unemployment, and jobs in relatively unskilled occupations. Low scores on the index reflect geographical areas with many low income families and people with little training and unskilled occupations. High index scores indicate that the area has few families with low income, little training and unskilled occupations (ABS 2001a).

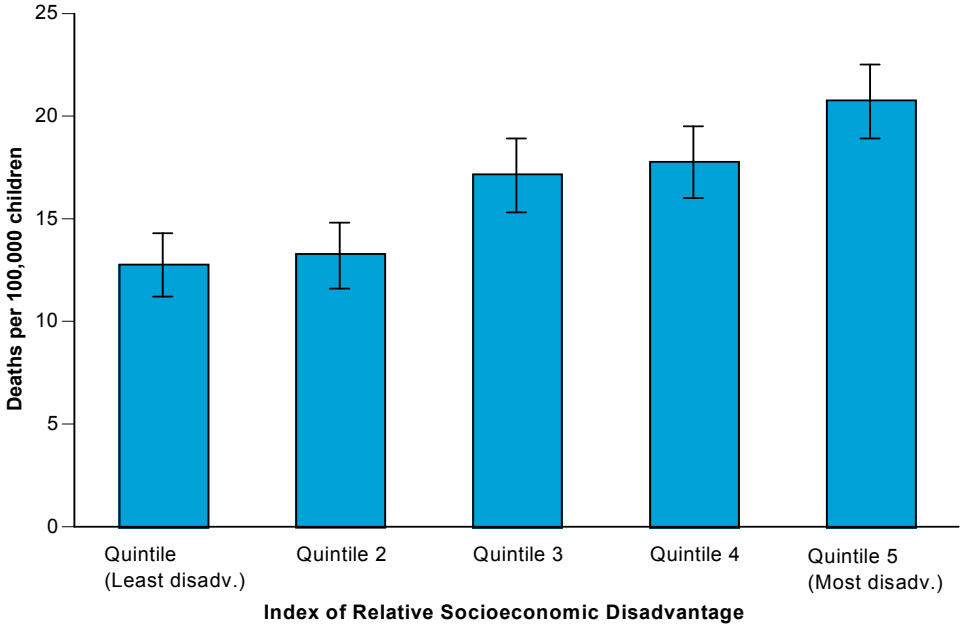
- The average infant mortality rates for each disadvantage group between 2000 and 2002 show higher rates in areas characterised by higher levels of disadvantage. Infants from the most disadvantaged areas are twice as likely as those from least disadvantaged areas to die before they reach their first birthday (7.8 deaths per 1,000 live births compared with 3.9 per 1,000) (Table 3).
- Male infants of all levels of disadvantage generally exhibit higher death rates than female infants. However, compared to female infant rates, male infant death rates increased at a higher rate with the increasing level of disadvantage.

Table 3: Rate of infant mortality by sex and SEIFA quintile, Australia, 2000-2002

	Deaths per 1,000 live births		
	Boys	Girls	All children
Quintile 1 (Highest SES)	4.0	3.8	3.9
Quintile 2	4.4	3.3	3.9
Quintile 3	5.5	4.1	4.8
Quintile 4	6.4	5.4	5.9
Quintile 5 (Lowest SES)	8.6	6.9	7.8

- The average death rate for children aged 1–14 years for the period 2000–02 increased significantly with increasing disadvantage, as measured by the SEIFA Index of Socioeconomic Disadvantage. As socioeconomic disadvantage increased from lowest to highest, the rate of mortality for both males and females increased by about 64% (Figure 9).

Figure 9: Death rate for children aged 1–14 years by SEIFA categories, 2000–2002



- The mortality rate for boys increased in 2000–02 by 76% as the socioeconomic status moved from least disadvantaged to most disadvantaged. Compared to boys, girls experienced lower mortality across all socioeconomic groups. However, the excess

mortality experienced by girls from the most disadvantaged areas was 48% compared to girls from the least disadvantaged groups.

Geographical location

The health of people living in geographically isolated areas of Australia is often poorer compared to those living in Major Cities and other urban locations. The reasons for their poorer health status include limited availability and access to health services and exposure to different health and environmental risks (AIHW 2003a).

- Infant deaths classified by the ABS ASGC remoteness categories indicate that during the period 2000–02, 2,303 infants died in Major Cities, 1,297 in Regional areas, and 246 in Remote and Very Remote areas. The rate of infant mortality by these categories varied from 4.6 deaths per 1,000 live births in Major Cities to 13.6 per 1,000 in Very Remote areas.
- The high rate of infant mortality in Very Remote areas is a reflection of very high rates of infant mortality occurring among the Indigenous people who make up a large part of the population in these areas.
- The age-standardised rate of child deaths increased in 2000–02 with increasing remoteness: 14.6 deaths per 100,000 children in Major Cities and 41.7 per 100,000 in Very Remote areas. This pattern was most pronounced for children aged 1–4 years, where the rate of mortality in Major Cities was 22.2 deaths per 100,000 children compared with a rate of 59.5 deaths per 100,000 children in Remote and Very Remote areas combined.

How well are we promoting healthy child development?

This section focussed on various interventions and behaviours that have an impact on children's outcomes. Although the incidence of vaccine-preventable diseases in Australia has been reduced since the introduction of immunisation, these diseases still remain a serious concern. Vaccine coverage needs to exceed 90% to achieve and maintain the level of community immunity necessary to interrupt ongoing transmission of vaccine-preventable diseases.

- In 2004, the proportion of children aged 2 who were fully vaccinated was 92%. Near 100% immunisation coverage is expected for children at school entry age, but only 84% of the children aged 6 years were fully immunised in 2004.
- The rates of immunisation at 12 months of age among Indigenous Australian children were a little lower than for non-Indigenous children, but there was no difference in rates between Indigenous and non-Indigenous children at 24 months of age.

Breastfeeding in the first 4–6 months of life is considered to protect infants against a number of acute and chronic conditions including diarrhoea, respiratory infection, otitis media, SIDS, diabetes and asthma.

- Most infants aged 0–3 years receive breast milk at some stage of infancy. There are no national data on exclusive breastfeeding of Australian infants. However, the ABS 2001 National Health Survey provides information on the proportion of infants fully

breastfed. In 2001, approximately 54% of babies were fully breastfed at 3 months of age or less, compared with around 32% of infants by 6 months of age or less.

- Breastfeeding data for Indigenous babies from the WA Child Health Survey indicated that 53% of the Indigenous infants aged less than 6 months were exclusively breastfed.

Good oral health throughout infancy and childhood contributes to better dental health in adulthood, resulting in less decay and reduced loss of natural teeth. Great improvements in the oral health of Australian children have been observed where the public water supply has been fluoridated.

- Despite the evidence of the benefits of water fluoridation, significant areas of Queensland, and to a lesser extent Victoria, do not fluoridate water.
- Between 1990 and 2000, the mean number of decayed teeth decreased among children aged 6 years from 2.1 to 1.7 and for children aged 12 years from 1.4 to less than 1. However, in more recent years this decline appears to have ceased and there are signs of decay experience among children increasing.

What factors can affect children adversely?

This report presented data on a number of influences that have a bearing on outcomes for children: low birthweight, maternal smoking during pregnancy, exposure to environmental tobacco smoke, overweight and obesity and tobacco and alcohol use by children.

Approximately 6% of all births in Australia result in babies with low birthweight. There were 17,554 low birthweight babies in 2002, representing 6.5% of all births, up from 6.3% in 1991. In 2002, the average birthweight of all live-born and stillborn babies was 3,358 grams.

Low birthweight is more common in babies born to families of low socioeconomic status and to Indigenous mothers. The proportion of live-born babies with low birthweight born to Indigenous mothers between 2000 and 2002 was almost 13%. This is approximately double the percentage of low birthweight babies of non-Indigenous mothers (6.1%) (Table 4).

Table 4: Birthweight of live births, by maternal Indigenous status, 2000–02

	Low birthweight (<2,500 g)		Normal or high birthweight (2,500 g or more)		Total		Mean birthweight
	Number	Per cent	Number	Per cent	Number	Per cent	Grams
Indigenous mother	3,356	12.9	22,729	87.1	26,104	100.0	3,169
Non-Indigenous mother	43,607	6.1	674,121	93.9	717,858	100.0	3,382

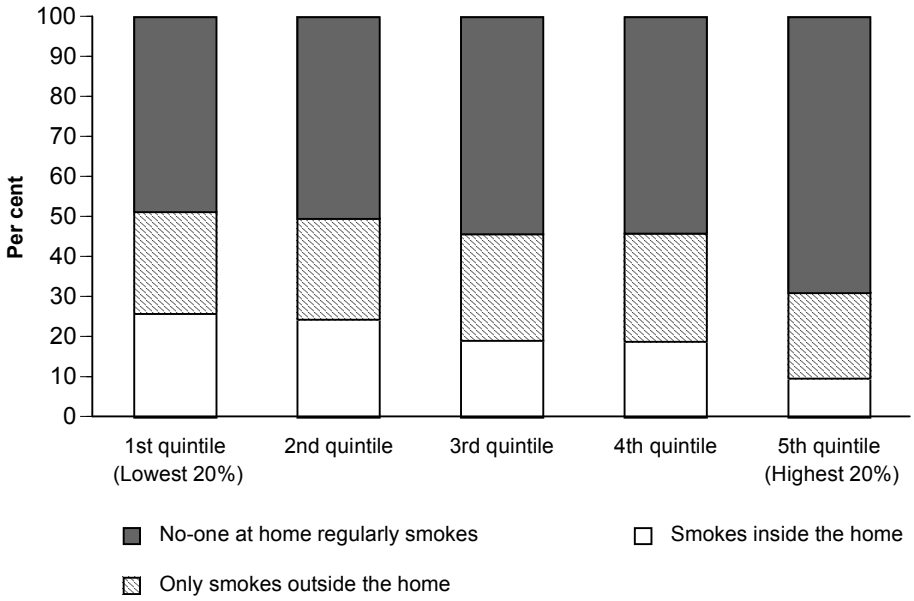
Note: Data related to babies born to Indigenous mothers only, and exclude babies born to non-Indigenous mothers and indigenous fathers. Thus the information is not based on the total count of Indigenous babies.

Source: AIHW NPSU unpublished data.

- Tobacco smoking in pregnancy is a major risk factor for low infant birthweight. Data from NSW, WA, SA and the ACT indicate that overall 18% of women smoked during pregnancy. According to the 2001 WA Aboriginal Child Health Survey, mothers of 47% of Indigenous children had smoked tobacco during pregnancy.

- The proportion of households with young children where a household member smoked inside the house decreased from 31% in 1995 to 20% in 2001. Nevertheless, this meant that nearly 1 in 5 Australian households with children aged 0–14 years had a person smoking inside the home (Figure 10).

Figure 10: Household smoking status,[(a)] by socioeconomic position, 2001 (per cent)



Notes

1. Only includes households with dependent children aged 14 years or under.
2. Socioeconomic position determined using the ABS index of relative social disadvantage.

(a) Household smoking status as reported by respondents aged 14 years and over.

Source: National Drug Strategy Household Survey 2001.

The increasing prevalence of overweight and obesity in Australian children is a serious public health concern (Catford & Caterson 2003; Waters & Baur 2003). Childhood obesity in Australia has been estimated to be rising at an annual rate of 1% (Australasian Society for the Study of Obesity 2004), meaning that half of all young Australians could be overweight by the year 2025.

- The 1995 ABS National Nutrition Survey, most recent national data on the weight of Australian children, showed that the majority of children aged 2–14 years were of acceptable weight, a relatively high proportion of boys (18%) and girls (22%) were overweight or obese. A small proportion of children were underweight: 6.9% of boys and 4.3% of girls. A recent study on children aged 4–5 years indicated that 15 of these children were overweight and a further 6% were obese (AIFS 2005).
- Based on South Australian data for 2000–01, socioeconomically disadvantaged children from both metropolitan and non-metropolitan areas were more likely to be overweight or obese (Table 5).

Table 5: Children aged 4 years who are overweight or obese, by socioeconomic position, SA, 2000–01 (per cent)

	Adelaide		Non-metropolitan areas	
Quintile of socioeconomic disadvantage	**Boys**	**Girls**	**Boys**	**Girls**
Lowest 20%	16.0	21.0	16.8	22.9
Quintile 2	16.7	20.2	19.3	20.8
Quintile 3	16.8	18.9	16.2	19.6
Quintile 4	14.4	19.1	16.0	19.8
Highest 20%	12.8	17.0	12.4	16.9
Rate Ratio (quintile1 to quintile 5)	**0.80**	**0.81**	**0.73**	**0.74**

Source: Tennant et al. 2003.

- A survey of secondary-school students in Australia found that the prevalence of tobacco smoking among students aged 12–14 years had fallen from 17% in 1984 to 9% in 2002. Nevertheless, this still meant that 1 in 11 children in 2002 had smoked tobacco in the week prior to the survey.
- The same survey showed that 5% of children aged 12–14 years had participated in risky drinking in the 2 weeks prior to the survey. This figure remained relatively constant over the period 1984 to 2002.

How safe and secure are Australia's children?

It is important for children's development that they grow up in safe and secure homes and environments, and that they are protected from abuse and victimisation.

- There was a significant reduction in childhood deaths from injury over the period 1982–2003. However, injury and poisoning remains the major cause of death and disability among Australian children.

In 2003, injury was the leading cause of death among children accounting for 15% of all deaths of children (or 276 deaths). The rates for five of the most common external causes resulting in death over the period 2001–03 are presented in Table 6.

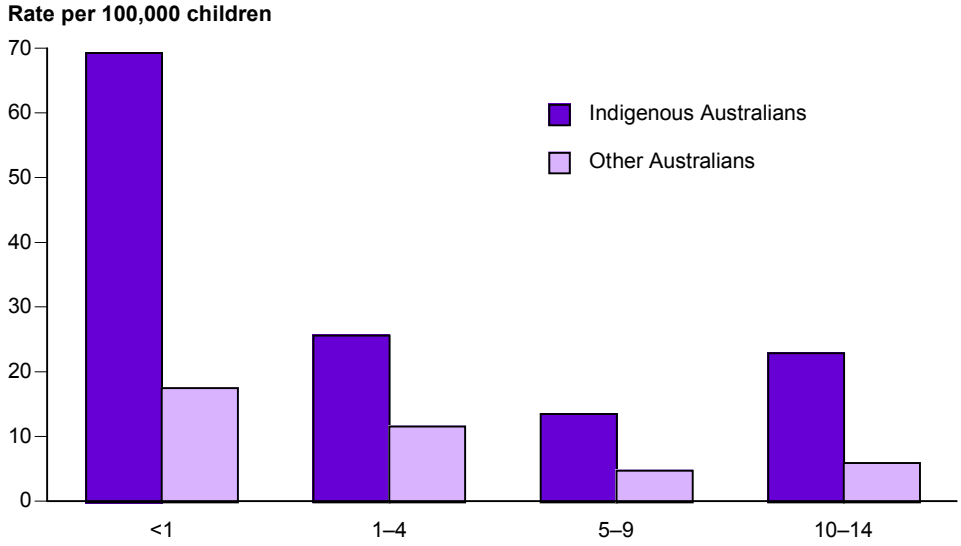
Table 6: Injury death rate for children aged 0–14 years, 2001–03 (rate per 100,000)

		Transport accident	Drowning	Assault	Falls	Suicide	All injuries
Boys	<1	1.8	1.6	3.1	0.3	0.0	17.0
	1–4	3.6	3.7	0.9	0.3	0.0	11.2
	5–9	2.5	0.8	0.5	0.1	0.0	5.1
	10–14	4.3	0.3	0.1	0.1	0.8	6.7
	0–14	3.3	1.4	0.6	0.2	0.3	8.0
Girls	<1	0.6	2.8	3.3	0.3	0.0	16.2
	1–4	3.0	2.3	0.7	0.2	0.0	8.5
	5–9	1.9	0.2	0.3	0.3	0.0	3.2
	10–14	1.9	0.2	0.3	0.1	0.8	4.0
	0–14	2.1	0.9	0.6	0.2	0.3	5.6
All children	**0–14**	**2.7**	**1.2**	**0.6**	**0.2**	**0.3**	**6.8**
All children(N)		*327*	*139*	*73*	*20*	*31*	*815*

Source: AIHW Mortality Database.

- Indigenous children have a higher average injury mortality rate than other Australian children. For instance, the average annual injury mortality rate among Indigenous infants in 2001–03 was 56 per 100,000 infants while the corresponding rate for other Australian infants was 18.2 per 100,000 (Figure 11).

Figure 11: Average injury death rates for Indigenous and other Australian children aged 0–14 years, 2001–03



Note; Includes Qld, WA, SA and NT only.

Source: AIHW Mortality Database.

Child abuse and neglect is an issue that causes more public concern than almost any other public health issue in the Australian community. The relationship between child abuse and

neglect, and child health and wellbeing, is complex and is related to the type, severity and duration of the abuse or neglect and to the context in which it occurs. The more frequent, the more prolonged and the more serious the abuse or neglect, the more damaging it will be for the child.

Child abuse and neglect is associated with multiple risk factors including social and economic disadvantage, family disruption, domestic violence and substance abuse (AIHW 2005b; Families Australia 2004). The presence or absence of other risk factors also influences the effects on the child. For example, the effects of abuse or neglect have been found to be less harmful if the child receives emotional support from another important adult in his or her life (Shonkoff & Phillips 2000). The negative effects of child abuse and neglect are likely to be compounded as the number of risk factors increases.

In Australia, child protection is the responsibility of the State and Territory Governments. The AIHW collects national data on child protection notifications, investigations and substantiations, children on care and protection orders, and children in out-of-home care.

Overall the administrative data tend to suggest an increase in the numbers of children who were the subject of child protection substantiations (Table 7). However, these apparent trends over time need to be interpreted with great caution because this type of data can reflect changes in policies and practices within the child protection system as well as changes in the actual prevalence of child abuse and neglect.

Table 7: Children aged 0–14 years who were the subject of child protection substantiation, 1997–98 to 2003–04 (rate per 1,000 children)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
1997–98	5.2	6.2	5.5	2.5	4.8	1.0	5.0	5.8	5.1
1998–99	4.6	6.2	5.2	2.7	5.5	0.9	5.4	n.a [(a)]	4.8
1999–00	4.0	6.5	6.0	2.5	5.4	0.5	2.6	6.5	4.8
2000–01	4.4	6.8	7.8	2.6	5.4	0.8	3.0	6.1	5.4
2001–02	4.9	6.7	9.0	2.6	5.6	1.2	2.9	6.2	5.8
2002–03	7.9 [(b)]	6.6	10.8	2.0 [(c)]	6.2	1.7	3.8	6.3	7.2
2003–04	n.a [(d)]	6.9	15.1	2.2	6.5	2.4	7.2	9.5	n.a.

Notes

(a) Northern Territory could not provide data for 1998–99 and was not included in the totals for that year.

(b) The data for 2002–03 and previous years should not be compared. New South Wales implemented a modification to the data system to support legislation and practice changes during 2002–03 which would make any comparison inaccurate.

(c) The decline in the number of notifications for 2002–03 is associated with organisational and practice changes.

(d) In 2003–04 New South Wales was unable to provide data due to the ongoing implementation of the new data system. In addition, because NSW accounts for the largest number of substantiations, no national total can be calculated for this time period.

Source: AIHW unpublished data.

The rate of child protection substantiations for Indigenous children aged 0–14 years in 2002–03 was 22.9 per 1,000 children, compared to 7.2 per 1,000 for other Australian children. The rate of Indigenous children on care and protection orders at June 2002 was 23.4 per 1,000 and for other Australian children this was 4.6 per 1,000.

Most children and families who come into contact with the child protection authorities through the substantiation process or through other avenues are referred to various support services. Such services include parenting education, family mediation and counselling, and in-home family support. In situations where further intervention is required in order to protect a child, the child protection authority may apply to the relevant court for a care and

protection order. Recourse to the court is generally a last resort and is used in situations where supervision and counselling are resisted by the family, where other avenues for resolution of the situation have been exhausted, or where removal of a child into out-of-home care requires legal authorisation.

Children on orders are those children for whom there are more serious concerns about their safety and wellbeing. A care and protection order provides the community services department with greater authority and responsibility for the child. These orders include guardianship and custody orders as well as supervision orders.

- The rate of children on care and protection orders increased by 47% between 1997 and 2003. However, this increase needs to be interpreted with caution as the trends in such data are heavily influenced by changes in policies and practices within the child protection system. There was no difference in 2003 between the rates of boys and girls on care and protection orders.
- In 2003, police recorded over 12,000 children as victims of all types of assault. The largest group of children subjected to assault was boys aged 10–14 years.
- The rate of reported sexual assault against girls aged 10–14 years was five times higher than that recorded for boys: 475 per 100,000 for girls compared with 88 per 100,000 for boys.
- In 2002–03, 51,860 children aged 15 years or less accompanied a parent or guardian seeking assistance from the major program response to homelessness, SAAP. Of these children, 44% were under 5 years of age.

How well are Australia's children learning and developing?

Participation in early childhood education programs such as preschools or centre-based programs have short and long-term positive effects on children's intellectual development and school completion. Success in school is associated with future life success; failure to successfully complete schooling increases the likelihood of poor employment prospects, low income, welfare dependency, delinquency, drug abuse and crime.

- In 2002, approximately 59% of children aged 4 years participated in preschool. A further 25% of 4 year old children attended long day care centres, many of which offer educational preschool programs.
- Participation in preschool programs varied by region of residence and Indigenous status. In 2001, the preschool participation rate for children was 58% in Major Cities and 43% in very remote regions. Indigenous children's participation in preschool programs was 46% compared with 57% participation by non-Indigenous children.
- The majority of students (88% boys and 92% girls) met the national benchmarks for reading, writing and numeracy in 2001. From 1999 to 2001 the rates of girls meeting the benchmarks were consistently higher than those of boys. The rates for Years 3 and 5 Indigenous students were consistently lower than the national rates.
- The detention rate for young people aged 10–14 years in juvenile justice detention centres declined from 9.5 per 100,000 in 1990 to 6.2 per 100,000 in 2003. Boys were 5 times more likely than girls to be detained. During the period from 2000 to 2002,

Indigenous children between 10 and 14 years of age were detained at about 30 times the rate of non-Indigenous children.

What kind of families and communities do Australia's children live in?

The family and community environment and socioeconomic circumstances in which children are growing up affect on children's educational, psycho-social and criminal outcomes. Neighbourhoods, along with individual circumstances, can also play a major role in shaping children's behaviour. Neighbourhoods where social cohesion is low may increase the vulnerability of families and children, while neighbourhoods with stronger community connectedness may provide a safe and secure environment to families and children.

The school and community contexts in which children live also have a considerable influence over their health, development and wellbeing. These contexts, along with family, set foundations for learning, behaviour and health over the course of their lives.

- In 2003, 72% of Australian children lived in intact families and nearly 20% of children lived in lone parent families. A further 5% were in blended families and 3% in step families. A small proportion of children (less than 1%) lived with grand parents.
- The majority of parents reported high levels of family cohesion, but the proportion of families reporting good to excellent family cohesion was lower in lone parent (87%) and blended families (88%), compared with original parent families (93%). Family cohesion was reported to be lower in low income families compared to high income families.
- In 2002–03, 22% of the children aged 0–14 years lived in low income households. The proportion of children in one-parent households with incomes in the lowest quintile was more than twice that of children in couple households (43% compared with 17%).
- The rate of children who are placed in out-of-home care rose from 3 per 1,000 children in 1997 to 5 per 1,000 in 2004.
- In 1998, 17% of children aged 0–14 years lived with a parent who had a disability. Of these children living with a parent with a disability, approximately 90% lived with a parent whose main disabling condition was a physical condition and about 11% with a parent whose main condition was mental or behavioural disorder.
- Most Australian children are growing up in families that felt safe in their neighbourhood. In 2002, 90% of Australian householders said they felt safe in their neighbourhood.
- Most families with young children in Australia had good family and social support networks and were able to get support in time of crisis, could ask for small favours and had regular contact with family and friends.

Is the picture of children a complete one?

Through these key indicators, the Picture of Australia's Children 2005 report presented data on as many aspects of children's health, development and wellbeing possible. The contexts

and influences that are known to be so important in determining outcomes for children will be presented in one report for the very first time.

The challenge that remains however is that there are still aspects of children's wellbeing for which there are no national or even jurisdictional data available to paint a statistical picture. Themes such as parenting style, postnatal depression, father's involvement in parenting, school absenteeism, bullying, aspects of disability and motor and social development are just some of the areas for which national data development are required and data collection are vital.

In addition, available statistical information in areas such as children's mental health and overweight and obesity are now outdated. Renewed data collection in these areas is needed before they risk adding to existing data gaps.

The data emerging from the Growing up in Australia longitudinal study will go some way to filling these data gaps by providing a snapshot of a cohort of children starting with infants and 4 years of age. However, the real purpose and power of this type of longitudinal data is really to investigate latent effects of poor child health and the impact of cumulative exposures, not to provide the basis for national monitoring.

Monitoring is different from the more complex analysis possible in other research. For example, it is expected that the Growing up in Australia study will be able to answer questions about how child outcomes are interlinked with their wider circumstances and environment, but on the other hand, the study won't effectively serve as a statistical picture of child outcomes at a population level because the focus of that study is to examine one cohort and their journey through time. There is no capacity to provide on-going statistical reference points for children in different age groups as the current study design is not of a cross-sectional nature. So it is important that a national program for indicator development dovetails with the research program for projects such as the Growing up in Australia data so that information needs are covered from both the individual/longitudinal and population/point-in-time perspectives.

As one of its main aims, this publication seeks to show the way ahead by highlighting the importance of having nationally consistent data for future monitoring of Australian children's health, development and wellbeing. While there are a wealth of data to measure many aspects of Australian children's health and wellbeing, there are a number of important indicators and data gaps.

- Currently there are no system performance indicators specific to children that will help assess the impact of existing systems on the health and wellbeing outcomes for children and their families.
- Identification of Indigenous status varies considerably in many existing data collections. This has restricted the analysis and presentation of data presented in this report.
- There is a lack of data for monitoring outcomes for population sub-groups such as children from culturally and linguistically diverse backgrounds and those living in geographically isolated areas.
- There is a lack of recent national data on a number of key areas of concern: mental health, overweight and obesity and physical activity.

This report has described work in progress to address these issues and additional data developments relevant to children.

Indicator summary

Indicator domain	Favourable trend	No trend	Unfavourable trend	No comparable/ trend data
Infant mortality rate	✓			
Infant deaths from SIDS	✓			
Mortality rate among children aged 1–14 years	✓			
Prevalence of asthma				✓
Incidence of Type 1 diabetes				✓
Incidence of cancer			✓	
Five-year survival rate for leukaemia	✓			
Children with severe/profound activity restriction				✓
Mental health of children				✓
Infants & children fully vaccinated at ages 1,2 & 6	✓			
Exclusive breastfeeding of infants				✓
Dental health of children			✓	
Proportion of low birthweight babies		✓		
Women smoking during pregnancy				✓
Children exposed to household tobacco smoking	✓			
Proportion of children overweight or obese				✓
Tobacco use among children	✓			
Alcohol misuse among children		✓		
Death rate from all types of injury	✓			
Hospitalisation from all types of injury		✓		
Child protection substantiations				✓
Children on care and protection orders			✓	
Rate of assault				✓
Children in homeless families				✓
Children attending preschools				✓
Children meeting literacy and numeracy benchmarks				✓
Children in juvenile justice facilities	✓			
Family cohesion				✓
Children in families where no parent is employed	✓			
Children in out-of-home care			✓	
Children living with parents whose health is fair/poor				✓
Children living with parents with a disability and/ chronic illness				✓
Children living in neighbourhood perceived to be unsafe				✓
Families ability to get social support in time of crisis				✓

Note: Trends are based on time series data for seven years or more

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