A picture of
Australia's
children
2012

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Contents

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Abbreviations

ABS	Australian Bureau of Statistics
ACARA	Australian Curriculum, Assessment and Reporting Authority
ACIR	Australian Childhood Immunisation Register
ADHD	attention deficit hyperactivity disorder
AEDI	Australian Early Development Index
AESOC	Australian Education Systems Officials Committee
AHMC	Australian Health Ministers' Conference
AIHW	Australian Institute of Health and Welfare
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographical Classification
BMI	body mass index
CDSMC	Community and Disability Services Ministers' Conference
CI	confidence interval
COAG	Council of Australian Governments
CSTDA	Commonwealth State/Territory Disability Agreement
DEEWR	Australian Government Department of Education, Employment and Workplace Relations
DMFT	decayed, missing or filled permanent teeth
dmft	decayed, missing or filled deciduous teeth
DTP	diphtheria, tetanus, pertussis
ERP	estimated resident population
FAS	fetal alcohol syndrome
GFC	global financial crisis
Hib	*Haemophilus influenzae* type b
HILDA	Household, Income and Labour Dynamics in Australia Survey
HIV	human immunodeficiency virus
ICD	International Classification of Diseases
ICD-9	International Statistical Classification of Diseases and Related Health Problems, 9th Revision
ICD-9-CM	International Statistical Classification of Diseases and Related Health Problems, 9th Revision, Clinical Modification
ICD-10	International Statistical Classification of Diseases and Related Health Problems, 10th Revision
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification
IRSD	Index of Relative Socioeconomic Disadvantage
LBOTE	language background other than English
LSAC	Growing up in Australia: the Longitudinal Study of Australian Children
MCS	Mental Health Component Summary
MMR	measles–mumps–rubella (vaccination)
NAHA	National Affordable Housing Agreement
NAPLAN	National Assessment Program—Literacy and Numeracy
NDA	National Disability Agreement
NHMRC	National Health and Medical Research Council
NPAH	National Partnership Agreement on Homelessness
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
RSE	relative standard error
SAAP	Supported Accommodation Assistance Program
SEIFA	Socio-Economic Indexes for Areas
SES	socioeconomic status
SIDS	sudden infant death syndrome
SLA	statistical local area
UN	United Nations
WHO	World Health Organization

Australian states and territories

ACT	Australian Capital Territory
NSW	New South Wales
NT	Northern Territory
Qld	Queensland
SA	South Australia
Tas	Tasmania
Vic	Victoria
WA	Western Australia

Symbols

n.a.   not available

. .   not applicable

n.p.   not published (data cannot be released due to quality
issues, confidentiality or permission not granted)

Summary

A picture of Australia's children 2012 provides the latest information on the health and wellbeing of Australia's children aged 0–14. Many are faring well, but there is scope for further gains, particularly among Aboriginal and Torres Strait Islander children and those living in areas with the lowest socioeconomic status.

The good news

- Death rates for infants (aged under 1) and children (aged 1–14) more than halved between 1986 and 2010, with rates slightly ahead of the Organisation for Economic Co-operation and Development (OECD) average for infants, and equal to the average for children under 5. Notably, child deaths from injuries halved between 1997 and 2010.

- The prevalence of asthma has decreased, while the incidences of diabetes and cancer have remained stable.

- Almost three-quarters of children aged 0–2 have stories read or told to them regularly, and most children achieve above the national minimum standard for reading and numeracy. Australia's average score for mathematics was in the top half of OECD countries.

- Smoking in households with children has decreased, while rates of risky drinking and smoking among children have declined.

- Most parents rate their health as excellent, or (very) good, and the majority of households with children perceive their neighbourhood as safe. Most households with children, including Indigenous, reported that they could get assistance from outside the household in times of crisis.

Things to work on

- Around 1 in 7 women smoked during pregnancy, and about half of pregnant women drank alcohol.

- Exclusive breastfeeding was initiated for 90% of infants at birth; however only 2 in 5 infants were exclusively breastfed to around 4 months.

- An estimated 45% of children aged 6 and 39% of children aged 12 experienced dental decay.

- Almost a quarter of children were developmentally vulnerable on one or more domains of the Australian Early Development Index at school entry.

- About 15% of parents were affected by mental health problems.

- Aboriginal and Torres Strait Islander children experience higher death rates, including from injuries, than the national average. They were less likely to have achieved the reading and numeracy minimum standards, and had higher smoking rates than the general child population.

- Children living in the lowest socioeconomic status (SES) areas were less likely to have stories read or told to them regularly, more likely to be exposed to tobacco smoke in the home, and more likely to smoke themselves than children living in the highest SES areas.

- Teenage birth rates were higher in the lowest SES areas than in the highest SES areas, and parents living in the lowest SES areas were more likely to report fair/poor health and poorer mental health compared with those in the highest SES areas.

Key national indicators of child health, development and wellbeing: quick reference guide

How healthy are Australia's children?		Value	Trend
Mortality	Mortality rate for infants less than 1 year of age (2010)*	4.1 per 1,000	✔
	Sudden infant death syndrome (SIDS) rate (2010)	27 per 100,000	✔
	Death rate for children aged 1–14 (2010)	13 per 100,000	✔
Morbidity	Proportion of children aged 0–14 with asthma as a long-term condition (2007–08)	10%	✔
	New cases of Type 1 diabetes among children aged 0–14 (2009)	22 per 100,000	~
	New cases of cancer among children aged 0–14 (2004–08)	14 per 100,000	~
Disability	Proportion of children aged 0–14 with severe or profound core activity limitations (2009)	3.9%	~
How well are we promoting healthy child development?		**Value**	**Trend**
Breastfeeding	Proportion of infants exclusively breastfed to around 4 months of age (2010)*	39%	• •
Dental health	Proportion of children decay-free (2007):		
	at age 6	55%	• •
	at age 12	61%	• •
	Mean number of decayed, missing or filled teeth (DMFT) at 12 years (2007)*	0.96	~
Early learning	Proportion of children aged 0–2 who are read to by an adult on a regular basis (2011)	74%	~
How well are Australia's children learning and developing?		**Value**	**Trend**
Transition to primary school	Proportion of children developmentally vulnerable on one or more domains of the AEDI (2009)*	24%	• •
Attendance at primary school	Attendance rate of children at primary school (Year 5) (2009)*	n.a.	• •
Literacy and numeracy	Proportion of children in Year 5 achieving at or above the national minimum standards (2011):		
	Reading*	92%	~
	Numeracy*	94%	✔
What factors can affect children adversely?		**Value**	**Trend**
Teenage births	Age-specific birth rate among 15–19 year old women (2009)*	16 per 1,000	✔
Smoking in pregnancy	Proportion of women who smoked during the first 20 weeks of pregnancy (2009)*	n.a.	• •
Alcohol use during pregnancy	Proportion of women who consumed alcohol during pregnancy (2010)	51%	✔
Birthweight	Proportion of liveborn infants of low birthweight (2009)*	6.2%	~
Overweight and obesity	Proportion of children whose BMI score is above the international cut-off points for 'overweight' and 'obese' for their age and sex (5–14 year olds) (2007–08)*	23%	~
Environmental tobacco smoke	Proportion of households with children aged 0–14 where someone smokes inside (2010)	6%	✔
Tobacco use	Proportion of children aged 12–14 who are current smokers (2008)	3.8%	✔
Alcohol misuse	Proportion of children aged 12–14 who have engaged in risky drinking (4+ drinks) on any one occasion (2008)	2.2%	✔

*Children's Headline Indicator.

Key: ✔ = favourable trend; ✘ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

What kind of families and communities do Australia's children live in?		Value	Trend
Family economic situation	Average weekly real equivalised disposable household income for households with children aged 0–12 in the 2nd and 3rd income deciles, (2009–10)*	$439	~
Children in non-parental care	Rate of children aged 0–14 in out-of-home care (2011)	7.5 per 1,000	✖
	Proportion of children aged 0–14 in grandparent families (2009–10)	0.5%	• •
Parental health status	Proportion of parents rating their health as 'fair' or 'poor' (2010)	12%	~
	Proportion of parents with mental health problems (2010)	15%	✔
	Proportion of children living with parents with disability (2009)	17%	✔
Neighbourhood safety	Proportion of households with children aged 0–14 where their neighbourhood is perceived as safe or very safe (2010)	85%	~
Social capital	Proportion of households with children aged 0–14 where respondent was able to get support in times of crisis from persons living outside household (2010)	96%	~

How safe and secure are Australia's children?		Value	Trend
Injuries	Age-specific death rates from all injuries for children aged 0–14 (2008–2010)*	5 per 100,000	✔
	Road transport accident death rate for children aged 0–14 (2011)	1.4 per 100,000	✔
	Accidental drowning death rate for children aged 0–14 (2008–2010)	1 per 100,000	✔
	Assault (homicide) death rate for children aged 0–14 (2009–10)	0.6 per 100,000	✔
	Injury hospitalisation rate for children aged 0–14 (2010–11)	1,381 per 100,000	✔
	Assault hospitalisation rate for children aged 0–14 (2010–11)	15 per 100,000	✔
	Intentional self-harm hospitalisation rate for children aged 10–14 (2010–11)	39 per 100,000	~
Child abuse and neglect	Rate of children aged 0–12 who were the subject of a child protection substantiation in a given year (2010–11)*	6.9 per 1,000	~
	Rate of children aged 0–12 who were the subject of care and protection orders (2011)	7.7 per 1,000	✖
Children as victims of violence	Rate of children aged 0–14 who have been the victims of (2011):		
	physical assault	n.a.	• •
	sexual assault	157 per 100,000	• •
Homelessness	Rate of accompanying children aged 0–14 attending agencies funded under the National Affordable Housing Agreement (2010–11)	19 per 1,000	~
Children and crime	Rate of children aged 10–14 who are under juvenile justice supervision on an average day (2009–10)	81 per 100,000	~

How well is the system performing in delivering quality health, development and wellbeing actions to Australia's children?		Value	Trend
Childhood immunisation	Proportion of children on the Australian Childhood Immunisation Register who are fully immunised at 2 years of age (2011)*	93%	~
Survival for leukaemia	Five-year relative survival for leukaemia in children aged 0–14 (2004–2010)	87%	✔
Child protection resubstantiations	Rate of children aged 0–12 who were the subject of a child protection re-substantiation in a given year (2009–2010)	n.a.	• •

*Children's Headline Indicator.

Key: ✔ = favourable trend; ✖ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

Part I
BACKGROUND

1 Introduction

The early years of a child's life provide the foundation for future heath, development and wellbeing. A positive start in life helps children to reach their full potential, while a poor start increases the chances of adverse outcomes. This can have far-reaching consequences, not just throughout the lives of the children themselves but potentially for successive generations. As the most vulnerable members of society, children also have the right to be protected from harmful influences and abuse.

While parents have the primary caring role for their children, ensuring that all children get the best possible start in life is a shared responsibility of families, the wider community and governments. The benefits of investing in children and families flow through to the entire population, with outcomes as diverse as greater productivity, lower burden of disease, stronger families, and safer and more connected communities. Australia has a longstanding commitment to nurture and protect children in our society. The National Early Childhood Development Strategy 'will help ensure that children's rights and needs are at the centre of policy development and service delivery' (COAG 2009a) (see also Appendix A for more policy initiatives).

Timely, accurate and comprehensive information is essential for monitoring the progress of Australia's children, and is critical for the development of evidence-based policy. *A picture of Australia's children 2012* updates progress against indicators of children's health, development and wellbeing since the 2009 edition of the report. It examines areas where improvements are being made, as well as areas where more attention is needed. An overview of how Australia's children are progressing is provided in the Key National Indicators of Children's Health, Development and Wellbeing: Quick Reference Guide in the Summary.

Key National Indicator Framework

The report is structured around the Key National Indicators of Children's Health, Development and Wellbeing, hereafter referred to as the National Indicator Framework. The framework is a comprehensive set of 56 key indicators covering a broad range of topics, such as health status and outcomes, risk and protective factors influencing health and wellbeing, early learning and education, family and community environments, safety and security and system performance.

The National Indicator Framework was developed for the 2005 and 2009 reports of *A picture of Australia's children* (AIHW 2005, AIHW 2009c). A detailed description of the process for developing the set of indicators for *A picture of Australia's children 2009* is in the bulletin *Key national indicators of children's health, development and wellbeing* (AIHW 2008c).

The National Indicator Framework covers the age range 0–14 years. It spans a number of major developmental phases in childhood—from the antenatal period, infancy, early childhood and 'school age' childhood, to early adolescence. The prenatal period is included because high-quality antenatal care, education and support during pregnancy are essential in ensuring a healthy start to life for infants, and improved health and developmental outcomes. Infancy and very early childhood are the periods when the biological pathways affecting cognition, behaviour, capacity to learn, memory, and physical and mental health throughout life are determined (Mustard 2006). Early childhood is a crucial time for social and emotional development, social participation, and the acquisition of literacy and numeracy skills. Children's behaviour and their physical and social environments during this time can influence the rest of their lives. Early adolescence brings increasing independence and is an important time for reinforcing positive health and social behaviours, as behaviours at this age are strong predictors of future behaviour.

The National Indicator Framework (see Table 1.1) is based on the following key questions considered vital to assessing the health, development and wellbeing of Australian children over time:

- How healthy are Australia's children?
- How well are we promoting healthy child development?
- How well are Australia's children learning and developing?
- What factors can affect children adversely?
- What kind of families and communities do Australia's children live in?
- How safe and secure are Australia's children?
- How well is the system performing in delivering quality health, development and wellbeing actions to Australia's children?

Since the 2009 edition of *A picture of Australia's children,* new data were available for 46 of the 56 indicators and these are included in this report.

Relationship with other national reporting frameworks

A range of frameworks have been developed to monitor and improve the health and wellbeing of all Australian children. Those that are particularly relevant at the national level are Headline Indicators, Early Childhood Development, and Protecting Australia's Children.

Headline Indicators

The Headline Indicators constitute a subset of the National Indicator Framework (and are marked with an * in Table 1.1). While the National Indicator Framework provides a broad overview on children's health, development and wellbeing, the Headline Indicators focus on 19 priority areas. The Headline Indicators were endorsed by the Australian Health Ministers' Conference (AHMC), the Community and Disability Services Ministers' Conference (CDSMC) and the Australian Education Systems Officials Committee (AESOC) in 2006. The age range is also narrower than the National Indicator Framework, focusing on 0–12 years only rather than 0–14. Both the National Indicator Framework and the Headline Indicators are underpinned by jurisdictional data collection systems, which are broader still, reflecting local issues specific to each jurisdiction.

Fifteen of the 19 Headline Indicator priority areas are included in this report. Good quality data are not available for attending early childhood education programs (see 'Chapter 33 Data gaps and developments' for more information), while data are not available for the remaining three priority areas (social and emotional wellbeing, shelter, and family social network). The latter two priority areas are not part of the National Indicator Framework. More detailed data relating to the Headline Indicators, including jurisdictional/state and territory disaggregations, is on the AIHW website <http://www.aihw.gov.au/chi/>.

Early Childhood Development Outcomes Framework

The Early Childhood Development Outcomes Framework was established as part of the National Early Childhood Development Strategy, Investing in the Early Years. The reporting framework will enable monitoring of achievements to inform the Council of Australian Governments of progress towards the vision that 'by 2020 all children have the best start in life to create a better future for themselves and the nation' (COAG 2009a). The framework focuses on the age range 0–8 years. Reporting under this framework is yet to begin.

National Framework for Protecting Australia's Children

The National Framework for Protecting Australia's Children focuses on child protection and early intervention. The reporting framework is currently being enhanced and concentrates on sharing responsibility for keeping children safe and well across the community, and promoting the importance of early intervention and prevention.

While each of the frameworks has a specific set of indicators relating to its area of interest, some topic areas (and indicators) are of shared relevance/ interest. To ensure consistency in the way these topics are reported, the same measures have been incorporated into each of the frameworks, with different levels of detail, using the age range relevant to the purpose of the framework.

Table 1.1: Key National Indicators of children's health, development and wellbeing

How healthy are Australia's children?				
Mortality* *Age-specific and condition-specific death rates*	Morbidity *Hospitalisations and chronic conditions*	Disability *Profound or severe core activity limitations*	Congenital anomalies *Selected congenital anomalies among infants at birth*	Mental health *Mental health problems*

How well are we promoting healthy child development?				
Breastfeeding* *Exclusive breastfeeding of infants*	Dental health* *Children with decayed, missing or filled teeth*	Physical activity *Children meeting the National Physical Activity Guidelines*	Early learning *Children who are read to by an adult*	

How well are Australia's children learning and developing?				
Attending early childhood education programs* *Children attending early childhood education programs*	Transition to primary school* *Children entering school with skills for life and learning*	Attendance at primary school* *Children attending primary school each day*	Literacy and numeracy* *Children meeting reading and numeracy national minimum standards*	Social and emotional development* *Children scoring 'of concern' on the Strengths and Difficulties Questionnaire.*

What factors can affect children adversely?				
Teenage births* *Age-specific birth rate for females aged 15–19 years*	Smoking in pregnancy* *Mother's tobacco smoking during pregnancy*	Alcohol use during pregnancy *Mother's alcohol consumption during pregnancy*	Birthweight* *Babies <2,500 grams at birth*	Overweight and obesity* *Children with acceptable/unacceptable BMI scores*
Environmental tobacco smoke *Children in households where adults smoke inside*	Tobacco use *Current smokers*	Alcohol misuse *Children engaging in high-risk drinking*		

What kind of families and communities do Australia's children live in?				
Family functioning *Measure under development*	Family economic situation* *Average real equivalised disposable household income in the 2nd and 3rd deciles*	Children in non-parental care *Children in out-of-home care and other non-parental care*	Parental health status *Parents with fair or poor health, disabilities, mental health problems*	Neighbourhood safety *Proportion who perceive their neighbourhood as unsafe*
Social capital *Children in households that are able to get support in a time of crisis*				

How safe and secure are Australia's children?				
Injuries* *Injury mortality and hospitalisations*	School relationships and bullying *Measure under development*	Child abuse and neglect* *Child protection substantiations, children on care and protection orders*	Children as victims of violence *Physical and sexual assault*	Homelessness *Accompanying children in SAAP*
Children and crime *Children under juvenile justice supervision*				

How well is the system performing in delivering quality health, development and wellbeing actions to Australia's children?				
Neonatal hearing screening *Children fitted with hearing aids at 6 and/or 12 months*	Childhood immunisation* *Children who are fully vaccinated*	Survival of leukaemia *Five-year relative survival for leukaemia*	Quality of child care *Measure under development*	Child protection substantiations *Resubstantiated claims of child abuse and neglect*

* Children's Headline Indicators exist in these areas.

Note: Indicator topics shaded grey are not in this report.

Report structure

In this report, children are generally defined as 0–14 years as this is the standard age range for the National Indicator Framework. For a subset of these, which are also Headline Indicators, the agreed age range is 0–12. Departures from reporting on the standard 0–14 age range due to data limitations are noted in the 'definition' boxes at the end of each chapter. These boxes also provide information relating to measurement issues for the relevant indicator, which may affect interpretation.

To highlight the disparities in health, development and wellbeing experienced among some specific child population groups, information on Aboriginal and Torres Strait Islander children, overseas-born children, and children from regional, remote and socioeconomically disadvantaged areas are reported. Note that only indicators where robust data are available are included. In several chapters data for these specific populations are presented in a combined graph. When reading these graphs, comparisons can only be made within each category.

While there has been much progress in collecting information on the health and wellbeing of Indigenous children over the past decade, many logistical, analytical and conceptual challenges still remain. 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 widely geographically located. As a result, there are many important areas where, at the national level, there is not sufficiently robust information to show how well Indigenous children are faring, or how they compare with non-Indigenous children.

Data on overseas-born children are presented in this report in different ways; usually in terms of country of birth or main language spoken in the home, depending on which is most relevant to the indicator, or in some cases depending on what data items are included in the collection. It should be noted that presenting data on overseas-born children or their parents can be problematic. In most cases, due to small samples, or data quality, it is not possible to disaggregate by specific countries of birth or ethnic groups. A defining characteristic of Australia's overseas-born population is the diversity of their backgrounds (see also 'Chapter 2 Australian children and families'). Categorising the overseas-born as one group can mask differences between their pre- and post-migration experiences, which can impact differently on their health, development and wellbeing.

International comparisons are made where recent international data are available to show how Australian children are faring in this broader context.

The main body of the report is divided into seven parts relating to the seven domains of the National Indicator Framework (see Table 1.1).

Data limitations and data development

Nine topic chapters and the associated 10 indicators have been excluded where:

1. The indicator measure is still under development.

2. No suitable data source exists for the measure.

3. No new data since the last edition of this report are available.

Topic areas and the associated indicators that have been excluded are shaded grey in Table 1.1. More information on the status of these 10 indicators, including where to find the most recently published national data, is in 'Chapter 33 Data gaps and developments'.
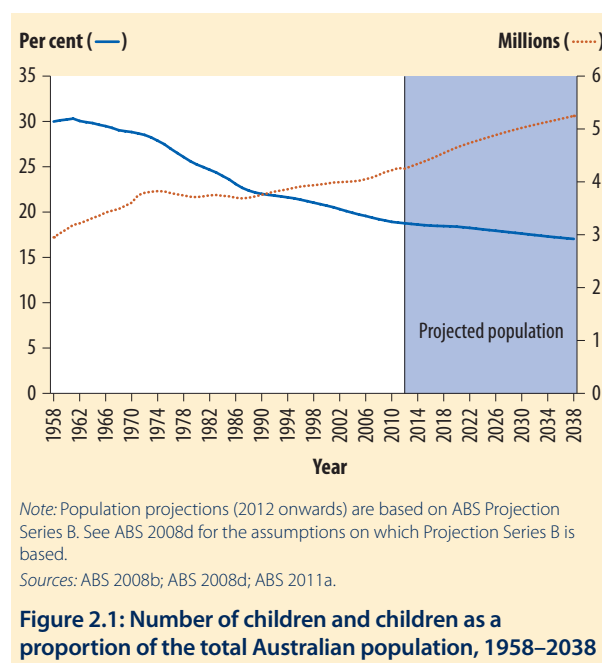
2 Australian children and families

This chapter describes Australia's child population to provide a context for exploring children's health, development and wellbeing. Australia's child population is described in terms of its size, composition and growth as well as cultural diversity and regional distribution. Information on the structure of Australian families is also provided.

How many children live in Australia?

At 30 June 2011, an estimated 4.3 million children aged 0–14 lived in Australia. Boys made up a slightly higher proportion of the child population than girls (51% compared with 49%) (Table 2.1).

The number of Australian children has increased over the past four decades, and is projected to increase to 5.2 million by 2038. However, the child population as a proportion of the total population has been steadily declining due to sustained low fertility and increased life expectancy. As a result, the proportion of children in the population has fallen from almost one-third (30%) in 1958 to just under one-fifth (19%) in 2011. The proportion is projected to fall even further to 17% by 2038 (Figure 2.1).

Note: Population projections (2012 onwards) are based on ABS Projection Series B. See ABS 2008d for the assumptions on which Projection Series B is based.
Sources: ABS 2008b; ABS 2008d; ABS 2011a.

Figure 2.1: Number of children and children as a proportion of the total Australian population, 1958–2038

Table 2.1: Children in Australia aged 0–14, June 2011

Age group (years)	Boys		Girls		Children	
	Number	Per cent of population	Number	Per cent of population	Number	Per cent of population
<1	151,769	1.3	143,959	1.3	295,728	1.3
1–4	603,961	5.4	572,712	5.0	1,176,673	5.2
5–9	710,036	6.3	673,012	5.9	1,383,048	6.1
10–14	720,348	6.4	684,836	6.0	1,405,184	6.2
0–14	2,186,114	19.4	2,074,519	18.3	4,260,633	18.8

Source: ABS 2011a.

Aboriginal and Torres Strait Islander children

There were an estimated 200,245 Aboriginal and Torres Strait Islander children in Australia in 2011, comprising 4.9% of the total child population (Table 2.2). The gender distribution of Indigenous children was the same as for all Australian children (51% boys and 49% girls).
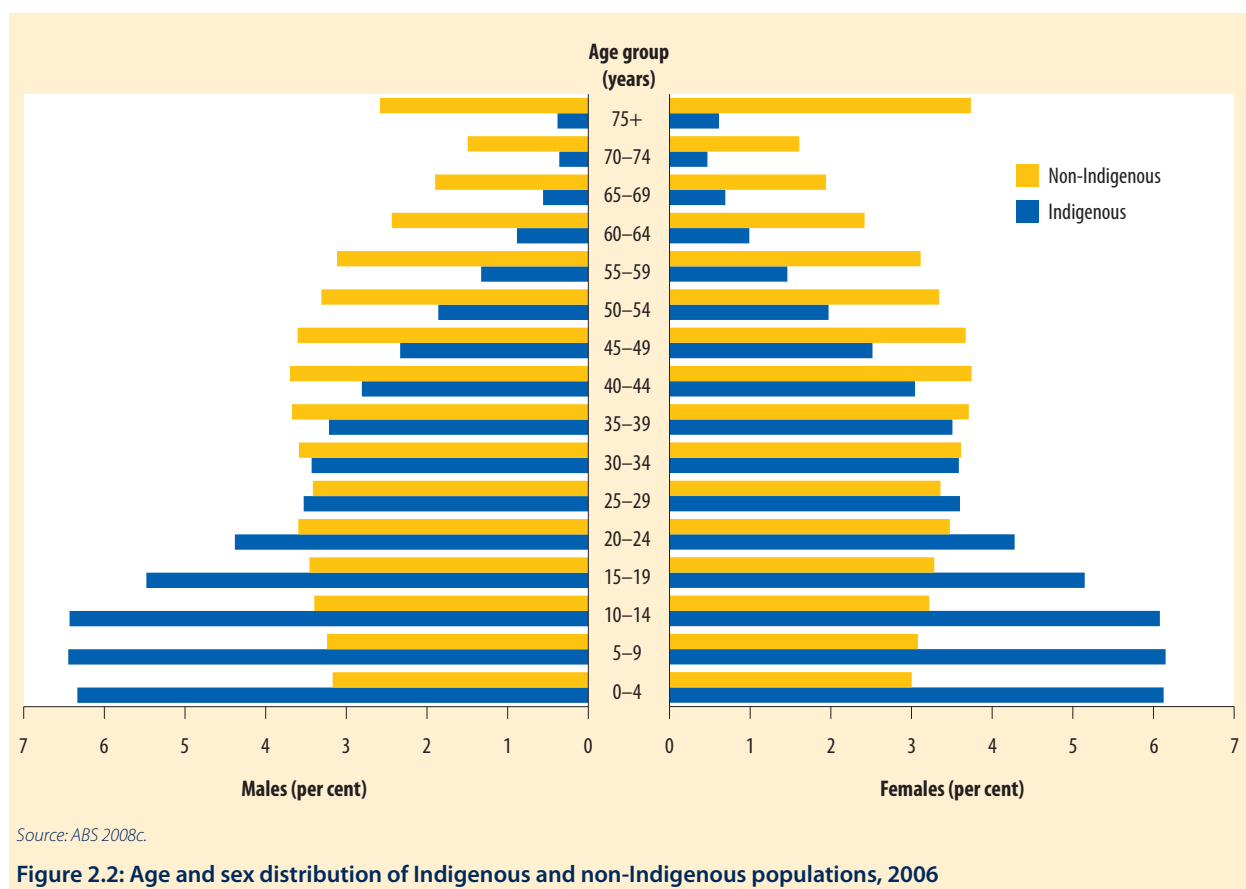
The Indigenous population has a much younger age structure than the non-Indigenous population (Figure 2.2). This reflects the higher fertility rate among Indigenous women compared with all women in Australia (2.6 births compared with 1.9 in 2010), as well as the shorter life expectancy among Indigenous Australians (ABS 2011c). Although Indigenous children comprise a relatively small proportion of the total Australian child population, they represent more than one-third of the Indigenous population (35%) (ABS 2009b).

Table 2.2: Indigenous children aged 0–14, June 2011

	Boys		Girls		Children	
Age group (years)	Number	Per cent of age group	Number	Per cent of age group	Number	Per cent of age group
<1	7,687	5.3	7,306	5.3	14,993	5.3
1–4	28,634	5.0	27,245	5.0	55,879	5.0
5–9	32,676	4.8	31,621	4.9	64,297	4.9
10–14	33,300	4.8	31,776	4.9	65,076	4.9
0–14	102,297	4.9	97,948	5.0	200,245	4.9

Source: ABS 2009b.

Source: ABS 2008c.

Figure 2.2: Age and sex distribution of Indigenous and non-Indigenous populations, 2006
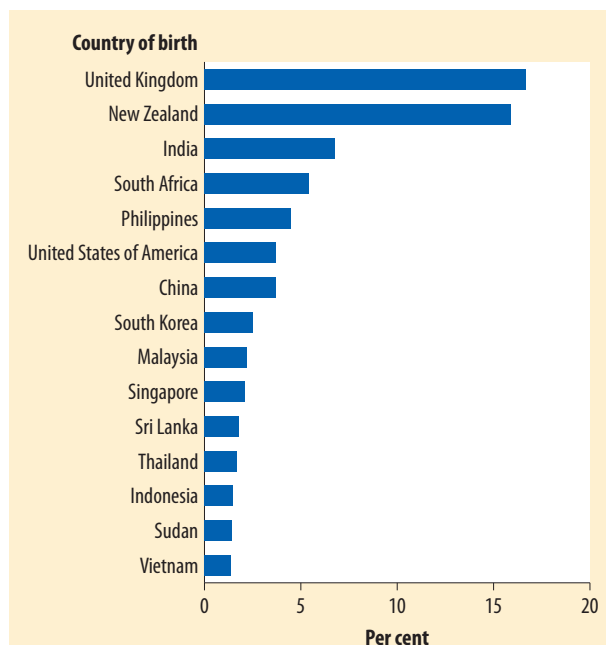
Overseas-born children

With more than one-quarter (27%) of the total Australian population in 2010 born overseas, Australia is one of the most culturally diverse countries in the world (ABS 2011h). The proportion of children aged 0–14 born overseas is considerably lower than for the total Australian population—at 8.3%, or 351,500 children, in 2010 (ABS 2011h). Overseas-born children come from more than 169 different countries. About 44% of overseas-born children were from other mainly English-speaking countries, with the largest populations from the United Kingdom (17%), New Zealand (16%) and South Africa (5%) (see Figure 2.3). More than half of overseas-born children were born in mainly non-English-speaking countries (56%). Of these children, the largest groups were from India (7% of the total overseas-born), the Philippines (5%), and China (excluding Special Administrative Regions and Taiwan Province) (4%).

Based on 2006 Census data, almost one-fifth of children (17% or 625,000) aged 0–14 had both parents born overseas while a further 16% (601,000) of children had one parent born overseas (9% or 333,000 with overseas-born fathers and 7% or 268,000 with overseas-born mothers) (ABS 2007).

Country of birth

Note: Data for China exclude Special Administrative Regions and Taiwan Province.
*Source:* ABS 2011h.

Figure 2.3: Leading countries of birth for children aged 0–14 born overseas, 2010

Refugee children

At 30 June 2011, there were 30,695 children aged 0–14 living in Australia who had arrived under the Humanitarian Program for refugees and others in refugee-like situations. These children accounted for almost 1% of the child population (0.7%). The largest ethnic groups were the Sudanese, who made up one-fifth (20%) of refugee children, followed by Iraqi and African (not further defined) (12% each), Burman (11%) and Afghani (8%) (Figure 2.4). These five main ethnic groups made up almost two-thirds (62%) of all refugee children.

In 2010–11, around 3,600 children aged 0–14 arrived under the Humanitarian Program, slightly higher than the number in 2001–02 (3,200). However, numbers vary considerably between years, peaking at around 5,700 during 2004–05[1] (Australian Government Department of Immigration and Citizenship, unpublished data).

Ethnicity
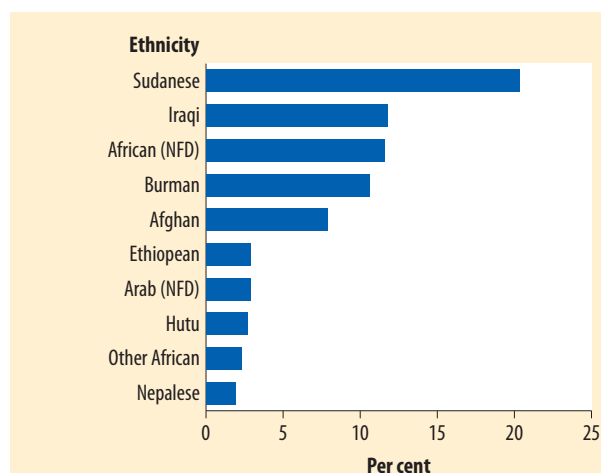
Note: Sudanese includes Dinka, Nuer/Never, Bor, Agaar and Rut/Luac; Iraqi includes Chaldean; Burman includes Burmese, Burmese Indian, Karen, Chin and Rohingya; Afghani includes Hazara and Pashtun; Ethiopean includes Tigrinya, Oromo and Amhara.
Source: Australian Government Department of Immigration and Citizenship, unpublished data.

Figure 2.4: Leading ethnicities for refugee children aged 0–14 in Australia, at 30 June 2011

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1   Actual counts of settlers differ to those reported in *A picture of Australia's children 2009*, due to the data being updated.

Where do Australian children live?

States and territories

The population distribution of children across states and territories is similar to that for all Australians. In 2011, almost one-third of Australian children lived in New South Wales, while about one-quarter (24%) and one-fifth (21%) lived in Victoria and Queensland, respectively (Table 2.3).

In 2011, the largest proportion of children in a state or territory was in the Northern Territory, where children made up around one-quarter of the population (23%). This is largely due to the high proportion of Indigenous Australians living in the Northern Territory, and the younger age structure of this population group. In other states and territories, children make up between 17.7% (South Australia) and 19.9% (Queensland) (see Table 2.3).

In the Northern Territory, Indigenous Australian children made up 10% of the total population, and 44% of the territory's child population. In most other states, Indigenous children make up between 1% (Victoria) and 7% (Tasmania) of the child population (Figure 2.5).

Two-thirds of refugee children live in NSW and Victoria (29% and 30%, respectively), while 13% live in Queensland, 12% in Western Australia and 11% in South Australia (Australian Government Department of Immigration and Citizenship, unpublished data).

Remoteness

Two-thirds (67%) of all Australian children aged 0–14 lived in *Major cities* in 2010, and a further one-fifth (20%) lived in *Inner regional* areas. Ten per cent of children lived in *Outer regional* areas

while 3% of children lived in *Remote and very remote* areas (AIHW, derived from ABS Statistical Local Area population estimates). The most recent data source on the geographical areas in which Indigenous children live is the 2006 Census. Although the majority of Indigenous children lived in *Major cities* and *Inner* and *Outer regional* areas combined in 2006 (77%, or 149,400 children), they were almost 8 times as likely to live in *Remote and very remote* areas (23%) as all Australian children (3%). 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 (ABS 2008c).
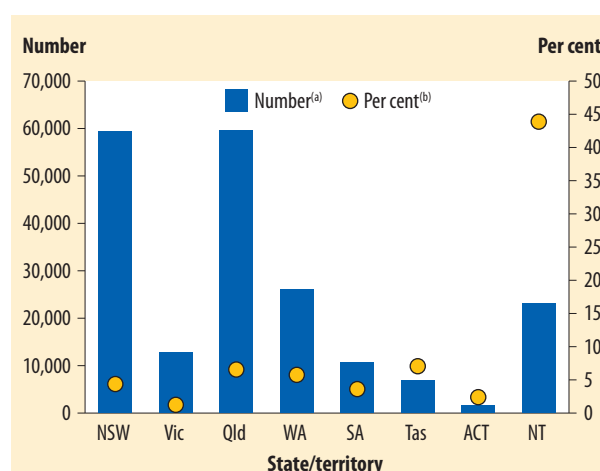
(a) Number refers to number of Indigenous children aged 0–14 within each state/territory.

(b) Per cent refers to per cent of all children aged 0–14 within each state/territory.

Sources: ABS 2009b; ABS 2011a.

Figure 2.5: Distribution of Indigenous children aged 0–14 across the states and territories, June 2011

Table 2.3: Distribution of children across the states and territories, June 2011

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia[a]
	Per cent of state/territory population[b]								
0–4 years	6.3	6.4	6.9	6.7	6.0	6.6	6.8	8.1	6.5
5–9 years	6.1	5.9	6.4	6.2	5.7	6.1	5.9	7.5	6.1
10–14 years	6.2	6.0	6.5	6.4	6.0	6.4	5.8	7.3	6.2
0–14 years	18.6	18.3	19.9	19.3	17.7	19.1	18.4	22.9	18.8
	Per cent of Australian population 0–14 years[c]								
0–14 years	31.9	24.1	21.3	10.6	6.9	2.3	1.6	1.2	100.0

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

(b) The denominator is the relevant total state/territory population.

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

Source: ABS 2011a.

Australian families

Families play a crucial role in the lives of Australian children, as they provide the environment in which most children are cared for. Research has shown that children brought up in stimulating and nurturing family environments have better outcomes throughout life (McCain & Mustard 2002; Zubrick et al. 2000).

The profile of Australian families has changed considerably with regard to marriage and long-term relationships since the 1970s. Fewer Australians are getting married with the crude marriage rate falling from 8.1 per 1,000 population in 1974 to 5.4 in 2010 (ABS 1995b; ABS 2011g). De facto relationships more than doubled between 1986 and 2006 from 6% to 15%. However, it is recognised that in many cases these couples will eventually marry (DPMC 2008).

Divorce rates have also risen over time which can be partly attributed to the introduction of the *Family Law Act 1975 (Cwlth)*. Before 1976, the crude divorce rate was below 1 per 1,000 people, increasing to 4.5 per 1,000 people in 1976 following implementation of the law. The large increase was due to the backlog of divorce applications being cleared (DPMC 2008). Since then the crude divorce rate has remained between 2 and 3 divorces per 1,000 people. In 2008, the rate fell to 2.2 per 1,000 people, rising slightly to 2.3 per 1,000 people in 2009 and 2010 (ABS 2011g).

With the structure and composition of Australian families becoming increasingly less static, some children experience a number of family transitions before they reach adolescence. Family dissolution or the re-partnering of parents means that children can be faced with new parent–child and sibling relationships. Research suggests that children can experience difficulties adjusting to the changes and are at an increased risk of poor mental health and deficits in overall wellbeing (Sawyer et al. 2000; Silburn et al. 1996; Vimpani et al. 2002). Children from non-intact families, particularly one-parent families, may also experience adverse developmental outcomes such as low educational attainment, increased likelihood of engaging in antisocial behaviour, and substance use in adulthood (de Vaus & Gray 2003; DeLeire & Kalil 2002).

However, changes in family structures do not always have negative outcomes for children. Many intervening factors such as the quality of parent–child relationships, parenting style and supervision, parental care and levels of family discord can positively affect children's vulnerability or resilience to the effects of change.

How many Australian families have children aged 0–14?

Between 1976 and 2006, the proportion of couple families with dependent children[2] declined from 48% to 37%, while the proportions of one-parent families and couples without children (including couples who have no children and those whose children have left home) increased. For one-parent families, the proportion increased from 7% to 11% and the proportion of couples without children rose from 28% to 37% (DPMC 2008).

However, more recently (that is, over the period 1997–2010), the types of families that children are living in have changed little[3]. In 1997, 82% of children aged 0–14 lived in couple families. This dropped to 81% in 2003, before rising to 84% in 2009–10 (Figure 2.6). The vast majority of children living in couple families in 2009–10 lived in intact families (90%), with 7% and 3% living in blended families and stepfamilies respectively (ABS 2011 Family characteristics, unpublished data). Less than 1% of children in couple families lived in other arrangements, such as grandparent families and families with foster children only (ABS 2011 Family characteristics, unpublished data; see also 'Chapter 21 Children in non-parental care'). In 2009–10 around 1 in 6 children lived in one-parent families (17%)—of these children, the majority (89%) lived with their mother (Figure 2.6).
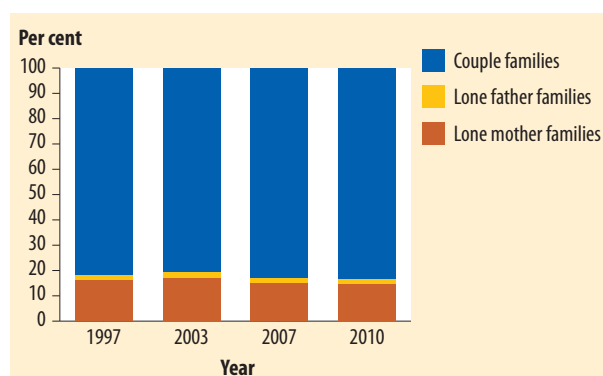
Source: ABS 2011e.

Figure 2.6: Children aged 0–14 by family structure, 1997–2010

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2   The ABS defines a dependent child as a child aged under 15 or aged 15–24 who is a full-time student (ABS 2011e).

3   It has not been possible to test for a statistically significance difference between 1997 and 2010 as 1997 RSEs were not available.

A higher proportion of infants and young children (aged 0–4) lived in couple families in 2009–10 (88%) compared with 5–9 and 10–14 year olds (82% and 81%, respectively). Conversely, in one-parent families a considerably higher proportion of children were aged 10–14 than 0–4 (19% and 12% respectively) (ABS 2011e). A small number of children live in adoptive families. In 2010–11, there were 346 adoptions of children aged 0–14 in Australia (this includes 'known', local and intercountry adoptions) (AIHW 2011d).

Aboriginal and Torres Strait Islander families

There is evidence that Indigenous Australians have more extensive and complex family relationships than most non-Indigenous Australians. These relationships can be difficult to translate into non-Indigenous terms for comparison. 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 2010d:26).

Indigenous households tend to be larger, non-nuclear and more fluid in composition (ABS & AIHW 2008). Indigenous families not only include immediate relatives such as parents and siblings but can extend to 'aunties, uncles, cousins, grandparents, family established by kinship systems and other members of the community' (Guilfoyle et al. 2010:69 citing the Warrki Jarrinkaku ACRS Project Team (2002)). These extended family structures allow for the responsibility of raising children to be shared among members of the community and help to ensure that children's needs are addressed in line with the requirements of the group. This communal focus to children's wellbeing not only provides children with a sense of belonging but also allows for the development of 'social capital' and other support mechanisms between extended family members (Guilfoyle et al. 2010).

Indigenous families, especially grandparents and elders, play a critical role in the continuation of history, tradition and language and help children establish their identity in culturally specific ways (ABS 2009c; Guilfoyle et al. 2010). Although the legacy of forced removal of Indigenous children from their families continues to negatively impact Aboriginal people, including its contribution to family breakdowns and socioeconomic disadvantage, the support provided by parents and the extended family structure have a positive effect on children's health and welfare (Commissioner for Children and Young People 2010; Walker & Shepherd 2008).

Part II

HOW HEALTHY ARE AUSTRALIA'S CHILDREN?

Good health is an important element in a child's quality of life as it can influence participation in many aspects of life, including schooling and recreation (AIHW 2010). Part II focuses on general measures of health status, namely the presence or absence of disease, or activity and participation restrictions. The following topics are included:

Chapter 3—Mortality

Chapter 4—Chronic conditions

Chapter 5—Disability

The following table shows how children fare across the indicators presented in Part II, and whether there has been any improvement over time.

Part II	Part III	Part IV	Part V	Part VI	Part VII	Part VIII
How healthy are Australia's children?	How well are we promoting healthy child development?	How well are Australia's children learning and developing?	What factors can affect children adversely?	What kind of families and communities do Australia's children live in?	How safe and secure are Australia's children?	How well is the system performing?

Indicator		Value	Trend
Mortality	Mortality rate for infants less than 1 year of age (2010)*	4.1 per 1,000	✔
	Sudden infant death syndrome (SIDS) rate (2010)	27 per 100,000	✔
	Death rate for children aged 1–14 (2010)	13 per 100,000	✔
Morbidity	Proportion of children aged 0–14 with asthma as a long-term condition (2007–08)	10%	✔
	New cases of Type 1 diabetes among children aged 0–14 (2009)	22 per 100,000	~
	New cases of cancer among children aged 0–14 (2004–08)	14 per 100,000	~
Disability	Proportion of children aged 0–14 with severe or profound core activity limitations (2009)	3.9%	~

*Children's Headline Indicator.

Key: ✔ = favourable trend; ✘ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

3 Mortality

Infant and child death rates provide insight into the social and environmental conditions in which Australia's children grow and develop.

Death rates have more than halved for Australian infants and children between 1986 and 2010. However, rates among Indigenous children and children from *Remote and very remote* areas remain higher than the national rate.

Mortality rates and causes of mortality are key indicators of the health of a population. They not only reflect circumstances around the time of death but also provide insight into changes in social and environmental conditions, medical interventions, health behaviours and trends in underlying risk factors. However, it should be noted that changes in the health status of a population can take many years to have an impact on mortality rates and that mortality statistics do not reflect the burden on the population of conditions that do not necessarily result in death.

Social and economic factors are powerful determinants of infant and child mortality in both developed and developing countries (Collison et al. 2007; Marmot 2006). Infant and child mortality have been shown to be associated with indicators of parental disadvantage (Yu 2008). One explanation for these patterns is the strong association between infant mortality and the accessibility and effectiveness of health services for mothers and babies, which are also affected by the economic resources of families (Freemantle et al. 2006). Infant survival can also be affected by maternal factors (such as age, number of prior pregnancies resulting in birth, birth interval), environmental contamination, nutritional deficiency, injury, health-seeking behaviours and access to medical treatment (Mosley & Chen 2003).

Australia has shown significant progress in reducing infant and child deaths, particularly through the work of neonatal intensive care units, increased community awareness of the risk factors for sudden infant death syndrome (SIDS), and reductions in vaccine-preventable diseases through national childhood immunisation programs.

Improvements in both access to quality antenatal health care and maternal health through improved nutrition and reduction in risk behaviours during pregnancy, may serve to reduce the infant mortality rate in Australia further, particularly among Indigenous infants (AHMAC 2011; AIHW 2009a; CDC 2006; Drevenstedt et al. 2008).

Closing the gap between Indigenous and non-Indigenous under-5 mortality rates within a decade (by 2018) is a key priority for the Australian Government (Australian Government 2012).

How many Australian infants die in their first year of life?

Headline Indicator: Mortality rate for infants less than 1 year of age

According to the ABS Deaths Registrations collection, in 2010:

• There were 1,229 deaths of infants aged less than 1—a rate of 4.1 per 1,000 live births (4.8 and 3.4 for males and females, respectively).

• Infant deaths comprised almost three-quarters (71%) of deaths among children aged 0–14.

• More than two-thirds (69%) of infant deaths occurred in the neonatal period (first 28 days after birth), and almost half (48%) of neonatal deaths occurred on the day of birth.

• Males accounted for 60% of all infant deaths. The predominance of male deaths is related to the greater number of male births—there were 105 male live births for every 100 female live births in 2010—but also reflects the greater vulnerability of male infants to infections and conditions related to prematurity and development (ABS 2011c; Drevenstedt et al. 2008).

• The infant mortality rate more than halved between 1986 and 2007 (from 8.8 to 4.2 deaths per 1,000 live births), but has remained comparatively stable to 2010 (Figure 3.1).
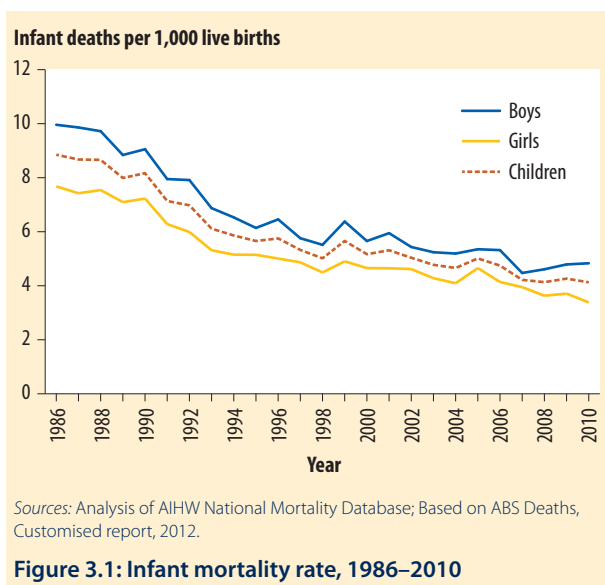
Infant deaths per 1,000 live births

Sources: Analysis of AIHW National Mortality Database; Based on ABS Deaths, Customised report, 2012.

Figure 3.1: Infant mortality rate, 1986–2010

What are the leading causes of infant death?

Between 1997 and 2010, the three leading causes of infant death have remained unchanged—perinatal conditions; congenital anomalies; and symptoms, signs and abnormal findings (which includes SIDS).

Among infants in 2008–2010:

• Perinatal conditions were the leading cause of death, accounting for almost half of all infant deaths (46%). Of these perinatal conditions, more than one-quarter were due to the effects maternal complications during pregnancy on the infant (Figure 3.2).

• Congenital anomalies accounted for around one-quarter (26%) of all infant deaths. Of these deaths, the leading condition was congenital malformations of the circulatory system, accounting for 8% of all infant deaths.

• Symptoms, signs and abnormal findings was the third leading cause of death (10%), with more than two-thirds of these due to SIDS.

• The death rate was higher for male infants than for females for all leading causes of death.

Sudden infant death syndrome (SIDS)

SIDS refers to the sudden and unexpected death of an infant aged less than 1 year during sleep, that remains unexplained after a thorough investigation.

The SIDS death rate—the number of SIDS deaths per 100,000 live births—has declined in Australia since the beginning of national public education campaigns about risk factors associated with SIDS in 1991. Risk factors for SIDS include front and side sleeping positions, soft sleeping surfaces and loose bedding, overheating, smoking and bed sharing (ABS & SIDS and Kids 2003; Byard 2001; Hunt & Hauck 2006). Mothers are also encouraged to breastfeed if they can as a protective measure against SIDS (SIDS and Kids 2012).

It is important to note that due to differences in the investigation and reporting of SIDS over time, the decline in SIDS deaths may not be as profound as these data indicates (ABS & SIDS and Kids 2003; Freemantle et al. 2005). This means that the number of SIDS deaths may be higher than reported.
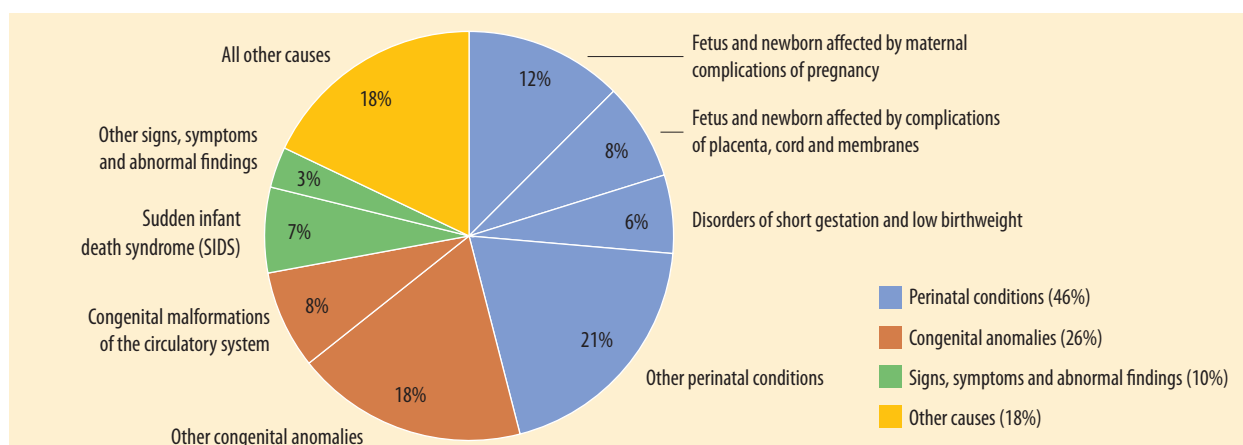
Notes

1. Refer to Table B.2 for ICD-10 codes.
2. Per cent refers to per cent of all infant deaths. Per cent may not add to 100% due to rounding.
3. Data for 2009 and 2010 are based on revised and preliminary data, respectively, and are subject to revision.

*Source:* Based on ABS Deaths, Customised report, 2012.

Figure 3.2: Leading causes of infant mortality, 2008–2010

In 2004, a consensus was reached on the definition and investigation of SIDS deaths in Australia in response to this issue (SIDS and Kids 2004).

Key national indicator: Sudden infant death syndrome (SIDS) rate

In 2010, among infants aged less than 1:

- There were 81 deaths due to SIDS—a rate of 27 deaths per 100,000 live births, and 7% of all infant deaths (Figure 3.3).

- Around 94% of SIDS deaths occurred in the post-neonatal period (between 29 and 364 days after birth).

- Male infants accounted for almost three-quarters (72%) of SIDS deaths.

- Between 1986 and 2003 the SIDS death rate decreased by 86%—from 203 per 100,000 live births to 29, but has remained comparatively stable to 2010 (Figure 3.3).

Infant deaths per 100,000 live births
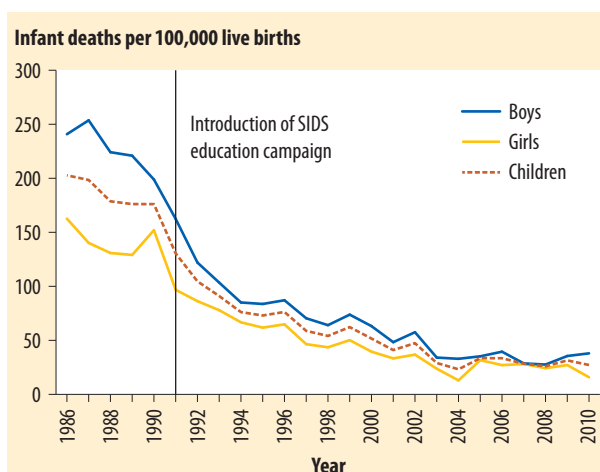
Notes
1. Refer to Table B.2 for ICD-10 codes.
2. A comparability factor of 0.94 has been applied to years 1986–1996 to align ICD-9 and ICD-10 coding practices.
3. Data for 2009 and 2010 are based on revised and preliminary data, respectively, and are subject to revision.
Sources: Analysis of AIHW National Mortality Database; Based on ABS Deaths, Customised report, 2012.

Figure 3.3: Mortality rate for sudden infant death syndrome, 1986–2010

How many Australian children (aged 1–14) die each year?

Key national indicator: Death rate for children aged 1–14

According to the ABS Deaths Registrations collection, in 2010 among children aged 1–14:

- There were 507 deaths—a rate of 13 per 100,000 children (15 and 11 deaths per 100,000 for boys and girls, respectively).

- The death rate for children aged 1–4 (19 per 100,000 children) was twice the rate for children aged 5–9 and 10–14 (each 10 per 100,000 children).

- Boys accounted for 59% of child deaths.

Between 1986 and 2010:

- The child mortality rate more than halved between 1986 and 2006 (from 30 to 13 deaths per 100,000 children), largely due to a decrease in deaths from transport accidents. The child mortality rate remained comparatively stable between 2006 and 2010.

- The decline in mortality rates was evident across all three age groups: 1–4, 5–9 and 10–14 (60%, 52% and 56% decline, respectively) (Figure 3.4).

- The decline in child mortality rates was observed for both boys and girls (decreases of 57% and 55%, respectively), although the rate for boys remained consistently higher than for girls.
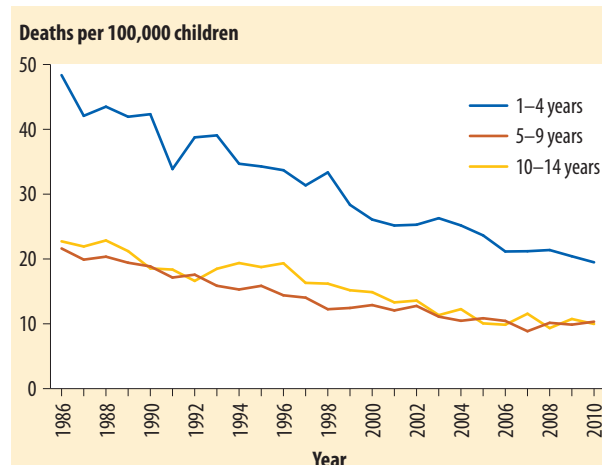
Deaths per 100,000 children

Sources: Analysis of AIHW National Mortality Database; Based on ABS Deaths, Customised report, 2012.
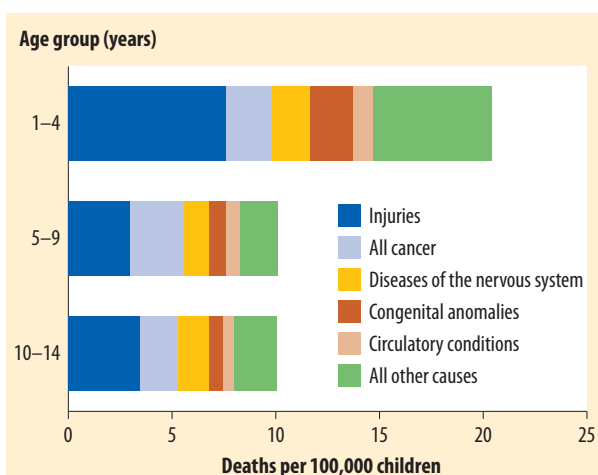
Figure 3.4: Child mortality rate (1–14 years), 1986–2010

Causes of child death

Between 1997 and 2010, the three leading causes of child death have remained the same: injuries, cancer and diseases of the nervous system (see 'Chapter 24 Social capital' for further information on injuries).

Among children aged 1–14 in 2008–2010:

• The leading causes of death were injuries (34%), cancer (17%) and diseases of the nervous system (11%)—rates of 4.5, 2.2 and 1.5 per 100,000 children, respectively.

• Children aged 1–4 had higher rates of injury, diseases of the nervous system, congenital anomalies and circulatory conditions than children aged 5–9 and 10–14 (Figure 3.5).

Age group (years)

Legend:
- Injuries
- All cancer
- Diseases of the nervous system
- Congenital anomalies
- Circulatory conditions
- All other causes

X-axis: Deaths per 100,000 children

Notes
1. Refer to Table B.2 for ICD-10 codes.
2. Data for 2009 and 2010 are based on revised and preliminary data, respectively, and are subject to revision.
Source: Based on ABS Deaths, Customised report, 2012.

Figure 3.5: Leading causes of child mortality (1–14 years), 2008–2010

Do infant and child mortality rates vary across population groups?

Aboriginal and Torres Strait Islander infants and children

In 2008–2010, based on deaths in New South Wales, Queensland, South Australia and the Northern Territory combined:

• Infant mortality rates were 1.7 times as high for Indigenous infants compared with non-Indigenous infants (7.2 and 4.2 deaths per 1,000 live births, respectively).

• Child (1–14 years) mortality rates were 2.1 times as high for Indigenous children compared with non-Indigenous children (25 deaths per 100,000 children compared with 12).

Remoteness

• Infant mortality rates were almost twice as high in *Remote and very remote* areas compared with *Major cities* in 2008–2010 (6.8 and 3.9 per 1,000 live births, respectively).

• Among children aged 1–14, mortality rates were around 3 times as high in *Remote and very remote* areas compared with *Major cities* in 2008–2010 (31 and 11 per 100,000 children).
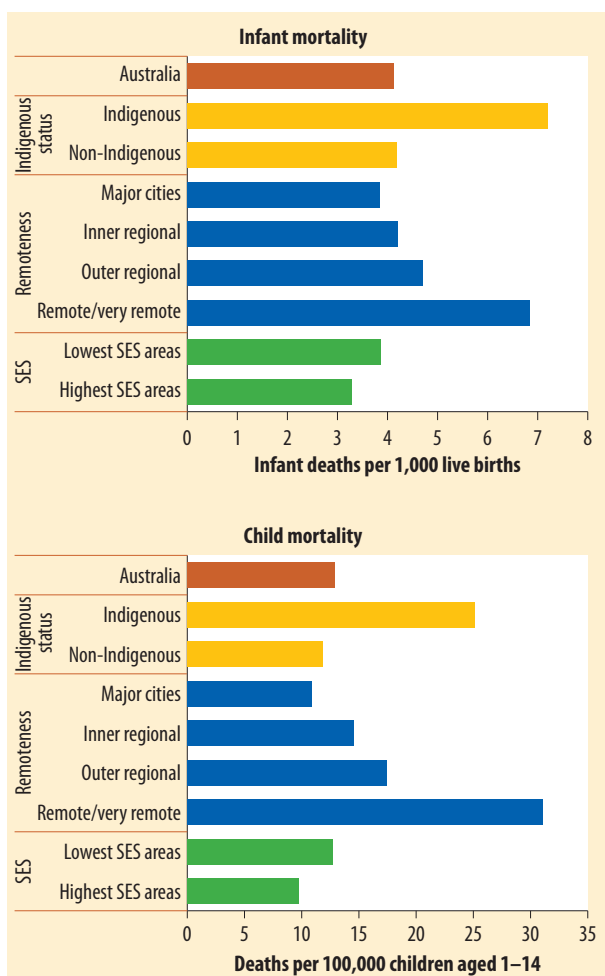
Socioeconomic status

• Infant mortality rates were 1.2 times as high in the lowest socioeconomic status (SES) areas compared with the highest SES areas in 2008–2010 (3.9 and 3.3 per 1,000 live births, respectively).

• Among children aged 1–14, mortality rates were 1.3 times as high in the lowest SES areas compared with the highest SES areas in 2008–2010 (13 and 10 per 100,000 children).

Box 3.1: Measuring infant and child mortality

Infant mortality is measured as the number of deaths of infants aged less than 1 in a given year, expressed per 1,000 live births in the same year. **Child mortality** is expressed as the number of deaths per 100,000 children aged 1–14.

All causes of death data from 2006 onward are subject to a revisions process. In this chapter, data for 2009 and 2010 are based on revised and preliminary data, respectively, and are subject to revision. All earlier years of data are final. For further details see *Causes of death, Australia, 2010* (ABS 2012a).

Indigenous status data are currently of sufficient quality to report for four jurisdictions only: New South Wales, Queensland, South Australia and the Northern Territory combined (for further details see Appendix B: Methods). These jurisdictions are subject to change over time and care must therefore be taken when interpreting trend data. Data are not necessarily representative of excluded jurisdictions.

Infant mortality

Child mortality

Notes

1. For data quality reasons, data for Indigenous status are for NSW, Qld, SA and the NT only. The data are not necessarily representative of excluded jurisdictions.
2. Data for Indigenous status, Remoteness Area and socioeconomic status (SES) are for 2008–2010. Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).

Source: Based on ABS Deaths, Customised report, 2012.

**Figure 3.6: Infant and child mortality by selected population groups, 2010**

How does Australia's infant and under-5 mortality compare internationally?

Infant mortality

- In 2009, Australia's infant mortality rate ranked 23rd out of 34 OECD countries (Figure 3.7).
- With a rate of 4.3 infant deaths per 1,000 live births, the Australian rate was slightly ahead of the OECD average (4.4 per 1,000), but substantially higher than Iceland (1.8 per 1,000), Japan and Slovenia (2.4 per 1,000 each).
- The infant mortality rate was highest in Mexico, Turkey and Chile (15, 13 and 8 deaths per 1,000 live births, respectively) (OECD 2011a).

Mortality of under-5 year olds

- In 2010, Australia's under-5 mortality rate ranked 19th out of 34 OECD countries.
- With a rate of 5 deaths per 1,000 live births, Australia was equal to the OECD average, but higher than Iceland (2 per 1,000), Finland and Japan (3 per 1,000 each).
- The under-5 mortality rate was highest in Mexico, Turkey and Chile (17, 13 and 9 deaths per 1,000 live births, respectively) (WHO 2011a).
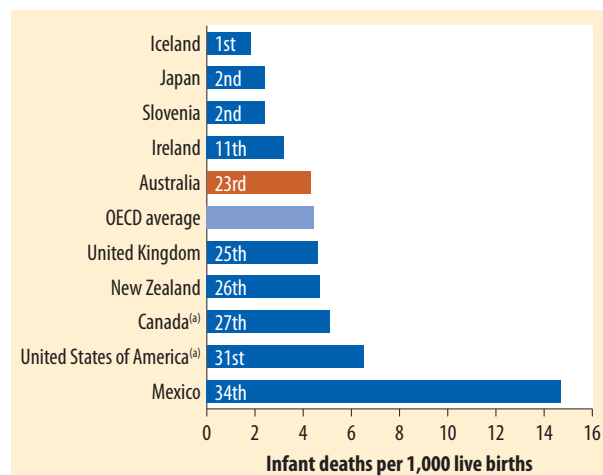
(a) Data for the United States of America are for 2008 and data for Canada are for 2007.

Note: Based on data from 34 OECD countries, using the most recent year of available data.

Source: OECD 2011a.

Figure 3.7: Infant mortality rates by selected OECD countries, 2009

4 Chronic conditions

Chronic conditions can affect normal growth and physical, social and emotional development processes, and account for a large proportion of the burden of disease among children.

The prevalence of asthma among children has decreased between 2001 and 2007–08, while the number of new cases of cancer for children remained the same between 1999–2003 and 2004–2008. The incidence of Type 1 diabetes was higher in 2009 than in 2000, but has been stable since 2005.

A chronic condition is an ongoing impairment characterised by a physical or mental condition, functional limitation, and service use or need beyond routine care (AIHW 2007b). Chronic conditions can disrupt the normal growth and development processes of children either directly, or indirectly as a result of ongoing treatment. Chronic conditions can also affect the social and emotional development of children, for example, through fear of stigmatisation, school absences or inability to participate in age-appropriate activities, and through physical pain and suffering that can negatively affect future functioning (Dell'Api et al. 2007).

This chapter focuses on three chronic conditions affecting Australia's children—asthma, diabetes and cancer. These conditions are National Health Priority Areas, because of their impact on health, the potential to reduce their burden and community concern. These conditions accounted for 20% of the burden of disease among children aged 1–14 in 2003 (AIHW: Begg et al. 2007). Hospitalisations for these conditions are included as this gives an indication of the impact of the three conditions on hospital service provision, and provides background information on the children who are accessing services.

This chapter uses a variety of data sources, including hospital, mortality and survey data. Please refer to appendixes B and C for technical issues and information regarding these sources.

How many Australian children have chronic conditions?

According to the 2007–08 ABS National Health Survey, it is estimated that, among children aged 0–14:

- Almost 2 in 5 (37% or 1.5 million) have at least one long-term condition, that is, a condition that has lasted, or is expected to last, 6 months or more.
- There was no statistically significant difference between the proportion of boys and girls with at least one long-term condition (38% and 35% respectively).
- Asthma was the most frequently reported long-term condition (10%), followed by hayfever and allergic rhinitis (7%), and undefined allergies (5%) (Figure 4.1). Asthma and allergic rhinitis both occur more commonly in people with hypersensitivity to allergens.

Note: Long-term condition is defined here as a condition that has lasted, or is expected to last, 6 months or more.
Source: ABS 2009d.

Figure 4.1: Most frequently reported long-term conditions in children aged 0–14, 2007–08
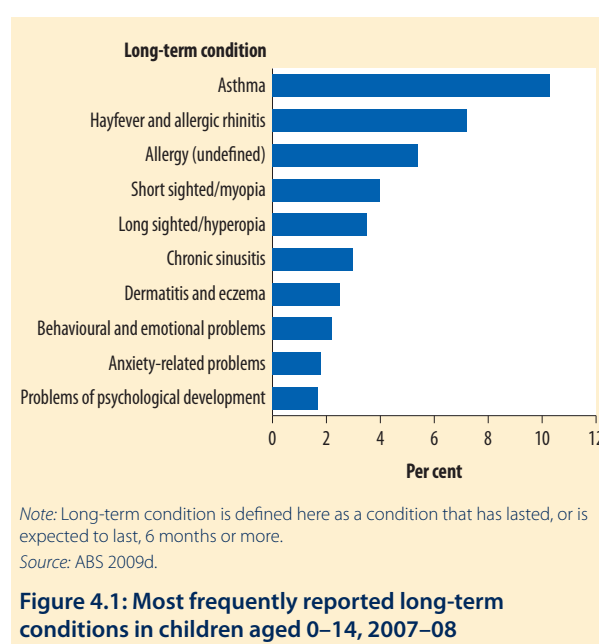
Asthma

Asthma is a common chronic inflammatory condition of the airways. It causes episodes of wheezing, breathlessness and chest tightness due to widespread narrowing of the airways. The symptoms of asthma are usually reversible, either spontaneously or with treatment (AIHW: Australian Centre for Asthma Monitoring 2011; GINA 2011).

The underlying causes of asthma are still not well understood, but environmental and lifestyle factors, as well as genetic factors, may increase the risk of developing asthma. Factors that can trigger airway narrowing and asthma symptoms include viral infections, exposure to specific allergens, irritants, exercise and some food chemicals or additives (AIHW: Australian Centre for Asthma Monitoring 2011).
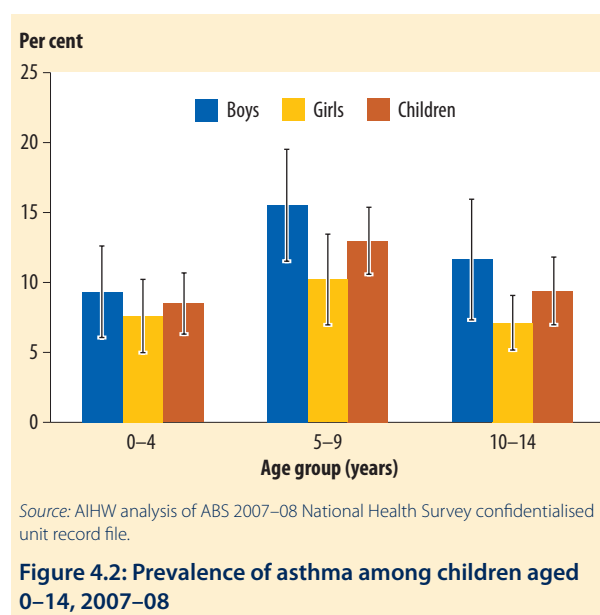
For the majority of children with asthma, the condition can be controlled effectively with appropriate use of preventive and relief medication, as well as avoiding or controlling trigger factors. However, for some people, asthma can place considerable restrictions on their physical, social and emotional lives and their families. Although asthma was the leading cause of disease burden for children in Australia in 2003 (AIHW: Begg et al. 2007), deaths from asthma among children are not common (26 deaths of children were due to asthma in 2008–2010 (ABS Deaths, Customised report, 2012, see also Box 4.1).

Asthma prevalence

> **Key national indicator:** Proportion of children aged 0–14 with asthma as a long-term condition

According to the ABS 2007–08 National Health Survey it is estimated that:

- 10% (around 414,500) of Australian children aged 0–14 were reported to have asthma as a long-term condition.
- The prevalence of asthma among children aged 0–14 was similar to the general population (10%).
- Asthma prevalence was highest among children aged 5–9 for both boys (16%) and girls (10%).

Per cent

Source: AIHW analysis of ABS 2007–08 National Health Survey confidentialised unit record file.

**Figure 4.2: Prevalence of asthma among children aged 0–14, 2007–08**

While the prevalence of current asthma among children increased during the 1980s and early 1990s, the trend has since reversed. Between 2001 and 2007–08 the prevalence of current asthma among children aged 0–15 decreased from 13.5% to 9.9% (age-standardised rates). This trend is based on the definition 'Do you still get asthma?' from the 2001, 2004–05 and 2007–08 National Health Surveys. A decrease in asthma among children has also been found in several series of surveys conducted since the 1990s (AIHW: Australian Centre for Asthma Monitoring 2011).

Hospitalisations

In 2010–11, there were around 21,300 hospital separations for asthma among children aged 0–14—a rate of 502 per 100,000 children (accounting for 4% of all child hospital separations).

- The asthma hospital separation rate decreased between 1996–97 and 2002–03 and remained relatively stable between then and 2010–11 with a slight increase between 2008–2009 and 2009–2010 (from 518 to 554 per 100,000 children) (Figure 4.3).
- Boys accounted for just over half of separations (51%). The rates were 626 and 372 per 100,000 for boys and girls, respectively.
- The highest separation rate for children was for those aged 0–4 (940 per 100,000 children) and the lowest for those aged 10–14 (148 per 100,000).

Hospital separations per 100,000 children
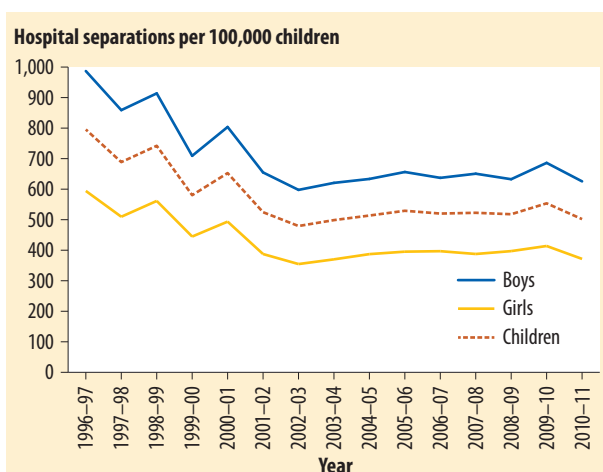
Source: AIHW National Hospital Morbidity Database.

Figure 4.3: Asthma hospital separations for children aged 0–14, 1996–97 to 2010–11

Diabetes

Diabetes is a chronic condition in which the body cannot properly use its main energy source— the sugar glucose. This is due to a deficiency in insulin, or the inability to use the insulin available. Insulin is a hormone produced in the pancreas that stimulates the body's cells to take up glucose from the blood. Diabetes is marked by an abnormal build-up of glucose in the blood and can have serious short- and long-term effects, including kidney failure, loss of eyesight and limbs, disability, and premature death. People with diabetes can control and reduce their risk of complications by ensuring that blood glucose levels remain within the normal range. Death due to diabetes is extremely rare among children aged 0–14. In 2008–10 there were fewer than five deaths from diabetes (ABS Deaths, Customised report, 2012, see also Box 4.1).

There are two main types of diabetes, Type 1 and Type 2. Type 1 diabetes most often appears during childhood or adolescence and is marked by a complete lack of insulin, making insulin replacement necessary for survival. Type 1 diabetes is believed to be caused by an autoimmune condition that destroys the pancreatic cells that produce insulin; however, the reasons for this remain unknown. Research has suggested that the increase in the incidence of Type 1 diabetes among children has been too rapid to be caused entirely by genetic factors and is more likely to be related to environmental factors such as viral infections causing changes in the immune system that ultimately trigger the disease (Chong et al. 2007; Fourlanos et al. 2008).

Type 2 diabetes is the most common form of diabetes among the Australian adult population and is marked by a reduced level of insulin or an inability of the cells to use insulin (AIHW 2010). Type 2 diabetes is often linked to lifestyle factors, such as obesity and physical inactivity, and occurs most often among people older than 40 years. Although there are no reliable national estimates on Type 2 diabetes among children, smaller studies of children and youth suggest that Type 2 diabetes is on the rise among children (Craig et al. 2007; McMahon et al. 2004). This could be due to an increased level of obesity, and physical inactivity.

Diabetes incidence

Key national indicator: New cases of Type 1 diabetes among children aged 0–14

According to the National Diabetes Register in 2009, among children aged 0–14:

- There were 913 new cases of Type 1 diabetes—a rate of 22 per 100,000 children. The incidence of new cases was higher than in 2000 (19 per 100,000 children), but has remained relatively stable since 2005 (Figure 4.4).

- The incidence rate increased with age—2.6 times as high among children aged 10–14 as children aged 0–4 (31 compared with 12 per 100,000 children) (Figure 4.5).

- Overall, incidence rates were higher for boys than girls (24 and 20 cases per 100,000, respectively). This is mainly due to the difference in incidence numbers between boys and girls aged 10–14 (35 and 26 per 100,000, respectively) (Figure 4.5).

Incidence per 100,000 children
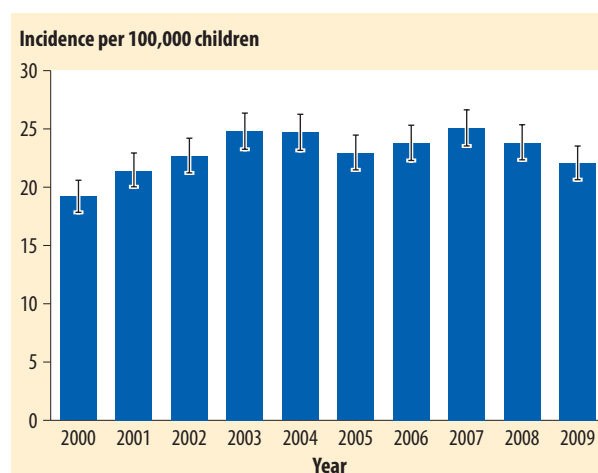
Source: National Diabetes Register.

Figure 4.4: Incidence of new cases of Type 1 diabetes among children aged 0–14, 2000–2009

Incidence per 100,000 children
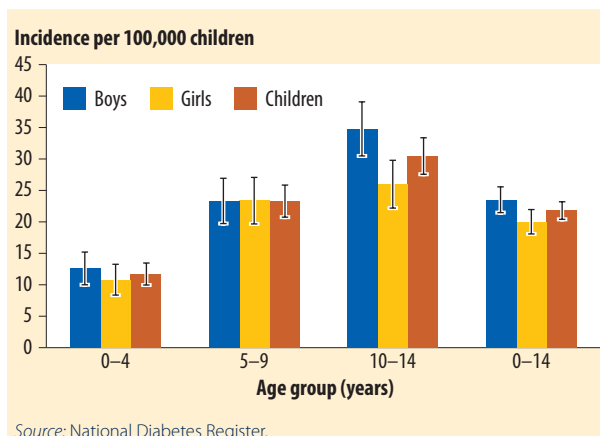
Source: National Diabetes Register.

Figure 4.5: Incidence of new cases of Type 1 diabetes among children aged 0–14, by age and sex, 2009

Hospitalisations

In 2010–11, there were around 3,100 hospital separations for Type 1 diabetes as a principal diagnosis among children aged 0–14—a rate of 74 per 100,000 children.

- The rate of hospitalisation was higher for girls than for boys (81 and 67 per 100,000 children, respectively), despite there being a higher incidence of Type 1 diabetes among boys.

- Older children were 4.7 times as likely to be hospitalised for Type 1 diabetes as children under the age of 5 (129 and 27 per 100,000 for 10–14 and 0–4 year olds, respectively).

- There was a 54% increase in hospital separations for all diabetes between 2000–01 and 2007–08 (Figure 4.6). The rate then decreased between 2007–08 and 2009–10 followed by an increase in 2010–11, albeit by a small proportion (2%) (Figure 4.6).

Hospital separations per 100,000 children
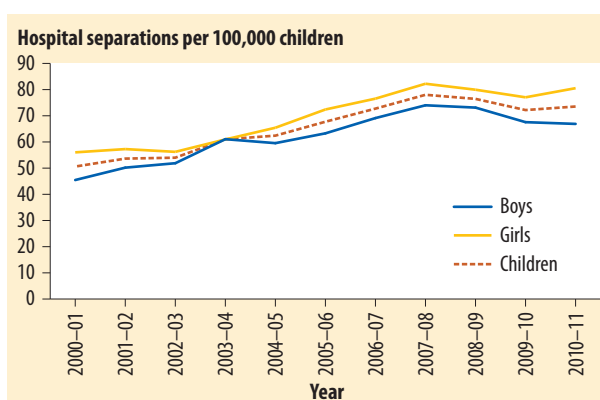
Note: Refer to Table B.3 for ICD-10-AM codes.
Source: AIHW National Hospital Morbidity Database.

Figure 4.6: Type 1 diabetes hospital separations for children aged 0–14, 2000–01 to 2010–11

Cancer

Cancer is a term used to describe a range of diseases in which cells become abnormal, grow in an uncontrolled way and form a mass called a neoplasm or tumour. Tumours can be benign (not cancerous) or malignant (cancerous). Benign tumours do not spread to other parts of the body, although they may interfere with adjacent organs as they expand. A malignant tumour is characterised by its ability to spread to other parts of the body through a process known as metastasis. Cancers can develop from most cell types in the body and are usually classified according to their organ or tissue of origin and histological features.

The risk of most cancers increases with age and most types of cancers are uncommon in children. Cancers in children tend to differ from those observed in adults in appearance, site of origin and response to treatment.

Cancer causes significant morbidity and mortality for children, and was a leading cause of death for those aged 1–14 in 2008–2010 (see 'Chapter 3 Mortality'). However, over the past decade, medical advances and technological improvements in cancer diagnosis and treatment have resulted in improved survival from certain cancers and a clear decline in mortality among children, despite the fact that the cancer incidence rate remained unchanged.

Cancer incidence

Key national indicator: New cases of cancer among children aged 0–14

Over the period 2004–2008, among children aged 0–14:

- An average of 583 new cases of cancer were diagnosed annually—a rate of 14 per 100,000 children (15 and 13 per 100,000 boys and girls, respectively). These rates remain unchanged from the period 1999–2003.

- Over half of all new cancers (54%) were diagnosed among boys.

- The cancer incidence rate for those aged 0–4 (21 per 100,000 children) was almost twice those of children aged 5–9 and 10–14 (10 and 12 per 100,000, respectively) (Figure 4.7).

- The most common types of new cancer diagnosed were acute lymphoblastic leukaemia, cancer of the brain and non-Hodgkin lymphomas (4.2, 1.9 and 0.9 per 100,000 children, respectively) (Figure 4.7).

In 2008, these cancers accounted for almost half (49%) of all cancers diagnosed among children.

Age group (years)

Acute lymphoblastic leukaemias
Brain
Non-Hodgkin lymphomas
Acute myeloid leukaemias
Kidney
Other

Incidence per 100,000 children
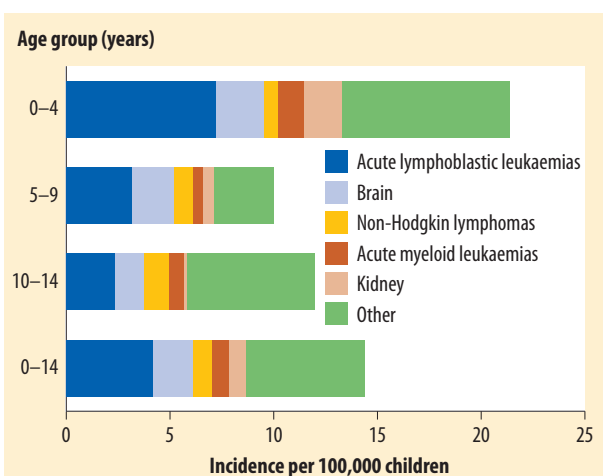
Note: Refer to Table B.2 for ICD-10-AM codes.
Source: AIHW Australian Cancer Database 2007.

Figure 4.7: Most common types of new cancers among children aged 0–14, 2004–2008

Hospitalisations

There were around 7,000 hospital separations for cancer among children aged 0–14 in 2010–11—a rate of 166 per 100,000 children.

• The majority of hospital separations were for boys (57%), a pattern consistent with previous years.

• Children aged 0–4 had a separation rate more than twice that of 10–14 year olds (237 compared with 111 per 100,000 children). This pattern is consistent with rates of cancer incidence among these age groups.

• There has been little change in the cancer hospital separation rate since 2000–01 (164 per 100,000 children, AIHW National Hospital Morbidity Database, unpublished data).

Cancer deaths

In 2008–2010, there were 274 cancer deaths among children aged 0–14—a rate of 2.2 per 100,000 children (Table 4.1).

• This accounted for around 5% of all child deaths. Cancer was the second leading cause of death, after death due to injury, for children aged 1–14 (see 'Chapter 3 Mortality').

• Death rates from cancer have declined by one-quarter since 1997—from 3.6 per 100,000 children to 2.7 per 100,000 children between 1997 and 2010 (Table 4.1).

• The most common cancers causing death among children in 2008–2010 were malignant neoplasm of the brain (33%), acute myeloid leukaemia (10%) and acute lymphoblastic leukaemia (9%) (ABS Deaths, Customised report, 2012, see also Box 4.1).

Cancer survival

Survival after a diagnosis of cancer can be used to assess the effectiveness of early cancer detection, access to appropriate treatment services and collaboration between health-care providers.
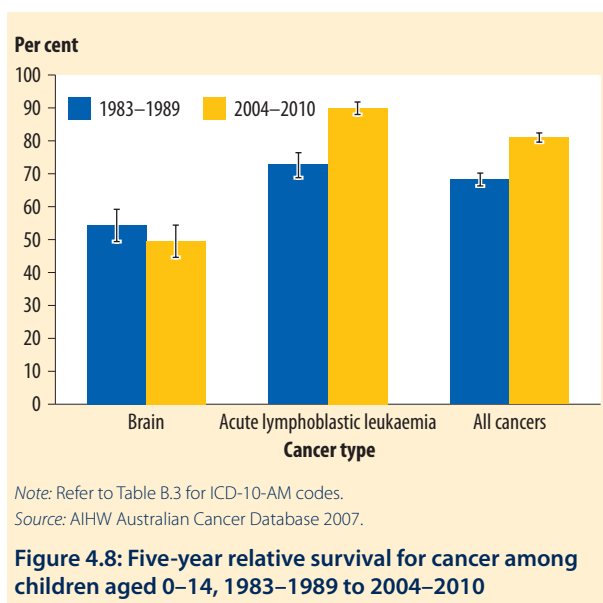
• In the period 2004–2010, 5-year relative survival among children aged 0–14 was 81% for all cancers, with no difference between boys and girls. This represented an increase from 68% in the period 1983–1989.

• The gains in survival have not been consistent across all cancers. Five-year relative survival for acute lymphoblastic leukaemia increased by 17 percentage points between the periods 1983–1989 and 2004–2010 (from 73% to 90%) (Figure 4.8, and also 'Chapter 31 Survival for leukaemia'), while there was no statistically significant change for cancer of the brain during the same periods.

Table 4.1: Cancer deaths among children aged 0–14, 1997–2010

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Number	140	154	122	106	118	124	102	114	96	90	90	84	74	116
Deaths per 100,000 children	3.6	3.9	3.1	2.7	3.0	3.1	2.5	2.8	2.4	2.2	2.2	2.0	1.8	2.7

Notes
1. Refer to Table B.2 for ICD-9 and ICD-10 codes.
2. All causes of death from 2006 onwards are subject to a revision process. Affected data in this table are 2008 (final), 2009 (revised), 2010 (preliminary).
Sources: AIHW National Mortality Database; ABS Deaths, Customised report, 2012.

Per cent

Legend: ■ 1983–1989 ■ 2004–2010

Cancer type: Brain, Acute lymphoblastic leukaemia, All cancers

Note: Refer to Table B.3 for ICD-10-AM codes.
Source: AIHW Australian Cancer Database 2007.

Figure 4.8: Five-year relative survival for cancer among children aged 0–14, 1983–1989 to 2004–2010

Do chronic conditions vary across population groups?

Complete data across all population groups were not available for each of the three chronic conditions.

Aboriginal and Torres Strait Islander children

Asthma

• Asthma prevalence for Indigenous children was estimated to be 14% in 2004–05—3 percentage points higher than for non-Indigenous children (11%) (ABS & AIHW 2008).

• In 2010–11, hospital separation rates for asthma were higher for Indigenous children than other Australian children (589 and 506 per 100,000 children, respectively).

Diabetes

• There are no reliable national estimates of Type 1 diabetes incidence for Indigenous children aged 0–14.

• In 2010–11, hospital separation rates for Type 1 diabetes were lower for Indigenous children than for other Australian children (52 and 74 per 100,000 children, respectively).

Cancer

• There are no reliable national estimates of cancer incidence for Indigenous children aged 0–14.

• Cancer hospital separation rates were lower for Indigenous children than for other Australian children (114 and 164 per 100,000 children, respectively) (excludes data from Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory) (Table 4.2).

Remoteness

Asthma

• In 2007–08, there were no significant differences in asthma prevalence between remoteness areas across Australia (AIHW analysis of ABS 2007–08 National Health Survey confidentialised unit record file).

• Hospital separation rates for asthma were higher in *Major cities* compared with *Remote and very remote* areas (529 compared with 462 per 100,000 children) (Table 4.2).

Diabetes

• Recent data are not available for new cases of Type 1 diabetes for geographical regions of Australia. During 1999–2005 the rate of new cases of Type 1 diabetes was twice as high in *Major cities* compared with *Remote and very remote* areas (22 compared with 11 per 100,000 children) (National Diabetes Register, unpublished data).

• Hospital separation rates for Type 1 diabetes were almost the same in *Major cities* and *Remote and very remote* areas (67 compared with 66 per 100,000 children) (Table 4.2).

Cancer

• In the period 2004–2010, 5-year relative survival for cancer among children aged 0–14 was higher in *Major cities* (81%) and *Inner regional* areas (83%) than in *Outer regional* (78%) and *Remote and very remote* areas (75%). However, the differences were not found to be statistically significant (AIHW Australian Cancer Database 2007, unpublished data)[4].

• Hospital separation rates for cancer were higher in *Major cities* compared with *Remote and very remote* areas (172 compared with 86 per 100,000 children) (Table 4.2).

Socioeconomic status

Asthma

• Asthma prevalence was higher among children living in areas of lowest socioeconomic status (SES) than among those in areas of highest SES (14% and 6%, respectively) (AIHW analysis of ABS 2007–08 National Health Survey confidentialised unit record file).

• Hospital separation rates for asthma were 32% higher for children living in the lowest SES areas than for those in the highest SES areas (557 compared with 423 children per 100,000).

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4 Note estimates differ from those in Youlden et al. 2011. This may be due to the use of different time periods and the use of different classifications schemes.

Diabetes

• Data are not available for the prevalence of Type 1 diabetes among children by SES.

• Hospital separation rates for Type 1 diabetes were 34% higher for children living in the lowest SES areas than for those in the highest SES areas.

Cancer

• In the period 2004–2010, 5-year relative survival for cancer among children aged 0–14 in the highest SES areas was higher than in the lowest SES areas (84% and 81% respectively). However, the difference was not found to be statistically significant (AIHW Australian Cancer Database 2007, unpublished data).

• Hospital separation rates for cancer were 15% lower among children living in the lowest SES areas compared with the highest SES areas.

## How does Australia compare internationally on chronic disease indicators?

Asthma

There are no recent data available on how Australia performs internationally in relation to asthma In 2002, the International Study of Asthma and Allergies in Childhood (ISAAC) showed that the prevalence of wheeze in the last 12 months among children aged 6–7 was highest in Costa Rica (38%) and Cuba (32%). It was also above the global average of 11.5% in New Zealand (22%), United Kingdom (21%) and Australia (20%) (ISAAC 2011).

Diabetes

According to the International Diabetes Federation (IDF), in 2011:

• The incidence of Type 1 diabetes among Australian children aged 0–14 is high compared with other OECD countries. Australia was above the OECD average of 17 per 100,000 children with an incidence rate of 23 per 100,000, ranking 28th out of the 34 OECD countries (excluding Turkey due to a lack of data) (IDF 2011).

• Korea had the lowest incidence of Type 1 diabetes (1.1 per 100,000 children) while Finland had the highest (58 per 100,000 children).

• Australia had a similar incidence to the United States and the United Kingdom (23, 24 and 25 per 100,000 children respectively) (Figure 4.9) (IDF 2011).
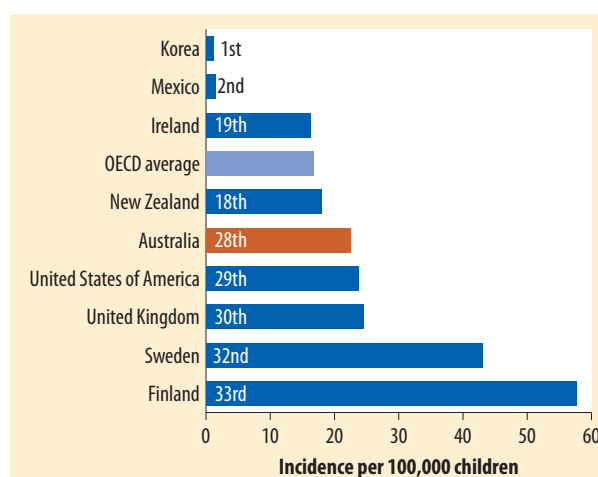
Source: IDF 2011.

Figure 4.9: Incidence of Type 1 diabetes among children aged 0–14, by selected OECD countries, 2011

Table 4.2 Hospital separations for children aged 0–14, 2010–11 (per 100,000)

Population group	Asthma		All diabetes		Cancer	
	Rate	Ratio	Rate	Ratio	Rate	Ratio
Indigenous status						
Indigenous	589	1.2	52	0.7	114	0.7
Other Australians	506		74		164	
Remoteness						
Major cities	529	1.1	67	1.0	172	2.0
Remote and very remote	462		66		86	
Socioeconomic status[a]						
Lowest SES areas	557	1.3	81	1.3	149	0.8
Highest SES areas	423		60		176	
All children	**502**		**74**		**166**	

(a)   See Appendix B: Methods for explanation of socioeconomic status (SES).
Note: The ratio for hospital separation rates is calculated as Indigenous divided by non-Indigenous, *Major cities* divided by *Remote and very remote* and lowest SES areas divided by highest SES areas.
Source: AIHW National Hospital Morbidity Database.

Cancer

According to GLOBOCAN data, in 2008:

- Australia ranked 25th in the cancer incidence rate (14.9 new cases per 100,000 children) out of the 33 OECD countries (excluding Luxembourg due to a lack of data). The Australian rate was above the OECD average of 13.4 new cases per 100,000 children.

- Germany had the highest incidence rate of all cancers (20.6 new cases per 100,000 children) while Poland had the lowest incidence of all cancers in 2008 (5.6 new cases per 100,000 children).

- The United States and Canada had similar rates to Australia (14.1 and 13.9 new cases per 100,000 children, respectively) (Figure 4.10).
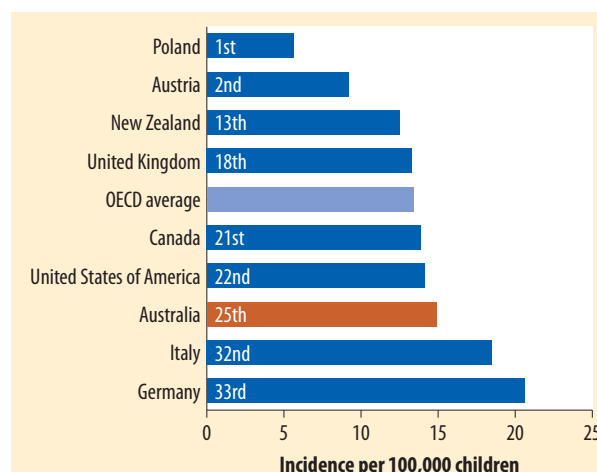
Source: Ferlay et al. 2010.

Figure 4.10: Incidence of cancer among children aged 0–14, by selected OECD countries, 2008

Box 4.1: Defining and measuring chronic conditions

Asthma

It is difficult to accurately estimate the prevalence of asthma in the population due to differences in how asthma is measured, for example, by self-reported wheeze, diagnosis by a general practitioner based on symptoms, or a combination of symptoms and lung function tests. Data on asthma prevalence presented here are self-reported from the ABS 2007–08 National Health Survey. Asthma is considered to be a current long-term condition if the respondent has been told by a doctor or nurse that they have asthma, and have had symptoms or taken treatment for asthma in the 12 months prior to the interview. The ICD-10 codes used for asthma hospitalisations are J45–J46.

Diabetes among children

Data on children with diabetes are drawn from the National Diabetes Register (NDR). The register aims to collect information on all new cases of people who use insulin to treat their diabetes. The register is based on insulin treatment rather than type of diabetes because a person's type of diabetes is not as easily defined as a person's insulin-using status. The ICD-10 code used for Type 1 diabetes hospitalisations is E10.

Cancer incidence and survival

Since the 2009 edition of *A picture of Australia's children*, a number of changes have been made to the way cancer sites are grouped. The key change affecting this report is the new grouping system for cancers of the blood and lymphatic system (ICD–10 codes of C81–C96, D45, D46, D47.1 and D47.3). The new groupings are more closely aligned with the current understanding of these cancers. Details of the new groupings are outlined in Appendix B.

Relative survival is the ratio between the observed survival among a group of people with cancer and the expected survival among the same group had they not been diagnosed with cancer. For example, a relative survival of 100% indicates that the disease has made no difference to survival of the group over a given period, while a survival of less than 100% indicates that cancer did reduce survival compared with the population without cancer (AIHW 2011f).

The relative survival rates in this report have been calculated using the 'period method' rather than the 'cohort measure' used in the *A picture of Australia's children 2009* report. The period method examines the survival experience of people who were alive at the beginning of a particular recent at-risk period and who were diagnosed with cancer before this period. The period method generally provides more up-to-date estimates of survival than other methods, particularly around time trends affected by better cancer detection and treatment.

Mortality

All causes of death data from 2006 onward are subject to a revisions process. Affected data in this chapter are: 2006 (final), 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). For further details see *Causes of death, Australia, 2010* (ABS 2012a).

Hospitalisations

All hospital data presented in this report are based on principal diagnosis. Records where care type was recorded as newborn (unqualified days only), posthumous organ procurement or hospital boarder were excluded from analysis, as they do not represent admitted patient care.

Separations

These are defined as an episode of care in a hospital. It can refer to either the total stay (from admission to discharge, transfer, or death) or a portion of the total stay which ends in a change in the type of care (for example, moving from acute care to rehabilitation) (AIHW: O'Brien et al. 2006).

5 Disability

Children with disability can have diverse physical, sensory, intellectual and psychiatric impairments that restrict their full involvement in society.

An estimated 7% of Australian children had a disability in 2009 and, of these, over half had profound or severe core activity limitations (4%).

Disability goes beyond the presence or absence of particular health conditions; it relates to the way in which an individual functions in society and is strongly influenced by environmental factors (AIHW 2007a). The United Nations Convention on the Rights of Persons with Disabilities recognises disability as an evolving concept: 'disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others' (UN 2006). However, early detection, along with intervention, has the potential to significantly reduce disability and its impact on the person's participation in all aspects of life over the life span.

The disability spectrum is typically measured in terms of the level of difficulty (also expressed as a need for assistance) that a person has in performing the core activities of daily living: self-care, mobility and communication, as well as difficulty in other activities. Schooling is a vital aspect of life for most children and a child's disability might be described in terms of both core activity limitation and 'schooling restriction'. Schooling restriction is often associated with a need for special assistance and/or equipment to participate in a mainstream class, or attendance at special classes or a special school (AIHW 2008b).

Compared with other children, children with severe disability rely more heavily on parents, siblings, other family members and teachers for assistance, and many require formal intervention, including specialist health and disability services. Specialist services that assist with mobility, self-care and/or communication (that is, core activities of daily living) are provided under the National Disability Agreement (NDA), funded jointly by the Australian and state and territory governments (AIHW 2011e). In 2009–10, over 57,600 children aged 0–14 used NDA services, making up almost one-fifth (19%) of total users (AIHW 2011e). The majority of children receive assistance from this program in their own home rather than in residential care (see 'Chapter 21 Children in non-parental care').

A range of targeted early childhood education and early intervention programs, also funded by the Australian and state and territory governments, provide support to children with high support needs to attend day care and preschool education (AIHW 2011e).

How many children have a disability?

According to the ABS 2009 Survey of Disability, Ageing and Carers, it is estimated that:

- Around 7% (or 288,300) of Australian children aged 0–14 had some level of disability (ABS 2010a).

- Boys were more likely than girls to report disability (9% and 5%, respectively).

- The most common disability types among children were intellectual, reported for an estimated 161,600 children (3.9%), and sensory/ speech (119,100 children or 2.9%) (Figure 5.1).

- There were 185,200 children (6.8%) aged 5–14 who had schooling restrictions (ABS 2010a). This number includes children who have core activity limitations as well as schooling restriction (also see Figure 5.2).

- The prevalence of disability in 2009 for 0–14 year olds (7%) was lower than in 2003 (8.2% or 319,900 children).

- The decrease in the prevalence of disability for children aged 0–14 is consistent with the prevalence of disability decreasing for all Australians since 2003. This has been attributed to a decrease in the proportion of Australians disabled because of physical health conditions. In particular, the proportion of children (aged 0–17) disabled by asthma almost halved since 2003, from 0.9% to 0.5% (ABS 2010a).

Figure 5.1: Children aged 0–14 with disability, by disability group, 2009
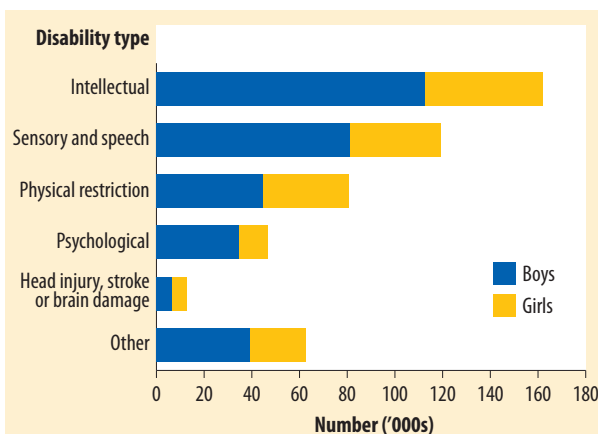
Notes

1. Figures are based on all reported conditions and so children with multiple conditions will be counted more than once.

2. The disability types used in the figure above are different to those used in *A picture of Australia's children 2009 (AIHW 2009c)*.

Source: Based on ABS Survey of Disability, Ageing and Carers 2009, Customised report, 2012.

How many children have a severe disability?

Key national indicator: Proportion of children aged 0–14 with severe or profound core activity limitations

According to the ABS 2009 Survey of Disability, Ageing and Carers, it is estimated that:

- 163,600 children aged 0–14, or 3.9%, had a severe disability (Figure 5.2).

- Boys (5.3%) were twice as likely as girls (2.5%) to have a severe disability.

- The prevalence of severe disability was higher among children aged 5–9 (5.8%) than those aged 10–14 and 0–4 (3.9% and 2.2%, respectively).

- Although the proportion of children with a severe disability decreased between 2003 and 2009 from 4.3% (or 166,700 children) to 3.9% (163,600 children), there was no statistically significant difference between the two time references.
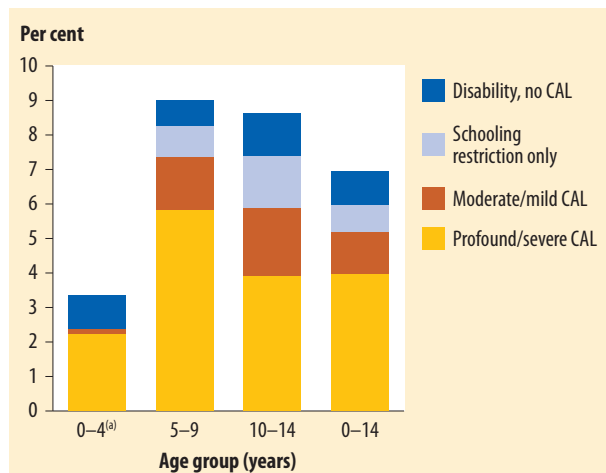
(a) Moderate/mild estimate for 0–4 year olds has a relative standard error of 25% to 50% and should be interpreted with caution.

Notes

1. CAL is core activity limitation.

2. The category 'schooling restriction' above does not include children who have a CAL *and* a schooling restriction. It includes only those with a schooling restriction and no CAL. In 2009, it was reported that 185,200 children aged 5–14 had a schooling restriction irrespective of whether or not they had a CAL as well (ABS 2010a).

Source: Based on ABS Survey of Disability, Ageing and Carers 2009, Customised report, 2012.

Figure 5.2: Disability status of children aged 0–14, 2009

Do rates of disability vary across population groups?

Aboriginal and Torres Strait Islander children

Information about the prevalence and type of disability among Indigenous children nationally is limited. According to the most recent data available at the time of publication from the 2006 Census of Population and Housing:

- Indigenous children aged 0–14 were 30% more likely than non–Indigenous children to require assistance with a core activity of self-care, mobility and communication (ABS & AIHW 2008).

Remoteness

- There was no statistically significant difference between the prevalence of severe disability in *Major cities* (3.8%), *Inner regional* areas (4.5%) and *Outer regional* and *Remote* areas (3.9%) (ABS Survey of Disability, Ageing and Carers 2009, Customised report, 2012).

Socioeconomic status

Disability has been strongly associated with socioeconomic status, although this relationship is likely to work in both ways, that is, cause and effect. It may be that socioeconomic disadvantage contributes to the occurrence of disability, or that the costs and loss of income associated with disability lead to socioeconomic disadvantage (AIHW 2004).

- Based on equivalised household income quintiles, the proportion of children with severe disability was highest among low-income households (6.5%) and lowest among high-income households (2.7%) in 2009 (ABS Survey of Disability, Ageing and Carers 2009, Customised report, 2012).

Box 5.1: Defining and measuring disability

The ABS Survey of Disability, Ageing and Carers defines a person as having a **disability** if they report having a limitation, restriction or impairment which has lasted, or is likely to last, for at least 6 months and restricts everyday activities (ABS 2010a).

A person with a very high level of disability will sometimes or always need assistance (either sometimes or always) with self-care, mobility and/or communication. The ABS Survey of Disability, Ageing and Carers defines this level of disability as 'severe or profound core activity limitation'. For ease of reference in this report, this has been shortened to **severe disability**.

Part III

HOW WELL ARE WE PROMOTING HEALTHY CHILD DEVELOPMENT?

Healthy child development helps to prevent disease both in the short and long term, while positive early learning experiences stimulate brain development and improve learning outcomes for children. Part III focuses on protective factors which promote healthy child development and early learning. The following topics are included:

Chapter 6—Breastfeeding

Chapter 7—Dental health

Chapter 8—Early learning

The following table shows how children fare across the various indicators presented in Part III, and whether there has been any improvement over time.

Part II	Part III	Part IV	Part V	Part VI	Part VII	Part VIII
How healthy are Australia's children?	How well are we promoting healthy child development?	How well are Australia's children learning and developing?	What factors can affect children adversely?	What kind of families and communities do Australia's children live in?	How safe and secure are Australia's children?	How well is the system performing?

Indicatort		Value	Trend
Breastfeeding	Proportion of infants exclusively breastfed to around 4 months of age (2010)*	39%	• •
Dental health	Proportion of children decay-free (2007):		
	at age 6	55%	• •
	at age 12	61%	• •
	Mean number of decayed, missing or filled teeth (DMFT) at 12 years (2007)*	0.96	~
Early learning	Proportion of children aged 0–2 who are read to by an adult on a regular basis (2011)	74%	~

*Children's Headline Indicator.

Key: ✓ = favourable trend; ✗ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

6 Breastfeeding

Breastfeeding provides the best nutritional start for infants and promotes their healthy growth and development.

Although exclusive breastfeeding was initiated for most babies (90%), only 39% of infants were exclusively breastfed to around 4 months, and 15% to around 6 months.

Breastfeeding promotes the healthy growth and development of infants and young children. In Australia and internationally, it is recommended that infants be exclusively breastfed up to 6 months of age for optimal health, growth and development (NHMRC 2003; WHO 2003). It is then recommended that solid foods be introduced at around 6 months of age with continued breastfeeding until the age of 12 months and beyond, if mother and infant wish (NHMRC 2003).

There is growing evidence that breastfeeding improves mother–infant bonding and secure attachment between mother and child (Allen & Hector 2005), an important factor in early childhood development. In addition, research has shown that breastfeeding protects infants against infectious diseases. Other possible benefits include a reduced risk of SIDS, Type 1 diabetes and some childhood cancers. Breastfeeding has also been found to be protective against wheezing in infancy (AIHW 2009b). There is also evidence that being breastfed may reduce the incidence of high cholesterol, high blood pressure, obesity and diabetes later in life, as well as improve cognitive development (Horta et al. 2007; Kramer et al. 2008).

Most Australian mothers initiate breastfeeding but many stop after several weeks or months. This may be because they have experienced difficulties, indicating that the availability of professional and peer support may be factors in prolonging breastfeeding (House of Representatives Standing Committee on Health and Ageing 2007; NHMRC 2003). However, social factors such as age, education, family type and financial and employment situation also influence the initiation and duration of breastfeeding (Cooklin et al. 2008; Horwood & Fergusson 1998; NHMRC 2003; Scott & Binns 1998).

The *Australian National Breastfeeding Strategy 2010–2015* was developed in response to a 2007 Parliamentary Inquiry into the Health Benefits of Breastfeeding (AHMC 2009; DoHA 2010; House of Representatives Standing Committee on Health and Ageing 2007). The strategy aims to improve the health, nutrition and wellbeing of infants and young children, and the health and wellbeing of mothers, by protecting, promoting, supporting and monitoring breastfeeding (DoHA 2010).

How many children are breastfed?

Headline Indicator: Proportion of infants exclusively breastfed to around 4 months of age

According to the 2010 Australian National Infant Feeding Survey:

- Exclusive breastfeeding was initiated for 90% of babies at birth (that is, their first feed was breastmilk or equivalent). The proportion of babies exclusively breastfed decreased to 61% before the end of their first month of life, and continued to decrease, with 39% of babies exclusively breastfed to around 4 months of age and 15% to around 6 months (Figure 6.1).

- Babies who did not regularly use a dummy were 1.6 times as likely to be exclusively breastfed to around 4 months as babies who used a dummy regularly (49% compared with 30%).
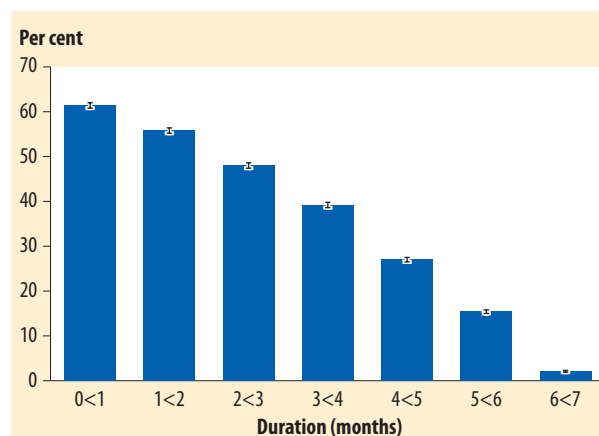
Source: AIHW 2011a.

Figure 6.1: Duration of exclusive breastfeeding, 2010

- Rates of exclusive breastfeeding to around 4 months were associated with a number of maternal (or carer) characteristics, including maternal age, education and smoking status:

  - Babies of mothers aged 25–29, 30–34 and 35 and older (37%, 40% and 43%, respectively) were up to twice as likely as babies of mothers aged 24 and younger (22%) to be exclusively breastfed to around 4 months.

  - Higher levels of maternal education were associated with higher rates of breastfeeding to around 4 months, with rates of 48% among babies of mothers who had completed a bachelor degree or higher compared with 27% among those whose mothers had completed Year 11 or below (including those who did not go to school).

  - Daily and occasional maternal tobacco smoking status was associated with lower rates of exclusive breastfeeding to around 4 months among babies (19% and 28%, respectively), compared with babies of mothers who did not smoke at all (41%).
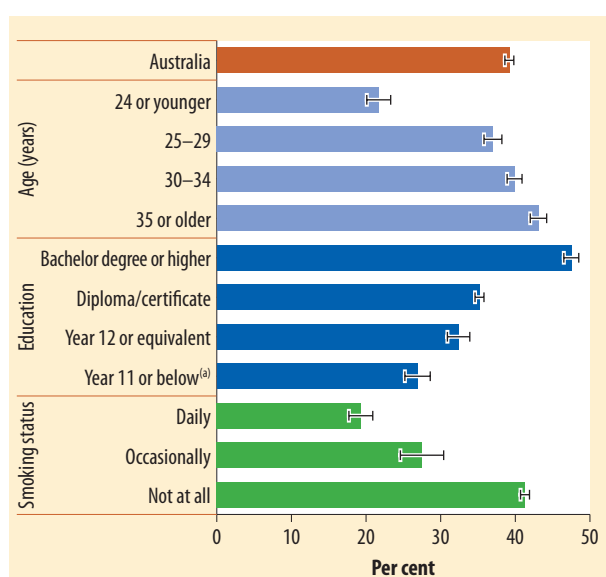
(a) Includes 'Did not go to school'.
Source: AIHW 2011a.

Figure 6.2: Babies exclusively breastfed to around 4 months of age, by selected maternal characteristics, 2010

Do rates of breastfeeding vary across population groups?

Aboriginal and Torres Strait Islander babies

- Initiation of exclusive breastfeeding was slightly lower for Indigenous babies (87%) compared with non-Indigenous babies (90%).

- However, this difference increased with the baby's age, with Indigenous babies half as likely to be exclusively breastfed to around 4 months compared with non-Indigenous babies (19% compared with 40%) (Figure 6.3).

### Babies in culturally and linguistically diverse homes

- The rate of initiation of exclusive breastfeeding was slightly higher for babies in homes where English was the main language spoken (91%), compared to those in homes where a language other than English was mainly spoken (87%).

- Babies in homes where English was the main language spoken were 1.3 times as likely to be exclusively breastfed to around 4 months (40%) as those in homes where a language other than English was mainly spoken (31%) (Figure 6.3).

Remoteness

- Initiation of exclusive breastfeeding was slightly higher for babies in *Remote and very remote* areas (94%) than in *Major cities* (90%).

- However, rates to around 4 months were similar for *Remote and very remote* areas (37%) and *Major cities* (38%), with slightly higher rates for babies in *Inner regional* (43%) and *Outer regional* (42%) areas (Figure 6.3).

Socioeconomic status

- Exclusive breastfeeding initiation rates were slightly higher for babies in the highest socioeconomic status (SES) areas (92%) compared with the lowest SES areas (88%).

- Babies in the highest SES areas were 1.4 times as likely to be exclusively breastfed to around 4 months (45%) as babies in the lowest SES areas (33%) (Figure 6.3).
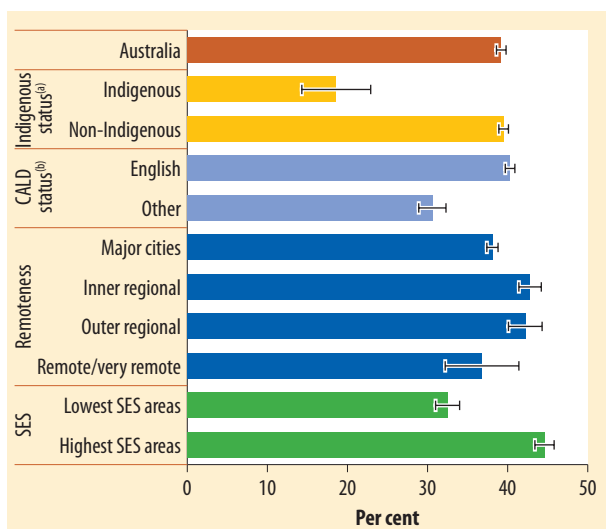
(a) Indigenous status of mother/carer.

(b) Main language spoken at home.

Note: Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).

Source: AIHW 2011a.

Figure 6.3: Babies exclusively breastfed to around 4 months of age, by selected population groups, 2010

Box 6.1: Defining and measuring exclusive breastfeeding

One of the measurement difficulties in collecting breastfeeding information relates to the WHO recommendation of exclusive breastfeeding to around 6 months of age. Reporting exclusive breastfeeding to 6 months of age is not a stable indicator as solid foods are often introduced at this time. The Headline Indicator is therefore for exclusive breastfeeding to around 4 months of age.

Exclusive breastfeeding means that the infant receives only breast milk (including expressed milk) and medicines (including oral rehydration solutions, vitamins and minerals), but no infant formula or non-human milk (AHMC 2009).

Data on exclusive breastfeeding for a cohort of children aged 0–2 is available from the 2010 Australian National Infant Feeding Survey (ANIFS) (see Appendix C: Data sources). It should be noted that only a small proportion of survey respondents were Indigenous (1%) and the vast majority of respondents reported English as the main language spoken at home (88%).

7 Dental health

Good oral health in childhood contributes to better wellbeing and improved dental outcomes in adulthood—less decay and the loss of fewer natural teeth.

In 2007, an estimated 45% of children aged 6 and 39% aged 12 experienced dental decay, with an average of 2.0 and 1.0 decayed, missing or filled teeth, respectively.

Good oral health has positive effects on quality of life, social interactions and self-esteem (Petersen 2003; Watt 2005). Conversely, dental disease can cause pain, discomfort, difficulty sleeping and difficulties in eating which can lead to poor nutrition (Low et al. 1999; Watt 2005). Children with poor oral health may demonstrate problems in behaviour, peer interaction and school absences, which in turn can negatively affect academic performance (Berg & Coniglio 2006; Low et al. 1999; Petersen 2003). Poor oral health is also associated with increased risk of chronic disease later in life (Petersen 2003; Watt 2005).

Dental decay (dental caries) results from a complex interplay of genetic and biological factors, the social and physical environment, health behaviours, and dental and medical care (Fisher-Owens et al. 2007). Untreated dental decay can adversely affect children's growth, facilitating infection and the systemic spread of disease (Berg & Coniglio 2006; Low et al. 1999). Decay in deciduous (baby) teeth is a risk factor for decay in permanent teeth (Li & Wang 2002; Vanobbergen et al. 2001).

Most dental diseases are largely preventable (Petersen 2003; Watt 2005), but although the prevalence of dental decay in Australian children appears to be decreasing over time, risk factors associated with diet, hygiene and oral care remain (Kruger et al. 2005). Early preventive strategies include parental counselling about diet, establishing sound oral hygiene practices, appropriate use of fluorides and the avoidance of transmission of bacteria from parents to children (Berg & Coniglio 2006).

Young children do not always receive adequate dental care and most Australian children do not attend an oral examination until they enrol in School Dental Services at age 5 (Kruger et al. 2005). Cost, access and parental awareness may be contributing factors (Kruger et al. 2005).

Water fluoridation is an effective and equitable public health measure to prevent dental decay. The prevalence of dental decay is lower in areas where fluoride is naturally present in the water supply or where fluoride has been added (Armfield et al. 2007). In 2008, most Australian children aged 0–14 (80%) lived in areas with access to fluoridated water.

How many children are free from dental decay?

> **Key national indicator:** Proportion of children decay-free at age 6 and at age 1

According to the 2007 Child Dental Health Survey:

- Over half of all children aged 6 and 12 were decay-free (55% and 61%, respectively).
- The proportion of boys and girls who were decay-free was similar for children aged 6 or 12.

How many children have decayed, missing or filled teeth?

> **Headline Indicator:** Mean number of decayed, missing or filled teeth (DMFT) at 12 years

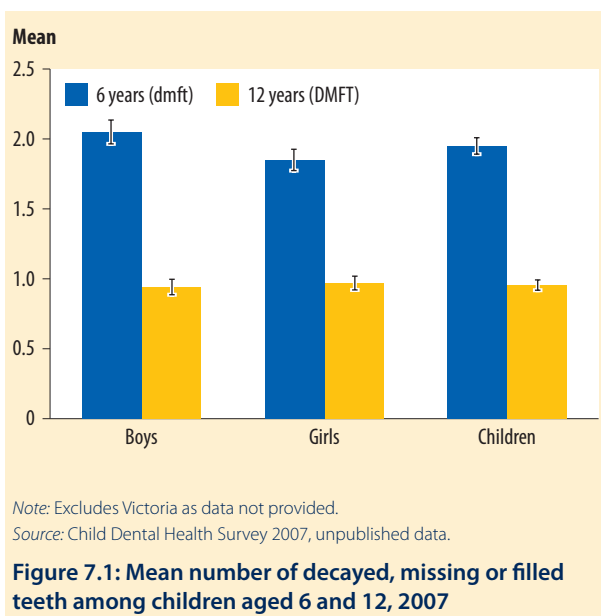According to the 2007 Child Dental Health Survey:

- An estimated 45% (93,200) of 6 year olds and 39% (82,900) of 12 year olds experienced dental decay (note that these numbers exclude children in Victoria).
- The mean number of decayed, missing or filled teeth was 1.95 for 6 year olds (dmft) and 0.96 for 12 year olds (DMFT) (includes children with no decay).[5] This suggests that the mean number

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5   Excluding children with no decay, the mean number of decayed, missing or filled teeth was 4.29 for 6 year olds (dmft) and 2.49 for 12 year olds (DMFT).

of decayed teeth was around twice as high in deciduous (baby) teeth as in permanent teeth (Figure 7.1).

- The mean number of teeth with caries experience was slightly higher for boys (2.05) than girls (1.85) aged 6, but similar for boys (0.94) and girls aged 12 (0.97).

The deciduous decay experience for 6 year olds declined from 2.06 mean dmft in 1990 to 1.45 in 1996. There has been a slight increase over the past decade, with mean dmft peaking at 2.27 in 2005. Over the same period, the trend of caries experience in permanent teeth of 12 year olds declined from 1.44 mean DMFT in 1990 to 0.83 in 1998 and 1999. Mean DMFT scores have since remained stable at around 1 (Mejia et al. 2012).

Note: Excludes Victoria as data not provided.
Source: Child Dental Health Survey 2007, unpublished data.

Figure 7.1: Mean number of decayed, missing or filled teeth among children aged 6 and 12, 2007

Does decay experience vary across population groups?

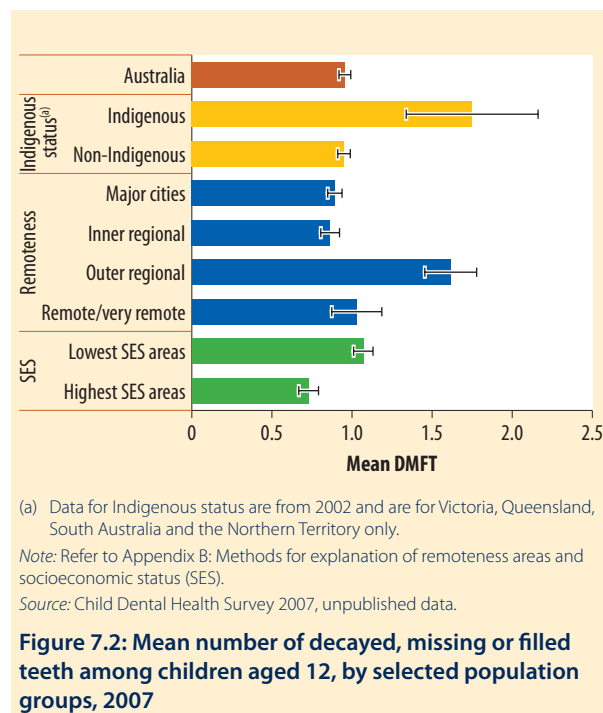### Aboriginal and Torres Strait Islander children

- In 2007, data by Indigenous status was available for South Australia only. In 2002, Indigenous children aged 6 and 12 had on average 2.6 and 1.8 times as many decayed, missing or filled teeth as non-Indigenous children, respectively (based on data from Victoria, Queensland, South Australia and the Northern Territory) (Figure 7.2).

- Indigenous children were much less likely to be decay-free at age 6 than non-Indigenous children in 2002 (21% compared with 54%); and also less likely at age 12 (48% compared with 60%).

Remoteness

- Among 6 year olds, mean dmft increased with increasing remoteness—children in *Remote and very remote* areas had, on average, more than twice as many teeth with decay as those in *Major cities* (3.6 compared with 1.6).

- Children aged 6 in *Remote and very remote* areas were less likely to be decay-free (34%) than those in *Major cities* (60%).

- Among 12 year olds, mean DMFT was highest in *Outer regional* areas (1.8 times as high as in *Major cities*).

- There was no statistically significant difference in the proportion of decay-free children aged 12 by remoteness area.

Socioeconomic status

- Children living in the lowest socioeconomic status (SES) areas experience more dental decay than those in the highest SES areas (2.0 and 1.5 times as many decayed teeth, on average, for 6 and 12 year olds, respectively).

- Children aged 6 in the lowest SES areas were less likely to be decay-free (47%) than those in the highest SES areas (67%). Differences for children aged 12 by socioeconomic status were not statistically significant.

(a) Data for Indigenous status are from 2002 and are for Victoria, Queensland, South Australia and the Northern Territory only.
Note: Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).
Source: Child Dental Health Survey 2007, unpublished data.

Figure 7.2: Mean number of decayed, missing or filled teeth among children aged 12, by selected population groups, 2007

How does Australia compare internationally?

- Based on the most recent year of data available between 2004 and 2007, Australia's mean DMFT for 12 year olds ranked 8th out of 24 OECD countries (Figure 7.3).

- With a mean DMFT of 1.1, Australia was ahead of the OECD average (mean DMFT of 1.4), but was behind Denmark, Germany and the United Kingdom, the highest ranked countries, all with a mean DMFT of 0.7.

- The Slovak Republic and the Czech Republic had the highest mean DMFT, with 2.3 and 2.6, respectively.

Note: Based on mean DMFT over the period 2004–2007, using the most recent year of data available from 24 OECD countries.
Source: OECD 2011a.

Figure 7.3: Mean number of decayed, missing or filled teeth among children aged 12, by selected OECD countries, 2004–2007
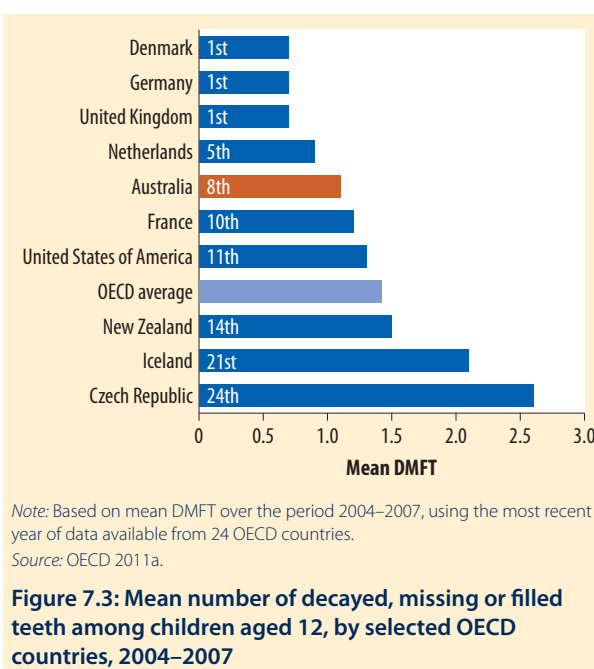
Box 7.1: Measuring dental health

The number of teeth decayed, missing or extracted due to decay, or teeth with fillings, is an important indicator of dental health. The **number of decayed, missing or filled teeth** is expressed as the **dmft** (for deciduous or baby teeth) or the **DMFT** (for permanent teeth). This chapter reports dmft for children aged 6 and DMFT for children aged 12. Unless otherwise stated, mean dmft and DMFT includes children with no decay.

Data on the dental health of Australian children is available from the Child Dental Health Survey (see Appendix C: Data sources). Data for 2007 exclude Victoria, and data on **Indigenous status** were of insufficient quality for analysis and reporting (Mejia et al. 2012).

8 Early learning

The early years are important for the foundations of literacy. Reading to children contributes to the early development of vocabulary and listening comprehension.

In 2011, parents of almost three-quarters of children aged 0–2 (74%) regularly read to them or told them a story (that is, on 3 or more days per week).

Learning to read affects a child's wellbeing throughout life, as poor reading skills can adversely affect academic performance and subsequent vocational achievement (Lyon 1999). The foundations for literacy are laid before preschool, with reading to children in the early years regarded as a likely aid to literacy success (CCCH & The Smith Family 2004).

The benefits of reading aloud to young children include the processing and acquisition of language and encouragement of phonological awareness; acquainting children with written language and providing opportunities for infants to begin to develop positive dispositions towards reading (CCCH & The Smith Family 2004; Klass et al. 2003; Makin 2006). The frequency and length of reading sessions are important factors in language development. The frequency of reading to children has been associated with children's greater vocabulary and higher cognitive ability at 14, 24 and 36 months of age (Raikes et al. 2006).

Findings from Growing up in Australia: the Longitudinal Study of Australian Children showed that for children aged 4–5, those whose parents had tertiary qualifications were read to more frequently by their parents or someone in the family than either children whose parents had completed Year 12, or lower than Year 12 (AIFS 2011). Findings also show that not taking educational qualifications into account, the older the mother was at the time of the child's birth, the more likely the child was to be read to by someone in the family on 6–7 days per week (AIFS 2011).

To assist with developing early literacy skills, a number of book-based programs have been implemented in various countries to encourage early book reading to infants: Let's Read, Better Beginnings (Australia), Bookstart (UK), and Reach Out and Read (USA). These programs use a combination of book giveaways, parental guidance and baby story time sessions, and have been found to have a positive effect on children and their parents reading to them (Vic DEECD 2006).

Currently, a cluster randomised-controlled trial of an Australian pre-literacy promotion program is being conducted among children in relatively disadvantaged neighbourhoods. Interim findings for children at age 2 indicated limited gains in terms of language development and emergent literacy. However, this may be due to the intensity of the program or its targeting. Results for the potential benefits for children by age 4 are not yet available and are expected to provide important additional information (Goldfeld et al. 2011).

How many infants are read to by an adult?

Key national indicator: Proportion of children aged 0–2 who are read to by an adult on a regular basis

According to the 2011 ABS Childhood Education and Care Survey (CEaCS), it is estimated that:

- About three-quarters of children aged 0–2 (74%) were read to or told stories by a parent, on 3 or more days in the previous week (hereafter referred to as 'on a regular basis'). Three in 5 children (59%) were frequently read to or told stories (that is on 6–7 days in the previous week) while 1 in 5 children (20%) were not read to or told stories at all (ABS unpublished data).

- Children in couple families appeared more likely than those in one-parent families to have been read to or told stories on a regular basis (76% compared with 66%).

- The proportion of children not read to or told stories at all in the previous week was lower among children in couple families (1 in 5 or 19%) compared with children in one-parent families (just over 1 in 4 or 26%).

- There is no statistically significant difference between the proportions of children being read to on a regular basis in 2008 and 2011 (73% and 74% respectively).

- As children grow older, the likelihood of being read to at least once a week appears to increase. Only 4% of children aged 3–8 were not read to or told stories at all in the previous week compared with 20% (or 1 in 5 children) of children aged 0–2 (ABS 2012b).

Per cent
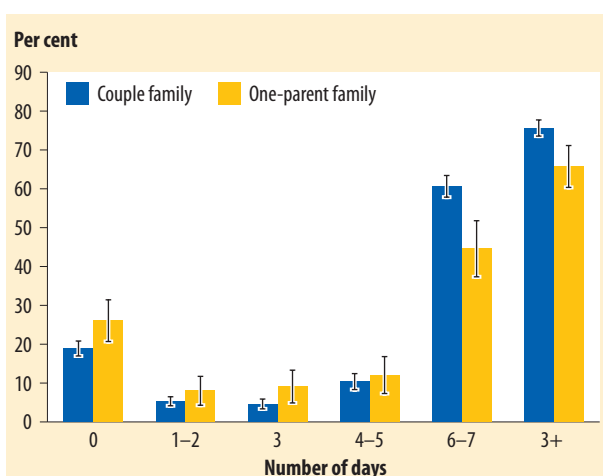
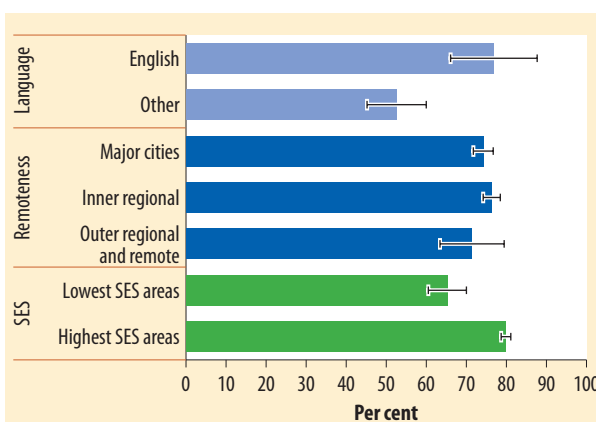*Source:* ABS Childhood Education and Care Survey 2011, Customised report, 2012.

Figure 8.1: Number of days parent spent time with children aged 0–2 reading or telling stories in previous week, 2011

Does reading to children vary by population group?

In 2011, the extent to which parents read to or told stories to their children only varied by some population groups (Figure 8.2). Data on Indigenous status was not collected in the 2011 CEaCS.

- No statistically significant difference was found between the proportion of children living in *Major cities, Inner regional,* or *Outer regional* and *Remote* areas combined who were read to or told stories on a regular basis (74%, 76% and 71% respectively).

- Children in the highest SES areas were more likely to have been read to or told stories on a regular basis (80%) than those in the lowest SES (65%). Almost half the number of children in the highest SES were not read to or told stories at all compared with children in the lowest SES (15% versus 29%).

- Children in households where a language other than English was mainly used were less likely than children in households where English was the

main language to have been read to or told stories on a regular basis (53% compared with 77%).

Note: Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).
Source: Based on ABS Childhood Education and Care Survey 2011, Customised report, 2012.

Figure 8.2: Children aged 0–2 who were read to or told stories on 3 or more days in previous week, 2011

Box 8.1: Measuring 'regular' reading

This indicator requires further consultation and research to identify and clarify the measurement components. Measurement difficulties arise in the use of the terminology 'on a regular basis'. Some studies have defined 'regular' as being read to at least 3 times per week. This report defines 'on a regular basis' as having been read to or told stories on 3 or more days in the previous week. However, further specification is possible. For example, children may be read to more than once per day. The effects of frequency and duration of book reading on child outcomes in terms of language development, literacy and early brain development in general have not been determined.

A further difficulty with the indicator surrounds the use of the term 'adult', which may exclude being read to by siblings. Parents may also report what they perceive to be socially desirable responses on reading to children, or may have difficulty accurately recalling how often they read to their child.

The 2011 ABS Childhood Education and Care Survey (CEaCS) asked parents how many days in the previous week they had spent time reading or telling stories to their children. This is a more defined measure than 'regular' but still does not account for the amount of time actually spent reading to the child. For example, a parent that spent 2 minutes every day would be classified along with those who spent 2 hours every day. It should also be noted that this does not capture children being read to or told stories by adults other than the parent, for example child care workers.

Part IV

HOW WELL ARE AUSTRALIA'S CHILDREN LEARNING AND DEVELOPING?

A child's learning and development is integral to their overall health and wellbeing, as well as the future productive capacity of society. Part IV focuses on children's development in the primary school years. The following topics areas are included:

Chapter 9—Transition to primary school

Chapter 10—Attendance at primary school

Chapter 11—Literacy and numeracy

The following table shows how children fare across the various indicators presented in Part IV.

Part II	Part III	Part IV	Part V	Part VI	Part VII	Part VIII
How healthy are Australia's children?	How well are we promoting healthy child development?	How well are Australia's children learning and developing?	What factors can affect children adversely?	What kind of families and communities do Australia's children live in?	How safe and secure are Australia's children?	How well is the system performing?

Indicator		Value	Trend
Transition to primary school	Proportion of children developmentally vulnerable on one or more domains of the AEDI (2009)*	24%	• •
Attendance at primary school	Attendance rate of children at primary school (Year 5) (2009)*	n.a.	• •
Literacy and numeracy	Proportion of children in Year 5 achieving at or above the national minimum standards (2011):		
	Reading*	92%	~
	Numeracy*	94%	✓

*Children's Headline Indicator.

Key: ✓ = favourable trend; ✗ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

9 Transition to primary school

Children entering school with basic skills for life and learning have higher levels of social competence and academic achievement, increasing their likelihood of achieving their full potential.

In 2009, almost one-quarter of children were developmentally vulnerable on one or more domains of the Australian Early Development Index at school entry.

Children entering school with basic skills for life and learning are more likely to experience a successful transition to primary school. These children have higher levels of social and emotional competence, self-regulation and academic achievement, and display resilience in meeting the demands of schooling compared with those who experience difficulty making the transition (Morrison et al. 2010; Shepard & Smith 1989). Conversely, children who enter school when they are not ready for school-based learning have lower levels of academic achievement and are at an increased risk of teenage parenthood, mental health problems, committing criminal activity and poorer employment outcomes (Farrar et al. 2007).

Differences in children's development emerge early and are evident by the time they reach school (Farrar et al. 2007). With this knowledge, the understanding of what constitutes school readiness has broadened from focusing on child factors, such as age or specific skills and competencies, to the importance of families, schools and communities in providing the environments and experiences that support the healthy development of children (Farrar et al. 2007). In particular, a number of studies have demonstrated the effectiveness of high-quality, targeted preschool programs in preparing children for a successful transition to formal schooling (Boyd et al. 2005; Sylva et al. 2003).

A child's transition to primary school therefore presents an opportunity to consider the environments (such as the family, community and preschool environments) that have influenced early childhood development and consequently their readiness for the school environment (Farrar et al. 2007).

The Australian Early Development Index (AEDI) provides a snapshot of how children have developed by the time they start school (Box 9.1). The AEDI was implemented nationally in 2009 as part of the Australian Government Early Childhood

Policy Agenda. All levels of government are using the AEDI to inform early childhood development policy and practice, particularly in relation to supporting families and children (DEEWR 2011).

How many children are developmentally vulnerable at school entry?

Headline Indicator: Proportion of children developmentally vulnerable on one or more domains of the AEDI

According to the AEDI, in 2009:

- The majority of Australian children were doing well, with around three-quarters (76%) on track across all domains of the AEDI.

- Almost one-quarter (24%) of children were developmentally vulnerable on one or more domains at school entry, and 12% were vulnerable on two or more domains, accounting for around 58,000 and 29,200 children, respectively (Figure 9.1).

- Boys were more likely to be developmentally vulnerable than girls on one or more domains (30% compared with 17%) and two or more domains (16% compared with 7%).

- With regard to individual domains, boys were around twice as likely as girls to be developmentally vulnerable on each domain except *Emotional maturity*—boys were more than 3 times as likely as girls to be developmentally vulnerable on this domain (13% compared to 4%). This pattern is consistent with other research on developmental differences between boys and girls (CCCH & Telethon Institute for Child Health Research 2009).

Source: CCCH & Telethon Institute for Child Health Research 2009.

Figure 9.1: Children developmentally vulnerable on one or more and two or more domains of the AEDI, by sex, 2009
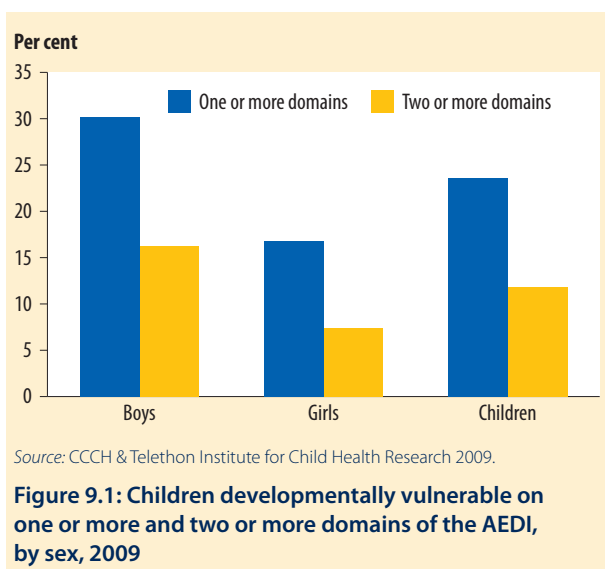
Do rates of developmental vulnerability vary across population groups?

Aboriginal and Torres Strait Islander children

• The proportion of Indigenous children who were developmentally vulnerable on one or more domains was twice that of non-Indigenous children (48% compared with 22%) (Figure 9.2).

• The greatest difference between Indigenous and non-Indigenous children was on the *Language and cognitive skills* domain—Indigenous children were more than 3 times as likely to be vulnerable on this domain (29% compared with 8%).

Children with language background other than English (LBOTE)

• The proportion of LBOTE children who were developmentally vulnerable on one or more domains of the AEDI was 50% higher than children who spoke English only (32% compared with 22%) (Figure 9.2).

• Children from both LBOTE and English-only backgrounds can be either proficient or not proficient in English. LBOTE children who were proficient in English were only slightly more likely to be developmentally vulnerable on one or more domains than children who spoke English only (and were proficient in English)—22% and 19%, respectively.

• For LBOTE and English-only children who were not proficient in English, the proportion developmentally vulnerable on one or more domains was above 90%. The vast majority of children not proficient in English are developmentally vulnerable on the
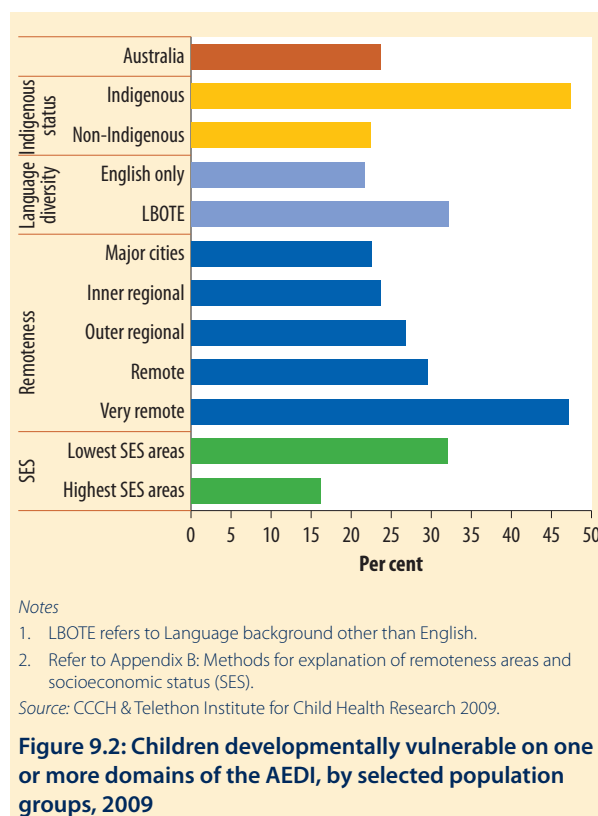
Communication skills and general knowledge domain (90% and 91% of LBOTE and English-only speakers who are not proficient in English, respectively).

Remoteness

• Children living in *Very remote* areas (47%) were twice as likely to be developmentally vulnerable on one or more domains of the AEDI as children in *Major cities* (23%) (Figure 9.2).

• The greatest differences in vulnerability were between children in *Very remote* areas and those in *Major cities* on the *Language and cognitive skills* domain (30% compared with 8%) and the *Physical health* domain (23% compared with 9%).

Socioeconomic status

• The proportion of children living in the lowest SES areas who were developmentally vulnerable on one or more domains was twice that of those in the highest SES areas (32% compared with 16%) (Figure 9.2).

• The greatest differences in vulnerability were between children in the lowest SES areas and those in the highest SES areas on the *Language and cognitive skills* domain (14% compared with 5%) and the *Communication skills and general knowledge* domain (14% compared with 5%).

Notes
1. LBOTE refers to Language background other than English.
2. Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).
Source: CCCH & Telethon Institute for Child Health Research 2009.

Figure 9.2: Children developmentally vulnerable on one or more domains of the AEDI, by selected population groups, 2009

Box 9.1: Measuring children's transition to primary school

The Australian Early Development Index (AEDI) is a population measure of children's health and development, based on a teacher-completed checklist in their first year of formal schooling (see Appendix C: Data sources). The five domains of the AEDI are considered to be crucial constructs that can affect a child's readiness to make a successful transition to primary school:

- physical health and wellbeing
- social competence
- emotional maturity
- language and cognitive skills (school-based)
- communication skills and general knowledge.

Results on the AEDI domains group children into the following categories:

- **developmentally vulnerable** (below the 10th percentile)
- **developmentally at-risk** (between the 10th and 25th percentile)
- **on track** (between the 25th and the 50th percentile, and above the 50th percentile).

Results also describe children as developmentally vulnerable on **one or more domains** and on **two or more domains**. These children are considered to be at particularly high risk developmentally (CCCH & Telethon Institute for Child Health Research 2010).

10 Attendance at primary school

Regular attendance and participation in schooling is an important factor in educational and life success, and is a key national education goal.

In 2009, student attendance rates ranged from 84% to 95% across school sectors and states and territories. Indigenous students generally had lower attendance rates than non-Indigenous students.

Primary school provides the first compulsory educational experience for Australian children, and regular school attendance is critical to successful student outcomes. School attendance helps children develop the basic building blocks for learning and educational attainment, as well as social skills such as friendship building, teamwork, communication skills and healthy self-esteem (Vic DHS 2010). Regular attendance and participation in schooling is therefore an important factor in educational and life success, and is a key national education goal.

Absenteeism can exacerbate issues of low self-esteem, social isolation and dissatisfaction (Vic DHS 2010). Children who are regularly absent from school are at risk of missing out on these critical stages of educational development and may experience long-term difficulties with their learning, resulting in fewer educational and employment opportunities. This is because absenteeism limits a child's opportunity to learn by reducing the time available to study the content of the primary school curriculum. The Western Australian Aboriginal Child Health Survey has shown a direct relationship between the number of days absent from school and academic performance (Zubrick et al. 2006). Improving school attendance rates can therefore help to reduce gaps in academic achievement between population groups.

A child's health and wellbeing can also affect whether or not they attend school and their ability to learn and participate in school activities (MCEETYA 2001). For example, a high proportion of Indigenous children experience chronic health problems, such as middle ear infection, hearing deficits and nutritional deficiencies, which adversely affect their school attendance and learning outcomes (ABS & AIHW 2005).

The Australian Government, through the *National Education Agreement* and *Schools Assistance Act 2008,* is pursuing a reform agenda with COAG to improve education outcomes for Australian students (COAG 2009b; Commonwealth of Australia 2008).

Regular student attendance, along with school enrolment and classroom engagement, are elements of this agenda.

What is the school attendance rate for Year 5 students?

Headline Indicator: Attendance rate of children at primary school (Year 5)

According to the Australian Curriculum, Assessment and Reporting Authority (ACARA) Student Attendance Data Collection, in 2009:

• Attendance rates for Year 5 students ranged between 92% and 95% across states and territories and school sectors, with the exception of the Northern Territory where rates were between 84% and 89% (Figure 10.1).

• Attendance rates were similar for boys and girls.
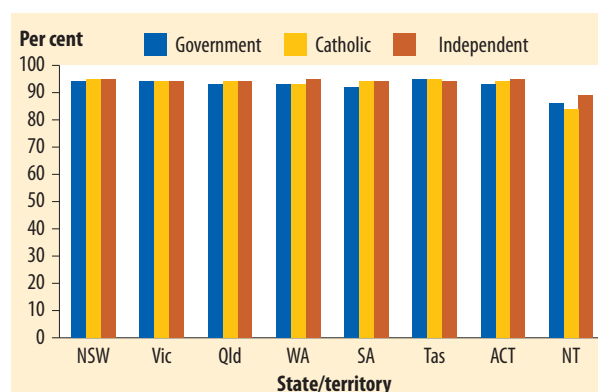
Notes

1. In 2009, 69% of Year 5 students were enrolled in government schools, 19% in Catholic schools and 12% in independent schools (ABS 2010e).

2. There is some variation in how student attendance data are currently collected between states and territories and school sectors (government, Catholic and independent). As a result, data are not nationally comparable and cannot be aggregated across year levels, states and territories, or school sectors (for further information see MCEECDYA 2010).

Source: ACARA 2011b.

Figure 10.1: Year 5 student attendance rates, by school sector, 2009

Do attendance rates vary across population groups?

Aboriginal and Torres Strait Islander students

- There was greater variation in attendance rates for Indigenous students across school sector and state and territory (64% to 96%), than for non-Indigenous students (88% to 95%) (Figure 10.2).

- Attendance rates were generally lower among Indigenous students than among non-Indigenous students by 3 to 10 percentage points; however, there were exceptions. Attendance rates were similar for Indigenous and non-Indigenous students in the independent sector in Victoria and in the Catholic and independent sectors in Tasmania.

- Northern Territory and Western Australia had the largest differences in attendance rates between Indigenous and non-Indigenous students. In the Northern Territory, attendance among Indigenous students was between 14 and 30 percentage points lower than among non-Indigenous students in Year 5, depending on school sector, while in Western Australia the range was 12 to 16 percentage points lower.

Box 10.1: Measuring school attendance

School attendance is commonly measured in two ways:

- enrolments (that is, the children who have registered with a school)
- attendance (the children who are actually going to school).

This Headline Indicator focuses on children's attendance at school, as distinct from those who are enrolled.

The nationally agreed student attendance measure is the number of actual full-time equivalent 'student days' attended as a percentage of the total number of possible student days attended over the period (MCEETYA PMRT 2008).

There is some variation in how student attendance data are currently collected between states and territories and school sectors (government, Catholic and independent). As a result, data are not nationally comparable and cannot be aggregated across year levels, states and territories, or school sectors (for further information see MCEECDYA 2010).

The attendance rate of Year 5 students has been selected as the focus for this chapter, in line with data reported for the literacy and numeracy Headline Indicators (see 'Chapter 11 Literacy and numeracy').
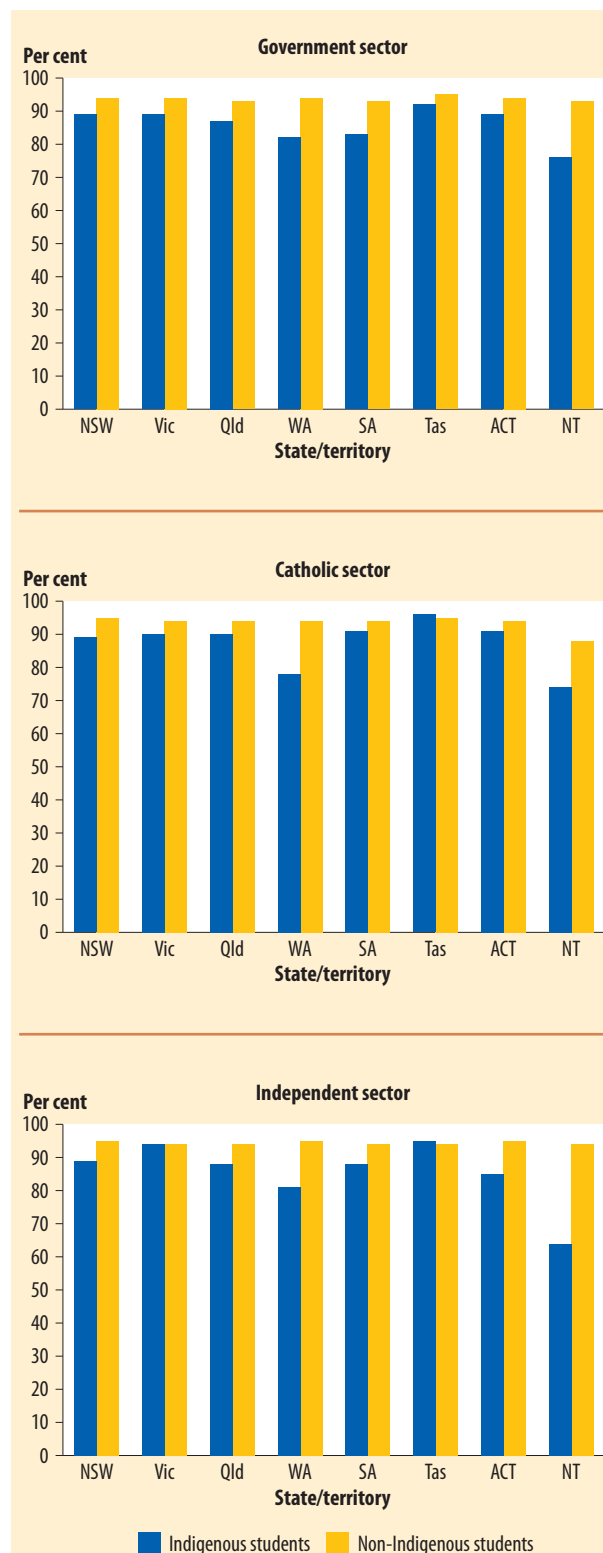
Source: SCRGSP 2010.

Figure 10.2: Year 5 student attendance rates, by school sector and Indigenous status, 2009

11 Literacy and numeracy

Literacy and numeracy skills enable children to engage in learning and ultimately to fully participate in society and lead productive lives.

In 2011, 92% of Year 5 students met the national minimum standards for reading and 94% for numeracy.

Literacy and numeracy skills are the building blocks for further educational attainment, social development and employment. Literacy means more than just being able to read and write—literacy is integrally related to learning in all areas of the curriculum and enables individuals to develop knowledge and understanding (DEETYA 1998). Numeracy is also central to many areas of education, and life outside school. It is the ability to use, apply, interpret, and communicate mathematical information and ideas, and is important in many types of employment and daily life (OECD 2010b).

A number of factors affect successful educational outcomes during the school years, such as a young person's home environment (including whether books are available at home and whether parents read aloud to their children), their engagement with the school, the quality of their educational experience and their attitudes to school and learning (Lamb et al. 2004; Walsh & Black 2009). Several other factors have also been shown to have an impact, such as school resources, parental level of education, school engagement, and socioeconomic status (Walsemann et al. 2008; Zammit et al. 2002).

There are a number of current Australian Government initiatives that seek to ensure that Australian students meet the basic literacy and numeracy standards. The vehicles for these reforms are the *National Education Agreement* (COAG 2009b) and the *Melbourne Declaration on Educational Goals for Young Australians* (MCEETYA 2008). Some of the initiatives under these include the *Smarter Schools National Partnerships* and the development of a national curriculum for all Australian students which is being progressively implemented from 2011.

How many students meet the minimum standards for reading and numeracy?

Headline Indicators:

Proportion of Year 5 school children achieving at or above national minimum standards for reading

Proportion of Year 5 school children achieving at or above national minimum standards for numeracy

Year 5 students

According to the 2011 National Assessment Program—Literacy and Numeracy (NAPLAN):

- Most Year 5 students met the minimum standards for reading (92%) and numeracy (94%) (Table 11.1).

- A higher proportion of girls (94%) than boys (90%) in Year 5 achieved the minimum standard for reading. The poorer reading performance of boys has been attributed to a tendency for boys to be less interested and engaged in reading activities. It is also thought that boys are less likely to be encouraged to read and more likely to experience anxiety about reading (Malloy & Botzakis 2005).

- The proportion of boys and girls who met the numeracy minimum standard was similar (94% and 95%, respectively).

- A lower proportion of Year 5 students whose parents had the lowest levels of educational attainment (Year 11 or equivalent, or below) achieved the minimum standards (81% for reading and 87% for numeracy), compared with students whose parents had the highest level of educational attainment (bachelor degree or above) (98% each for reading and numeracy) (ACARA 2011a).

- Year 5 students whose parents had not been in paid work in the previous 12 months were less likely to meet the minimum standards (81% for reading and 86% for numeracy compared with 92% and 94% of all Year 5 students) (ACARA 2011a).

- Between 2008 and 2011, there was improvement in Year 5 numeracy achievement, but no change in reading achievement (ACARA 2011a).

Year 3 and 7 students

According to the 2011 NAPLAN:

- Among Year 3 students, 94% met the reading and 96% met the numeracy minimum standards; the corresponding proportions among Year 7 students were 95% each. Again, a higher proportion of girls met the reading minimum standard in both Year 3 and Year 7; however, results were similar for boys and girls for numeracy (95% and 96%, respectively, for Year 3; 94% and 95% for Year 7) (Table 11.1).

- Between 2008 and 2011, there was improvement in Year 3 reading achievement, but no change in numeracy achievement. There was no overall change for Year 7 students in reading or numeracy (ACARA 2011a).

Do rates of literacy and numeracy vary across population groups?

Aboriginal and Torres Strait Islander students

- In 2011, Year 5 Indigenous students were less likely to have achieved the reading (66%) and numeracy (75%) minimum standards than non-Indigenous students (93% and 96%, respectively), a difference of 27 and 20 percentage points (Figure 11.1).

- The gap between Indigenous and non-Indigenous students increases with increasing remoteness—for reading, from 17 percentage points in *Metropolitan* areas (77% for Indigenous students compared with 93% for non-Indigenous students) to 60 in *Very remote* areas (26% compared with 87%) and for numeracy, from 12 percentage points in *Metropolitan* areas (84% compared with 96%) to 50 in *Very remote* areas (42% compared with 92%) (Figure 11.2).

Culturally and linguistically diverse students

- Year 5 students with a language background other than English (LBOTE) were slightly less likely to achieve the minimum standards in reading (89%) and numeracy (93%) than their non-LBOTE counterparts in 2011 (92% and 95%, respectively).
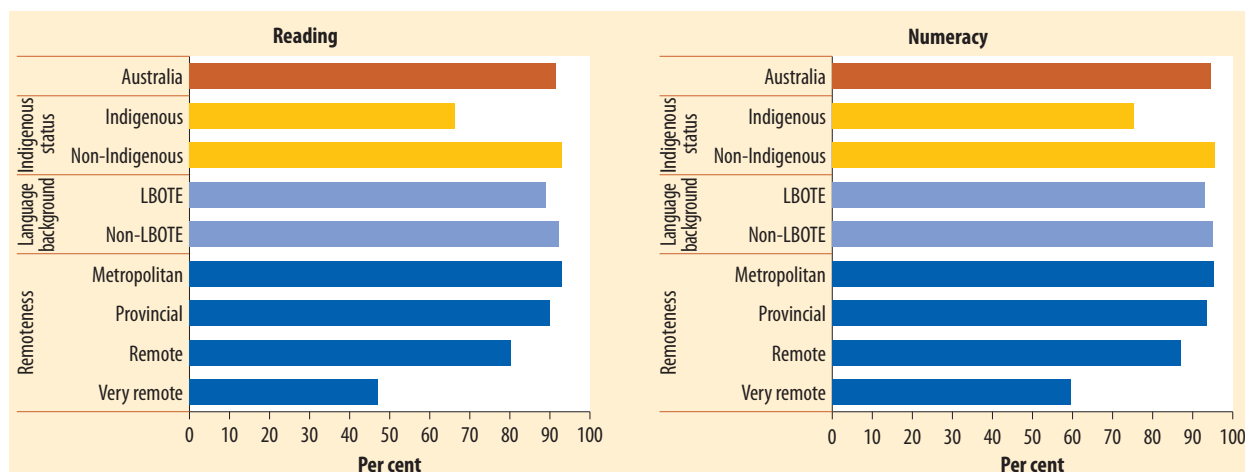
Remoteness

- In 2011, Year 5 students in *Remote and very remote* areas were less likely to meet the reading and numeracy minimum standards than those in *Metropolitan* areas—for reading, 47% and 80% of students respectively, compared with 93% of students in *Metropolitan* areas. For numeracy, the corresponding proportions were 60% and 87%, compared with 95%.

Table 11.1: Students achieving at or above the national minimum standards for reading and numeracy, 2011 (per cent)

| Year level	Boys		Girls		Children	
	Reading	Numeracy	Reading	Numeracy	Reading	Numeracy
Year 3	92.1	95.2	95.6	96.0	93.8	95.6
Year 5	89.5	94.1	93.5	94.6	91.5	94.4
Year 7	93.4	94.3	96.0	94.7	94.7	94.5

Source: ACARA 2011a.

Notes

1. LBOTE refers to Language background other than English.

2. Remoteness classified according to the MCEETYA Schools Geographic Location Classification scale.

Source: ACARA 2011a.

Figure 11.1: Year 5 students achieving at or above the national minimum standards for reading and numeracy, by selected population groups, 2011
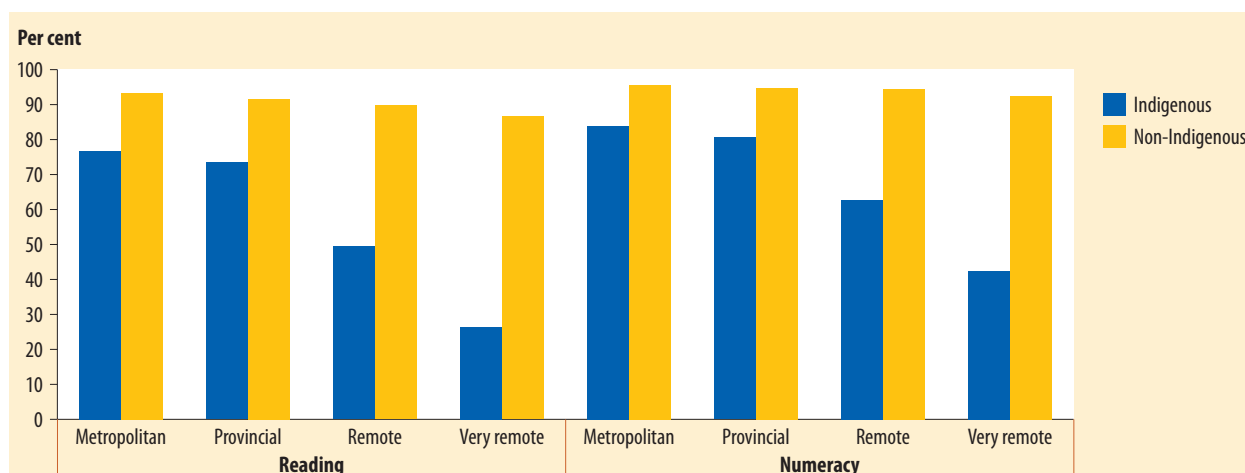
Note: Remoteness classified according to the MCEETYA Schools Geographic Location Classification scale.

Source: ACARA 2011a.

Figure 11.2: Year 5 students achieving at or above the national minimum standards, by Indigenous status and remoteness, 2011

How does Australia compare internationally?

Australian Year 4 students participated in the Progress in International Reading Literacy Study (PIRLS) for the first time in 2011, with internationally comparable literacy standards data expected to be available in late 2012. Internationally comparable data on numeracy standards are available from the 2007 Trends in International Mathematics and Science Study (TIMSS) for Year 4 students.

According to the 2007 TIMMS:

• Australia's average score for mathematics was in the top half of OECD countries (7th out of 17 countries) (Figure 11.3).

• With an average score of 516, Australia rated higher than the TIMSS scale average (500, includes non-OECD countries), but was considerably lower than the highest ranked OECD countries: Japan (568), England (541) and the Netherlands (535).

• The average mathematics score was lowest in the Czech Republic (486) and Norway (473).
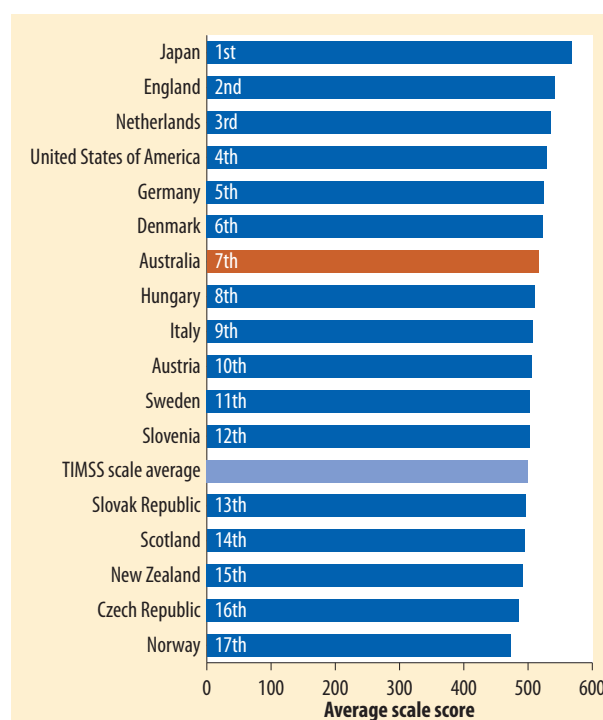
Note: Based on data from 17 OECD countries; TIMSS scale average includes non-OECD countries.
Source: Thomson et al. 2009.

Figure 11.3: Mathematics achievement scores of Year 4 students, participating OECD countries, 2007

Box 11.1: Measuring literacy and numeracy

National minimum standards have been developed for reading, writing, spelling, language conventions (grammar and punctuation) and numeracy for students in Years 3, 5, 7 and 9.

National Assessment Program—Literacy and Numeracy (NAPLAN) tests have been conducted since 2008, and allow consistent assessment of students in Years 3, 5, 7 and 9 across Australia on a common and continuous reporting scale (see Appendix C: Data sources).

Data in this chapter are expressed in terms of the percentage of students who achieved at or above the national minimum standard.

Results for **Year 5 students** are reported for the Headline Indicators. By Year 5, students have had an opportunity to build on the outcomes achieved in Year 3 and are able to demonstrate progress across several years of schooling. The chapter also presents some supplementary information for students in Years 3 and 7.

Part V

WHAT FACTORS CAN AFFECT CHILDREN ADVERSELY?

Because childhood, including the prenatal period, is a time of rapid development, it is critical to reduce the factors that adversely affect the health of children. Part V focuses on factors which increase the risk of poor outcomes for children. The following topics are included:

Chapter 12—Teenage births

Chapter 13—Smoking in pregnancy

Chapter 14—Alcohol use in pregnancy

Chapter 15—Birthweight

Chapter 16—Overweight and obesity

Chapter 17—Environmental tobacco smoking in the home

Chapter 18—Tobacco use

Chapter 19—Alcohol misuse

The following table shows how children fare across the various indicators presented in Part V, and whether there has been any improvement over time.

Part II	Part III	Part IV	Part V	Part VI	Part VII	Part VIII
How healthy are Australia's children?	How well are we promoting healthy child development?	How well are Australia's children learning and developing?	What factors can affect children adversely?	What kind of families and communities do Australia's children live in?	How safe and secure are Australia's children?	How well is the system performing?

Indicator		Value	Trend
Teenage births	Age-specific birth rate among 15–19 year old women (2009)*	16 per 1,000	✔
Smoking in pregnancy	Proportion of women who smoked during the first 20 weeks of pregnancy (2009)*	n.a.	• •
Alcohol use during pregnancy	Proportion of women who consumed alcohol during pregnancy (2010)	51%	✔
Birthweight	Proportion of liveborn infants of low birthweight (2009)*	6.2%	~
Overweight and obesity	Proportion of children whose BMI score is above the international cut-off points for 'overweight' and 'obese' for their age and sex (5–14 year olds) (2007–08)*	23%	~
Environmental tobacco smoke	Proportion of households with children aged 0–14 where someone smokes inside (2010)	6%	✔
Tobacco use	Proportion of children aged 12–14 who are current smokers (2008)	3.8%	✔
Alcohol misuse	Proportion of children aged 12–14 who have engaged in risky drinking (4+ drinks) on any one occasion (2008)	2.2%	✔

*Children's Headline Indicator.

Key: ✔ = favourable trend; ✖ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

12 Teenage births

Teenage motherhood poses significant long-term risks for both mother and child, including poorer health, educational and economic outcomes.

Births to teenage mothers accounted for 4% of all live births in Australia in 2009, a decrease from 6% in 1991. Rates were around 5 times as high among Indigenous mothers and those living in *Remote and very remote* areas.

Teenage motherhood is associated with poorer health and wellbeing outcomes for both mother and baby throughout life; however, the baby is the focus of this chapter. Babies born to teenage mothers have an increased risk of pre-term birth, low birthweight and associated complications (Gupta et al. 2008; Shrim et al. 2011). Teenage birth is also a risk factor for congenital anomalies and small for gestational age among babies, as well as neonatal and infant mortality; however, these findings have not been consistent (Chen et al. 2007; Paranjothy et al. 2009; Shrim et al. 2011). Children born to teenage mothers may also be more likely to have poorer emotional, cognitive and behavioural outcomes and to be born into and continue to live in disadvantaged socioeconomic situations (Ambert 2006; Chittleborough et al. 2011; Wildsmith et al. 2011).

However, it is unclear whether these poorer outcomes are a biological consequence of the young age of the mother, or whether they are partly or fully explained by sociodemographic circumstances and risk factors that are more prevalent among teenage mothers. Teenage mothers are more likely to be socioeconomically disadvantaged, be a lone parent, have lower levels of education, are less likely to attend antenatal care and are more likely to smoke and make poorer nutritional choices during pregnancy than older mothers (Gaudie et al. 2010; Gupta et al. 2008; Paranjothy et al. 2009; Shrim et al. 2011). These factors are known to be associated with adverse birth outcomes for babies. Attending high-quality antenatal care appears to be a strong mediator of the increased risks associated with teenage births (Gupta et al. 2008; Raatikainen et al. 2006).

A number of factors have been associated with teenage birth, with the most widely cited being a family history of teenage pregnancy, socioeconomic disadvantage, aggressive and antisocial behaviour, one-parent family structure and family breakdown (Gaudie et al. 2010; Wildsmith et al. 2011). While not all teenage births result in negative outcomes for mother and child, the factors that often contribute to teenage birth mean that many young mothers do not receive the support they need during pregnancy and after the birth.

How many children are born to teenage mothers?

> **Headline Indicator:** Age-specific birth rate among 15 to 19 year old women

According to the AIHW National Perinatal Data Collection (NPDC), in 2009:

- Around 11,700 babies were liveborn to teenage mothers—a rate of 16 live births per 1,000 females aged 15–19. Births to teenage mothers accounted for 3.9% of all live births.

- The vast majority (83%) of these babies were born to first-time mothers, while the remaining 17% were subsequent births (Victoria did not provide data for this measure).

- Births to teenage mothers declined from the mid-1990s and stabilised in 2003 (from 22 to 17 births per 1,000 females aged 15–19). The rate has since declined slightly between 2008 and 2009, from 17 to 16 (Figure 12.1).

Live births per 1,000 females aged 15–19
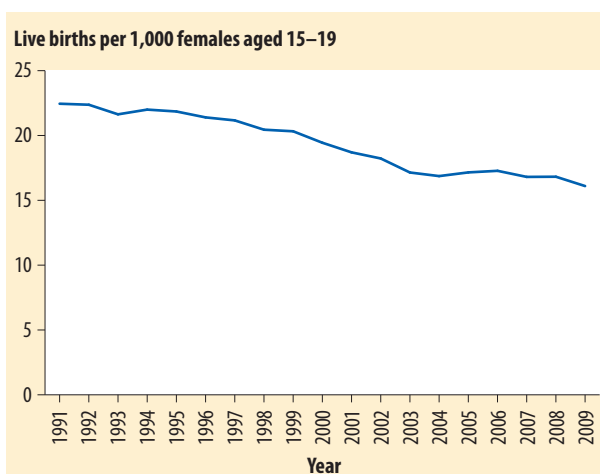
Notes
1. Data for 2009 are not final. Provisional data were provided by Victoria for 2009.
2. Data includes non-residents and records where state of usual residence was not stated.
Source: AIHW National Perinatal Data Collection.

Figure 12.1: Teenage birth rate, 1991–2009

Do rates of teenage births vary across population groups?

### Births to Aboriginal and Torres Strait Islander mothers

- The teenage birth rate among Indigenous women was more than 5 times the non-Indigenous rate in 2009—72 compared with 14 live births per 1,000 females aged 15–19 (Figure 12.2).

- Between 1991 and 2004, the teenage birth rate for Indigenous women decreased from 100 per 1,000 females aged 15–19 to 81 (excludes data from Tasmania and the Australian Capital Territory) (Leeds et al. 2007).

Births to culturally and linguistically diverse mothers

- Among women born overseas, the teenage birth rate was 12 per 1,000—around one-third lower than for Australian-born women in 2009 (18 per 1,000) (Figure 12.2).

Remoteness

- The teenage birth rate increased with geographical remoteness in 2009. The rate in *Remote and very remote* areas (57 per 1,000 females aged 15–19) was 5 times that in *Major cities* (12). Rates in *Inner regional* (21) and *Outer regional* (28) areas were 1.8 and 2.4 times those in *Major cities*, respectively (Figure 12.2).
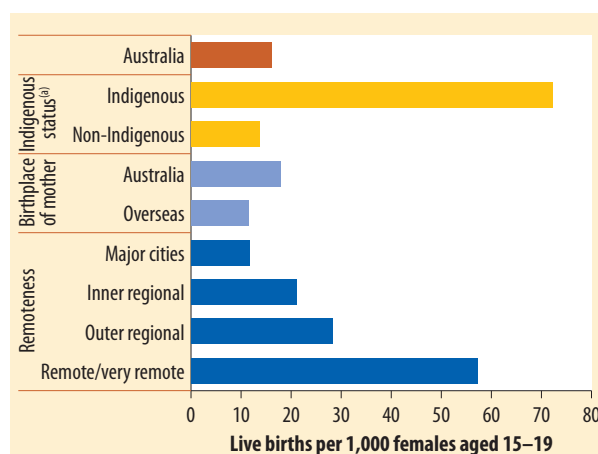

(a) Indigenous status of mother.
Notes
1. Data for 2009 are not final. Provisional data were provided by Victoria for 2009.
2. Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).
Source: AIHW National Perinatal Data Collection.

Figure 12.2: Teenage birth rate by selected population groups, 2009
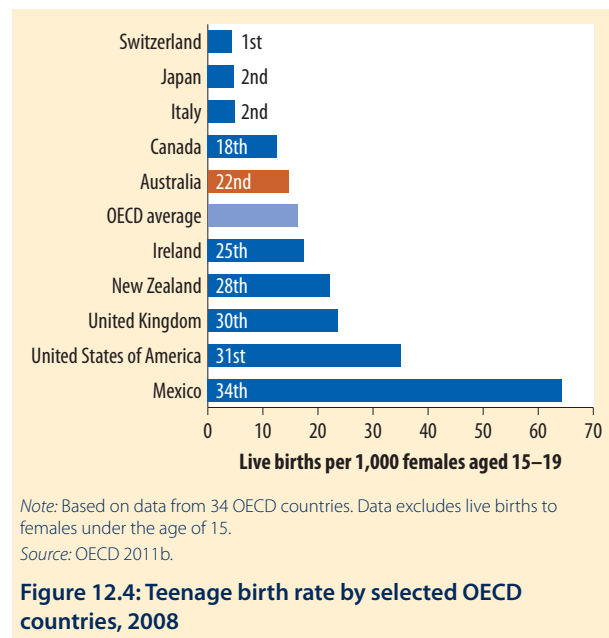
Socioeconomic status

- The teenage birth rate was highest among women living in the lowest socioeconomic status (SES) areas (30 per 1,000), almost 8 times as high as women living in the highest SES areas (4 per 1,000) (Figure 12.3).

Live births per 1,000 females aged 15–19

Notes

1. Data for 2009 are not final. Provisional data were provided by Victoria for 2009.
2. Refer to Appendix B: Methods for explanation of socioeconomic status (SES).

Figure 12.3: Teenage birth rate by socioeconomic status of mother, 2009
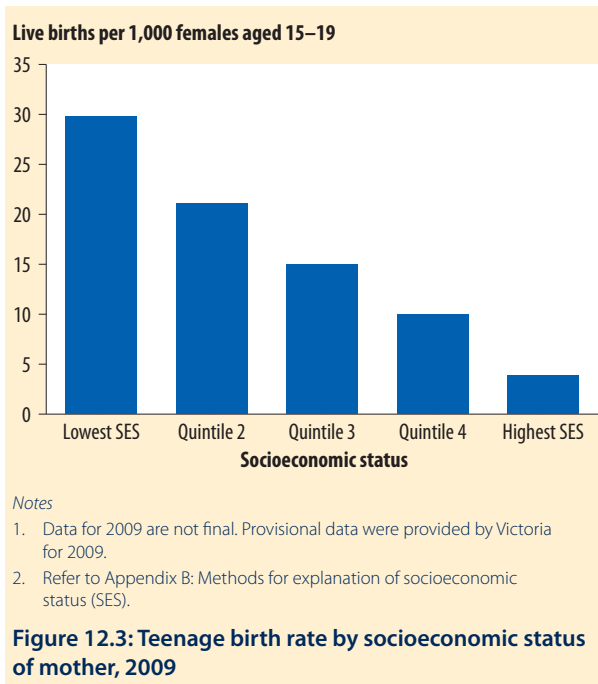
How does Australia compare internationally?

- In 2008, Australia's teenage birth rate ranked 22nd out of 34 OECD countries (Figure 12.4).
- At 15 live births per 1,000 females aged 15–19, the Australian rate was slightly ahead of the OECD average (16 per 1,000), but was substantially higher than Switzerland (4.3 per 1,000), Japan and Italy (4.8 per 1,000 each).
- The teenage birth rate was highest in Mexico, Chile (59) and Turkey (64, 59 and 36 live births per 1,000 females aged 15–19, respectively) (OECD 2011b).

Note: Based on data from 34 OECD countries. Data excludes live births to females under the age of 15.
Source: OECD 2011b.

Figure 12.4: Teenage birth rate by selected OECD countries, 2008

Box 12.1: Defining and measuring teenage births

The **teenage birth rate** is measured as the number of live babies born to teenage mothers expressed as the number of live births per 1,000 females aged 15–19.

There are few births to mothers under the age of 15 years in Australia—these births are included in the number of births to teenage mothers unless otherwise specified.

The teenage birth rate is distinct from the teenage pregnancy rate. The birth rate includes only **live births** and is therefore lower than the pregnancy rate, which would include stillbirths, miscarriages and terminations.

The teenage birth rate (rather than the teenage pregnancy rate) is reported to emphasise the relationship between early life experiences and the longer term outcomes for children.

Data on teenage births are available from the AIHW National Perinatal Data Collection (NPDC) (see Appendix C: Data sources). At the time of publication, data for 2009 are not final, as Victoria provided provisional data only.

13 Smoking in pregnancy

Smoking in pregnancy is an important modifiable risk factor for low birthweight, pre-term birth, placental complications and perinatal mortality.

In 2009, 1 in 7(14%) women smoked during pregnancy, with rates between 3 and 4 times as high among Indigenous women, and those living in remote or socioeconomically disadvantaged areas.

Smoking during pregnancy is a significant risk factor for the mother and her unborn baby. Tobacco smoke reduces oxygen flow to the placenta and exposes the developing fetus to numerous toxins. This increases the risk of spontaneous abortion and ectopic pregnancy. It can also result in poor health outcomes for the newborn, including low birthweight, intrauterine growth restriction, prematurity, placental complications, birth defects, lung function abnormalities and respiratory symptoms, and perinatal mortality (Jauniaux & Burton 2007; Julvez et al. 2007; Milner et al. 2007).

The effects of smoking during pregnancy persist into infancy and childhood. Smoking during pregnancy has been found to be associated with sudden infant death syndrome (SIDS), as well as childhood cancers, high blood pressure, asthma, obesity, lowered cognitive development and psychological problems (Jauniaux & Burton 2007; Julvez et al. 2007; Kyrklund-Blomberg et al. 2006; Ng & Zelikoff 2006).
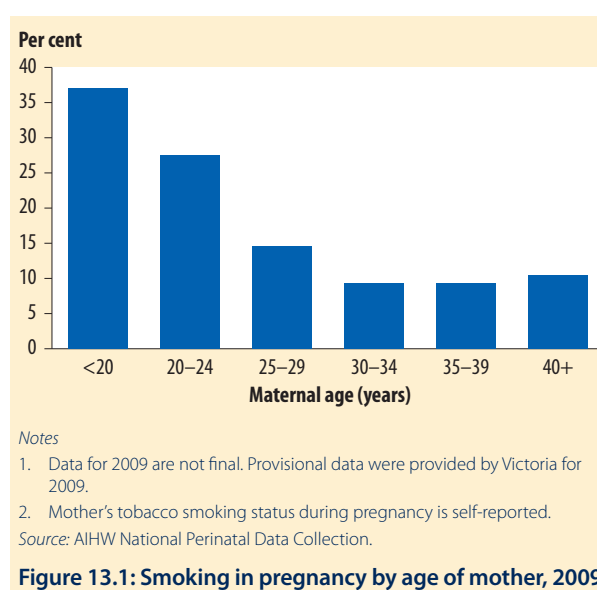
There is evidence that the more cigarettes a mother smokes, the higher the risk of poor birth outcomes (Aliyu et al. 2007; Chan & Sullivan 2008). Stopping smoking during pregnancy is associated with improved health outcomes for infants and quitting smoking within the first 20 weeks of pregnancy may result in birthweight similar to that of infants of non-smoking mothers (Chan & Sullivan 2008). However the quitting rate during pregnancy is low—in 2001–2004, only 1 in 15 mothers aged under 20 and 1 in 12 mothers aged 20–34 quit smoking during pregnancy (Chan & Sullivan 2008).
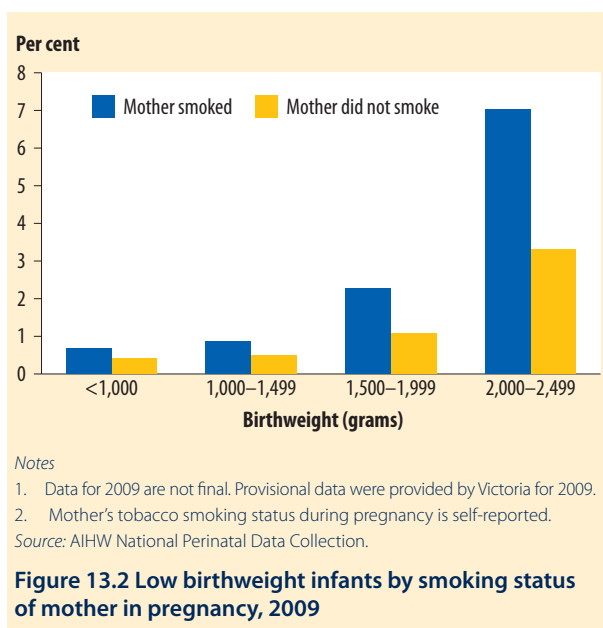
How many women smoke while pregnant?

Headline Indicator: Proportion of women who smoked during the first 20 weeks of pregnancy

According to the AIHW National Perinatal Data Collection (NPDC), in 2009:

- Around 1 in 7 (14% or 42,619) women who gave birth reported smoking during pregnancy.
- Smoking in pregnancy was most common among teenage mothers (37%), and decreased with increasing maternal age to around 10% among mothers aged 30 and over (Figure 13.1).
- Infants whose mothers smoked during pregnancy were twice as likely to be of low birthweight (less than 2,500 grams) (11% compared with 5% for those who did not smoke). This pattern was consistent across each of the low birthweight categories (Figure 13.2).

Per cent

Notes
1. Data for 2009 are not final. Provisional data were provided by Victoria for 2009.
2. Mother's tobacco smoking status during pregnancy is self-reported.
Source: AIHW National Perinatal Data Collection.

Figure 13.1: Smoking in pregnancy by age of mother, 2009

Notes

1. Data for 2009 are not final. Provisional data were provided by Victoria for 2009.
2. Mother's tobacco smoking status during pregnancy is self-reported.

Source: AIHW National Perinatal Data Collection.

Figure 13.2 Low birthweight infants by smoking status of mother in pregnancy, 2009

The 2010 National Drug Strategy Household Survey found that women were likely to reduce their use of tobacco or illicit substances when they were pregnant.

Of those women who were pregnant in the 12 months before the survey, 12% used tobacco while pregnant, 2%[6] used marijuana/cannabis and 3% used another illicit substance, down from 16%, 7% and 9%, respectively, when the same women were not pregnant.

Do rates of smoking in pregnancy vary across population groups?

Aboriginal and Torres Strait Islander mothers

- Almost half of Indigenous mothers (48%) reported smoking in pregnancy in 2009—3.6 times the rate of non-Indigenous mothers (13%) (Figure 13.3). These proportions have been age-standardised to account for the younger age structure of the Indigenous population.

- Indigenous mothers living in *Remote and very remote* areas were slightly more likely to smoke than Indigenous mothers living in *Major cities* in 2009 (50% compared to 43%).

Culturally and linguistically diverse mothers

- Australian-born mothers were almost 3 times as likely to smoke in pregnancy as mothers born overseas, with rates of 17% and 6% in 2009, respectively (Figure 13.3).

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

Remoteness

- Around one-third (36%) of mothers in *Very remote* areas who gave birth in 2009 smoked in pregnancy—3 times that in *Major cities* (11%) (Figure 13.3).

Socioeconomic status

- Mothers in the lowest socioeconomic status (SES) areas were more than 4 times as likely to have smoked in pregnancy than those in the highest SES areas (23% and 5%, respectively).
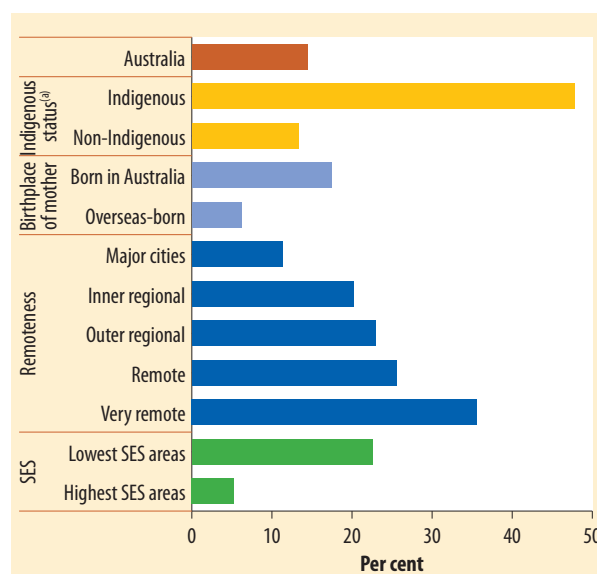
(a)   Indigenous status of mother. Indigenous and non-Indigenous proportions are age-standardised.

Notes

1. Data for 2009 are not final. Provisional data were provided by Victoria for 2009.
2. Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).

Source: AIHW National Perinatal Data Collection.

Figure 13.3: Smoking in pregnancy by selected population groups, 2009

Box 13.1: Defining and measuring smoking in the first 20 weeks of pregnancy

Data on smoking **at any time during pregnancy** have been collected in some states and territories since 2001. This chapter presents national data on smoking at any time in pregnancy, in the absence of data on smoking in the first 20 weeks of pregnancy.

Data on smoking during pregnancy are available from the AIHW National Perinatal Data Collection (NPDC) (see Appendix C: Data sources). At the time of publication, data for 2009 are not final, as Victoria provided provisional data only.

14 Alcohol use in pregnancy

Maternal alcohol use during pregnancy is associated with severe adverse perinatal outcomes, such as fetal alcohol syndrome, alcohol-related birth defects and alcohol-related neurodevelopmental disorders.

In 2010, half (51%) of women consumed alcohol during pregnancy, with the majority of these women drinking less than before they were pregnant.

Alcohol consumption while pregnant is associated with a number of adverse perinatal outcomes, including premature birth, low birthweight and Fetal Alcohol Spectrum Disorder (FASD). FASD is an umbrella term that describes a range of conditions that can occur in children exposed to alcohol before birth. It includes fetal alcohol syndrome, alcohol-related birth defects and alcohol-related neurodevelopmental disorders, conditions that are entirely preventable (Peadon et al. 2007). Alcohol readily crosses the placenta, and exposure to alcohol in the uterus is the leading preventable cause of birth defects and the leading cause of mental retardation among children (Kumada et al. 2007).

Although the risk of birth defects is greatest with high, frequent maternal alcohol intake during the first trimester, alcohol exposure throughout pregnancy (including before pregnancy is confirmed) can have consequences for development of the fetal brain (NHMRC 2009). In 2009, the National Health and Medical Research Council (NHMRC) revised its guidelines on alcohol consumption during pregnancy. It took the view that no 'safe' or 'no risk' level of alcohol consumption has been proven for women to avoid harm to their unborn child and that the safest option is to not drink alcohol at all during pregnancy (NHMRC 2009).

How many women consume alcohol while pregnant?

Key national indicator: Proportion of women who consumed alcohol during pregnancy

According to the 2010 National Drug Strategy Household Survey (NDSHS), of the estimated 395,000 women who were pregnant in the 12 months before the survey:

- Half reported that they consumed alcohol during pregnancy (51% or 202,500 women), although the majority of these (95%) drank less than before they were pregnant. The remaining 49% of women abstained from alcohol while pregnant.

- The proportion of women who drank while pregnant has decreased since 2001 (64%), with a statistically significant decrease from 60% to 51% between 2007 and 2010 (Figure 14.1).
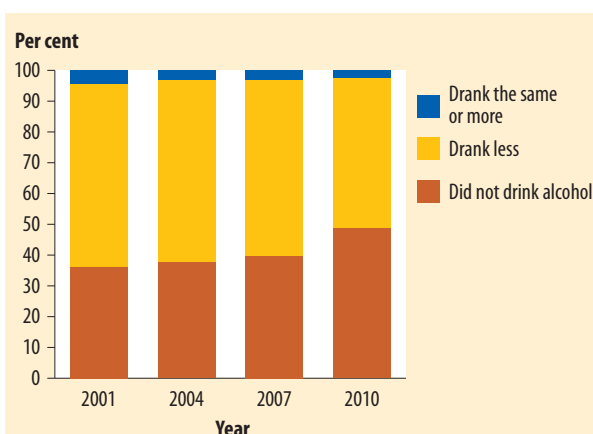
Source: 2010 National Drug Strategy Household Survey, unpublished data.

Figure 14.1: Change in alcohol consumption when pregnant in last 12 months, women aged 14–49, 2001–2010

Alcohol consumption while breastfeeding

The 2009 NHMRC guidelines state that, for women who are breastfeeding, abstaining from drinking alcohol is the safest option. According to the 2010 NDSHS, of the 355,500 women who were breastfeeding in the previous 12 months:

- An estimated 34% of women (or 121,300) aged 14–49 who were breastfeeding in the last 12 months did not drink alcohol. A further 62% drank less than they did prior to being pregnant or breastfeeding.

Does alcohol consumption in pregnancy vary across population groups?

Aboriginal and Torres Strait Islander women

There are no reliable national data available on the consumption of alcohol during pregnancy among Indigenous women. The Northern Territory Midwives' Collection 2006 provides information on pregnancy behaviour among women who gave birth in the Northern Territory. The data are not comparable with the NDSHS data, since collection methods were different.

According to the Northern Territory Midwives' Collection, in 2006:

- Indigenous women were twice as likely to report drinking alcohol in the third trimester (at their 36-week antenatal visit) as non-Indigenous women (8% and 4%, respectively) (Tew & Zhang 2010).

- The proportions of women who reported drinking alcohol in the third trimester are likely to be an under-representation of alcohol consumption, as there was a high proportion of women for whom no data are available.

The 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) collected information from mothers of children aged 0–3 regarding their alcohol consumption during pregnancy. It found that one-fifth (20%) of mothers of children aged 0–3 consumed alcohol while pregnant (ABS 2010c).

Remoteness

- There was no statistically significant difference in the likelihood of women drinking alcohol during pregnancy by geographical regions in 2010, according to the NDSHS. In both *Major cities,* and *Regional* and *Remote* areas combined, 49% of women did not drink alcohol while pregnant (Figure 14.2).

Socioeconomic status

- The pattern of alcohol consumption among women who were pregnant in the previous 12 months differed by socioeconomic status (SES) in 2010, according to the NDSHS (Figure 14.2).

- Women in the lowest SES areas (that is, areas with the greatest level of disadvantage) were more likely than women in the highest SES areas to abstain from alcohol during pregnancy (51% compared with 41%) though this difference is not statistically significant. However, the pattern is consistent with women as a whole; in the general population women in lowest SES areas are significantly more likely to abstain from alcohol than those in the highest SES areas (25% and 15%, respectively) (2010 National Drug Strategy Household Survey, unpublished data).
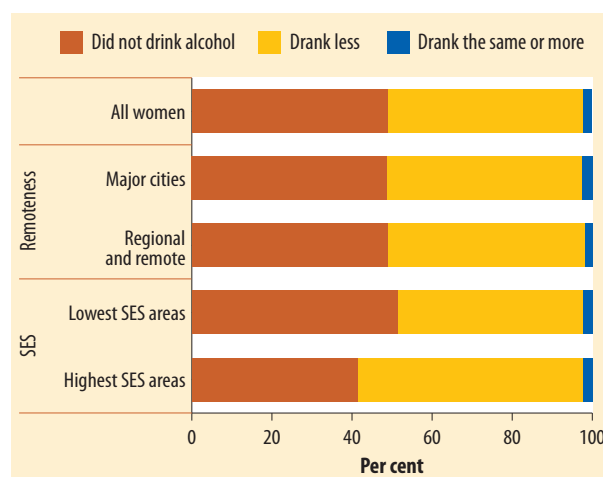
Notes

1. Alcohol consumption for females aged 14–49 who were pregnant in the previous 12 months.
2. Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).

Source: 2010 National Drug Strategy Household Survey, unpublished data.

Figure 14.2: Women consuming alcohol during pregnancy by socioeconomic status and remoteness, 2010

Box 14.1: Measuring women who consume alcohol in pregnancy

Alcohol consumption during pregnancy is currently undergoing development for inclusion in the Perinatal National Minimum Data Set. Currently the only source of national data is the National Drug Strategy Household Survey which asks women whether they consumed alcohol while pregnant, while breastfeeding, or while pregnant and breastfeeding in the previous 12 months. Detailed information on the quantity and regularity of alcohol consumption during pregnancy is not available from this survey.

15 Birthweight

Babies who are born with low birthweight are at greater risk of poor health, disability and death than other babies.

In 2009, 6.2% of liveborn babies in Australia were of low birthweight. The proportion was twice as high among babies of Indigenous mothers compared with non-Indigenous mothers.

Birthweight is a key indicator of infant health and a principal determinant of a baby's chance of survival and good health. A baby may be small due to being born early (pre-term) or may be small for its gestational age (suggesting possible intrauterine growth restriction). For newborns, low birthweight poses a greater risk of lengthy hospitalisation after birth, the need for resuscitation and death. Low birthweight is a risk factor for neurological and physical disabilities, with the risk of adverse outcomes increasing with decreasing birthweight (Ford et al. 2003). Children with extremely low birthweight (less than 1,000 grams) are more likely to have psycho-social problems and an increased risk of experiencing difficulties at school. Teenagers who were born with extremely low birthweight have been found to be less likely to achieve well on intellectual measures, particularly arithmetic, than their peers (Saigal 2000).

The health effects of low birthweight can also continue into adulthood. Research has found an increased risk of Type 2 diabetes, high blood pressure, metabolic and cardiovascular diseases and, possibly, obesity in later life among adults who were of low birthweight (Barker et al. 1993; Hovi et al. 2007; Phillips 2006; Tappy 2006).

Factors that contribute to low birthweight include extremes of maternal age, illness during pregnancy, low socioeconomic status, multiple pregnancy, maternal history of spontaneous abortion, harmful behaviours such as smoking or excessive alcohol consumption, poor nutrition during pregnancy and poor antenatal care (Laws et al. 2007; Laws et al. 2006a, 2006b). A number of these risk factors are modifiable and susceptible to intervention.
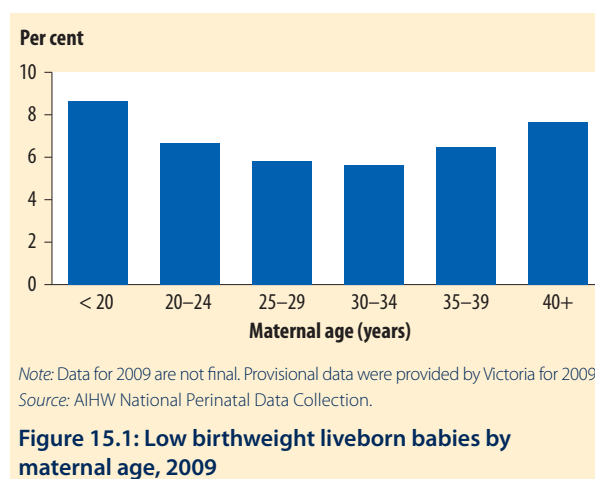
How many babies are of low birthweight?

Headline Indicator: Proportion of liveborn infants of low birthweight

According to the AIHW National Perinatal Data Collection (NPDC), in 2009, among liveborn babies:

- 6.2% (or around 18,000) of babies weighed less than 2,500 grams. This comprised:
  - 5.2% weighing between 1,500 and 2,499 grams
  - 1.0% weighing less than 1,500 grams (very low birthweight, including extremely low birthweight).
- Baby boys were slightly less likely to be of low birthweight (5.7%) than baby girls (6.6%) (Li et al. 2011).
- Babies born to younger and older mothers (aged less than 20 or 40 and over) were more likely to be of low birthweight—8.6% and 7.6%, respectively (Figure 15.1).

The proportion of low birthweight liveborn babies has remained steady over the decade from 2000 to 2009, ranging from 6.1% to 6.4%.

Per cent

Note: Data for 2009 are not final. Provisional data were provided by Victoria for 2009.
Source: AIHW National Perinatal Data Collection.

Figure 15.1: Low birthweight liveborn babies by maternal age, 2009

Do rates of low birthweight vary across population groups?

Babies of Aboriginal and Torres Strait Islander mothers

- Liveborn babies of Indigenous mothers were twice as likely as those born to non-Indigenous mothers to be of low birthweight in 2009—12.0% compared with 5.9%, respectively (Figure 15.2).

Babies of culturally and linguistically diverse mothers

- The proportion of low birthweight liveborn babies of mothers born in Australia (6.1%) and overseas (6.0%) was similar (Figure 15.2).

Remoteness

- Liveborn babies of mothers who lived in *Remote and very remote* areas were 1.4 times as likely to be of low birthweight as those born to mothers who lived in *Major cities* in 2009, with low birthweight rates of 8.4% and 6.0% respectively (Figure 15.2).

Socioeconomic status

- In 2009, liveborn babies of mothers living in the lowest socioeconomic status (SES) areas were 1.3 times as likely to be of low birthweight than those living in the highest SES areas (7.2% compared with 5.4%, respectively) (Figure 15.2).

How does Australia compare internationally?

- In 2008, Australia's proportion of liveborn babies with low birthweight was slightly lower than the OECD average.
- Australia ranked 13th out of 34 OECD countries, with a rate of 6.1%, compared with an OECD average of 6.7% (Figure 15.3).
- The proportion of low birthweight babies was lowest in Iceland (3.8%) and Finland and Sweden (4.1% each), and highest in Japan (9.6%) and Turkey (11.0%) (OECD 2011a).
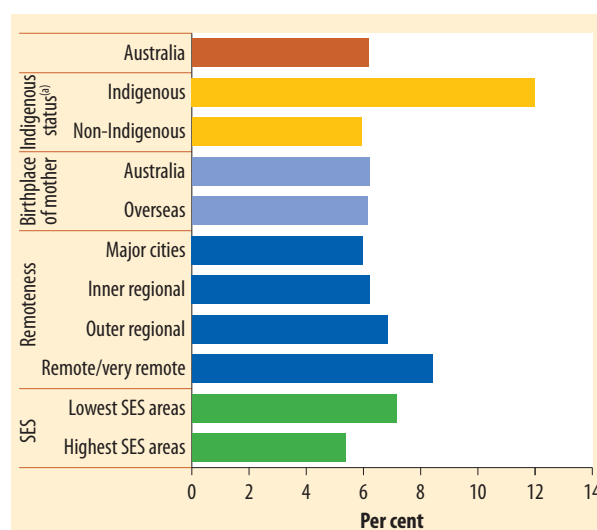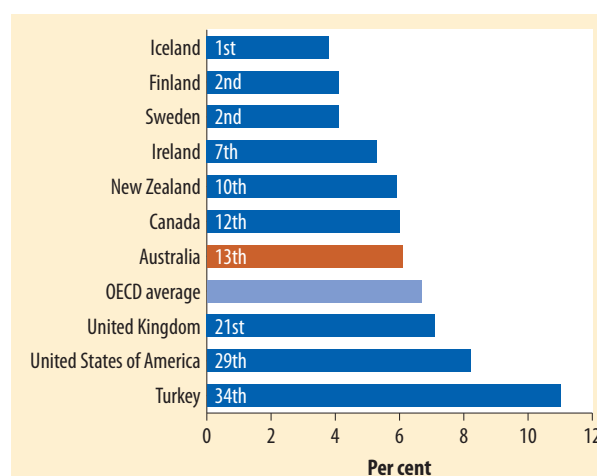

(a) Indigenous status of mother.
Notes
1. Data for 2009 are not final. Provisional data were provided by Victoria for 2009.
2. Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).
Source: AIHW National Perinatal Data Collection.

Figure 15.2: Low birthweight liveborn babies by selected population groups, 2009

Note: Based on data for liveborn babies from 34 OECD countries. Data for Sweden are for 2007.
Source: OECD 2011a.

Figure 15.3: Low birthweight babies by selected OECD countries, 2008

Box 15.1: Defining and measuring low birthweight

Low birthweight is defined as a **birthweight of less than 2,500 grams**. Within this category, weights of less than 1,500 grams are defined as 'very low birthweight' and less than 1,000 grams as 'extremely low birthweight'. Low birthweight is reported against this indicator for **liveborn** babies only.

This widely used indicator of low birthweight does not currently distinguish between pre-term babies who are appropriate weight for gestational age and full-term babies who are small for gestational age (SGA). SGA is associated with poor long-term outcomes compared with babies in the normal birthweight range, whereas pre-term babies at appropriate weight for age can develop along a normal growth trajectory with appropriate neonatal care. A key national indicator of birthweight standardised according to gestational age and sex is therefore under development.

Data on low birthweight are available from the AIHW National Perinatal Data Collection (NPDC) (see Appendix C: Data sources). At the time of publication, data for 2009 are not final, as Victoria provided provisional data only.

16 Overweight and obesity

Overweight and obese children are at risk of serious health conditions in both the short and long term, such as asthma, cardiovascular conditions and Type 2 diabetes.

No new national data have been released since 2007–08 when over one-fifth (23%) of Australian children aged 5–14 were estimated to be overweight (17%) or obese (6%).

Overweight and obesity increases a child's risk of poor physical health and is a risk factor for morbidity and mortality in adulthood. Obese children have a greater risk of developing asthma, Type 2 diabetes, cardiovascular conditions and certain cancers, than non-obese children (Guo et al. 2002; Summerbell et al. 2005). Children who continue to be overweight or obese into adulthood are at increased risk of coronary heart disease, diabetes, certain cancers, gall bladder disease, osteoarthritis and endocrine disorders (Guo et al. 2002; Whitlock et al. 2005). In addition to physical health problems, overweight and obese children frequently experience discrimination, victimisation and teasing by their peers. This may contribute to poor peer relationships, school experiences and psychological wellbeing, particularly among older overweight or obese children (Griffiths et al. 2006; Hayden-Wade et al. 2005; Sawyer et al. 2006).

All children naturally gain body weight as they grow and develop; however, for excess weight gain to occur, an imbalance must exist between the amount of energy children are consuming and the energy they expend over an extended period of time. While genetics may play an intervening role, it is clear that cultural, environmental, economic, familial and individual behavioural factors also influence the likelihood of this imbalance occurring.

Research from Growing up in Australia: the Longitudinal Study of Australian Children (LSAC) has shown that obesity becomes more entrenched throughout early childhood and possibly less reversible by the middle school years. Persistent overweight/obesity is more common among the most disadvantaged children, according to measures of family socioeconomic position and neighbourhood disadvantage (Wake & Maguire 2012). Early childhood is therefore an ideal period for intervention, particularly as childhood obesity is closely linked to food preferences and dietary habits, which are firmly established in the early years of life (Benton 2004; Daniels et al. 2009).

Australian research also shows that parenting practices influence children's weight, suggesting that obesity prevention interventions need to include parenting strategies (Marshall et al. 2011; Wake et al. 2007). Having a father with a permissive or disengaged parenting style (Wake et al. 2007), or having an overweight or obese father, even with a healthy weight mother, also increases the odds of child obesity (Freeman et al. 2012). This highlights a need for family interventions rather than interventions that solely target children. Broad preventive interventions targeting families, the school setting, the community, the physical environment, and society are needed to prevent and reduce obesity in children and young people.

The key components of successful weight management include an increase in physical activity, dietary modification, reducing sedentary behaviours, involving parents, and behavioural change (Hughes & Reilly 2008). Australian research has also shown significant parental concern about food advertising and strong parental support for tighter restrictions (Morley et al. 2008). However, it is not yet clear the extent to which effective solutions for reducing the prevalence of obesity will require societal responsibility (for example, through legislation, community engineering, and taxation) as opposed to individual responsibility (for example, through personal and family behaviour change) (Wake et al. 2007).

How many children are overweight or obese?

Headline Indicator: Proportion of children whose body mass index (BMI) score is above the international cut-off points for 'overweight' and 'obese' for their age and sex (5–14 year olds)

According to the 2007–08 ABS National Health Survey:

- An estimated 430,000 or 23% of children aged 5–14 were overweight (17%) or obese (6%).
- The difference in the prevalence of overweight and obesity between children living in couple families (22%) and those living in one-parent families (28%) was not statistically significant.

Among Australian children, estimates from large-scale national surveys for children aged 5–12 show only a slight increase in measured overweight and obesity, from 21% in 1995 to 22% in 2007–08 (ABS 2009d).

Two recent Australian studies suggest that the prevalence of overweight and obesity among children and adolescents has plateaued, or only increased slightly, over the 10 years to 2008 (Garnett et al. 2011; Olds et al. 2010). Prevalence rates are estimated at around 21–25% for overweight and obesity together, and at 5–6% for obesity alone (Olds et al. 2010). Therefore, although levels of overweight in Australian children remain high, the increasing prevalence of overweight and obesity may have slowed. However, central adiposity as measured by waist circumference, rather than BMI, appears to be continuing to increase at a faster rate than total adiposity in girls, but not boys (Garnett et al. 2011). Further research is necessary in this area to clarify prevalence trends and trends using the different measures. The Australian Health Survey (Box 16.1) will help to clarify trends.

Does the prevalence of overweight and obesity vary across population groups?

The lack of statistically significant differences between population groups in the following discussion may be due to the small sample size for these groups in the National Health Survey.

### Culturally and linguistically diverse children

- In 2007–08, the prevalence of overweight and obesity was slightly lower among children aged 5–14 born overseas (20%), compared with those born in Australia (23%); however, this difference was not statistically significant (Figure 16.1).

Remoteness

- For children aged 5–14 living in areas outside the major cities, 27% were overweight or obese, compared with 21% for those living in *Major cities* in 2007–08; however, this difference was not statistically significant. The survey excluded those living in *Very remote* areas of Australia.

Socioeconomic status

- Children aged 5–14 living in the lowest socioeconomic (SES) areas were 1.7 times as likely to be overweight or obese (31%) as those living in the highest SES areas (18%) in 2007–08.
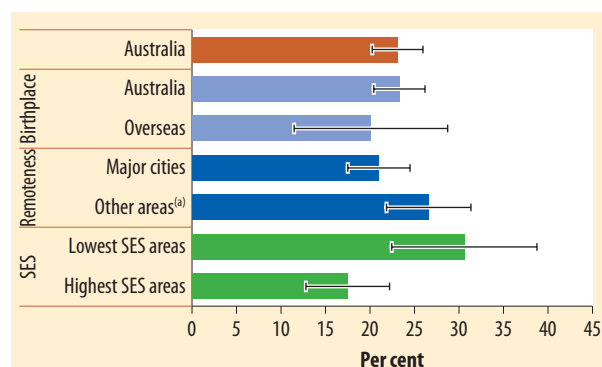
(a) *Other* areas include *Inner regional*, *Outer regional* and *Remote* areas. *Very remote* areas were excluded from the survey.
Note: Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).
Source: ABS 2007–08 National Health Survey, published in AIHW 2011h.

Figure 16.1: Overweight or obese children aged 5–14, by selected population groups, 2007–08

Box 16.1: Defining and measuring overweight and obesity

Body mass index (BMI) is used to indirectly measure overweight and obesity in the child population. It is calculated as the ratio of weight in kilograms divided by height in metres squared (kg/m2).

At the population level, **international cut-off points** are used to determine the number of children either overweight or obese based on their age and sex (Cole et al. 2000). In children, BMI changes substantially with age and can differ between boys and girls, rising steeply in infancy, falling during the preschool years and increasing during adolescence and adulthood (DoHA 2009).

Many surveys that collect information on overweight and obesity are based on child- or parent-reported height and weight. However, self-reported data may differ from that obtained by direct measurement—previous studies have indicated that people tend to underestimate their weight and overestimate their height (ABS 1995a).

There are currently three national surveys that collect information on measured height and weight:

- ABS 1995 National Nutrition Survey
- ABS 2007–08 National Health Survey
- 2007 Australian National Children's Nutrition and Physical Activity Survey.

Data from the ABS 2007–08 National Health Survey are reported here. This survey collected physical measurements of the height and weight of children aged 5–14 (excluding *Very remote* areas; see Appendix C: Data sources).

The ABS 2011–13 Australian Health Survey is collecting data on physical measurements (height and weight). At the time of publication, data from this survey were not yet available.

Physical activity and **nutrition** are also of interest in relation to overweight and obesity. For the most recent data on these topics, see AIHW 2009c.

17 Environmental tobacco smoke in the home

Exposure to tobacco smoke puts children at risk of serious health problems including asthma, respiratory tract infections, and SIDS.

In 2010, households with children where at least one person smoked inside the home dropped to 6%—a fivefold decrease since 1995.

Environmental tobacco smoke is one of the most hazardous environmental exposures for children. Tobacco smoke contains numerous toxic and cancer-causing chemicals that increase the risk of adverse health outcomes for children, including SIDS, acute respiratory infections, middle-ear infection (otitis media), onset and increased severity of asthma, respiratory symptoms and slowed lung growth (CDC 2007; WHO 2007). Children with parents who smoke are also more likely to take up smoking later in life (Kestila et al. 2006). Infants and children are particularly vulnerable to the effects of environmental tobacco smoke because they have less developed respiratory, immune and nervous systems, and have limited control over their exposure.

There is no safe level of exposure to environmental tobacco smoke. Children travelling in a car with someone smoking are also at risk, even if the windows are down (Sendzik et al. 2008; Sly et al. 2007). The benefits of reducing children's exposure to tobacco smoke in the home include improved health and school performance, reduced absenteeism from school, reduced uptake of smoking, and less frequent smoking among children who smoke (NDS 2002).

Australia is a signatory to the United Nations Convention of the Rights of the Child and the WHO Framework Convention on Tobacco Control that acknowledges the need for the health of all children to be protected. In 2011, all states and territories had legislation prohibiting smoking in enclosed public places and most outdoor eating and drinking areas. In addition, all with the exception of the Northern Territory had introduced legislation to prohibit smoking in private cars when children are present (DoHA 2011).

How many children are exposed to tobacco smoke at home?

Key national indicator: Proportion of households with children aged 0–14 where someone smokes inside

According to the 2010 National Drug Strategy Household Survey (NDSHS), among households with dependent children aged 0–14, it is estimated that:

- Six per cent of households had someone who smoked at least one cigarette, cigar or pipe of tobacco daily inside the home.
- Smoking in the home has decreased steadily over the 15 years to 2010, from 31% of households in 1995. The proportion of households where no-one regularly smokes has increased from 2007 to 2010 (63% and 66% respectively).
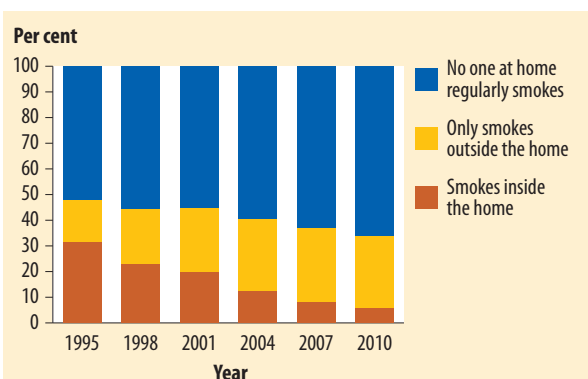
Notes
1. Household smoking status as reported by respondents aged 14 and over. This may include a small number of 14 year olds who smoked inside the home.
2. Smoking status is defined as smoking at least one cigarette, cigar or pipe of tobacco per day in the previous 12 months.
Source: 2010 National Drug Strategy Household Survey, unpublished data.

Figure 17.1: Smoking status of households with children aged 0–14, 1995–2010

Do rates of exposure vary across population groups?

Aboriginal and Torres Strait Islander children

Based on the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) and the National Health Survey (NHS) 2007–08 it is estimated that:

• 22% of Indigenous children (or 40,157 Indigenous children) were likely to be exposed to tobacco smoke in the home compared to 7% of non-Indigenous children (258,488 non-Indigenous children (AIHW 2011c).
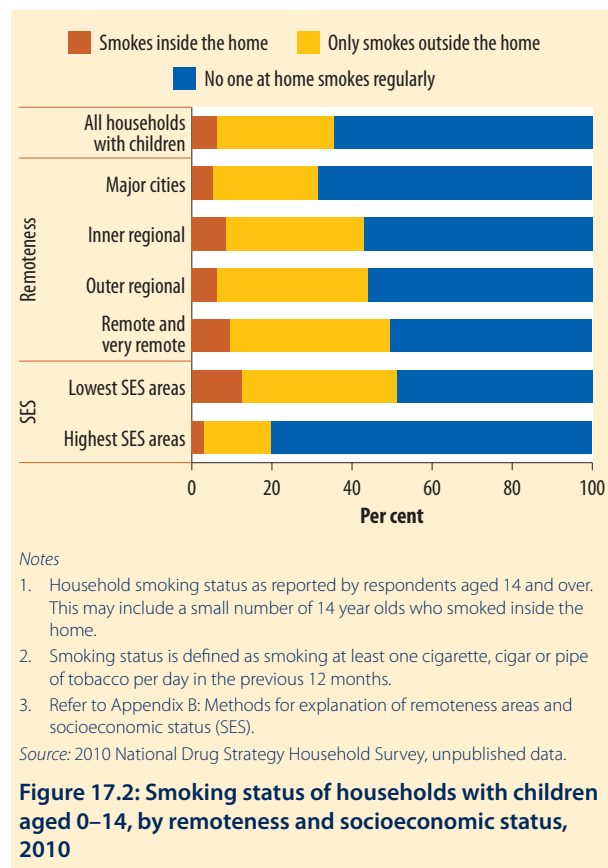
Remoteness

According to the 2010 NDSHS, it is estimated that:

• Exposure to tobacco smoke in the home was highest among households with children in *Remote and very remote* areas (10%) and lowest among households in *Major cities* (5%) (Figure 17.2).

Socioeconomic status

According to the 2010 NDSHS, it is estimated that:

• Children living in households in the lowest socioeconomic status (SES) areas were 4 times as likely as those in the highest SES areas to be exposed to tobacco smoke in the home (12% compared with 3%) (Figure 17.2). They were also more than twice as likely to have a regular smoker at home (who smokes outside) than households with children in the highest SES areas (39% compared with 17%).

Notes

1. Household smoking status as reported by respondents aged 14 and over. This may include a small number of 14 year olds who smoked inside the home.

2. Smoking status is defined as smoking at least one cigarette, cigar or pipe of tobacco per day in the previous 12 months.

3. Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).

Source: 2010 National Drug Strategy Household Survey, unpublished data.

Figure 17.2: Smoking status of households with children aged 0–14, by remoteness and socioeconomic status, 2010

18 Tobacco use

Tobacco smoking is the leading cause of preventable death in the world today. Tobacco use at a young age is a key predictor of continued smoking in adulthood.

Smoking among secondary school students aged 12–14 dropped from 17% in 1984 to 4% in 2008.

Tobacco smoking is the leading cause of preventable death both in Australia and around the world (AIHW 2010; WHO 2011b). It is the risk factor associated with the greatest disease burden in Australia (8% of the total disease burden in 2003) (AIHW: Begg et al. 2007). Tobacco use causes damage to nearly every organ in the body, and results in considerable ill health. In the short term, it may lead to respiratory problems, shortness of breath, nicotine dependence (and subsequent withdrawal symptoms), persistent coughing and reduced physical fitness. In the long term, it is a major risk factor for a number of serious health conditions including coronary heart disease, chronic obstructive pulmonary disease, stroke, peripheral vascular disease, numerous cancers, and a number of other diseases and conditions (AIHW 2008a; AIHW 2010).

Most tobacco smokers take up smoking in adolescence (Mathers et al. 2006). Those who begin smoking at younger ages (12 or 13 years) have been found to smoke more cigarettes per day on average, and to reach this higher level of smoking at a younger age than those who begin smoking when they are older (Hoffmann et al. 2006). Adolescent tobacco use is associated with a range of other social and health problems in early adulthood, such as continued smoking, mental health and sleep problems, problematic alcohol use, and poor academic performance (Mathers et al. 2006). Preventing the uptake of smoking among young people is, therefore, a high-priority public health issue.

Although the smoking behaviour of parents, particularly if the mother or both parents smoke, influences smoking among 9–13 year olds, having peers or siblings who smoke and consume alcohol are more likely to encourage children in this age range to smoke tobacco (Kelly et al. 2011; Paul et al. 2008). Higher levels of socioeconomic disadvantage have also been found to contribute to smoking in youth (Kelly et al. 2011).

How many children smoke?

Key national indicator: Proportion of children aged 12–14 who are current smokers

According to the 2008 Australian Secondary School Students' Alcohol and Drugs Survey, among secondary school students aged 12–14:

- About 1 in 25 (3.8%) were current smokers, equating to an estimated 32,350 children Australia-wide.
- The rates of smoking were higher among older children—1.5%, 3.0% and 6.9% for 12, 13 and 14 year olds respectively.
- There was no statistically significant difference between the proportion of boys and girls who were current smokers.

There has been a 76% decrease in the proportion of students aged 12–14 who were current smokers since 1984 (Figure 18.1). The sharpest rates of decline were between 1984 and 1987 and between 1999 and 2005, with an increase occurring between 1990 and 1993. This trend roughly coincides with the level of tobacco control activity underway at these times (White et al. 2008).
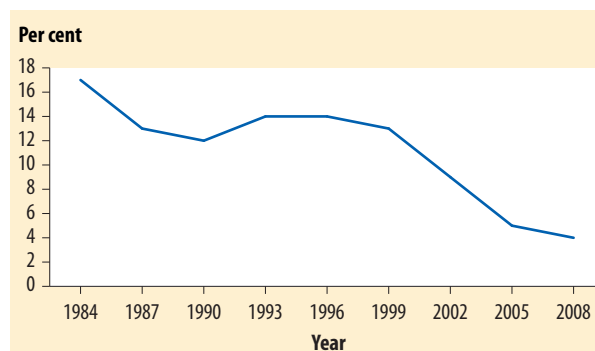
Per cent

Source: Australian Secondary School Students' Alcohol and Drug Survey, various years, Centre for Behavioural Research in Cancer, Cancer Council Victoria, unpublished data.

Figure 18.1: Students aged 12–14 who were current smokers, 1984–2008

Method of obtaining cigarettes

The ability of young people to purchase cigarettes increases their likelihood of smoking. Accordingly, all states and territories in Australia have legislation prohibiting the sale of cigarettes to persons under the age of 18. In 2008:

- The two most common ways for 12–15 year old smokers to access cigarettes were through their friends (48% of current smokers) and asking someone else to buy them (17% of current smokers) (White & Smith 2009).

- 12% of current smokers reported buying their last cigarette themselves (down from 17% in 2005).

Box 18.1: Defining and measuring children who smoke

As data in this chapter are drawn from the school-based 2008 Australian Secondary Students Alcohol and Drug Survey (ASSAD), information on **children who smoke** is presented for students, rather than children.

Current smoking is defined as smoking tobacco at least once in the week before the survey.

The age range for children for the key national indicator is 12–14 years. For reporting on Aboriginal and Torres Strait Islander students, data were only available for the age range 12–15 years.

Do smoking rates vary by population group?

Aboriginal and Torres Strait Islander secondary school students

- 12% of Indigenous students aged 12–15 were current smokers, compared with 5% for all 12–15 year olds (White & Smith 2010).

- The proportion of Indigenous students aged 12–15 who were current smokers has declined from 17% in 2005.

Socioeconomic status

- Students aged 12–14 from the most socioeconomically disadvantaged areas were 1.7 times as likely to be current smokers as those from the least socioeconomically disadvantaged areas (5% of students compared with 3%, respectively).

- The proportions of students smoking in both the lowest and highest socioeconomic areas have declined since 2005 (from 8% to 5% in the lowest socioeconomic area and from 5% to 3% in the highest).

19 Alcohol misuse

Alcohol use at young ages is associated with more frequent use during late adolescence and an increased risk of later dependence.

In 2008, 2.2% of 12–14 year old students had drunk more than four standard drinks on one occasion in the previous week.

Children and adolescents are more vulnerable to the risks of alcohol consumption than adults as heavy drinking can have significant and detrimental effects on brain development during the early years—a critical period of brain maturation (De Bellis et al. 2005). Alcohol use at a young age has been associated with more frequent use during late adolescence and increased risk for later dependence (Lubman et al. 2007). Additionally, the risk of suffering an accidental injury, experiencing poor mental health or having social problems increase when alcohol use starts early. Intoxication during early experiences with alcohol has also been associated with an increased risk of problem drinking in adulthood (Warner et al. 2007).

Risky drinking can also increase the risk of injury (for example from falls, assault or road accidents), can foster coercive sexual activity and unprotected sex (Bonomo et al. 2001; NHMRC 2009) and increases the likelihood of tobacco and illicit drug use (US DHHS 2007). Acute alcohol intoxication (the result of excessive risky drinking) can also lead to alcohol poisoning, which may result in coma and/or death.

In March 2009, the National Health and Medical Research Council (NHMRC) released revised guidelines for adults which replaced the concepts of 'short-term' and 'long-term' risk with levels of drinking associated with 'lifetime harm' (no more than two standard drinks on any day) and 'risk of injury on single occasion' (no more than four standard drinks on a single occasion). A third guideline, for children and young people under 18 years was also included, advising that not drinking at all is the safest option and that drinking should be delayed as long as possible for 15–17 year olds (NHMRC 2009). Further information on these guidelines can be found in Box 19.1. The data presented in this chapter are based on the 2001 NHMRC guidelines to provide historical context, as well as the 2009 NHMRC guidelines.

How many children engage in risky drinking?

> **Key national indicator:** Proportion of children aged 12–14 who have engaged in risky drinking on any one occasion

2009 NHMRC guidelines

The 2009 NHMRC guidelines advise that not drinking at all is the safest option for children and young people under the age of 18 and that drinking should be delayed as long as possible for 15–17 year olds. It is also stated that both men and women should drink no more than four drinks on a single occasion (NHMRC 2009).

According to the 2008 Australian Secondary Students Alcohol and Drug (ASSAD) Survey, it is estimated that:

- 13% of 12–14-year olds drank one or more drinks on a single occasion with no statistically significant difference between boys and girls (13.5% and 12.7% respectively).
- The proportion of students who drank one or more drinks on a single occasion has almost halved between 2002 (24%) and 2008 (13%).
- 2.2% of 12–14 year olds had engaged in risky drinking in the week before the survey (four+ drinks on a single occasion), with no significant difference between boys and girls.
- The proportion of students who drank more than four drinks on a single occasion has decreased since 2002, when 3.7% of 12–14 year olds were found to have had more than four drinks on a single occasion.

2001 NHMRC guidelines

According to the 2008 ASSAD Survey, among students aged 12–14 it is estimated that:

- 1.7% had engaged in risky drinking in the week before the survey (seven+ drinks on one occasion for boys and five+ drinks for girls).

- The proportion engaged in risky drinking was highest among 14 year olds (4.2%), compared with 0.3% of 12 year olds and 0.7% of 13 year olds. There was no statistically significant difference between the proportion of boys and girls who engaged in risky drinking.

- The proportion of 12–14 year olds engaging in risky drinking (seven+ drinks on one occasion) was at its lowest level in 18 years, declining from 2.7% in 2002 (Figure 19.1).

Per cent

Drank at risky levels according to the 2001 guidelines
Drank at risky levels according to the 2009 guidelines
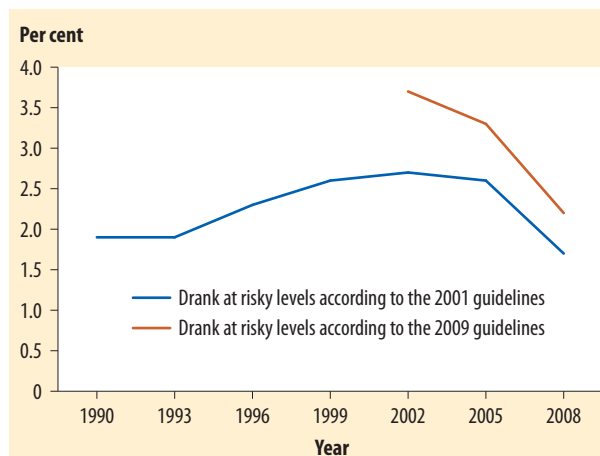
Notes

1. According to the 2001 guidelines, risky drinking was defined as seven+ standard drinks for males and five+ standard drinks for females on one occasion.
2. According to the 2009 guidelines, risky drinking for adults was defined as more than four standard drinks on one occasion.

Source: Australian Secondary Students' Alcohol and Drug Survey, various years, Centre for Behavioural Research in Cancer, Cancer Council Victoria, unpublished data.

Figure 19.1: Trends in students aged 12–14 engaging in risky drinking in the week before the survey, 1990–2008, based on 2001 and 2009 NHMRC guidelines

Does alcohol misuse vary across population groups?

Aboriginal and Torres Strait Islander children

- It is estimated that 23% of Indigenous students aged 12–15 reported that they had drunk alcohol in the previous week, according to the ASSAD Survey. This compares with 17% of 12–15 year old students overall.

- A higher proportion of Indigenous students had *never* had an alcoholic drink (27%) than 12–15 year olds overall (22%).

Socioeconomic status

- There were no significant differences by socioeconomic status in the proportions of 12–14 year olds who drank more than four drinks on one occasion in the previous week.

How many children use illicit and over the counter drugs?

According to the 2008 ASSAD Survey it is estimated that:

- Most 12–15 year old students (89%) had not used an illicit substance (cannabis, hallucinogens, amphetamines, cocaine, opiates or ecstasy) or an over the counter drug for non-medical purposes (excluding analgesics) in their lifetime, while 95% had not used them in the past month.

- The proportion of students who reported their use (11%) has declined since 1996 (30%).

- The type of substances that 12–15 year old students used most often were inhalants (for example inhaling the contents of spray cans or sniffing glue); 20% had used inhalants in their lifetime, down from 29% in 1996 but similar to 2005 (19%).

- Tranquiliser use for non-medical purposes was the next most frequently reported substance, with 16% of students having used this in their lifetime (White & Smith 2009).

Box 19.1: Defining and measuring risky drinking by children

As data in this chapter are drawn from the school-based 2008 Australian Secondary Students Alcohol and Drug (ASSAD) Survey, information on **children who engage in risky drinking** is presented for students, rather than children.

As this survey was conducted before changes to the NHMRC guidelines were made in 2009, data are presented based on both the 2009 and 2001 adult guidelines. The 2009 guidelines define **risky drinking** for **adults** as four or more drinks on any one occasion while the 2007 guidelines define it as more than seven drinks for males and more than five drinks for females on any one occasion. As children are physically smaller and have less experience with alcohol than adults, it is likely that for children consumption below these levels would also pose significant risks.

The **age range** for children for the key national indicator is 12–14 years. For reporting on Aboriginal and Torres Strait Islander students, data were only available for the age range 12–15 years.

Part VI

WHAT KIND OF FAMILIES AND COMMUNITIES DO AUSTRALIA'S CHILDREN LIVE IN?

Environmental circumstances, such as the wellbeing of families and the strength of the communities in which they live, play an important role in determining children's health and wellbeing. Part VI provides information on economic factors affecting children, their living arrangements and parental and community influences. The following topics are included:

Chapter 20—Family economic situation

Chapter 21—Children in non-parental care

Chapter 22—Parental health status

Chapter 23—Neighbourhood safety

Chapter 24—Social capital

The following table shows how children fare across the various indicators presented in Part VI, and whether there has been any improvement over time.

Part II	Part III	Part IV	Part V	Part VI	Part VII	Part VIII
How healthy are Australia's children?	How well are we promoting healthy child development?	How well are Australia's children learning and developing?	What factors can affect children adversely?	What kind of families and communities do Australia's children live in?	How safe and secure are Australia's children?	How well is the system performing?

| Indicator		Value	Trend
Family economic situation	Average weekly real equivalised disposable household income for households with children aged 0–12 in the 2nd and 3rd income deciles, (2009–10)*	$439	~
Children in non-parental care	Rate of children aged 0–14 in out-of-home care (2011)	7.5 per 1,000	✗
	Proportion of children aged 0–14 in grandparent families (2009–10)	0.5%	• •
Parental health status	Proportion of parents rating their health as 'fair' or 'poor' (2010)	12%	~
	Proportion of parents with mental health problems (2010)	15%	✓
	Proportion of children living with parents with disability (2009)	17%	✓
Neighbourhood safety	Proportion of households with children aged 0–14 where their neighbourhood is perceived as safe or very safe (2010)	85%	~
Social capital	Proportion of households with children aged 0–14 where respondent was able to get support in times of crisis from persons living outside household (2010)	96%	~

*Children's Headline Indicator.

Key: ✓ = favourable trend; ✗ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

20 Family economic situation

Low family income can adversely affect the health, education and self-esteem of children.

In 2009–10, there were an estimated 487,900 low-income households with children aged 0–12. Weekly income for these households was on average $277 less than for middle-income households with children.

For most families, regular adequate income is the single most important determinant of their economic situation. Children living in families without adequate income are at a greater risk of poor health and educational outcomes, both in the short and long term. Low-income families are more likely to have insufficient economic resources to support a minimum standard of living (AIHW 2009c). This can affect a child's nutrition and access to medical care, the safety of their environment, level of stress in the family, quality and stability of their care and provision of appropriate housing, heating and clothing (ABS 2006; Shore 1997). Studies have shown that children from low-income families are more prone to psychological or social difficulties, behavioural problems, lower self-regulation and elevated physiological markers of stress (Barnett 2008).

An emerging field of research is the investigation of children's perspectives on economic adversity. A primary concern of economically disadvantaged children is being excluded from activities that other children appear to take for granted, and the subsequent embarrassment that this can cause (Redmond 2008).

Close family relationships, particularly closeness to at least one parent, appear to protect children from the worst effects of economic disadvantage. In contrast, economic disadvantage coupled with low family support, or strained or abusive relationships, can cause children to lower their aspirations, exclude themselves from activities or engage in antisocial behaviour (Headey et al. 2006).

What is the economic situation of Australian families with children?

Headline Indicator: Average weekly real equivalised disposable household income for households with children aged 0–12 in the second and third income deciles

According to the 2009–10 ABS Survey of Income and Housing:

• There were an estimated 487,900 low-income households with children aged 0–12, with an average equivalised disposable household income ('average income') of $439 per week. Low-income households represent 24% of all households with children.

• These households received an average of $277 per week less than middle-income households with children aged 0–12.

• Low-income one-parent families received an average of $24 per week less than low-income couple-parent families.

Comparisons over time show that, among households with children aged 0–12:

• Between 2005–06 and 2009–10, the average income of both low-income and middle-income households increased in real terms by 12% (Figure 20.1). This means that the relative gap between low-income and middle-income households did not change during this time.

- There was no statistically significant change in average income between 2007–08 and 2009–10 for either low-income or middle-income households. This may be a result of the Global Financial Crisis (GFC) and subsequent economic downturn that occurred during these years.

Income ($ per week)
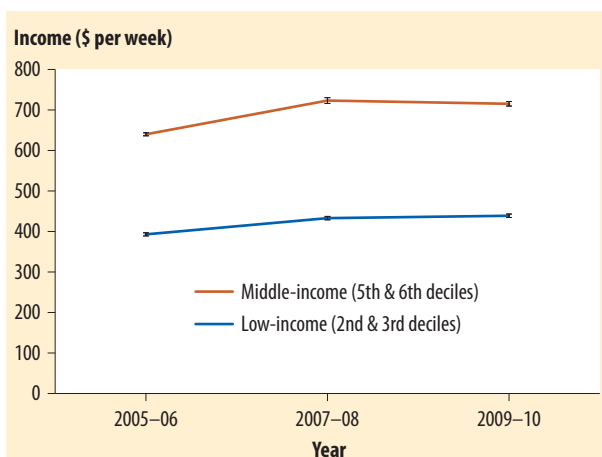
Notes
1. Estimates presented for 2007–08 and 2009–10 are not directly comparable with estimates for previous cycles due to the improvements made to measuring income introduced in the 2007–08 cycle. Estimates for 2003–04 and 2005–06 have been recompiled to reflect the new treatments of income, however not all new components introduced in 2007–08 are available for earlier cycles. For further information see ABS 2011f.
2. Data for all years are expressed in 2009–10 dollars.
Source: Based on ABS Surveys of Income and Housing, Customised report, 2012.

Figure 20.1: Mean equivalised disposable income for households with children aged 0–12, 2005–06 to 2009–10

Does family economic situation vary across population groups?

According to the 2009–10 ABS Survey of Income and Housing, there were no statistically significant differences in average income between low-income households according to country of birth of household reference person or by remoteness area. Data are not available for Indigenous status from this survey.

How many children live in jobless families?

Secure employment provides financial stability, confidence and social contact for parents, with positive effects flowing on to children (Headey et al. 2006). There is little Australian research on the impacts of family joblessness on child wellbeing; however, Growing up in Australia: the Longitudinal Study of Australian Children (LSAC) found that children in jobless families were more likely to have behavioural or emotional problems (Gray et al. 2011). The adverse effects on child wellbeing are thought to occur through the financial effects of joblessness (for example, less money to spend on education and food) or through the effects on parental mental health and parenting (Gray et al. 2011).

According to the ABS 2009–10 Survey of Income and Housing:

- Almost 1 in 7 (15%) children aged 0–14 lived in jobless families (that is, where no parent was employed) (ABS 2011b).
- The proportion of jobless families was much higher among one-parent families (45%) compared with couple-parent families (5%) (based on ABS 2010 Labour Force Survey data) (ABS 2011b).
- The proportion of children in jobless families decreased from 18% in 1999–2000 to 13% in 2007–08 during years of strong economic growth, and increased to 15% in 2009–10 following the GFC (ABS 2011b). It appears that jobless families have not recovered to the same extent as the majority of the Australian population following the GFC (Australian Social Inclusion Board 2011).

WHAT KIND OF FAMILIES AND COMMUNITIES DO AUSTRALIA'S CHILDREN LIVE IN?
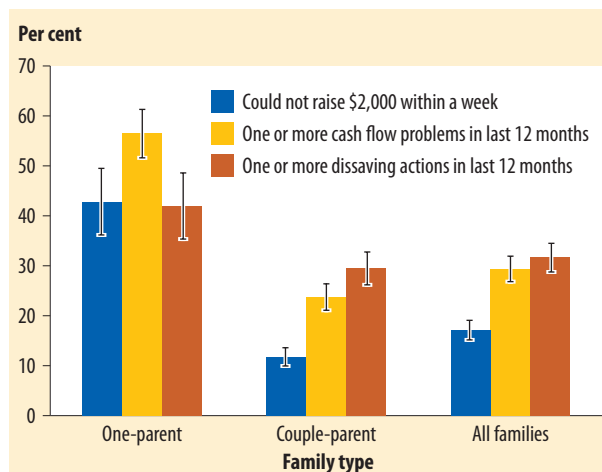
Part VI

Financial stress

Experiencing financial stress is not limited to households with low income, even though it may be more common among low-income groups. According to the 2010 ABS General Social Survey, among households with children aged 0–14:

- Around 1 in 6 (17%) could not raise $2,000 within a week for something important (Figure 20.2).

- Almost one-third (29%) experienced one or more cash flow problems in the previous year.

- Around one-third (32%) took one or more dissaving actions in the previous year.

One-parent families with children aged 0–14 were more likely to have experienced financial stress than couple-parent families. In 2010, among one-parent households:

- Around 2 in 5 (43%) reported that they could not raise $2,000 within a week, higher than the 12% of couple-parent families.

- More than half (56%) had experienced at least one cash flow problem in the previous year, compared with one-quarter (24%) of couple-parent families.

- 2 in 5 (42%) reported at least one dissaving action in the previous year, compared with 29% of couple-parent families (ABS 2010 General Social Survey, unpublished data).

How does Australia compare internationally?

Income inequality

International data are available on income inequality for children in 27 OECD countries. Income inequality is calculated as the difference between the equivalised income of households with children aged 0–17 (not available for children aged 0–14) at the 50th percentile (the median) and at the 10th percentile (that is, poorer than 90%). The measure is said to capture 'bottom-end inequality', that is, how far children are falling behind the median of what is considered normal in a given society (Currie et al. 2010; UNICEF 2010).

Data are from various surveys conducted between 2007 and 2008. Australian data are from the 2008 Household Income and Labour Dynamics in Australia (HILDA) survey. It is noted that the surveys were conducted before the Global Financial Crisis in relatively prosperous times.

- Australia ranked 18th out of 27 OECD countries on child income inequality—children at the 10th percentile had an income 51% lower than the children at the median (50th percentile) (Figure 20.3).

- Australia was not statistically significantly different to the OECD average of 49%.

- Levels of income inequality were lowest in Norway (39%), Denmark and Austria (both 40%) and highest in Mexico (62%).

Per cent

Notes

1. Cash flow problems include not being able to pay bills, mortgage or rent on time; going without meals or being unable to heat the home; seeking financial assistance from family, friends or welfare agency.

2. Dissaving actions include reducing home loan payments, drawing on accumulated savings, increasing the amount owing on credit cards, taking out a personal loan, borrowing money from family or friends, selling assets and other actions.

Source: Based on ABS 2010 General Social Survey, Customised report, 2012.

Figure 20.2: Financial stress indicators for households with children aged 0–14, by family type, 2010

(a) Data are for 2007 for France and 2005 for Canada.

Note: Based on data from 27 OECD countries.

Source: UNICEF 2010.

Figure 20.3: Income inequality of children aged 0–17 by selected OECD countries, 2008

Jobless families

The proportion of children in jobless families is used internationally as an indicator of child poverty risk. Australia's comparatively high levels of income support and other benefits for jobless families may mean that the poverty risk in Australia is not as great as other countries (Australian Social Inclusion Board 2011).

- In 2008, Australia's proportion of children aged 0–14 living in jobless families (15%) ranked 22nd out of 25 OECD countries (OECD 2010a), behind the OECD average of 9% (data for Australia are based on the 2005–06 ABS Survey of Income and Housing).

- Australia's ranking is largely due to the relatively high rate of joblessness among one-parent households in Australia.

Box 20.1: Defining and measuring family economic situation

Income is usually received by individuals but shared among family members. Household size and composition can therefore have a large impact on the standard of living that a given income can support. For this reason, income deciles are formed using **equivalised disposable household income** of all households, whereby an equivalence scale is used to adjust household income for household size and composition. Although they are a widely accepted measure, equivalence scales can mask some underlying household circumstances such as wealth, earning capacity and ability to meet household costs (ABS 2011f).

Low-income households refer to households with people in the second and third deciles of equivalised disposable household income. The lowest decile is excluded because household income is not always a good measure of the total economic resources available to many people with an income close to nil or negative (ABS 2011f). **Middle-income households** refer to those households with people in the fifth and sixth income deciles.

It should be noted that income is not the only economic resource available to households. Households with higher levels of wealth (for example, outright ownership of a dwelling) can use these assets to support a higher standard of living (ABS 2006).

In this chapter, the Headline Indicator is reported for the 0–12 year age range; other data are reported for 0–14 year olds where available.

WHAT KIND OF FAMILIES AND COMMUNITIES DO AUSTRALIA'S CHILDREN LIVE IN?

Part VI

21 Children in non-parental care

Some parents are unable to provide adequate care for their children, resulting in their children being placed in the care of relatives, foster families or in residential care.

In 2011, around 32,000 children (7.5 per 1,000) aged 0–14 were living in these forms of out-of-home care.

While the vast majority of children in Australia live with one or both of their biological parents, there are some cases where parents are unable to care for their children and fulfil their parental responsibilities. The circumstances which may lead to this vary, including abuse or neglect; parental substance abuse; mental or physical illness; family violence; incarceration of a parent; the death of one or both parents; a child's disability or poor health; or the child's need for a more protective environment (AIHW 2007a; AIHW 2012a). Children living in non-parental care are a vulnerable group—many have suffered family breakdown or situations involving emotional or physical trauma. There is a critical need to provide these children with the opportunity to develop with appropriate care and support.

The focus of this chapter is on children living in out-of-home care through contact with child protection authorities in each Australian state/territory (including foster care and relative/kinship care, which account for over 90% of children in statutory out-of-home care). Other types of non-parental care are also discussed: children in grandparent families and those in disability supported accommodation.

How many children live in out-of-home care?

Key national indicator: Rate of children aged 0–14 in out-of-home care

According to the National Child Protection Data Collection, at 30 June 2011, among children aged 0–14[7]:

• Around 32,000 children were living in out-of-home care; a rate of 7.5 per 1,000 children (Figure 21.1).

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[7] The data exclude children living in out-of-home care outside the realms of the child protection system including placements made in disability services, medical or psychiatric services, juvenile justice facilities, overnight child care services or supported accommodation assistance services.

• More boys (around 16,600) than girls (around 15,400) were in out-of-home care, a rate of 7.6 and 7.4 children per 1,000 respectively (AIHW analysis of National Child Protection Data Collection).

• Since 2000, the number and rate of children in out-of-home care has more than doubled—the number has increased from about 14,200 in 2000 to around 32,000 in 2011, while the rate has increased from 3.6 placements per 1,000 children to 7.5 (Figure 21.1).

This increase is the result of more children entering out-of-home care (and staying longer) than being discharged each year, rather than simply more children commencing out-of-home care.
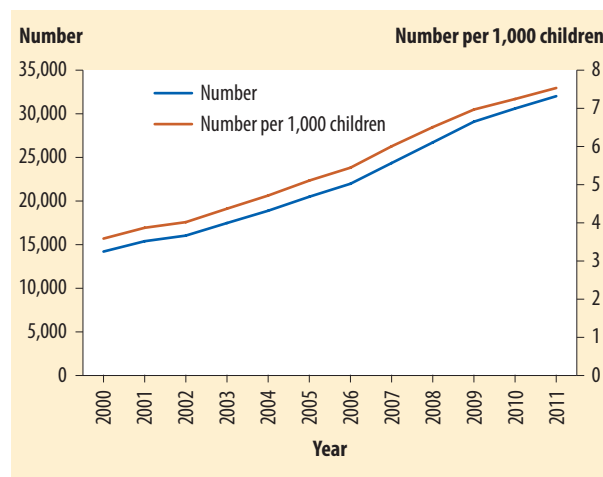
Source: AIHW National Child Protection Data Collection.

Figure 21.1: Children aged 0–14 in out-of-home care at June 30, 2000–2011

Living arrangements of children in out-of-home care

At 30 June 2011:

• The majority of children aged 0–14 in out-of-home care were in home-based care (93%)—evenly split between foster care (47%) and living with relatives (47%).

WHAT KIND OF FAMILIES AND COMMUNITIES DO AUSTRALIA'S CHILDREN LIVE IN?

Part VI

- Infants aged less than 1 did not follow this pattern, and were almost twice as likely to be living in foster care (64%) than with relatives or kin (34%).

- The proportion of children living in residential care was highest among children aged 10–14 (7%).

Stability of placement is an important issue for children in out-of-home care. At 30 June 2011, around 4 in 5 children (82%) aged 0–17 had been in their current out-of-home care placement for more than 1 year. Almost one-third (31%) had been in continuous placement for 2–5 years, and a further third (36%) for 5 years or more (AIHW 2012a).

Do rates of children in out-of-home care vary by population group?

Aboriginal and Torres Strait Islander children

Indigenous children are over-represented in the child protection system, including within out-of-home care. In 2011:

- Indigenous children were 11 times as likely as non-Indigenous children to be in the out-of-home care system (55 in every 1,000 children aged 0–14 compared with 5).

- Indigenous children aged 0–14 were staying with relatives/kin at 14 times the rate of other children (28 per 1,000 children compared with 2).

Over-representation of Indigenous children has been observed for the past decade. The reasons for this are complex. Some suggestions include the legacy of past policies of forced removal, intergenerational effects of previous separations from family and culture; socioeconomic status;

and entrenched social problems including poverty, violence, abuse and neglect (Berlyn et al. 2011; HREOC 1997).

How many children live in grandparent families?

Over the past 30 years there has been a shift away from the use of residential care for children at risk of abuse and neglect towards foster care and other forms of home-based care, including relative/kinship care. Grandparents provide a great deal of kinship care. However, a large amount occurs outside the child protection system (Smyth & Eardley 2008).

Key national indicator: Proportion of children aged 0–14 in grandparent families

According to the 2009–10 ABS Family Characteristics Survey, it is estimated that:

- Around 19,800 children aged 0–14 lived in grandparent families. This equates to 0.5% of all children in this age group. It should be noted, that some children living in grandparent families will also have been included in the number of children living with relatives/kin as outlined in the section on 'out-of-home' care.

- Less than one-quarter of the children living in grandparent families were aged 0–4 (23%), 39% were 5–9, and 38% were 10–14. However, the differences in age group were not statistically significant, and these figures should be treated with caution (relative standard error of between 25% and 50%).

Table 21.1: Children aged 0–14 in out-of-home care, by type of care at 30 June 2011

Age (years)	Relatives/kin		Foster care		Residential care		Other[a]		Total	
	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
<1	363	33.7	686	63.6	13	1.2	16	1.5	1,078	100
1–4	3,542	45.2	4,002	51.1	85	1.1	208	2.7	7,837	100
5–9	5,662	48.4	5,483	46.9	172	1.5	380	3.2	11,697	100
10–14	5,335	46.8	4,731	41.5	803	7.0	536	4.7	11,405	100
Total[b]	14,902	46.5	14,902	46.5	1073	3.4	1,140	3.6	32,017	100

(a) Other includes other home-based care, family group homes, independent living and other/unknown placement types.

(b) Where a child is placed with a relative who is also fully registered to provide foster care for other children, they are counted in the foster care category for Victoria and Western Australia, whereas they are counted in the relatives/kin category in Queensland and South Australia. Relatives/kin in some jurisdictions undergo assessment, registration and review processes similar to foster carers under the national definition, and are considered as (relative) foster carers in local practice, policy and reporting.

Notes

1. Percentages include children with other/unknown living arrangements.

2. Percentages in tables may not add to 100 due to rounding.

Source: AIHW National Child Protection Data Collection.

How many children live in disability support accommodation?

Children with disabilities can access disability support services funded under the National Disability Agreement (NDA). However, while children make up a large proportion of service users, the majority of these children access these services while living in a private residence.

According to the Disability Services National Minimum Dataset, in 2009–10:

- 57,676 children aged 0–14 accessed disability support services, representing one-fifth of all service users (20%).

- 0.5% lived in supported accommodation, either in a domestic-scale accommodation (0.4%) or a supported accommodation facility (0.1%). The majority (98%) of children accessing disability support services lived in a private residence (see Table 21.2).

- Children aged 10–14 accounted for two-thirds (67%) of children who lived in some form of supported accommodation (194 of the 291 children who were accommodated) (Table 21.2).

The proportion of children aged 0–14 living in some form of supported accommodation in 2009–10 is the same as in 2006–07 (AIHW 2011g).

Table 21.2: Users of disability support services aged 0–14, by residential setting, 2009–10

Age group (years)	Domestic-scale supported living facility	Supported accommodation facility	Private residence	Other/not stated	Total
0–4	36	8	19,086	1,113	20,243
5–9	41	12	19,318	2,441	21,812
10–14	155	39	12,960	2,467	15,621
Total	232	59	51,364	6,021	57,676

Notes

1. Service user data are estimates after the use of a statistical linkage key to account for individuals who received services from more than one service type outlet during the 12-month period.

2. Service user data were not collected for all NDA service types.

3. 'Other' includes residence in an Aboriginal or Torres Strait Islander community; boarding house or private hotel; independent living in a retirement village; residential aged care facility; psychiatric or mental health community care facility; hospital; short-term crisis, emergency or transitional accommodation facility; public place or temporary shelter; and other.

Source: Disability Services National Minimum Data Set 2009–10, data cubes.

Box 21.1: Defining children in out-of-home care

Out-of-home care is one of a range of programs for children who are in need of care and protection and are unable to live with their parents (AIHW 2012a). Out-of-home care is defined as overnight care for children under the age of 18, where the state or territory makes a financial payment or where a financial payment has been offered but declined. Children in out-of-home care include both those in legal and voluntary placements (see also 'Chapter 26 Child abuse and neglect').

Defining and measuring grandparent families

Grandparent families can generally be defined as those families in which grandparents are raising their grandchildren. Typically, grandparents take on the role of primary carer due to circumstances where the parents are unable to fulfil their parental responsibilities. This may include parental substance abuse, death of one or both parents, a parent's mental or physical illness, or the child's need for a more protective environment (COTA 2003).

There are limited data available on the number of children living in grandparent families, and this chapter draws on the 2009–10 Family Characteristics and Transitions Survey published by the ABS. It has been suggested that national figures relating to grandparent primary care are likely to be underestimates as a large proportion of this type of care is informal, and the nature of family arrangements can be sensitive (Cass 2007).

This is the first time that data are being reported in *A picture of Australia's children* for the age group 0–14, as previously 0–17 was reported. This means that comparisons with previous years cannot be made.

22 Parental health and disability

Raising children involves physical, emotional and financial demands that can pose significant challenges to a parent with physical or mental health problems or disability.

In 2010, around 12% of parents living with children rated their health as fair or poor and 15% were affected by poor mental health. An estimated 17% of children were living with a parent with disability.

This chapter explores four aspects of parental health: parents' self-assessed health status, parents with poor mental health or disability, and parental substance use. Living with a chronically ill parent can be stressful for children and negatively affect their health and wellbeing. Parents with a chronic illness may experience frequent medical procedures and hospitalisations, loss of income, dependency on other family members, changes to the appearance of their body, social stigmatisation and sometimes premature death (Romer & Barkmann 2002). In these circumstances, the physical, emotional or economic needs of children may not be fully met, increasing their risk of long-term mental health and behavioural problems (Barkmann et al. 2007; Romer & Barkmann 2002) or poor academic performance (Kowalenko et al. 2000; Lancaster 1999). These children may also take on greater responsibilities or, in some cases, care for the parent. While this can be rewarding, it may also restrict the child's involvement in community, educational and social activities (CA 2001).

Children living with a parent with a mental health problem may be at increased risk of social, psychological, behavioural and physical health problems, as well as cognitive development problems (Manning & Gregoire 2009). They are also more likely to experience a psychological disorder during adolescence or adulthood (Weissman et al. 2006). Children living with parents who are problematic alcohol or substance users are at a particularly high risk of poor health and wellbeing outcomes. The *National Framework for Protecting*

Australia's Children 2009–2020 identifies domestic violence, parental alcohol and drug use, and parental mental health as the problems most commonly associated with the occurrence of child abuse and neglect (COAG 2009d).

How many parents have poor health?

Key national indicator: Proportion of parents rating their health as 'fair' or 'poor'

According to the Household, Income and Labour Dynamics in Australia (HILDA) Survey, among parents of co-resident children aged 0–14 in 2010 it is estimated that:

- 12% of parents (or around 460,000) rated their health as fair or poor. The majority of parents rated their health as good, very good or excellent (88% or an estimated 3.2 million parents) (Figure 22.1).
- A higher proportion of parents in one-parent families rated their health as fair or poor than parents in couple families (19% and 12%, respectively).

No statistically significant difference was found between the proportion of all parents who rated their health as fair or poor in 2006[8] (13% or 457,000 parents) and 2010 (12% or 460,000 parents).

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8   The 2006 data cited here may differ slightly to that published in the 2009 edition of *A picture of Australia's children* as data have been recalculated using revised methodology and data.

WHAT KIND OF FAMILIES AND COMMUNITIES DO AUSTRALIA'S CHILDREN LIVE IN?

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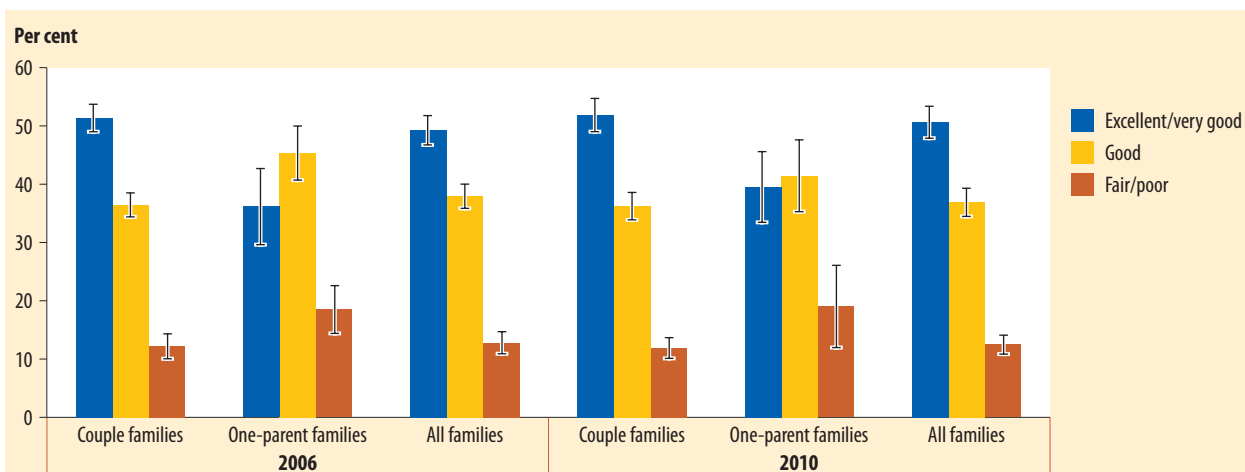
Source: HILDA Survey, Waves 6 (2006) and 10 (2010), unpublished data.

Figure 22.1: Self-assessed health status of parents with co-resident children aged 0–14, by family type, 2006 and 2010
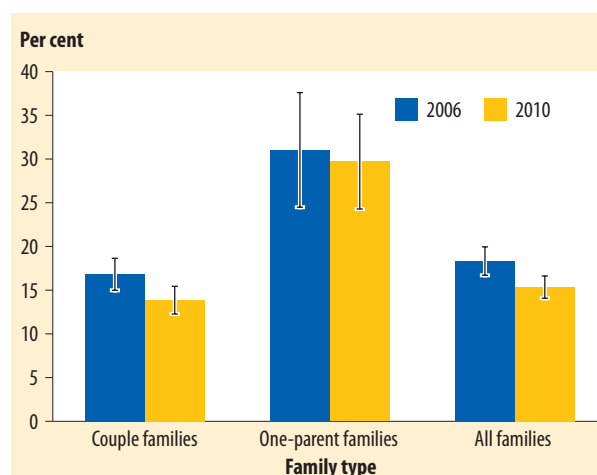
How many parents have a mental health problem?

Key national indicator: Proportion of parents with mental health problems

In 2010, according to the HILDA, among parents with co-resident children aged 0–14 it is estimated that:

- 15% had Mental health Component Summary (MCS) scores of less than 41, indicating poor mental health (Figure 22.2). Although a higher proportion of mothers in couple families scored poorly (MCS score of less than 41) than fathers in couple families (15% and 13%, respectively), the differences were not found to be statistically significant.

- Lone parents were more than twice as likely to have an MCS score of less than 41 as parents in couple families (30% and 14%, respectively).

The proportion of all parents with co-resident children aged 0–14 and MCS scores of less than 41 in 2010 (15%) is lower than in the 2006[9] survey (18%).

Source: HILDA Survey, Waves 6 (2006) and 10 (2010), unpublished data.

Figure 22.2: Parents with co-resident children aged 0–14 with a Mental Health Component Summary score of less than 41, by family type, 2006 and 2010

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9   The 2006 data cited here may differ slightly to that published in the 2009 edition of *A picture of Australia's children* as data have been recalculated using revised methodology and data.

How many parents have disability?

Key national indicator: Proportion of children living with parents with disability

In 2009, according to the ABS 2009 Survey of Disability, Ageing and Carers (SDAC), it was estimated that among children aged 0–14:

- About 1 in 6 (or 691,000 children) lived with a parent with disability (Table 22.1). One-fifth (or 139,000) of these children lived with a parent who had severe or profound core activity limitation (meaning that they sometimes or always needed assistance with activities of daily living—self-care, mobility or communication) (ABS Survey of Disability, Ageing and Carers 2009, Customised report, 2012).

- Around 63,000 children were caring for a parent with disability, representing around 1.5% of all children. The proportion of these children who were primary carers cannot be determined, as primary carers were only identified among those aged 15 and over in this survey. See Box 22.1 for the definition of a primary carer.

- There were around 380,000 families with children where there was at least one parent with disability, representing 17% of all families (Table 22.1).

The proportion of children living with a parent with disability in 2009 (17%) is lower than in 2003 (20%)[10].

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10 The 2003 percentage cited here differs slightly to that published in the 2009 edition of *A picture of Australia's children* as data has been sourced from the SDAC's Main Unit Record File rather than the Confidentialised Unit Record File.

Parental substance abuse

According to the 2010 National Drug Strategy Household Survey (NDSHS):

- An estimated 12% of parents with children aged 0–14 used either an illicit substance (such as marijuana or ecstasy) or a licit substance for non-medical purposes (such as pain-killers) in the previous 12 months. This was slightly lower than among adults without children (16%).

Risk of alcohol-related harm over lifetime and risk of injury on a single occasion among parents were also measured in the 2010 NDSHS, based on the definitions of risk in the 2009 National Medical and Research Council (NHMRC) guidelines (Table 22.2).

Table 22.2: Summary of 2009 NHMRC alcohol guidelines

Guideline 1: Reducing the risk of alcohol-related harm over a lifetime	Guideline 2: Reducing the risk of injury on a single occasion of drinking
For healthy men and women, drinking no more than 2 standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.	For healthy men and women, drinking no more than 4 standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.

Source: NHMRC 2009.

In terms of alcohol use among parents with dependent children aged less than 15:

- An estimated 15% of parents drank more than four standard drinks on one occasion at least weekly and almost one-third (30%) did so at least monthly.

- An estimated 20% of parents drank at risky levels for long-term harm.

Table 22.1: Children aged 0–14 living with a parent with disability, 2009

Age group (years)	Couple families		One-parent families		Total with one or both parents with disability	
	Number ('000)	Per cent	Number ('000)	Per cent	Number ('000)	Per cent
0–4	151.5	12.7	30.4	14.3	181.9	12.9
5–9	169.6	15.7	47.6	18.4	217.2	16.2
10–14	232.9	21.5	59.0	19.2	291.9	21.0
Children 0–14[a]	554.0	16.5	137.0	17.6	691.0	16.7
Families[b]	300.60	16.2	81.0	18.1	381.6	16.6

(a) Children aged 0–14 living with at least one parent with disability.

(b) Families with children aged 0–14 where at least one parent has disability.

Note: As families may have more than one child, the number of children with a parent with disability is greater than the number of parents with disability.

Source: Based on ABS Survey of Disability, Ageing and Carers 2009, Customised report, 2012.

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Does parental health status vary across population groups?

Only limited data were available for reporting on parental health by population groups.

Aboriginal and Torres Strait Islander parents

According to the 2010 HILDA Survey, it is estimated that:

- Indigenous parents were more likely to report fair or poor health than non-Indigenous parents (21% and 12%, respectively).
- In terms of mental health, no statistically significant difference in MCS scores was found between Indigenous and non-Indigenous parents according to the 2010 HILDA Survey (21% and 15%, respectively). This may be due to the small number of Indigenous parents in this survey.

There are no reliable national estimates of self-assessed disability status for Indigenous parents.

Socioeconomic status

According to the 2010 HILDA Survey it is estimated that:

- Parents living in the lowest socioeconomic status (SES) areas were twice as likely to report fair or poor health (18%) as those in the highest SES areas (9%).
- Parents living in the lowest socioeconomic status (SES) areas were more likely to have an MCS score indicative of poor mental health (19%), than those in the highest (SES) areas (12%).

Box 22.1: Defining and measuring parental health and disability

Poor health

Poor health for this report is based on parents' self-assessment in the HILDA survey (see Appendix C: Data sources for information on HILDA). This is a subjective data item. Perceptions may be influenced by many factors, which may be unrelated to health or which may reflect momentary or short term, rather than usual, feelings or circumstances. Factors involved in the interview itself may have influenced responses, such as the presence of another family member.

Mental health

Measuring the number of children with a parent with a mental health problem is difficult as the parental role of people accessing mental health services is not always recorded and definitions of mental health can vary in survey data.

One measure of mental health is available from the Short Form 36 (SF-36)—a 36-item questionnaire that measures eight domains of subjective health. The scores from this questionnaire can be summarised to produce a single measure of mental health: the Mental health Component Summary (MCS) score. An analysis of population averages suggests that an MCS score less than 41 is indicative of poor mental health. Data for SF-36 reported on here has been taken from the Household, Income and Labour Dynamics in Australia (HILDA) survey (See also Appendix C: Data sources).

Disability

The ABS Survey of Disability, Ageing and Carers (SDAC), considers a person to have a disability if they reported at least one of a list of impairments, health conditions or limitations that restricted everyday activities and that had lasted—or was likely to last—for at least 6 months (see Appendix C: Data sources for more information on this survey).

A person is a **primary carer** if they provide 'the most informal assistance, in terms of help or supervision, to a person with one or more disabilities or aged 60 years or over' in one or more of the core activities (communication, mobility and self-care). In the 2009 SDAC, only carers aged 15 and over with whom a personal interview was conducted were included as primary carers (ABS 2010a).

23 Neighbourhood safety

Children are shaped not only by their family environment, but also by the neighbourhood in which they live.

Around 85% of households with children felt safe or very safe at home alone both during the day and at night in 2010.

Children are shaped not only by their family environment but also by the neighbourhood in which they live. A number of neighbourhood characteristics influence child outcomes, including the availability of local social networks, peer influences, quality of local services, economic opportunities, and exposure to crime and violence (Curtis et al. 2004). The built environment can also affect health in three ways: through its impact on health behaviours, crime and fear of crime, and the social environment (Lorenc et al. 2012). Parental perception of these neighbourhood characteristics can have a significant impact on children's health, development and wellbeing.

High neighbourhood quality has been associated with positive outcomes for children, including lower levels of child maltreatment and youth delinquency, and higher levels of physical and mental health and educational attainment. One of the most common indicators of neighbourhood quality is parents' perception of neighbourhood safety (Ferguson 2006). This is often associated with how safe people feel when they are alone at home during either the day or night, and refers to individuals' perceptions of their vulnerability to or protection from personal harm. Fear of crime, whether founded or perceived, detracts from the quality of life and is a deterrent from participation in the local community.

Parental perception of neighbourhood safety affects children's daily activities, as parents typically exert substantial control over where children spend their time. Fear of exposing their children to risks may lead parents to restrict their children from outdoor activities, particularly while unsupervised (Galster & Santiago 2006), which could lead to a more sedentary lifestyle and weight gain.

For information on injuries which may occur in the neighbourhood, such as accidental drowning or road traffic accidents, see 'Chapter 25 Injuries'.

How many households with children perceive their neighbourhood as safe?

Key national indicator: Proportion of households with children aged 0–14 where their neighbourhood is perceived as safe or very safe

According to the 2010 ABS General Social Survey, of those respondents (aged 18 and over) living in households with children aged 0–14 it was estimated that:

- The majority (85%) reported feeling safe/very safe at home alone both during the day and at night. There was no statistically significant difference between the 2010 findings and those for 2006 (86%).
- Respondents were more likely to feel safe/very safe during the day (94%) than at night (86%) (Table 23.1).
- About two-thirds of respondents (59%) reported feeling safe/very safe walking alone in their local area at night. There was no statistically significant difference with findings from the 2006 survey (58%).

WHAT KIND OF FAMILIES AND COMMUNITIES DO AUSTRALIA'S CHILDREN LIVE IN?

Part VI

Do perceptions of neighbourhood safety vary across population groups?

Country of birth

- Respondents born in Australia and other main English-speaking countries were more likely to feel safe/very safe at home alone both during the day and at night (87%) than those born in non-main English-speaking countries (76%)[11]. They were also more likely to feel safe/very safe at home alone at night (87% and 77% respectively). However, there was no statistically significant difference between the groups in terms of feeling safe/very safe at home alone during the day only.

- Respondents born in Australia and other main English-speaking countries were more likely to report feeling safe/very safe (62%) walking in their local area at night than those born in non-main English speaking countries (48%).

11 For the purposes of conducting significance testing, the usual method of estimating the RSE for the proportions of respondents who felt safe/very safe at home alone *both during the day and at night* failed. Consequently, the RSE for proportions of respondents who felt safe/very safe at home *at night* have been used instead.

Remoteness

- There was no statistically significant difference between respondents across remoteness areas in terms of feeling safe at home during the day and after dark.

- Respondents living in *Major cities* were less likely to feel safe/very safe (57%) walking in their local area at night than those living in *Inner regional* areas (65%).

Socioeconomic status

- Those respondents living in areas with the highest socioeconomic status (SES) were more likely to feel safe/very safe at home alone both during the day and at night (88%) than those living in the lowest SES areas (72%).

- Respondents living in areas with the highest SES were more likely to report feeling safe/very safe (71%) walking in their local area at night than those living in areas with the lowest SES (41%).

Table 23.1: Households with children aged 0–14 where neighbourhood is perceived as safe or very safe, 2010 (per cent)

Household characteristics	Feels safe or very safe alone			
	At home			Walking in local area
	During day and at night	During day	At night	At night
Country of birth				
Australia and mainly English-speaking countries[(a)]	87.3	94.7	87.4	61.6
Other (mainly non-English-speaking countries)	76.3	92.7	76.7	48.0
Remoteness				
Major cities	84.0	94.1	84.2	56.9
Inner regional	88.8	94.4	88.9	65.1
Other areas[(b)]	87.8	95.8	87.8	65.6
Socioeconomic status[(c)]				
Lowest SES areas	72.4	86.5	72.6	41.0
Highest SES areas	87.9	96.8	88.0	71.0
Australia	**85.4**	**94.4**	**85.5**	**59.5**

(a) Mainly English-speaking countries include Canada, Ireland, New Zealand, South Africa, United Kingdom and United States of America.

(b) Includes *Outer regional*, *Remote*, *Very remote* and *Migratory* areas.

(c) Refer to Appendix B: Methods for explanation of socioeconomic status (SES).

Note: Excludes respondents who are never home alone during the day and/or night.

Source: ABS 2010 General Social Survey, Customised report, 2012.

How many households with children were victims of crime?

According to the 2010 ABS General Social Survey, of those respondents (aged 18 and over) living in households with children aged 0–14 years it is estimated that:

- 1 in 5 (20%) had been a victim of assault or break-in during the previous 12 months. There was no statistically significant difference between this and the 2006 findings (21%) The proportion who were victims of assault or break-in was higher among those living in the lowest socioeconomic status (SES) areas (29%) compared with those in the highest SES areas (17%) (Figure 23.1).

- There was no statistically significant difference between the proportion of respondents who reported having been a victim of assault or break-in across areas of remoteness or by country of birth (Figure 23.1).

(a) Mainly English-speaking background (MESB) countries include Canada, Ireland, New Zealand, South Africa, United Kingdom and United States of America.

(b) Includes *Outer regional*, *Remote*, *Very remote* and *Migratory* areas.

(c) Refer to Appendix B: Methods for explanation of socioeconomic status (SES).

Source: Based on ABS 2010 General Social Survey, Customised report, 2012.

Figure 23.1: Households with children aged 0–14 years that were victims of crime, 2010

Box 23.1: Defining and measuring neighbourhood safety

Data in this chapter are drawn from the ABS 2010 General Social Survey (GSS). The GSS interview process randomly selects one person aged 18 years or over from each participating household, and so they may or may not be a parent. Data in this chapter are restricted to respondents (aged 18 and over) living in households with children aged 0–14; their responses are being used in this chapter as a proxy for the household.

In 2010, only a very small number of respondents from households with children aged 0–14 reported that they felt *unsafe or very unsafe*. Due to the high relative standard errors associated with such small numbers, these estimates cannot be presented.

WHAT KIND OF FAMILIES AND COMMUNITIES DO AUSTRALIA'S CHILDREN LIVE IN?

Part VI

24 Social capital

Families with rich social networks have greater access to friends and neighbours to assist in managing their daily lives and problems.

In 2010, most one-family households with children (96%) would have been able to access support in a time of crisis, and had weekly contact with family and friends (97%).

Social capital is an important aspect of the social context in which a child develops. It is a multi-dimensional concept that can be understood as networks of social relationships characterised by norms of trust and reciprocity; it is the name given to quality relationships that enable people to come together to collectively share experiences or resolve problems and where all involved can achieve mutually desired benefits (Stone & Hughes 2000). Social support is a key component of social capital, and is a key social determinant of health. Another important factor in how social determinants affect physical health relates to stress and personal control over one's life circumstances (Wilkinson & Marmot 2003; AIHW 2012b).

Families with rich social and support networks have been found to have increased access to information, material resources and friends and neighbours to assist them in managing their daily lives. Having someone to rely on in an emergency situation is a vital safety net, particularly for families with children.

For children, the benefits of social capital include positive mental health and behavioural outcomes in childhood and later life, reduced school dropout rates and an increased likelihood of gaining meaningful employment (Ferguson 2006).

Strong family relationships and supportive neighbourhoods can protect children and young people against the adverse effects of socioeconomic disadvantage (Attree 2004 cited in Zwi & Henry 2005). Being able to get support or help when needed is a good indicator of the quality of family relationships with others outside the immediate family (AIHW 2010).

Living in isolation from extended family networks and support services is associated with less effective parenting behaviours and practices and poorer parental mental health, which was strongly associated with poorer health, development and wellbeing outcomes for children (Hoffman-Ekstein

2007; Jack & Jordan 1999; Wise 2003; Zubrick & Smith 2008). See also 'Chapter 22 Parental health and disability'.

How many households with children can get support in times of crisis?

Key national indicator: Proportion of households with children aged 0–14 where the respondent was able to get support in times of crisis from persons living outside the household.

According to the ABS 2010 General Social Survey (GSS), of those respondents (aged 18 and over) belonging to one-family households with children aged 0–14 it was estimated that:

- The majority (96%) would be able to get support in times of crisis from someone outside the household (Table 24.1). This is a similar proportion to those reported in the 2006 survey (94%). In 2010 the person who could be contacted for support was most often a family member (84%), a friend (68%) or a neighbour (29%).

- Respondents from couple-parent families were slightly more likely than one-parent families to report being able to get support in times of crisis from someone outside the household (96% and 93%, respectively). There was no statistically significant difference by employment status (see Table 24.1).

- Around 94% of households could ask for small favours from people living outside the household which is the same finding as in the 2006 survey. In 2010 there was no statistically significant difference between couple and one-parent households (94% and 91% respectively), nor by employment status.

- About 97% of households reported having contact at least once a week with family or friends outside the household. This is also the same as in

the 2006 survey. In 2010 there was no statistically significant difference between couple and one-parent households (98% and 95% respectively), nor by employment status.

Do measures of social capital vary across population groups?

Aboriginal and Torres Strait Islander households

According to the ABS 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) of households with children aged 0–14 and where the survey respondent was Indigenous, it was estimated that:

• The majority (95%) were able to get support in times of crisis from someone living outside the household. This figure is not directly comparable with the figure for all households due to collection differences between the ABS 2010 GSS and the ABS 2008 NATSISS.

• The most common sources of support for Indigenous households were family members (86%), friends (71%), and neighbours (32%).

Country of birth

According the ABS 2010 GSS, of those respondents (aged 18 and over) belonging to one-family households with children aged 0–14 it was estimated that:

• In terms of being able to get support in times of crisis, those born in Australia or mainly English-speaking countries were more likely to be able to get support than those born in mainly non-English-speaking countries (97% and 90% respectively, see Table 24.1).

• Those born in Australia or mainly English-speaking countries were more likely to be able to ask for small favours from people living outside the household than those born in mainly non-English-speaking countries (95% and 85% respectively).

• There was no statistically significant difference between those born in Australia or mainly English-speaking countries and those born in mainly non-English-speaking countries in relation to having contact at least once a week with family or friends outside the household (98% and 95% respectively).

Table 24.1: Measures of support networks in one-family households with children aged 0–14, 2010 (per cent)

Household characteristics	Could get support in times of crisis[a]	Could ask for small favours[b]	Has weekly contact with family or friends[c]
Family type			
Couple-parent family	96.3	94.4	98.0
One-parent family	92.7	90.7	94.8
Employment status			
Employed	96.2	95.3	97.4
Unemployed	92.5	89.2	97.1
Not in labour force	93.9	88.1	97.8
Country of birth			
Australia and mainly English-speaking countries[d]	96.6	95.2	97.9
Other (mainly non-English-speaking countries)	89.8	85.2	94.9
Remoteness			
Major cities	95.7	93.3	97.2
Inner regional	94.7	94.3	98.1
Other areas[e]	97.2	96.2	98.0
Socioeconomic status[f]			
Lowest SES areas	n.p.	n.p.	96.5
Highest SES areas	n.p.	n.p.	97.5
Australia	**95.7**	**93.8**	**97.5**

(a) Able to get support in times of crisis from persons living outside the household.

(b) Able to ask for small favours from someone living outside the household. Examples of small favours include looking after pets or watering the garden, collecting mail or checking the house, minding a child for a brief period, help with moving or lifting objects, and borrowing equipment.

(c) Has weekly contact with family or friends outside the household.

(d) Mainly English-speaking countries include Canada, Ireland, New Zealand, South Africa, United Kingdom and United States of America.

(e) Includes *Outer regional*, *Remote*, *Very remote* and *Migratory* areas.

(f) Refer to Appendix B: Methods for explanation of socioeconomic status (SES).

Source: ABS 2010 General Social Survey, Customised report, 2012.

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Remoteness

- For the measure, being able to ask for small favours, those living in *Major cities* were slightly less likely to respond positively than those living in the combined category 'other areas' (that is, *Outer regional, Remote and very remote* and *Migratory* areas combined) (93% and 96% respectively).

- No statistically significant differences were found across remoteness areas for the two remaining measures, that is, able to get support in times of crisis and weekly contact from someone outside the household.

Socioeconomic status

- Due to small numbers, data on socioeconomic status was not available for the two measures able to get support in times of crisis, and could ask for small favours.

- There was no statistically significant difference between the proportion of respondents who had contact at least once a week with family or friends outside the household and lived in the lowest SES areas compared with those living in the highest SES areas (96% and 97% respectively).

Box 24.1: Defining and measuring social capital

Social capital is a multi-dimensional concept which is difficult to summarise in one measure, and different studies use varying indicators. The ABS have adopted the OECD definition of social capital, and this report draws on the ABS's GSS which includes a number of data items relating to this concept. Due to data deficiencies, measures of social and support networks will be used as a proxy measure of social capital.

The GSS interview process randomly selects one person aged 18 years or over from each participating household, who may or may not be a parent. Data in this chapter are restricted to respondents (aged 18 and over) living in households with children aged 0–14; their responses are being used in this chapter as a proxy for the household.

In 2010, only a small number of respondents from households with children aged 0–14 reported *not* being able to get support in time of crisis, ask for small favours or have weekly contact with family and friends outside the household. Due to the high relative standard errors associated with such small numbers, these estimates have not been reported.

Analysis by socioeconomic status has been excluded from the report as data were not available for all five quintiles due to small sample sizes.

Data on Indigenous social capital are drawn from the National Aboriginal and Torres Strait Islander Social Survey (NATSISS). Although the questions posed are the same as in the GSS, collection methods in relation to households differ. This means that direct comparisons between the two surveys for the measures reported here cannot be made. As more than one adult per household can be interviewed for the NATSISS, for the purposes of this report, a household was deemed to be able to get support in time of crisis if at least one adult responded in the positive to this question.

Part VII

HOW SAFE AND SECURE ARE AUSTRALIA'S CHILDREN?

All children have the right to live in a secure environment. Part VII focuses on the safety and security of Australian children, and discusses factors that place children at immediate and long-term risk of physical and/or emotional harm. The following topics are included:

Chapter 25—Injuries

Chapter 26—Child abuse and neglect

Chapter 27—Children as victims of violence

Chapter 28—Homelessness

Chapter 29—Children and crime

The following table shows how children fare across the various indicators presented in Part VII, and whether there has been any improvement over time.

Part II	Part III	Part IV	Part V	Part VI	Part VII	Part VIII
How healthy are Australia's children?	How well are we promoting healthy child development?	How well are Australia's children learning and developing?	What factors can affect children adversely?	What kind of families and communities do Australia's children live in?	How safe and secure are Australia's children?	How well is the system performing?

Indicator		Value	Trend
Injuries	Age-specific death rates from all injuries for children aged 0–14 (2008–2010)*	5 per 100,000	✔
	Road transport accident death rate for children aged 0–14 (2011)	1.4 per 100,000	✔
	Accidental drowning death rate for children aged 0–14 (2008–2010)	1 per 100,000	✔
	Assault (homicide) death rate for children aged 0–14 (2009–10)	0.6 per 100,000	✔
	Injury hospitalisation rate for children aged 0–14 (2010–11)	1,381 per 100,000	✔
	Assault hospitalisation rate for children aged 0–14 (2010–11)	15 per 100,000	✔
	Intentional self-harm hospitalisation rate for children aged 10–14 (2010–11)	39 per 100,000	~
Child abuse and neglect	Rate of children aged 0–12 who were the subject of a child protection substantiation in a given year (2010–11)*	6.9 per 1,000	~
	Rate of children aged 0–12 who were the subject of care and protection orders (2011)	7.7 per 1,000	✘
Children as victims of violence	Rate of children aged 0–14 who have been the victims of (2011):		
	physical assault	n.a.	• •
	sexual assault	157 per 100,000	• •
Homelessness	Rate of accompanying children aged 0–14 attending agencies funded under the National Affordable Housing Agreement (2010–11)	19 per 1,000	~
Children and crime	Rate of children aged 10–14 who are under juvenile justice supervision on an average day (2009–10)	81 per 100,000	~

*Children's Headline Indicator.

Key: ✔ = favourable trend; ✘ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

25 Injuries

Injuries are a leading cause of death and hospitalisation among children but can be reduced by controlling hazards in a child's environment.

In 2008–2010, there were 5 deaths due to injuries per 100,000 children and, in 2010–11, children were hospitalised for injury at a rate of 1,381 per 100,000 children.

Injury is a leading cause of death of children aged 0–14 in Australia, and is also a major cause of hospitalisation. For each death and hospitalisation due to injury, there are many more visits to emergency departments and health professionals outside hospital settings.

Injuries sustained during childhood can have profound and lifelong effects on health and development, by causing permanent physical disabilities or long-term cognitive or psychological damage (for example, traumatic brain injury) (Mercy et al. 2006).

Children are particularly vulnerable to certain types of injury depending on their age. Infants and young children (aged 0–4) explore their physical environment before they can understand and have the skills to respond to hazards. Older children (aged 5–14) are exposed to a broader range of settings, such as schools, sporting environments, streets and neighbourhoods. At the same time, their ability to make decisions about their safety increases. Injuries sustained among older children are increasingly influenced by behaviour in addition to their physical and social environment.

Because injury has a major impact on the health of Australians and is largely preventable, injury prevention and control was made a National Health Priority Area in 1986. The *National injury prevention and safety promotion plan: 2004–2014* identifies children as a major priority area for injury prevention.

This chapter examines the leading causes of injury death and hospitalisation for children. Refer to Box 25.1 and Appendix B: Methods for technical notes regarding the analysis of injury data.

How many children die from injuries?

Headline Indicator: Age-specific death rates from all injuries for children aged 0–4, 5–9 and 10–14

In the period 2008–2010:

- Injuries contributed to 662 deaths of children aged 0–14—a rate of 5 per 100,000 children.

- Injury was the underlying cause (that is, it initiated the train of morbid events leading directly to death) in 92% of these deaths, and was a contributing factor in the remainder.

- Overall boys were 60% more likely to die from injury than girls, although there was some variation by age group (Figure 25.1).

- Infants (<1 year) had the highest rate of injury death (11 per 100,000 infants), although injuries accounted for only 3% of all infant deaths. This is due to the higher overall death rate of infants compared with children aged 1–14, and the high rates of death due to other causes in the first year of life, such as conditions relating to pregnancy, birth and congenital anomalies (see 'Chapter 3 Mortality').

- Injury deaths comprised a substantial proportion of all deaths among 1–14 year olds (37%). Rates were 8, 3 and 4 per 100,000 children aged 1–4, 5–9 and 10–14, respectively.

Deaths per 100,000 children

Note: All causes of death from 2006 onwards are subject to a revision process. Affected data in this figure are 2008 (final), 2009 (revised), 2010 (preliminary).
Source: Based on ABS Deaths, Customised report, 2012.

Figure 25.1: Injury deaths among children aged 0–14, 2008–2010
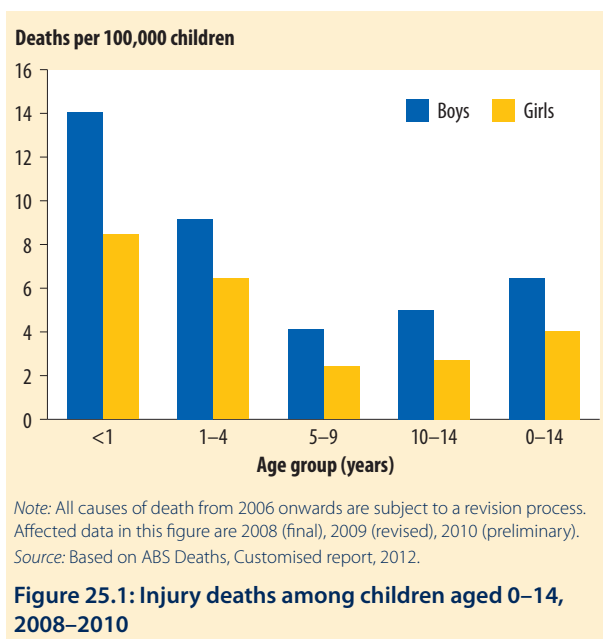
Injury death rates among children have been decreasing over time—by 50% between 1997 and 2010, from 10 to 5 deaths per 100,000 children. The rate for boys has been consistently higher than for girls over this period, although there have been fluctuations in the size of this gap.

Road transport accidents, accidental drowning and assault were leading causes of injury death among children in the period 2008–2010.

Road transport accidents

The most accurate information on road transport accident deaths is from the Australian Transport Safety Bureau (ATSB) Fatal Crash Database. Data from this source are presented here (Henley et al. 2007).

The ATSB Fatal Crash Database collects information on fatal traffic accidents, which are accidents occurring on a public highway or street involving a moving vehicle, which can be a motor or non-motor vehicle. Information on non-traffic accidents, that is, those that do not occur on public highways or streets, is not available from this database.

> **Key national indicator:** Road transport accident death rate for children aged 0–14

According to the ATSB Fatal Crash Database in 2011, among children aged 0–14:

- There were 61 deaths due to road transport accidents, a rate of 1.4 per 100,000 children. The death rate has declined from 5.5 per 100,000

since 1989 and from 2.6 per 100,000 in 2003. Since 2003, the rate has consistently been below 2 per 100,000, but fluctuating between 1.3 and 1.9.

- Boys were more likely to be killed in a road transport accident than girls, with rates of 1.7 and 1.1 per 100,000 respectively.
- Younger children aged 0–4 were 2.2 times more likely to be killed in a road transport accident than those aged 10–14 (2.0 and 0.9 per 100,000, respectively).
- The long-term decline in road accident deaths is most noticeable among 10–14 year olds. Since 2001, the rate has decreased by 62% among this age group (2.4 versus 0.9 per 100,000 in 2011), compared with an 18% decrease among 0–4 year olds (2.5 versus 2.0 per 100,000 in 2011) and a 24% decrease among 5–9 year olds (1.7 versus 1.3 per 100,000 in 2011).
- Three-quarters of children who died as a result of a road transport accident were passengers (75%), and a further 20% were pedestrians. The remaining 5% were cyclists or motorcycle riders.

Accidental drowning

> **Key national indicator:** Accidental drowning death rate for children aged 0–14

In the period 2008–2010, among children aged 0–14:

- There were 136 accidental drowning deaths—a rate of 1 per 100,000 children. Boys made up 63% of accidental drowning deaths (86 compared with 50 girls).
- Infants and young children (aged 1–4) had the highest accidental drowning death rates (1.6 and 2.4 per 100,000 children, respectively). Rates were lower among older children, with 0.5 per 100,000 children for both older groups aged 5–9 and 10–14, respectively.
- The death rate due to accidental drowning has almost halved between 1997 and 2010—from a rate of 2 per 100,000 deaths in 1997 to 1 per 100,000 in 2010 (80 deaths and 49 respectively).

Assault and homicide

The most accurate information on assault deaths (homicide) is from the Australian Institute of Criminology National Homicide Monitoring Program (see Henley et al. 2007 for further information). Data from this source are presented here. For additional information on physical assault see 'Chapter 27 Children as victims of violence'.

In 2009–10, among children aged 0–14:

- There were 24 deaths due to homicide, a rate of 0.6 per 100,000 children (Figure 25.2).

- Rates of homicide were similar among boys and girls (0.6 and 0.5 per 100,000, or 13 and 11 deaths respectively).

- The rate of homicide was highest among infants under 1 year (2.1 per 100,000 infants or 6 deaths) compared with 0.6 per 100,000 among children aged 1–4 (7 deaths), and 0.4 per 100,000 for both 5–9 year olds (5 deaths) and 10–14 year olds (6 deaths).

- The rate of deaths due to homicides among 0–14 year olds more than halved between 2001–02 and 2008–09, from 1.1 to 0.3 per 100,000, rising to 0.6 per 100,000 in 2009–10.

Deaths per 100,000 children
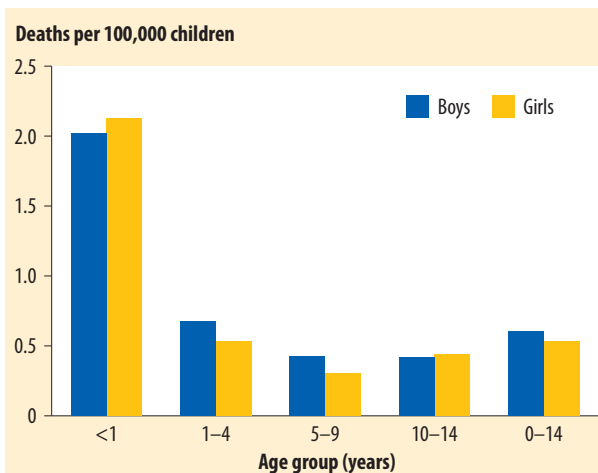
Source: National Homicide Monitoring Program, unpublished data.

Figure 25.2: Assault deaths among children aged 0–14, 2009–10

Injury hospitalisations

In 2010–11, among children aged 0–14:

- There were around 58,700 hospital separations for injury—a rate of 1,381 per 100,000 children, representing 10% of all hospitalisations for children. The hospital separation rate was 9% lower in 2010–11 than in 1998–1999 (1,527 per 100,000).

- Boys were overall 57% more likely to be hospitalised for injury than girls, but this varied by age—from 23–40% among infants, 1–4 year olds and 5–9 year olds, to just over twice as high among 10–14 year olds (Table 25.1).

- Injury hospital separation rates were lowest among infants, although injury death rates were highest in this age group.

The cause of an injury provides important information for developing preventive strategies to reduce the risk of serious injury to children.

In 2010–11, among children aged 0–14:

- Falls were the most common reason for injury hospitalisation of children, accounting for around 45% of all injury separations. Falls were the leading cause of hospitalised injury for each age group.

- Land transport accidents (including both traffic and non-traffic) accounted for around 5,800, or 10% of injury hospitalisations of children. Rates differed considerably with age, accounting for 1.6% of injury hospitalisations among infants and increasing to around 16% among 10–14 year olds.

- There were distinct differences in age patterns of hospital separations for different causes of injury. Hospital separations for assault were most common among infants, with accidental poisoning most common among young children aged 1–4. Land transport accidents were most common among children aged 10–14 (See Table 25.1).

Assault

In 2010–11, among children aged 0–14:

- There were 644 hospital separations due to assault—a rate of 15 per 100,000 children (Table 25.1).

- Hospital separations for assault were 50% more common among boys than girls (18 and 12 per 100,000 children respectively).

- Hospital separations for assault were most common among infants, followed by older children aged 10–14 (34 and 26 per 100,000 children respectively).

- In 39% of hospitalised cases (251 cases) for assault, the perpetrator was either a parent, carer or other family member. The perpetrator was

Table 25.1: Injury hospital separations for children aged 0–14, by leading specific causes of injury, 2010–11 (per 100,000)

	Age group (years)	Falls	Land transport accidents	Accidental poisoning	Burns and scalds	Assault	All injuries
Boys	<1	417.6	10.5	36.8	95.2	37.4	883.8
	1–4	708.8	80.7	129.5	99.0	8.5	1,752.8
	5–9	767.9	156.3	12.5	17.4	5.7	1,462.7
	10–14	842.4	324.4	6.8	15.1	34.0	1,991.9
	0–14	*751.7*	*180.7*	*44.6*	*44.6*	*18.0*	*1,677.2*
Girls	<1	342.3	15.9	23.6	85.2	31.2	715.7
	1–4	546.1	47.3	115.7	73.9	9.6	1,342.7
	5–9	602.0	94.1	11.5	16.5	4.8	1,049.0
	10–14	368.0	134.1	9.5	11.1	17.4	934.5
	0–14	*491.0*	*89.0*	*40.5*	*35.3*	*12.1*	*1,069.0*
All children	0–14	624.8	136.0	42.6	40.1	15.2	1,381.0

Notes

1. Refer to Table B.3 for ICD-10-AM codes.
2. 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.

Source: AIHW National Hospital Morbidity Database.

unspecified in 41% of hospitalised cases (261 cases) and identified as a stranger in 8% of cases (49 cases).

- Half of assault separations (50%) were from assault by bodily force.

- The assault hospital separation rate decreased by almost one-quarter (23%) between 2000–01 and 2010–11, with the rate of decline for boys much greater than for girls over this period (29% and 11% decline, respectively).

Intentional self-harm

Key national indicator: Intentional self-harm hospitalisation rate for children aged 10–14

In 2010–11, among children aged 10–14:

- There were 553 hospital separations for intentional self-harm—a rate of 39 per 100,000 children.

- Four in five self-harm hospitalisations (82%) were for girls, (66 per 100,000 girls and 14 per 100,000 boys).

- Self-harm hospitalisations among girls are slightly below the rate in 2004–05 (78 per 100,000), but still about 20% higher than in 2000–01 (55 per 100,000). Among boys, the rate has remained relatively stable since 1998–99 (Figure 25.3).

Hospital separations per 100,000 children

Source: AIHW National Hospital Morbidity Database.

Figure 25.3: Self-harm hospital separations for children aged 10–14, 2010–11
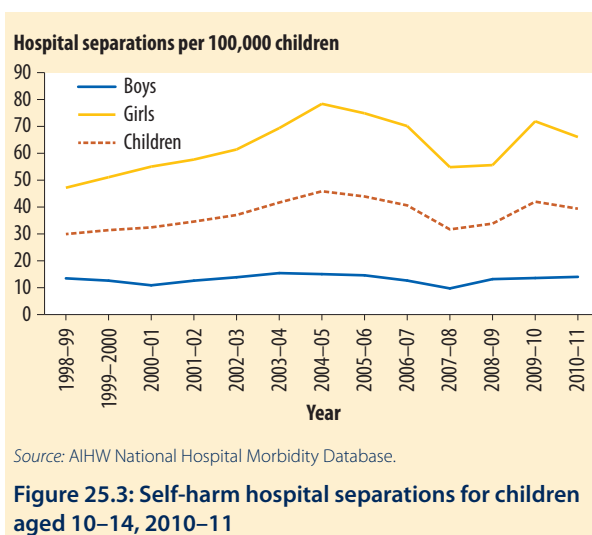
How does injury mortality and hospitalisation vary across population groups?

The rate of injury mortality and morbidity is higher among certain population groups, such as Aboriginal and Torres Strait Islander children, and children living in remote areas.

Aboriginal and Torres Strait Islander children

- For the period 2006 to 2010, the injury death rate for Indigenous children was 3 times that for non-Indigenous children (15 per 100,000 children compared with 5, respectively (data from New South Wales, Queensland, South Australia and the Northern Territory only).

In 2010–11, among children aged 0–14:

- The injury hospital separation rate among Indigenous children was almost 50% higher than for other children (2,026 per 100,000 children compared with 1,356) (excludes data from Tasmania, the Australian Capital Territory and private hospitals in the Northern Territory).

- The leading causes of injury hospital separation for Indigenous children were similar to those of other Australian children, although the rates were much higher for Indigenous children (falls—750 per 100,000 children compared to 620; land transport accidents—196 and 134 respectively; accidental poisoning—88 and 41 respectively; assault—85 and 12 respectively).

- 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 Australian children; however, this differed by sex. Indigenous boys were over 5 times as likely as other boys to be hospitalised for assault (rates of 81 and 15 per 100,000 children, respectively), whereas Indigenous girls were 11 times as likely as other Australian girls to be hospitalised (89 and 8 per 100,000 children, respectively).

Remoteness

In 2010–11, among children aged 0–14:

- In *Remote and very remote* areas, the injury hospital separation rate for children was almost 90% higher than in *Major cities* in 2010–11 (2,391 per 100,000 children compared with 1,279).

- For assault, the hospital separation rate was 7 times as high among children in *Remote and very remote* areas as among children in *Major cities* (79 and 11 per 100,000 children, respectively).

Socioeconomic status

In 2010–11, among children aged 0–14:

- The injury hospitalisation rate among children living in areas with the lowest socioeconomic status (SES) was about 14% higher compared with that in the highest SES areas (1,435 and 1,254 per 100,000, respectively).

Box 25.1: Defining and measuring injury mortality, hospitalisations and separations

Mortality

All causes of death data from 2006 onward are subject to a revisions process. Affected data in this chapter are: 2006 (final) 2007 (final), 2008 (final), 2009 (revised), 2010 (preliminary). For further details see *Causes of death, Australia, 2010* (ABS 2012a). The injury mortality analysis uses multiple causes of death, rather than underlying cause of death. Selection of injury deaths were ICD-10 multiple cause of death codes in the range S00–T75 or T79; or underlying cause of death code in the range V01–Y36, Y85–Y87 or Y89.

Indigenous status data are currently of sufficient quality to report for four jurisdictions only: New South Wales, Queensland, South Australia and the Northern Territory (for further details see Appendix B: Methods). These jurisdictions are subject to change over time and care must therefore be taken when interpreting trend data. Data are not necessarily representative of excluded jurisdictions.

Hospitalisations

All hospital data presented in this report are based on principal diagnosis. Records where care type was recorded as newborn (unqualified days only), posthumous organ procurement or hospital boarder were excluded from analysis, as they do not represent admitted patient care.

The criterion used for injury hospitalisations was a principal diagnosis code in the range S00–T75 or T79. Specific causes of injury hospitalisations were further classified according to external cause codes V01–Y98. As multiple external causes can be recorded, only the first reported external cause per hospitalisation was selected (that is, one external cause per injury hospitalisation). The following codes were used:

Land transport accidents: V01–V89

Falls: W00–W19

Exposure to smoke, fire and flames: X00–X09

Burns and scalds: X10–X19

Accidental poisoning: X40–X49

Intentional self-harm: X60–X84

Assault: X85–Y09

Accidental drowning: S00–T75, or T79 and W65–W74; or multiple cause of death code: T75.1 and V01–X59; or V01–Y36, Y85–Y87, or Y89.

Separations

These are defined as an episode of care in a hospital. It can refer to either the total stay (from admission to discharge, transfer, or death) or a portion of the total stay which ends in a change in the type of care (for example, moving from acute care to rehabilitation) (AIHW: O'Brien et al. 2006).

26 Child abuse and neglect

Abuse and neglect victims may experience lower social competence, poor school performance, impaired language ability, and are at increased risk of criminal offending and mental health problems.

In 2010–11, there were around 25,400 child protection substantiations or 6.9 per 1,000 children aged 0–12. Indigenous children were over-represented at 8 times the rate of non-indigenous children.

While most children and young people in Australia grow up in safe family environments, some are subject to maltreatment in the form of abuse and/or neglect. Abuse and neglect can cause significant, long-term harm. Adverse effects of child abuse and neglect have been found to be significant and diverse in nature, and may include reduced social skills; poor school performance; impaired language ability; a higher likelihood of criminal offending; and mental health issues such as eating disorders, substance abuse and depression (Chartier et al. 2007; Gupta 2008; Zolotor et al. 1999).

In response to the complex nature of child abuse and neglect, the Community and Disability Services Ministers' Advisory Committee (CDSMAC) has developed a *National Framework for Protecting Australia's Children 2009–2020*. The National Framework focuses on improving child protection through prevention, early intervention and best practice strategies, with an overarching goal of *a substantial and sustained reduction in child abuse and neglect over time* (COAG 2009d). See also 'Chapter 32 Child protection re-substantiations'.

How many child protection notifications are substantiated?

Headline Indicator: Rate of children aged 0–12 who were the subject of a child protection substantiation in a given year

According to the National Child Protection Data Collection, among children aged 0–12 in 2010–11:

- 25,400 were the subject of one or more substantiated notifications—a rate of 6.9 per 1,000 children. This is higher than the overall 0–17 rate of 6.1 per 1,000.

- Substantiation rates were highest for infants (12 per 1,000 children), while the rates for 1–4 year olds and 5–12 year olds were 6.9 and 5.8 per 1,000 respectively. The high substantiation rate for infants is partly due to an increased focus on early intervention for infants, a group recognised as requiring extra care and protection due to their vulnerability.

- The main type of abuse reported was emotional abuse—37% of substantiations—followed by neglect (29%), physical abuse (22%) and sexual abuse (11%).

The substantiation rate increased from 4.8 per 1,000 children in 1999–00 to a peak of 8.1 in 2004–05 and 2005–06, and has since decreased to 6.9 in 2010–11. Although a real change in the incidence of abuse and neglect may contribute to the observed fluctuation, increased community awareness and changes to policy, practice and legislation in jurisdictions are also contributing factors.

Do rates of substantiations vary across population groups?

Aboriginal and Torres Strait Islander children

- Indigenous children were 8 times as likely as non-Indigenous children to be the subject of substantiated abuse or neglect (41 Indigenous children compared with 5 non-Indigenous children per 1,000).

Substantiations per 1,000 children
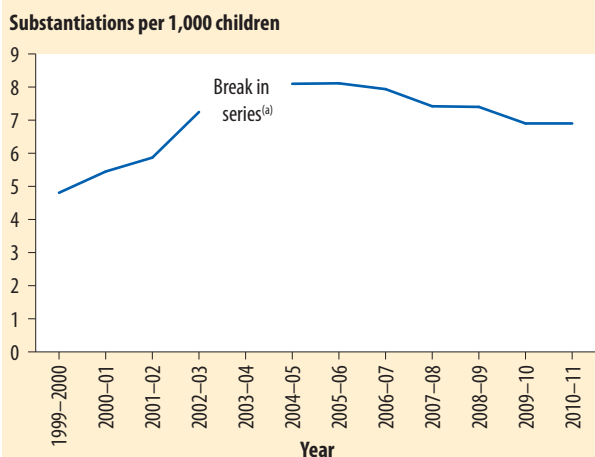
(a) In 2003–04, New South Wales was unable to provide data due to the implementation of a new data system. Because New South Wales accounts for the largest number of substantiations, a national rate cannot be calculated for this year.

Note: Trend data must be interpreted with caution as changes over time may reflect changes in community awareness regarding abuse and neglect and/or changes to jurisdictional policies, practices and reporting methods.

Source: AIHW National Child Protection Data Collection.

Figure 26.1: Children aged 0–12 who were the subject of a substantiation of a child protection notification received in a given year, 1999–2000 to 2010–11

How many children are on care and protection orders?

Key national indicator: Rate of children aged 0–12 who were the subject of care and protection orders

Among children aged 0–12 in 2011:

- 28,200 children were on care and protection orders, a rate of 7.7 per 1,000 children (Figure 26.2).

- Infants were less likely to be on a care and protection order than older children (3.8 per 1,000 infants compared with 7.1 per 1,000 for 1–4 year olds, and 7.8 per 1,000 for 5–12 year olds).

- Boys were slightly more likely to be on care and protection orders (7.8 per 1,000 for boys and 7.5 per 1,000 for girls).

Over the period 2000 to 2011, rates of children on care and protection orders have almost doubled from 4 per 1,000 children in 2000 to 7.7 in 2011 (See Figure 26.2). The increase reflects the increasing number of families considered unable to adequately care for children, which may reflect changing community standards in relation to child safety. Some of the increase is likely to be a flow-on effect from the accumulation of children in the system as children remain on orders for longer periods of time. The increased duration of care and protection orders reflects the increasing complexity of family situations these children face (Layton 2003; Tennant et al. 2003; Vic DHS 2002).

Number per 1,000 children
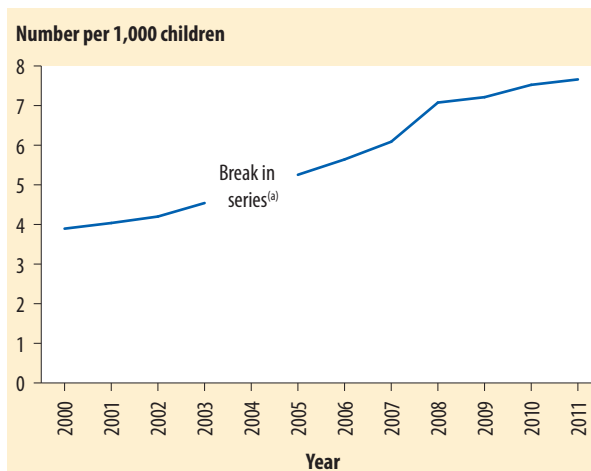
(a) In 2004 New South Wales was unable to provide data due to the implementation of a new data system. Because NSW accounts for the largest number of care and protection orders, a national rate cannot be calculated for this year.

Source: AIHW National Child Protection Data Collection.

Figure 26.2: Children aged 0–12 on care and protection orders at 30 June, 2000–2011

Do rates of care and protection orders vary across population groups?

Aboriginal and Torres Strait Islander children

- Indigenous children were more than 10 times as likely as non-Indigenous children to be on care and protection orders (55 Indigenous children compared with 5 non-Indigenous children per 1,000).

Box 26.1: Defining and measuring child abuse and neglect

Child protection substantiations

A child protection substantiation refers to the conclusion, after investigation, that a child has been, is being or is likely to be abused or neglected or otherwise harmed.

In Australia, child protection is the responsibility of the state and territory governments. The AIHW collects and reports national data on child protection notifications, investigations and substantiations; children on care and protection orders; and children in out-of-home care; for children aged 0–17. Child protection data are reported annually (see AIHW 2012a and earlier issues). While the broad processes in state and territory child protection systems are similar, child protection legislation, policies and practices vary; hence caution needs to be given to comparing child protection data across jurisdictions and over time.

As the rate of children who are the subject of a child protection substantiation is a Headline Indicator, the age range for all indicators in this chapter is 0–12.

Care and protection orders

If a child has been the subject of a child protection substantiation, there is often a need for state and territory child protection and support services to have continued involvement with the family. The relevant department generally attempts to protect the child through the provision of appropriate support services to the child and family. In situations where further intervention is required, the department may apply to the relevant court to place the child on a care and protection order. Recourse to the court is usually a last resort—for example, where the family resisted supervision and counselling and other avenues for resolution of the situation have been exhausted.

27 Children as victims of violence

Physical and sexual assault can have a range of short- and long-term negative effects on the physical and psychological health of children.

In 2011, there were around 6,700 reported victims of sexual assault among children with girls accounting for three-quarters of these victims.

Being a victim of violence can be detrimental to children's health, sense of safety and security, and their feelings about the future. Physical and sexual assault can have complex short- and long-term negative effects on the physical and psychological health of children. Being victimised may lead to diminished educational attainment and social participation in early adulthood, and result in physical injury, suicidal ideation and behaviour, depression, disability and even death (Arboleda-Florez & Wade 2001; Macmillan & Hagan 2004; Simon et al. 2002). In particular, a history of child sexual abuse has been associated with psychopathology, depression, anxiety disorder, phobias, panic disorder, post-traumatic stress disorder, substance abuse, and violent and sexual offending later in life (Fergusson et al. 2008; Lee & Hoaken 2007; Rick & Douglas 2007).

Of major concern is that children who are victimised are at greater risk of perpetrating violence (see 'Chapter 29 Children and crime'). Young victims of violent crime are also more likely than other young people to become victims of violent crime in adulthood (Murphy 2011).

This chapter reports on children who have been the victims of crime. For information on children who have been the subject of child protection substantiations as a result of abuse, see 'Chapter 26 Child abuse and neglect' and 'Chapter 32 Child protection re-substantiations'.

How many children are victims of violence?

Extreme violence

Australian data show that children are sometimes victims of extreme violence and are particularly vulnerable to certain types of violence. In 2007–08, 32 children aged under 15 died as the result of homicide (Virueda & Payne 2010; see also 'Chapter 25 Injuries').

Physical assault

Key national indicator: Rate of children aged 0–14 who have been the victims of physical or sexual assault

In 2011, there was some variability in the interpretation of the National Crime Recording Standard (NCRS) by states and territories. This means that a national rate for victims of physical assault cannot be provided and assault data are only included where it is deemed to fully comply with the NCRS (see Box 27.1 for more information). The five states included are: New South Wales, Western Australia, South Australia, the Australian Capital Territory and the Northern Territory.

According to the ABS Recorded Crime statistics, in 2011, for children aged 0–14:

- Assault rates ranged from 303 children per 100,000 in Western Australia to 616 children per 100,000 in the Northern Territory.

- Across all five states boys were much more likely to be victims of assault than girls except in the Northern Territory, where the rate of girls' and boys' assaults were almost the same (615 per 100,000 versus 617 per 100,000 respectively) (Figure 27.1).

- All five states reported the rate of assault was much higher for the 10–14 age category than for 0–9 year olds, ranging from 5 times as high in Australian Capital Territory (736 assaults per 100,000 to 149 assaults per 100,000, respectively) to 8 times as high in South Australia (899 assaults per 100,000 to 116 per 100,000, respectively) (Figure 27.1).

- All five states reported data following similar trends between 2010 and 2011 for the each of the age groupings (0–9, 10–14 and 0–14). For the 0–9 age group, all states either remained the same or showed a small increase, for the 10–14 age group all states showed a slight decrease and for the 0–14 age group rates remained very similar (ABS 2012c).

Sexual assault

According to the Recorded Crime statistics, in 2011:

- Around 6,700 children aged 0–14, or 157 in every 100,000 children, were the reported victims of sexual assault.

- Children aged 0–14 constituted 38% of all reported sexual assault victims.

- Reported sexual assault rates were higher for children aged 10–14 than for children aged 0–9 (291 and 90 per 100,000 children, respectively) (Figure 27.2).

- Three-quarters of reported sexual assault victims were girls. The rate of reported sexual assault against girls aged 10–14 was almost 4 times

higher than against girls aged 0–9 (494 compared with 126 per 100,000 girls) (Figure 27.2).

Do rates of reported physical and sexual assault vary across population groups?

- There are no national data on how rates of reported physical and sexual assault of children aged 0–14 vary across population groups.

- Limited evidence suggests that child sexual assault is more prevalent in rural and remote areas than in urban areas (Neame & Heenan 2004) and is associated with social disadvantage (Fleming et al. 1999).

Victims per 100,000 children
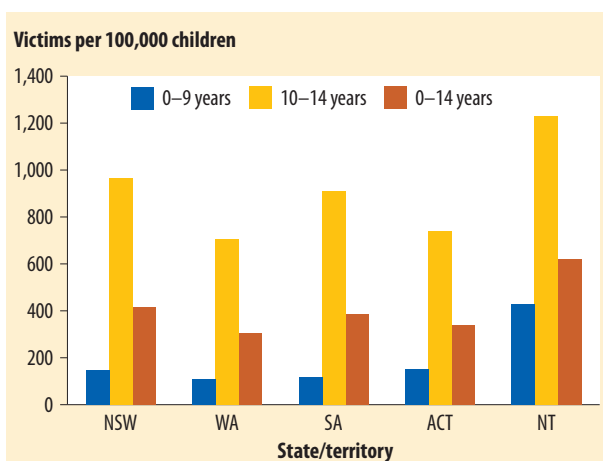
Source: ABS 2012c.

Figure 27.1: Victims of physical assault by age and state and territory, 2011

Victims per 100,000 children
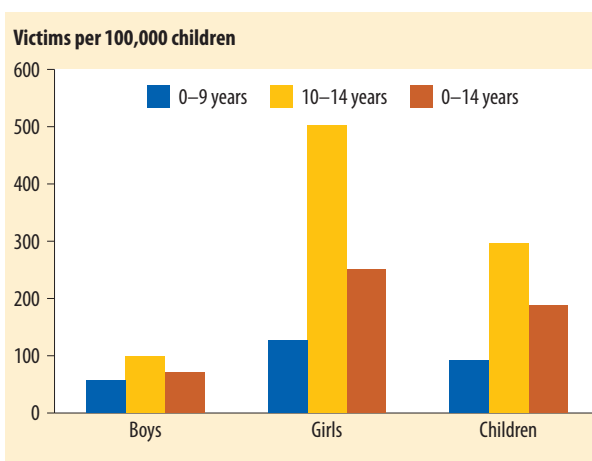
Source: ABS 2012c.

Figure 27.2: Victims of sexual assault by age and sex, 2011

Box 27.1: Defining and measuring victims of physical and sexual assault

Data in this chapter is drawn from the 2011 Recorded crime—victims statistics published by the ABS. Crimes are reported to police in each state and territory, and published according to standard offence categories. It should be noted that alleged offences may be later withdrawn or not be substantiated, and many incidents are not reported to the police.

Victimisation rates from administrative data sources tend to be significantly lower than those based on survey data, as many victims are reluctant to report crimes to the police. Children, in particular, may feel intimidated and reluctant to report personal crimes if the perpetrator is known to them or is in a position of power (for example, older or an authority figure). There is currently no national source of information on crimes against children aged under 15 that are not reported to police or child protection services. Therefore the actual level of crime that children experienced is likely to be underestimated.

The 2011 recorded crime statistics report marks the second year in a new time series following a break in series for the collection in the 2010 publication due to changes in police recording of crimes and a revision of offence classification standards. This means that comparisons cannot be made between data presented here and that presented before 2010 in previous editions of this report.

Due to some variability in the interpretation of the NCRS by jurisdictions in relation to assault, a national rate for victims of physical assault cannot be provided. For this reason, data are provided for selected jurisdictions only. For further information, please refer to *Recorded crime—victims, Australia, 2011* (ABS 2012c).

28 Homelessness

Children who are homeless are more likely to continue to be homeless into adulthood.

While it is difficult to measure precisely the number of homeless people, about 80,800 children aged 0–14 accompanied a parent or guardian to seek the help of a specialist homelessness agency in 2010–11. Another 3,600 children went alone.

Homelessness has a detrimental effect on children's health and wellbeing, which can persist beyond the period of homelessness (Karim et al. 2006; Moore et al. 2007). Babies and toddlers may experience delays in physical and mental development (Horn & Jordan 2007). Older children experience high levels of stress, anxiety, loss and grief, high rates of mental health problems and behavioural disorders (Moore et al. 2007; Karim et al. 2006; Yu et al. 2008). The intergenerational impact of homelessness is considerable. Children who are homeless and disadvantaged are more likely to continue that state into adulthood (Chamberlain & MacKenzie 2003; MacKenzie & Chamberlain 2003; d'Addio 2007).

The causes of homelessness are complex and may include economic factors such as poverty, unemployment or increased housing costs. An unstable home environment caused by domestic violence can also lead to homelessness (Toro 2007). Factors that may lead to homelessness among children include family problems such as neglect, abuse and conflict, as well as drug and alcohol problems (Martijn & Sharpe 2006; Thrane et al. 2006).

Since 1 January 2009, specialist homelessness services have been funded under the National Affordable Housing Agreement (NAHA), replacing the Supported Accommodation Assistance Program (SAAP). The objective of the NAHA is to ensure that 'all Australians have access to affordable, safe and sustainable housing that contributes to social and economic participation'. The National Partnership Agreement on Homelessness (NPAH) began on 1 July 2009 and supports the NAHA outcome that 'people who are homeless or are at risk of homelessness achieve sustainable housing and social inclusion' (COAG 2009c).

How many children use homelessness services?

Key national indicator: Rate of accompanying children aged 0–14 attending agencies funded under the National Affordable Housing Agreement

According to the SAAP National Data collection, in 2010–11:

- Around 80,800 Australian children aged 0–14 (19 out of every 1,000) presented as part of a family group (that is, accompanying children) to a specialist homelessness agency.
- While accompanying children made up the vast majority of children using specialist homelessness services, an additional 3,600 unaccompanied children aged 0–14 (1 out of 1,000 Australian children in this age group) also used these services.
- Younger accompanying children (that is, those aged 0–4) were the age group most likely to have presented to a specialist homelessness agency: 26 per 1,000 children compared with 18 per 1,000 children aged 5–9 and 13 per 1,000 children aged 10–14.
- The majority of accompanying children aged 0–14 were with a female when they attended the specialist homelessness agency (81% of accompanying child support periods). In 14% of cases they accompanied a couple and in 5% they accompanied a male (AIHW SAAP National Data Collection 2010–11 unpublished data). Two-fifths of clients with accompanying children aged 0–14 cited domestic or family violence as the main reason for seeking assistance (in 39% of support periods). Eviction or being asked to leave was the second most frequently reported main reason (9%), followed by family/relationship breakdown (8%), and other financial difficulty or previous accommodation ended (6% each).

The rate of accompanying children presenting to a specialist homeless agency is slightly higher in 2010 than in 2006–07 when 16 out of every 1,000 children (64,800 children aged 0–14) presented. The increase was across all age groups (see Figure 28.1). This increase in the number of people accessing services may reflect a rise in the number of Australians who are homeless or at risk of homelessness, but may also reflect an expansion in the level of, or access to available services or other factors.

Number per 1,000 children
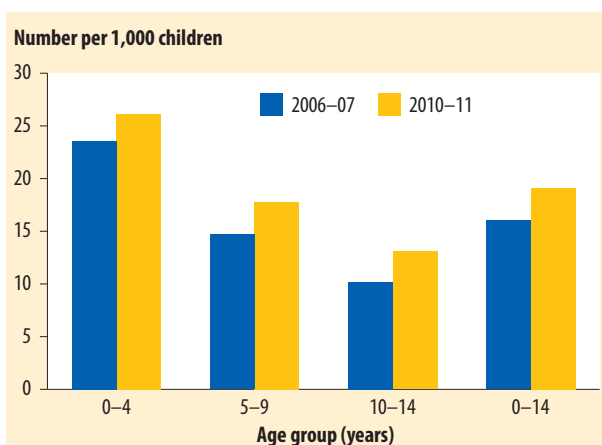
Source: AIHW SAAP National Data Collection.

Figure 28.1: Accompanying children using specialist homelessness services by age, Australia, 2006–07 and 2010–11

Unmet demand for accommodation

In 2010–11, specialist homeless agencies could not always meet requests for accommodation.

• Overall, the majority of valid unmet requests (85%) were due to a lack of accommodation. This was highest for individuals with children (91% of cases) and couples with children (87%) (AIHW 2011j).

• 74% of couples with children (24 people per day) and 64% of individuals with children (around 154 people per day) were unable to receive immediate accommodation (AIHW 2011k).

• The proportion of couples with children turned away has increased since 2006–07 (69% or 29 people per day). However, the proportion of individuals with children turned away is the same as in 2006–07 (64% or 185 people per day).

• The turn-away rate for couples without children was 61% (about 5 people per day) and 51% for individuals without children (about 104 people per day) (AIHW 2011k).

Do rates of homelessness vary across population groups?

Aboriginal and Torres Strait Islander children

Indigenous accompanying children aged 0–14 continue to be over-represented among specialist homelessness service users relative to their proportion in the Australian population. In 2010–11:

• 26% of accompanying children aged 0–14 were Indigenous, which was higher than the 5% they represent in the Australian population (AIHW SAAP National Data Collection 2010–11 unpublished data). This is similar to 2006–07.

• The rate of Indigenous children accompanying their parent or guardian to a specialist homeless agency was 7 times that for non-Indigenous children aged 0–14 (99 per 1,000 children compared with 14 per 1,000, respectively) (AIHW SAAP National Data Collection 2010–11 unpublished data).

Estimates of the Indigenous Australians who were homeless on 2006 Census night also suggest that Indigenous Australians were over-represented. Although the number of homeless Indigenous children has not been published, 10% of the overall homeless population were Indigenous, considerably higher than the proportion of the total Australian population who are Indigenous (2%) (ABS 2008a).

Overseas-born children

• The majority of accompanying children to specialist homelessness agencies were born in Australia with only 5% of accompanying children born overseas. This is lower than their representation in the general population in 2010 (8%).

Remoteness

Variation in homelessness by remoteness is based on the location of the agency's mailing address, recognising that this may not match the actual location of the agency. It should also be noted that some homeless people may have been homeless for a while, and so may have had periods of homelessness in different areas.

In 2010–11:

• The majority of support periods for accompanying children aged 0–14 were provided by specialist homelessness agencies in *Major cities* (57%). Regional agencies provided assistance for 37% of support periods (24% and 13% in *Inner* and *Outer regional* respectively) while *Remote* and *Very remote* areas combined provided 5% (3% and 2% respectively).

(a) Figures have been weighted for agency non-participation and client non-consent.

Notes

1. Indigenous status data exclude children where Indigenous status was missing.
2. Birthplace data exclude children where country of birth was missing.

Source: AIHW SAAP National Data Collection 2010–11.

Figure 28.2: Accompanying children using specialist homelessness services, by selected population groups, 2010–11

Box 28.1: Defining and measuring homelessness and accompanying children

The NPAH recognises three forms of homelessness: primary homelessness—people living on the streets or in public places; secondary homelessness—people residing in emergency accommodation or staying temporarily with friends or relatives or in boarding houses; and tertiary homelessness—people living in boarding houses on a medium- to long-term basis (COAG 2009c).

It is difficult to measure precisely the number of homeless people based on the above definition because of the difficulties involved in counting a mobile and difficult-to-reach population. One estimate is that around 16,000 children aged 0–17 were homeless on Census night in 2006 (ABS 2008a).

More is known about children who use specialist homelessness services, although these data underestimate the number of children needing services as those who did not approach or were turned away from a service are not included.

An **'accompanying child'** is a person aged under 18 who has a parent or guardian who is a client and accompanies that client to an agency any time during the client's support period, and/or received assistance directly as a consequence of a parent or guardian's support period.

Data for this chapter are drawn from the final year of the SAAP National Data Collection. Reporting from the new Specialist Homelessness Services collection is expected to commence in 2012. See Appendix C: Data sources for more information.

29 Children and crime

Children in the juvenile justice system are a particularly disadvantaged population and are vulnerable to continued and more serious offending later in life.

In 2009–10, 81 children in every 100,000 aged 10–14 were under juvenile justice supervision on an average day. Indigenous children were 24 times as likely to be under supervision as non-Indigenous children.

In Australia, the juvenile justice system deals with children and young people aged 10 years and over who have committed or allegedly committed an offence. Each state and territory has its own legislation, policy and practices. In general, the juvenile justice system is based on the principles that children who break the law can and should be rehabilitated, and that detention should only be used as a last resort. This is consistent with the United Nations *Convention on the Rights of the Child* (Office of the United Nations High Commissioner for Human Rights 1989). Diversion from the juvenile justice system by police or courts is therefore a major feature of juvenile justice in Australia, and most children and young people are supervised in the community rather than in detention.

There is widespread evidence that rates of offending tend to peak in adolescence, but for many this behaviour is short-lived and the offences are relatively minor (Fagan 2005; Farrington 1986; Moffitt 1993). For a small number of children this behaviour becomes more serious and persistent and may result in juvenile justice supervision. Research shows that some of those who come into contact with the justice system persist in offending into adulthood (Chen et al. 2005; Livingston et al. 2008; Lynch et al. 2003; Makkai & Payne 2003).

Children under juvenile justice supervision are a particularly disadvantaged group. Research indicates that those under supervision in Australia commonly have low socioeconomic backgrounds; low levels of education; high rates of childhood abuse and neglect; parental incarceration; homelessness and unstable accommodation; poor physical health and nutrition; and high incidence of mental health problems and drug and alcohol abuse (Indig et al. 2011; Kenny & Nelson 2008; Prichard & Payne 2005; Weatherburn et al. 1997).

How many children are under juvenile justice supervision?

Key national indicator: Rate of children aged 10–14 who are under juvenile justice supervision on an average day

According to the Juvenile Justice National Minimum Data Set, on an average day in 2009–10:

- There were 1,010 children aged 10–14 under juvenile justice supervision in Australia (excluding Western Australia and the Northern Territory). This equates to a rate of 81 per 100,000 children (Figure 29.1).
- Boys were 4 times as likely to be under supervision on an average day as girls (130 and 31 per 100,000 respectively). Children in the older age groups were more likely to be under supervision—those aged 14 were almost 9 times as likely to be under supervision as those aged 12 (252 children per 100,000 aged 14 compared with 28 per 100,000 aged 12).
- 4 in 5 (81%) children under supervision were supervised in the community, with the remainder in detention. Children aged 10–14 were more than 6 times as likely to be under community-based supervision as in detention (66 compared with 10 per 100,000).

Number per 100,000 children
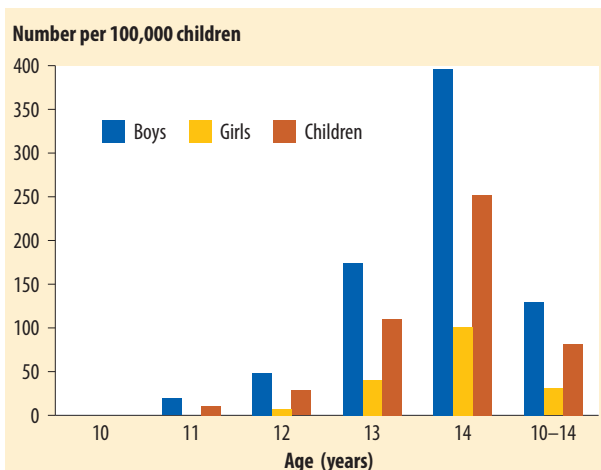
Note: Rates are not published where there are fewer than 5 young people.
Source: AIHW Juvenile Justice National Minimum Data Set.

Figure 29.1: Children aged 10–14 under juvenile justice supervision on an average day by age, 2009–10

The rate of children aged 10–14 under juvenile justice supervision on an average day remained relatively stable over the past four years, increasing from 76 to 85 per 100,000 between 2006–07 and 2008–09, before decreasing to 81 per 100,000 in 2009–10 (Figure 29.2). The rate under community-based supervision peaked at 71 per 100,000 in 2008–09 before dropping slightly to 66 per 100,000 in 2009–10. The rate of children in detention on an average day remained steady over the 4-year period at around 10 per 100,000.

Number per 100,000 children
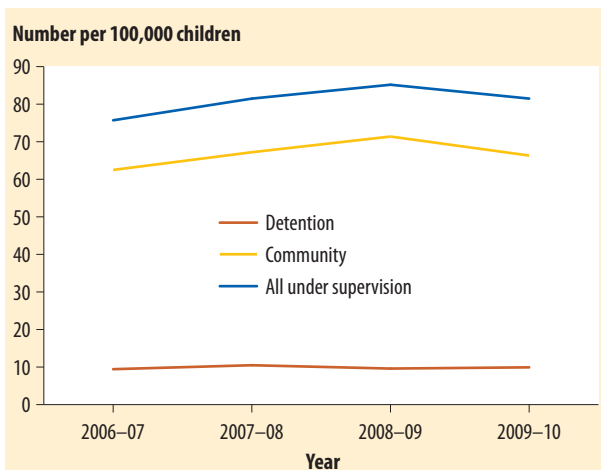
Source: AIHW Juvenile Justice National Minimum Data Set.

Figure 29.2: Children aged 10–14 under juvenile justice supervision on an average day by type of supervision, 2006–07 to 2009–10

Do rates of juvenile justice supervision vary across population groups?

Aboriginal and Torres Strait Islander children

- Indigenous children are markedly over-represented in juvenile justice supervision; in 2009–10, Indigenous children aged 10–14 were almost 24 times as likely as non-Indigenous children to be under supervision on an average day (996 per 100,000 compared with 42 per 100,000) (Figure 29.3).

- Although only around 4% of children aged 10–14 are Indigenous, almost half (48%) of those under supervision on an average day were Indigenous. The disparity was greatest in detention— Indigenous children were 35 times as likely as non-Indigenous children to be in detention, and almost 3 in 5 (59%) of those in detention were Indigenous.

Number per 100,000 children
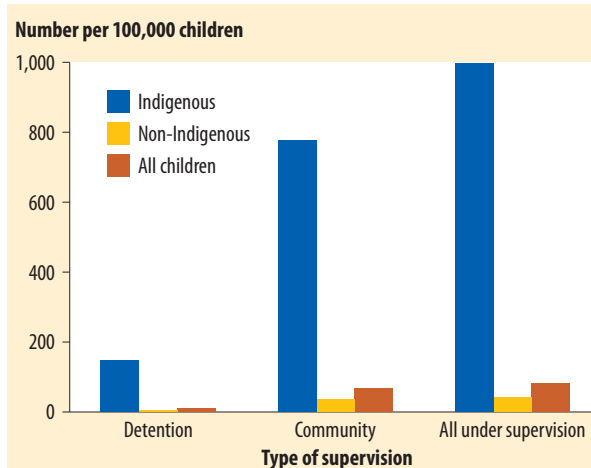
Source: AIHW Juvenile Justice National Minimum Data Set.

Figure 29.3: Children aged 10–14 under juvenile justice supervision on an average day by Indigenous status and type of supervision, 2009–10

Remoteness

- Most children aged 10–14 under supervision on an average day in 2009–10 were from *Major cities* (41%), *Inner regional* (29%) and *Outer regional* (22%) areas. However, children from *Remote* areas were more than 8 times as likely as those from *Major cities* to be under supervision (398 per 100,000 and 47 per 100,000 respectively), while those from *Very remote* areas were 12 times as likely (560 compared with 47 per 100,000). This pattern occurred among children both in detention and under community-based supervision.

Socioeconomic status

- In 2009–10, around 3 in 10 (29%) children aged 10–14 under supervision on an average day were from areas of the lowest socioeconomic status, compared with around 1 in 10 (9%) from the areas of highest socioeconomic status.

- Children from areas of the lowest socioeconomic status were almost 6 times as likely to be under supervision on an average day as those from the areas of highest socioeconomic status (210 per 100,000 compared with 37 per 100,000).

Box 29.1: Defining children under supervision

Children under supervision by juvenile justice agencies may be awaiting trial or sentencing, or have been found guilty of an offence resulting in a supervised sentence. Juvenile justice supervision of children can take place either in detention or in the community. Children who were supervised by other agencies, such as the police, are not included.

All juvenile justice data in this chapter exclude Western Australia and the Northern Territory, as data were not supplied between 2007–08 and 2009–10. For this reason, reported rates may not be nationally representative. For more details on the AIHW Juvenile Justice National Minimum Data Set, see AIHW 2011i.

How does Australia perform internationally?

Limited data are available on the number of children under juvenile justice supervision internationally. Data on children in juvenile detention show that on an average day in 2009–10:

- Children aged 10–14 in England and Wales were less likely (8.5 per 100,000) than those in Australia (10 per 100,000) to be in detention (Office for National Statistics 2012, Youth Justice Board & Ministry of Justice 2011).

- Children aged 10–14 in the United States were 4 times as likely (44 per 100,000) to be detained as those in Australia (U.S. Census Bureau and National Centre for Health Statistics 2010).

Many other OECD countries have a higher minimum age of criminal responsibility and significantly different systems for dealing with the offending behaviour of children and young people. For example, the minimum age of criminal responsibility is 12 years in Canada, 13 in France, 14 in Germany, Italy and New Zealand (except for murder and manslaughter) and 15 in Scandinavian countries (Noetic Solutions 2010; Urbas 2000).

Part VIII

HOW WELL IS THE SYSTEM PERFORMING IN DELIVERING QUALITY HEALTH, DEVELOPMENT AND WELLBEING ACTIONS TO AUSTRALIA'S CHILDREN?

The capacity of systems to deliver high-quality services plays a major role in influencing the health and wellbeing of children. Part VIII looks at indicators that reflect the performance of systems in delivering quality health, development and wellbeing actions to Australia's children. The following topics are included:

Chapter 30—Childhood immunisation

Chapter 31—Survival for leukaemia

Chapter 32—Child protection re-substantiations

The following table shows how children fare across the various indicators presented in Part VIII, and whether there have been any improvements over time.

Part II	Part III	Part IV	Part V	Part VI	Part VII	Part VIII
How healthy are Australia's children?	How well are we promoting healthy child development?	How well are Australia's children learning and developing?	What factors can affect children adversely?	What kind of families and communities do Australia's children live in?	How safe and secure are Australia's children?	How well is the system performing?

Indicator		Value	Trend
Childhood immunisation	Proportion of children on the Australian Childhood Immunisation Register who are fully immunised at 2 years of age (2011)*	93%	~
Survival for leukaemia	Five-year relative survival for leukaemia in children aged 0–14 (2004–2010)	87%	✓
Child protection resubstantiations	Rate of children aged 0–12 who were the subject of a child protection re-substantiation in a given year (2009–2010)	n.a.	• •

*Children's Headline Indicator.

Key: ✓ = favourable trend; ✗ = unfavourable trend; ~ = no change or clear trend; • • = no trend data available/presented.

30 Childhood immunisation

Immunisation coverage reflects the capacity of the health-care system to provide vaccinations to children.

In 2011, most children aged 2 on the Australian Childhood Immunisation Register were fully immunised (93%).

Immunisation uses the body's natural defence mechanism—the immune response—to build resistance to specific infections. A large part of the reduction in mortality and morbidity among children over the past century was due to immunisation (Plotkin & Plotkin 2008). Immunisation has resulted in the worldwide eradication of smallpox, the widespread elimination of poliomyelitis and can protect children against a multitude of other communicable diseases.

Children who do not receive complete and timely immunisations remain at risk of contracting vaccine-preventable diseases, and the short- and long-term health consequences associated with these. In some cases, the long-term complications of the disease can be even more severe than the disease itself (Andre et al. 2008).

Immunisation also plays a role in protecting individuals who are not immunised, through the concept of 'herd immunity'. Immunisation coverage needs to exceed 90% in order to achieve and maintain the level of herd immunity needed to interrupt the spread of vaccine-preventable diseases (Lister et al. 1999). Coverage goals for Australia, recommended by the National Health and Medical Research Council (NHMRC) in 2000, call for higher than 90% coverage of children at 2 years and near 100% coverage of children at school entry. However, due to a small percentage of parents who choose not to immunise their children and children with medical conditions that prevent immunisation, an immunisation rate of 100% is not considered achievable.

The level of immunisation coverage reflects the capacity of the health-care system to effectively target and provide vaccinations to children. The Australian Childhood Immunisation Register (ACIR) was established in 1996 in response to low

childhood immunisation rates and an increase in vaccine-preventable diseases. The Australian Government offers financial incentives to parents and general practices to encourage childhood immunisation. These initiatives have been successful—immunisation coverage in Australia is at its highest level and notification rates of vaccine-preventable diseases are low.

How many children are fully immunised?

Headline Indicator: Proportion of children on the Australian Childhood Immunisation Register who are fully immunised at 2 years of age

Children aged 2

According to the ACIR, in 2011:

- Most 2 year olds were fully immunised (93%).
- There was no difference in immunisation coverage for boys and girls at age 2.
- Coverage at age 2 has been relatively stable since 2002. The 90% coverage target was met in December 2003 for 2 year olds (Figure 30.1).

Children aged 1 and 5

According to the ACIR, in 2011:

- Most 1 year olds were fully immunised (92%), and coverage at this age has been relatively stable since 2002. The 90% coverage target was met in December 2000 for 1 year olds (Figure 30.1).
- Coverage at 5 years (89%) was well below the near-100% target for children of school-entry age; however, it has increased markedly from 79% in 2008.

Does immunisation coverage vary across population groups?

Aboriginal and Torres Strait Islander children

- In 2011, there was little difference in the proportion of Indigenous (92.7%) and non-Indigenous children (92.8%) aged 2 who were fully immunised (Figure 30.2).
- Data from 2009 indicate that the difference in immunisation coverage between Indigenous and non-Indigenous children is greater at age 1 (85% and 92%, respectively) and age 5 (79% and 83%), than at age 2 (91% and 92%) (Hull et al. 2011).

Remoteness

- In 2011, the proportion of children aged 2 who were fully immunised was slightly higher in *Remote and very remote* areas (95.4%) compared with *Major cities* (92.5%).

Socioeconomic status

- In 2011, children aged 2 living in the lowest socioeconomic status (SES) areas were slightly more likely to be fully immunised (93.7%) than those living in the highest SES areas (91.6%).

How does Australia compare internationally?

Internationally comparable data for immunisation coverage are only available for children aged 1.

- In 2010, Australia ranked 29th out of 34 OECD countries for immunisation coverage of 1 year olds (Figure 30.3).
- At 92.5%, the Australian rate was slightly behind the OECD average of 94.6%, while the leading countries were Hungary (99.0%) and the Czech Republic and the Slovak Republic (both 98.8%).
- Immunisation coverage was lowest in Canada (83.3%) and Austria (81.3%).
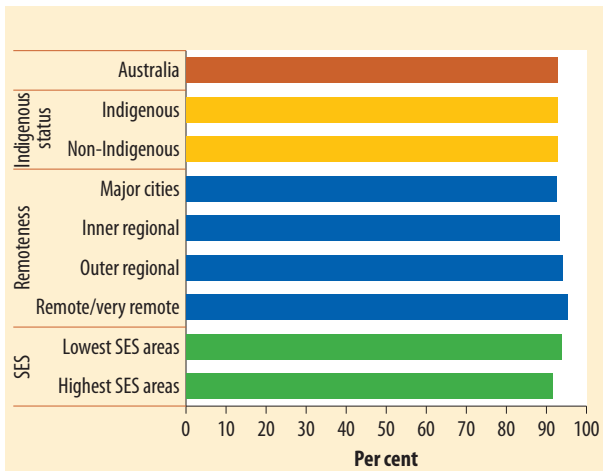
Note: Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).
Source: Australian Childhood Immunisation Register, unpublished data.

Figure 30.2: Children aged 2 on the ACIR who are fully immunised, by selected population groups, 2011
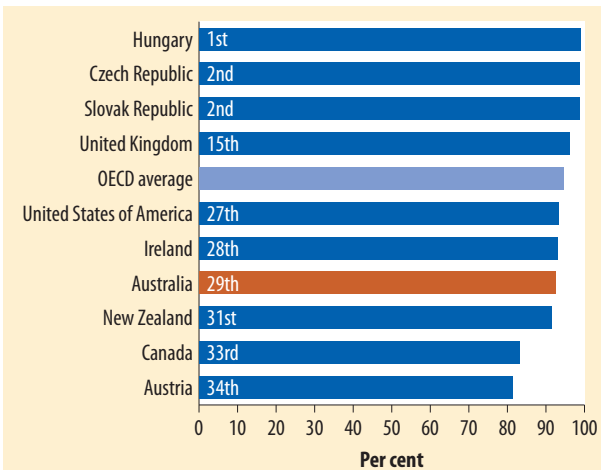
Note: Based on data from 34 OECD countries. Data are an average of the proportion of children immunised at age 1 against diphtheria, tetanus, and pertussis (DTP) (3 doses); measles (1 dose); polio (3 doses) and *Haemophilus influenzae* type b (Hib) (3 doses). Data for Japan and the Republic of Korea exclude Hib. Results are affected by the policies of different countries, such as compulsory vaccination.
Source: UNICEF 2011.

Figure 30.3: Immunisation coverage of children aged 1, by selected OECD countries, 2010

Note: Includes children who have received the scheduled doses of vaccines for DTP, MMR, poliomyelitis; hepatitis B; and Hib, appropriate for their age.
Source: Australian Childhood Immunisation Register, unpublished data.

Figure 30.1: Trends in immunisation coverage, 1999–2011

Notifications of childhood diseases

A number of factors influence notification rates for vaccine-preventable diseases, including the natural history of a disease, the length of time that an immunisation program has been in place, the particulars of a vaccination program (for example, receiving all injections at the required age) and immunisation coverage.

In line with increased immunisation coverage, notification rates for a number of vaccine-preventable diseases have decreased considerably over the years 1996–2011 (Figure 30.4). For children aged 0–14:

- There have been no notifications of poliomyelitis or diphtheria, and only one notification of tetanus (in 2000) between 1996 and 2011 (NNDSS 2012).

- Notification rates for measles, mumps and rubella decreased from 9, 2 and 18 notifications per 100,000 children in 1996 to 1.5, 0.4 and 0 respectively in 2011 (Figure 30.4).

- Notification rates for pneumococcal disease declined rapidly following the addition of the

pneumococcal vaccine to the NIPS in 2001—from 23 to 7 notifications per 100,000 children between 2002 and 2006. The rate has since increased to 11 per 100,000 in 2011.

- Notification rates for meningococcal disease (invasive) peaked in 2001 at 8.1 per 100,000 children and have since decreased to 2.2 per 100,000 children in 2011.

- The notification rate for pertussis has increased dramatically from 2008 (from 16 per 100,000 to 411) (Figure 30.5). Periodic epidemics of pertussis occur every 3–5 years in Australia. However, the current pattern shows a significant and prolonged outbreak (Octavia et al. 2012). The reasons for this are not clear, but possible causes include waning immunity, improved surveillance and diagnosis, the switch from whole cell vaccine (WCV) to acellular vaccine (ACV), and adaptation or emergence of new strains (Kurniawan et al. 2010; Octavia et al. 2012).

Notifications per 100,000 children
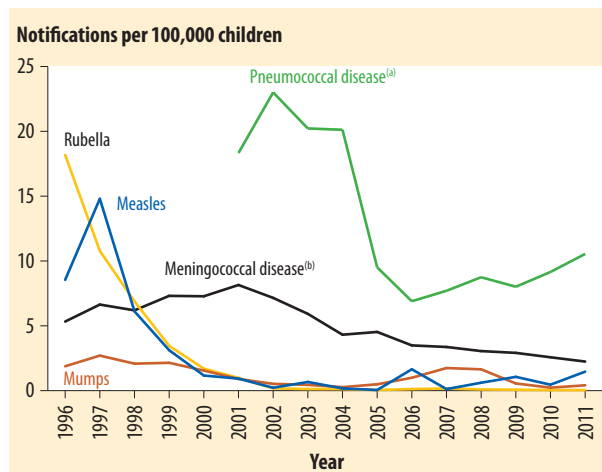
(a) Pneumococcal disease (invasive) became a nationally notifiable disease in Australia in 2001.
(b) A revised national surveillance case definition for Meningococcal disease (invasive) was implemented on 1 July 2010.
Source: AIHW analysis of National Notifiable Diseases Surveillance System.

Figure 30.4: Trend in notifications of selected communicable diseases among children aged 0–14, 1996–2011

Notifications per 100,000 children
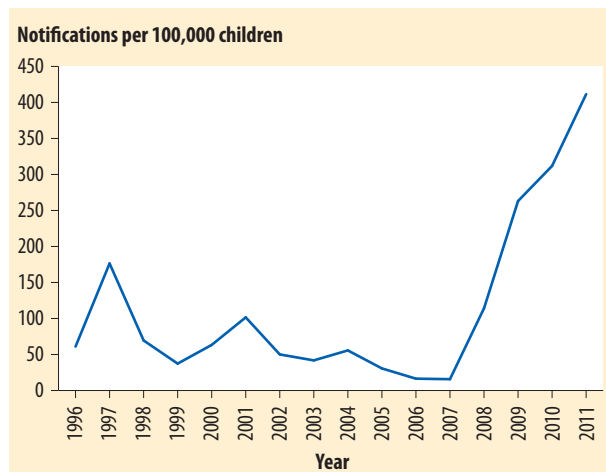
Source: AIHW analysis of National Notifiable Diseases Surveillance System.

Figure 30.5: Pertussis notification trend among children aged 0–14, 1996–2011

Box 30.1: Defining and measuring immunisation coverage

The Australian Childhood Immunisation Register (ACIR) records information on the immunisation status of children aged less than 7 who are enrolled in Medicare (estimated to be over 99% of children by the age of 12 months), while children not eligible to enrol in Medicare can also be added (Hull et al. 2011; Medicare Australia 2010) (see Appendix C: Data sources).

The data in this chapter are for 2011 for children on the ACIR who were:

1. aged 1 year (12–<15 months), 2 years (24–<27 months) or 5 years (60–<63 months) in 2011

2. **fully immunised for coverage reporting purposes**, that is, have received the scheduled doses of vaccines according to age for diphtheria, tetanus and pertussis (DTP); measles, mumps and rubella (MMR); poliomyelitis; hepatitis B; and *Haemophilus influenzae* type B (Hib).

The National Immunisation Program Schedule (NIPS) includes the vaccines listed above, as well as vaccines for rotavirus, varicella, meningococcal C and pneumococcal conjugate, for children up to 2 years. In time, the ACIR coverage definition of 'fully immunised' may be expanded to cover additional vaccines on the NIPS.

The proportion of **fully immunised 2 year olds** is reported for the Headline Indicator. The chapter also presents supplementary information for immunisation at 1 and 5 years.

Part VIII

31 Survival for leukaemia

Leukaemia survival among children continues to improve through advances in early detection, treatment, research and technology, and the development of specialised treatment centres and protocols for children.

Five-year relative survival for children with leukaemia increased from 67% to 87% between the periods 1983–1989 and 2004–2010.

Leukaemia refers to a group of cancers that affect the blood and blood-producing tissues of the body. Developing blood cells in the bone marrow become cancerous, multiply in an uncontrolled way, and replace or suppress healthy blood cells in the bone marrow. Cancerous blood cells may spread through the bloodstream to other organs such as the liver, spleen or brain, resulting in serious health complications or death (Leukaemia Foundation 2008).

Leukaemia is thought to develop from a complex interaction of genetic and environmental risk factors acting before and/or after birth. A small proportion of leukaemia cases have been linked to prenatal genetic mutations, parental behavioural factors, maternal exposures during pregnancy, delayed childhood exposure to infections, abnormal immune system responses, ionising radiation (for example, through radiographs or X-rays), and exposure to environmental chemicals; however, the majority of cases have no known cause (Howard et al. 2008; Rossig & Juergens 2008; Turner et al. 2010). Leukaemia treatment varies depending on the characteristics of the leukaemic cells and their location, and can include chemotherapy, radiotherapy and bone marrow transplant.

Successful treatment of leukaemia depends upon the effectiveness of the health-care system in a number of areas, including the early detection, access to appropriate treatment services, collaboration between health-care professionals, and ongoing medical research and clinical trials

(McGregor et al. 2007). Despite improvements in survival, leukaemia remained one of the largest contributors to childhood cancer deaths in 2008–2010 (see 'Chapter 3 Mortality').

Children who survive may continue to be at risk of suffering from recurrent or progressive cancers and cardiac, pulmonary and other medical conditions in the future. Survivors may also experience long-term side-effects due to treatment drugs and methods (Mertens et al. 2008).

What is the leukaemia survival rate among Australian children?

Key national indicator: Five-year relative survival for leukaemia in children aged 0–14

According to the AIHW National Cancer Statistics Clearing House, during the period 2004–2010, among children aged 0–14:

- 5-year relative survival for all leukaemia was 87%, with no statistically significant differences found for gender.
- For children aged 0–4, 5-year relative survival for all leukaemia was higher (90%) than for children aged 10–14 (79%).
- For acute lymphoblastic leukaemia, the 5-year relative survival was 90%. This is statistically significantly higher than for acute myeloid leukaemia where it was 75% (Table 31.1).

Table 31.1: Five-year relative survival for leukaemia among children aged 0–14, 2004–2010

Cancer type		Boys	Girls	Children
All leukaemias	Per cent	87.2	86.8	87.0
	95% CI	84.4–89.6	83.5–89.5	85.0–88.9
Acute lymphoblastic leukaemias	Per cent	89.5	90.7	90.0
	95% CI	86.7–91.8	87.4–93.1	88.0–91.8
Acute myeloid leukaemias	Per cent	76.2	72.8	74.6
	95% CI	65.8–83.8	61.9–81.0	67.3–80.4
All cancers	Per cent	81.1	80.9	81.0
	95% CI	79.2–82.9	78.8–82.9	79.6–82.4

Note: Refer to Table B.2 for ICD-10 codes.
Source: AIHW Australian Cancer Database.

- No statistically significant difference was found by gender for acute lymphoblastic leukaemia or acute myeloid leukaemia.

- For children aged 0–4, 5-year relative survival for acute lymphoblastic leukaemia was higher (92%) than for children aged 10–14 (82%). It is not possible to report on 5-year survival for acute myeloid leukaemia by age due to small numbers.

Between the periods 1983–1989 and 2004–2010:

- 5-year relative survival for all leukaemia increased from 67% to 87% (20 percentage points). The larger increases occurred between the years 1990–1996 and 1997–2003, and 1997–2003 and 2004–2010 (8 percentage point increase respectively).

- 5-year relative survival for acute lymphoblastic leukaemia increased from 73% to 90% (17 percentage points). The larger increases occurred between 1990–1996 and 1997–2003, and 1997–2003 and 2004–2010 (7 and 6 percentage point increase respectively).

- 5-year relative survival for acute myeloid leukaemia has more than doubled from 37% to 75%, with the largest increase occurring between 1997–2003 and 2004–2010 (15 percentage points). However, these results should be treated with some caution due to the large confidence intervals (See Figure 31.1).

Does leukaemia survival vary across population groups?

Remoteness[12]

- In the period 2004–2010, for 5-year relative survival for all leukaemia, no statistically significant difference was found between *Major cities* (87%), *Inner regional* (89%), *Outer regional* (84%) and *Remote and very remote* areas (72%) (Figure 31.2).

Socioeconomic status

- For the period 2004–2010, 5-year survival for all leukaemia appeared slightly higher among children from the highest SES areas (89%) than children from the lowest SES areas (85%). However, the difference was not found to be statistically significant (Figure 31.2).
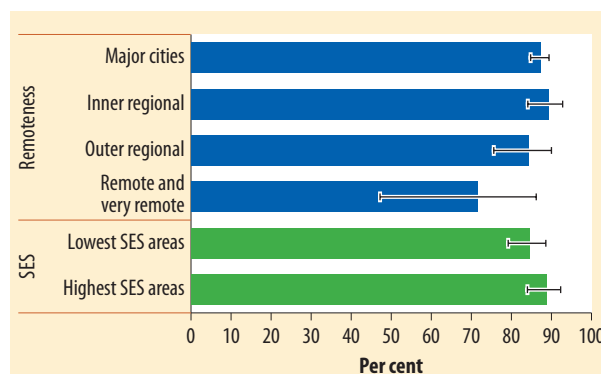
Notes

1. Refer to Table B.2 for ICD-10 codes.
2. Refer to Appendix B: Methods for explanation of remoteness areas and socioeconomic status (SES).

Source: AIHW Australian Cancer Database 2007.

Figure 31.2: Five-year relative survival for all leukaemia among children aged 0–14, by population groups, 2004–2010

Note: Refer to Table B.2 for ICD-10 codes.
Source: AIHW Australian Cancer Database 2007.

Figure 31.1: Trends in 5-year relative survival for leukaemia among children aged 0–14

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12 Note estimates differ from those in Youlden et al. 2011. This may be due to the use of different time periods and the use of different classification schemes.

Box 31.1: Defining and measuring leukaemia survival rates

This chapter uses the ICD-10 classification scheme. Since the 2009 edition of A picture of Australia's children, the AIHW has devised a new grouping system for cancers of the blood and lymphatic system (ICD-10 codes of C81–C96, D45, D46, D47.1 and D47.3). The new groupings are more closely aligned with the current understanding of these cancers. For more information, see AIHW & Australasian Association of Cancer Registries 2010.

Under the new grouping system, there is no overarching category for leukaemia. The following groupings have been applied to report on all leukaemia: C91.0 (Acute lymphoblastic leukaemia), C91.1 (Chronic lymphocytic leukaemia), C91.2–C91.9 (Other and unspecified lymphoid leukaemias), C92.1 (Chronic myelogenous leukaemia), C92.0, C92.3–C92.5, C93.0, C94.0, C94.2, C94.4–C94.5 (Acute myeloid leukaemias), C92.2, C92.7, C92.9, C93.1–C93.9, C94.7 (Unspecified myeloid leukaemias).

Data in this report are presented for 'all' leukaemia types and the two most common types of childhood leukaemia—acute lymphoblastic leukaemia and acute myeloid leukaemia.

Relative survival statistics are derived by comparing the survival of people diagnosed with cancer, with that experienced by people in the general population, matched for age and sex in the same calendar year. An estimate of less than 100% suggests that those with cancer had a lower chance of survival than the general population. For example, 5-year relative survival of 50% for people diagnosed with a particular type of cancer means that these people had half the chance of surviving 5 years after diagnosis relative to comparable people in the general population. (AIHW 2011f).

The relative survival proportions presented in this report have been calculated using the 'period method' rather than the 'cohort measure' used in the *A picture of Australia's children 2009* report. The period method examines the survival experience of people who were alive at the beginning of a particular recent at-risk period and who were diagnosed with cancer before this period. The period method generally provides more up-to-date estimates of survival, particularly around time trends affected by improvements in cancer detection and treatment. The survival estimates shown in this report are based on records of cancers diagnosed between 1983 and 2007, and followed for deaths up to the end of 2010 as held in the Australian Cancer Database.

32 Child protection re-substantiations

Re-substantiation rates are one measure of how well child protection systems are performing in preventing the recurrence of child abuse or neglect.

National totals relating to re-substantiations are not available, as data are not comparable across jurisdictions.

Rates of child protection substantiation and children on care and protection orders are key indicators of reported levels of child abuse and neglect (see 'Chapter 26 Child abuse and neglect'). A related indicator is the 're-substantiation rate after prior substantiation', which examines the effectiveness of child protection interventions to reduce the risk of harm and to prevent the recurrence of abuse and neglect or harm to children. The Steering Committee for the Review of Government Service Provision (2012) defines this indicator as '…the proportion of children who were the subject of a substantiation in the previous financial year, who were subsequently the subject of a further substantiation within the following 3 or 12 months' (SCRGSP 2012:15.25).

Re-substantiations are reported against the year of the original substantiation, rather than the year of re-substantiation, and it is important to note that the re-substantiation does not necessarily refer to the same source or risk as the original substantiation (SCRGSP 2012).

Research has found that the key underlying features leading to some families repeatedly coming into contact with child protection systems include low income, substance abuse, mental health issues, sole parenting and a lack of access to social support (Jonson-Reid et al. 2010; Vic DHS 2002). A Victorian study in 2002 found that the child protection system often did not effectively deal with these problems and many children were subject to re-notifications and re-substantiations. The report noted that helping families to deal with these problems required more sustained and less intrusive support than usually provided. It highlighted the need for strengthened prevention and early intervention services, and improved service responses for children and young people with longer term involvement in the child protection system (Vic DHS 2002).

How many cases of child abuse and neglect are re-substantiated?

Key national indicator: Rate of children aged 0–12 who were the subject of child protection re-substantiation in a given year

According to the National Child Protection Data Collection, collection, in 2009–10:

- Rates of children and young people (0–17 years) who had a substantiation and were the subject of re-substantiation within 3 or 12 months varied considerably between jurisdictions.
- Across jurisdictions, re-substantiations ranged from 1.1% to 11.9% within 3 months and from 3.1% to 25.1% within 12 months of the original substantiation (Table 32.1).

Table 32.1: Children aged 0–17 who were the subject of a re-substantiation within 3 and/or 12 months, 2009–10[a]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Subject of a re-substantiation within 3 months								
Number	1,150	208	617	26	108	80	67	100
Per cent[b]	8.8	3.0	8.0	1.1	6.5	8.1	11.9	8.9
Subject of a re-substantiation within 12 months[c]								
Number	2,534	1,395	1,371	71	263	198	142	239
Per cent[b]	19.5	20.3	17.7	3.1	15.8	20.1	25.1	21.2

(a) Data are not comparable across jurisdictions because definitions of substantiation vary significantly. Refer to SCRGSP 2012 for further notes related to these data.

(b) Per cent of all children who were the subject of a substantiation.

(c) This includes children who were the subject of a re-substantiation within 3 months.

Source: SCRGSP 2012.

Box 32.1: Defining and measuring cases of re-substantiation

Cases of re-substantiation do not necessarily imply that child protection agencies have failed to protect children from repeated abuse. The re-substantiation rate is affected by the finalisation of investigations into notifications of child abuse or neglect, and by factors beyond the control of the child protection system, such as changes in family situations (for example, illness, pregnancy or unemployment), which may place children in danger of being re-abused or neglected (SCRGSP 2012:15.25). Given the complexity of this issue, it cannot be expected that the re-substantiation rate could ever be zero.

Data on re-substantiations are not comparable across jurisdictions because definitions of substantiation vary considerably, and this has a flow-on effect to rates of re-substantiation (AIHW 2012a; see also 'Chapter 26 Child abuse and neglect'). Variations between jurisdictions in recorded cases of child abuse or neglect reflect the different legislation, policies and practices in each jurisdiction, rather than a true variation in the levels of abuse and neglect (AIHW 2012a).

Because data are not comparable across jurisdictions, national data cannot be presented on child protection re-substantiations.

Only data for the 0–17 age group are available for reporting on this indicator.

Part IX

DATA GAPS

33 Data gaps and developments

A picture of Australia's children 2012 aims to present the latest and most reliable information on key national indicators of children's health, development and wellbeing, and the contributing social, community and economic influences. There are still a number of indicators for which there is a lack of national data or a lack of recent data. Table 33.1 provides an overview of data gaps in existing indicators, and some of the data developments in progress.

Table 33.1: Data gaps in existing Key National Indicators

How healthy are Australia's children?		Data availability
Congenital anomalies	Congenital anomalies are a major cause of hospitalisation in infancy and childhood and a leading cause of infant mortality in Australia (Abeywardana & Sullivan 2008) *Indicator: Rate of selected congenital anomalies (neural tube defect, Down syndrome, abdominal wall defects, orofacial clefts) among infants per 10,000 births (1998–2003)*	For most recent data on neural tube defects, see Macaldowie A & Hilder L 2011. For other congenital anomalies, the recent data are for 1998–2003 from the Australian Congenital Anomalies Monitoring Systems, see AIHW 2009c. Whilst data relating to major congenital anomalies is available at the jurisdiction level, based on notifications to birth defects registries in New South Wales, Victoria, Western Australia and South Australia, and on data collected by perinatal data collections in Queensland, Tasmania and the Australian Capital Territory, collation and reporting of the data at the national level is currently not undertaken on a routine basis.
Mental health	Children with mental health problems experience suffering, functional impairment, exposure to stigma and discrimination, and increased risk of premature death. *Indicators:* • *Proportion of children aged 4–14 with mental health problems (2004–05)* • *Proportion of children aged 6–14 years with mental health disorders (ADHD, depressive disorder, conduct disorder) (2004–05)*	Most recent data available is ABS 2004–05 National Health Survey, see AIHW 2009. The Child and Adolescent Survey will go into the field in 2013 and data will be available late 2014 for inclusion in future *A picture of Australia's children* reports.
How well are we promoting healthy child development?		**Data availability**
Physical activity	Regular physical activity and good nutrition reduces cardiovascular risk factors, such as overweight, high blood pressure and Type 2 diabetes, and improves the psychosocial wellbeing of children. *Indicator: Percentage of children aged 9–14 years:* • *meeting the National Physical Activity Guidelines* • *not exceeding the screen time guidelines*	Most recent data available are the 2007 Australian National Children's Nutrition and Physical Activity Survey, see AIHW 2009.

(continued overleaf)

Table 33.1: Data gaps in existing Key National Indicators (cont'd)

How well are Australia's children learning and developing?		Data availability
Attending early childhood education programs	Attendance at high-quality early childhood educational programs contributes to optimal child development, including cognitive development and successful transition to primary school. *Indicator: Proportion of children attending an educational program in the 2 years before beginning primary school**	No national data are currently available on children attending an early education program in the year before fulltime schooling. A National Early Childhood Education and Care (ECEC) Data Collection has been established, which will be able to provide information on enrolment and attendance at preschool programs. The first collection was conducted in August 2010 and experimental estimates have been released in April 2011 and 2012 (ABS 2012b). However, there remain some data quality issues to be resolved, and the collection is still a mix of aggregate and unit record level data, limiting the capacity at present to report national estimates. Data from the ECEC data collection are expected to be available annually from 2012, pending full implementation of unit record level data.
Social and emotional wellbeing	The consequences of poor social and emotional wellbeing include poor academic performance, persistent physical aggression, mental health issues, adolescent delinquency and antisocial behaviour. *Indicator: Under development**	No suitable data source. See AIHW 2011h and AIHW 2012b for more information.

What kind of families and communities do Australia's children live in?		Data availability
Family functioning	The relationships that children have with their family, particularly their parents, are among the most important influences on child development and psychological wellbeing. Indicator: *Under development*	No suitable data source, see AIHW 2009 for more information.

How safe and secure are Australia's children?		Data availability
School relationships and bullying	Children who are bullied may have higher absenteeism, lower academic achievement, physical and somatic symptoms, anxiety and depression, social dysfunction, and alcohol and substance use. *Indicator: Under development*	No suitable data source, see AIHW 2009.

How well is the system performing in delivering quality health, development and wellbeing actions to Australia's children?		Data availability
Neonatal hearing screening	Hearing impairment at birth often has major, lasting effects on language and communication. However, early diagnosis and intervention can improve language acquisition and, subsequently, educational outcomes and social development. *Indicator: Proportion of children identified as requiring a hearing aid who are then fitted with a hearing aid by 6 and/or 12 months of age*	No suitable data source, see AIHW 2009. The National Neonatal Hearing Screening Framework and associated indicators are currently under review by the Community Care and Population Health Principal Committee. Data development is due to commence following endorsement by the Committee, and Australian Health Minister's Advisory Council.
Quality of child care	Good-quality child care provides support for a child's learning, socialisation, development and their transition to school. *Indicator: Under development*	The Australian Children's Education and care Quality Authority (ACECQA) is a national entity overseeing important changes to early childhood education and care and school age care in Australia. The development of the National Quality Agenda IT System will allow state and territory regulatory authorities and ACECQA to record and report monitoring and compliance information and assessment and rating information. When fully operational, the system will allow providers and services to use a secure portal and seek approvals, provide notification or seek amendments online. The ACECQA will also use this to monitor and evaluate quality and consistency of the implementation of the National Quality Framework for Early Childhood Education and Care. For more information visit the ACECQA website at <http://www.acecqa.gov.au>. This is a potential new data source that may assist with reporting for *A picture of Australia's children* when a measure has been developed.

*Children's Headline Indicator.

Appendix A
POLICY INITIATIVES

The following is an overview of major recent policy frameworks and initiatives relating to children. Note, this list is not exhaustive.

Major recent policy frameworks and initiatives relating to children

Health

The *National Partnership Agreement on Preventive Health* focuses on addressing the rising prevalence of lifestyle-related chronic disease by laying the foundations for healthy behaviours in the daily lives of Australians through settings such as communities, early childhood education and care environments, schools and workplaces, supported by programs and campaigns across smoking, nutrition, alcohol, and physical activity risk factors.

The objectives and outcomes of the Agreement will be achieved by the delivery of 11 initiatives, including one focused on Healthy Children. Funding for this initiative will be used to deliver programs for children from birth to 16 to increase levels of physical activity and improve the intake of fruit and vegetables in settings such as child care centres, preschools and schools.

The *Australian National Breastfeeding Strategy 2010–2015* was developed in response to a 2007 Parliamentary Inquiry into the Health Benefits of Breastfeeding (AHMC 2009; DoHA 2010; House of Representatives Standing Committee on Health and Ageing 2007). The Strategy aims to improve the health, nutrition and wellbeing of infants and young children, and the health and wellbeing of mothers, by protecting, promoting, supporting and monitoring breastfeeding (DoHA 2010).

Early Childhood

The *National Early Childhood Development Strategy, Investing in the Early Years (2009–2020)* seeks to achieve positive early childhood development outcomes and address concerns about individual children's development early, to reduce and minimise the impact of risk factors. Specific outcomes for children relate to improved health, cognitive and social development, leading to improved transition to school and educational, employment, health and wellbeing outcomes. The strategy links with a number of other national reform initiatives that seek to improve early childhood outcomes including the following:

- *National Partnership Agreement on Early Childhood Education (2009–2013)* to deliver universal access to quality early childhood education in the year before school by 2013.

- *National Partnership Agreement on Indigenous Early Childhood Development (2009–2014)* that supports the Closing the Gap targets and focuses on the establishment of Children and Family Centres, increasing access to antenatal care and child and family health services for Indigenous children and their families.

- *National Quality Framework for Early Childhood Education and Care* (commenced on 1 January 2012) is a national quality agenda for early childhood education and care which includes stronger standards, streamlined regulatory approaches, a rating system and an Early Years Learning Framework.

Child and family safety

- *National Framework for Protecting Australia's Children (2009–2020)* outlines a broad range of outcome measures with the long-term goal of 'a substantial and sustained reduction in child abuse and neglect'.

- *National Plan to Reduce Violence against Women and Children (2010–2022)* focuses on primary prevention, improving service delivery and building the evidence base with the goal of enabling women and children to live free from violence in safe communities.

- The development of an *Early Intervention and Prevention Framework* under the *National Disability Agreement*.

- A *National Partnership Agreement on Homelessness*, with a focus on intervening early for children and their families at risk of homelessness (COAG 2009c).

Education

A range of educational reforms have recently been announced including:

- The endorsement of Australia's first national curriculum from Foundation to Year 10 beginning with the learning areas of English, mathematics, science and history in 2010 <http://www.deewr.gov.au/Schooling/Programs/Pages/rnc.aspx>.

- Further funding under the *Smarter Schools National Partnerships for Improving Teacher Quality and Low Socio-economic Status School Communities* <http://ministers.deewr.gov.au/garrett/over-97-million-smarter-schools-across-australia>.

Social Inclusion Agenda

The Australian Government's Social Inclusion Agenda highlights the importance of improving people's wellbeing by supporting individuals and families to participate in society. Priorities of particular relevance to children include addressing the incidence and needs of jobless and homeless families with children, delivering effective support to children at greatest risk of long-term disadvantage and closing the gap in disadvantage for Indigenous children.

Appendix B
METHODS

Crude rates

A crude rate is defined as the number of events over a specified period (for example, a year) divided by the total population at risk of the event.

Age-specific rates

An age-specific rate is defined as the number of events for a specified age group over a specified period (for example, a year) divided by the total population at risk of the event in that age group. Unless otherwise stated, rates presented throughout this report are age-specific.

Age-specific rates in this report were calculated by dividing, for example, the number of hospital separations or deaths in each specified age group by the corresponding population in the same age group.

Age-standardised rates

Age-standardised rates enable comparisons to be made between populations that have different age structures. Direct standardisation was used in this report, in which the age-specific rates are multiplied by a constant population. This effectively removes the influence of the age structure on the summary rate. Where age-standardised rates have been used, this is stated throughout the report.

All age-standardised rates in this report have used the June 2001 Australian total estimated resident population as the standard population.

Rate ratio

Rate ratios are calculated by dividing the proportion of the study population (for example, Indigenous Australians) with a particular characteristic by the proportion of the standard population (for example, non-Indigenous Australians) with the same characteristic.

A rate ratio of 1 indicates that the prevalence of the characteristic is the same in the study and standard populations. Rate ratios of greater than 1 indicate higher prevalence in the study population and rate ratios of less than 1 indicate higher prevalence in the standard population.

Confidence intervals

The observed value of a rate may vary due to chance even where there is no variation in the underlying value of the rate. Therefore, where indicators based on survey data include a comparison between time periods, geographical locations, socioeconomic groups or by Indigenous status, 95% confidence intervals have been calculated. The confidence intervals are used to provide an approximate indication of the true difference between rates. They are shown on graphs as error bars. If the error bars do not overlap, the difference can be said to be statistically significant. However, in some instances where the confidence intervals (and error bars) overlap only slightly, a further significance test can indicate a statistically significant difference. Where this is the case, the difference has been noted in the text and can be taken as significant.

As with all statistical comparisons, care should be exercised in interpreting the results of the comparison. If two rates are statistically significantly different from each other, this means that the difference is unlikely to have arisen by chance. Judgment should, however, be exercised in deciding whether or not the difference is of any practical significance.

In this report, differences have been reported based on 95% confidence intervals. These confidence intervals are available on request.

For survey data, significance testing was undertaken using information about sampling variability.

Population data

The ABS estimated resident population (ERP) data were used to calculate most of the rates presented in this report, except where the denominator was available from within the data source (for example, indicators for which data were derived from the National Perinatal Data Collection or the Australian Childhood Immunisation Register).

Age-specific rates were calculated using the ERP of the reference year as at 30 June for calendar year

data (1 January to 30 December) and 31 December for financial year data (1 July to 30 June). For this report, population data for December 2006 onwards were available as preliminary estimates only. Final estimates were used for all earlier years.

The denominator for rates by socioeconomic status and remoteness area were calculated by applying an ABS concordance between statistical local area (SLA) and socioeconomic status and between SLA and remoteness area, to the relevant ERP by SLA counts.

The most recent direct count of the Indigenous population, for which data were available for this publication, was the 2006 Census. The ABS has also released projected estimates for the Indigenous population for more recent years, based on the 2001 Census.

Population groups

Aboriginal and Torres Strait Islander people

Throughout this report, where analysis excludes cases where Indigenous status is not stated or inadequately described, the categories used for presentation of the data are *Indigenous children* and *Non-Indigenous children*. Where analysis includes these cases where Indigenous status is not stated or inadequately described, the categories used for presentation of the data are *Indigenous children* and *Other children*.

Mortality data quality

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

Indigenous status data are currently of sufficient quality to report for four jurisdictions only: New South Wales, Queensland, South Australia and the Northern Territory combined, based on state and territory of usual residence. Victoria, Tasmania and the Australian Capital Territory are excluded due to small numbers of registered Aboriginal and Torres Strait Islander deaths. Western Australian data are excluded due to an ongoing investigation into unusual volatility in 2007, 2008 and 2009. For additional information see paragraph 36 of

the Explanatory Notes of *Deaths, Australia, 2010* (ABS 2011d). Queensland deaths data for 2010 have been adjusted to minimise the impact of the late registration of deaths on mortality indicators. For additional information see the Technical Note Registration of Outstanding Deaths, Queensland, 2010 in *Deaths, Australia, 2010* (cat. no. 3302.0). Jurisdictions' data are subject to change over time and care must therefore be taken when interpreting trend data. Data are not necessarily representative of excluded jurisdictions.

Due to the small numbers of deaths among Indigenous children, 3 years of mortality data have been combined for analysis in this report (2008–2010). Where Indigenous status is 'Not stated/ inadequately described', these deaths have been excluded from the analysis. As such, the categories used for presentation of mortality analysis are *Indigenous Australians* and *non-Indigenous Australians*.

Hospital data quality

Hospital separations data from New South Wales, Victoria, Queensland, Western Australia, South Australia and public hospitals in the Northern Territory are considered to have sufficient completeness of Indigenous identification for analysis. Where Indigenous status is 'Not stated/ inadequately described', these separations are included with those for non-Indigenous people. As such, the categories used for presentation of hospital separations are *Indigenous Australians* and *Other Australians*.

Interpretation of Indigenous mortality and hospital separation results should take into account the relative quality of the data from these jurisdictions and the fact that data from these jurisdictions are not necessarily representative of the excluded jurisdictions.

Survey data quality

There are many logistical, analytical and conceptual challenges in surveying the Aboriginal and Torres Strait Islander population, as the population is relatively small and less accessible; Indigenous Australians account for 2.5% of the total population, one-quarter of whom live in *Remote* or *Very remote* areas. Although there are a number of surveys specifically relating to the Indigenous population, such as the ABS National Aboriginal and Torres Strait Islander Health and Social Surveys, these surveys do not collect information for many of the indicators or for the relevant age group covered in this report. The small size of the Indigenous

child population results in estimates from surveys being based on a small number of events which are subject to uncertainty, meaning data for many of the indicators are therefore not sufficiently robust to present.

Remoteness area

Except where otherwise stated, this report uses the Australian Standard Geographical Classification (ASGC), which groups geographic areas into five classes. These classes are based on Census Collection Districts and are defined using the Accessibility/Remoteness Index of Australia (ARIA). ARIA is a measure of the remoteness of a location from the services provided by large towns or cities. A higher ARIA score denotes a more remote location. The five classes of the ASGC Remoteness classification, along with a sixth 'Migratory' class, are listed in Table B.1.

Table B.1: Remoteness Areas in the ASGC Remoteness Structure

Classes	Collection districts (CDs) within class
Major cities of Australia	CDs with an average ARIA index value of 0 to 0.2
Inner regional Australia	CDs with an average ARIA index value greater than 0.2 and less than or equal to 2.4
Outer regional Australia	CDs with an average ARIA index value greater than 2.4 and less than or equal to 5.92
Remote Australia	CDs with an average ARIA index value greater than 5.92 and less than or equal to 10.53
Very remote Australia	CDs with an average ARIA index value greater than 10.53
Migratory	Off-shore, shipping and migratory CDs

Source: ABS 2008c.

Socioeconomic status

The Socio-Economic Index for Areas (SEIFA) are summary measures of socioeconomic status (SES), and summarise a range of socioeconomic variables associated with disadvantage. Socioeconomic disadvantage is typically associated with low income, high unemployment and low levels of education. Unless otherwise stated, the SEIFA index used in this report is the 2006 SEIFA Index of Relative Socioeconomic Disadvantage (IRSD), developed by the ABS for use at the statistical local area level. See Adhikari 2006 for the complete list of variables and corresponding weights used for the IRSD.

Since the IRSD only summarises variables that indicate disadvantage, a low score indicates that an area has many low-income families, many people with little training and many people working in unskilled occupations; and this area may be considered as disadvantaged relative to other areas. A high score implies that the area has few families with low incomes and few people with little or no training and working in unskilled occupations. These areas with high index scores may be considered less disadvantaged relative to other areas. It is important to understand that a high score reflects a relative lack of disadvantage rather than advantage, and that the IRSD relates to the average disadvantage of all people living in a geographic area and cannot be presumed to apply to all individuals living within the area. For further information see Adhikari 2006.

SEIFA quintiles were used for this report (unless otherwise stated), with quintile 1 representing the most relatively disadvantaged areas and quintile 5 representing the least relatively disadvantaged areas. Throughout this report, the most disadvantaged quintile is referred to as *Lowest SES areas* and the least disadvantaged quintile is referred to as *Highest SES areas*.

Mortality data

Mortality data presented in this report for the years 2008–10 were sourced as customised reports from the ABS. Mortality data prior to 2008 are from the AIHW National Mortality Database (see Appendix C: Data sources). Unless otherwise stated, mortality analysis in this report is based on year of registration of death; results may therefore differ slightly from data based on year of death. Data presented by state and territory are based on the state or territory of usual residence, except for analysis by Indigenous status, which is based on state or territory of death registration unless otherwise stated. Data issues relating to a specific mortality analysis are footnoted in tables and figures throughout the report. Mortality analysis in this report is based on underlying cause of death (rather than multiple cause of death), unless otherwise stated.

Cause of death classification

Australia uses the International Statistical Classification of Diseases and Related Health Problems for coding of causes of death. The ninth revision (ICD-9) is available for the years 1979–1998 and the tenth revision from 1999 onwards. The ABS backcoded the 1997 and 1998 cause of death data

in ICD-10 and consequently causes of death were dual-coded in ICD-9 and ICD-10 for these years. In this report, trend data for mortality used ICD-10 from 1997 onwards.

There are comparability factors available between ICD-9 and ICD-10. The comparability factors indicate the effect of the change on a particular code over time and can provide a means of bridging data between two revisions when presenting trend data. Where comparability factors have been applied, this is noted throughout the report.

The ICD-9 and ICD-10 codes used for analysis in this report are listed in Table B.2.

Hospital diagnosis classification

For hospital diagnosis, the International Statistical Classification of Diseases and Related Health Problems is used with modifications. ICD-9-CM is a clinical modification of ICD-9, and has been used in the AIHW National Hospital Morbidity Database (NHMD) from 1993–94 to 1997–98. ICD-10-AM is an Australian modification of ICD-10, and has been used in the AIHW NHMD from 1998–99 onwards.

All hospital data presented in this report are based on principal diagnosis. Records where care type was recorded as newborn (unqualified days only), posthumous organ procurement or hospital boarder were excluded from analysis, as they do not represent admitted patient care. The ICD-9-CM and ICD-10-AM codes used for analysis in this report are listed in Table B.2.

The AIHW has devised a new grouping system for cancers of the blood and lymphatic system (ICD–10 codes of C81–C96, D45, D46, D47.1 and D47.3). The new groupings are more closely aligned with the current understanding of these cancers. For more information, see AIHW & Australasian Association of Cancer Registries 2010.

Injury and poisoning

There are a number of issues to be considered when performing injury and poisoning analysis on mortality and hospital separations. The methods and ICD codes used in this report are consistent with those used by the AIHW National Injury Surveillance Unit. These methods are summarised here, but are described in detail in Henley et al. 2007 (for mortality) and Berry & Harrison 2007 (for hospital separations).

Injury mortality analysis

Injury mortality analysis, based on the AIHW National Mortality Database, uses multiple causes of death, rather than underlying cause of death. This approach provides more valid estimates of injury incidence, and a more complete and reliable picture of the burden of injury mortality. The criterion used to select injury deaths was an ICD-10 multiple cause of death code in the range S00–T75, or T79; or an underlying cause of death code in the range V01–Y36, Y85–Y87, or Y89. Cases meeting this criterion are referred to as community injury, and exclude cases relating to complications of surgical and medical care.

The criterion used to select accidental drowning deaths was:

- multiple cause of death code: S00–T75, or T79 and W65–W74; or
- multiple cause of death code: T75.1 and V01–X59; or
- underlying cause of death code of V01–Y36, Y85–Y87, or Y89.

Injury hospital morbidity analysis

In this report, an approximate method has been used to reduce over-counting of injury cases, by omitting records in which the mode of admission is recorded as being a transfer from another acute-care hospital. These records have been excluded, as they are likely to result in multiple counting of the one injury case. This is consistent with other AIHW reports on injury (see, for example, Berry & Harrison 2007).

The criterion used to select injury hospitalisations was an ICD-10-AM principal diagnosis code in the range S00–T75 or T79. Cases meeting this criterion are referred to as community injury, and exclude cases relating to complications of surgical and medical care.

Specific causes of injury hospitalisation are further classified according to external cause codes in the ICD-10-AM range V01–Y98. As multiple external causes can be recorded, only the first reported external cause per hospitalisation was selected (that is, one external cause per injury hospitalisation). See Table B.3 for the external cause codes used for specific causes of injury hospitalisation.

Table B.2: ICD codes used in this report for mortality and hospital morbidity analysis[a]

	ICD-9 and ICD-9-AM	ICD-10 and ICD-10-AM
Asthma	..	J45–J46
Diabetes	..	E10–E14,
Cancer	140–208, 238.4, 238.6, 238.7, 273.3, 273.8, 273.9	C00–C97, D45–D46, D47.1, D47.3
Brain	..	C71
Kidney	..	C64
All leukaemia	..	C91.0, C91.1, C91.2–C91.9, C92.1, C92.0, C92.3–C92.5, C93.0, C94.0, C94.2, C94.4–C94.5, C92.2, C92.7, C92.9, C93.1–C93.9, C94.7.
Acute lymphoblastic leukaemia,		C91.0
Acute myeloid leukaemia	..	C92.0, C92.3–C92.5, C93.0, C94.0, C94.2, C94.4–C94.5
Non-Hodgkin lymphoma	..	C82–C85, C96
Mental and behavioural disorders	..	F00–F99
Diseases of the nervous system	..	G00–G99
Diseases of the circulatory system	..	I00–I99
Injury and poisoning[b]	..	V01–Y98
Symptoms, signs and ill-defined conditions	..	R00–R99
Sudden infant death syndrome	7980	R95
Other symptoms, signs and abnormal findings	..	R00–R94, R96–R99
Perinatal conditions	..	P00–P96
Disorders of short gestation and low birthweight	..	P07
Fetus and newborn affected by maternal complications of pregnancy	..	P01
Fetus and newborn affected by complications of placenta, cord and membranes	..	P02
Other perinatal conditions	..	P03–P06, P08–P96
Congenital anomalies	..	Q00–Q99
Congenital malformations of the circulatory system	..	Q20–Q28
Other congenital anomalies	..	Q00–Q19, Q29–Q99

(a)   Unless otherwise indicated throughout the report.

(b)   Injury and poisoning analysis presented in 'Chapter 25 Injuries' uses the criteria described in the section *Injury and poisoning*.

Table B.3: ICD-10-AM codes used in this report for injury hospital morbidity analysis

	External cause codes
Land transport accidents	V01–V89
Falls	W00–W19
Exposure to smoke, fire and flames	X00–X09
Burns and scalds	X10–X19
Accidental poisoning	X40–X49
Intentional self-harm	X60–X84
Assault	X85–Y09

Appendix C

DATA SOURCES

AIHW and collaborating units data sources

AIHW National Child Protection Data Collection

The AIHW collects annual statistics on child protection in Australia for children and adolescents aged 0–17 years. Aggregate data are provided by the state and territory departments responsible for child protection and are used to produce *Child protection Australia* and are also provided to the Productivity Commission for the *Report on government services*.

There are six separate child protection sub-collections: child protection notifications, investigations and substantiations; children on care and protection orders; children in out-of-home care; foster carers; relative/kinship carers; and intensive family support services.

Data availability: Annual from 1991 onwards

Further information: <http://www.aihw.gov.au/child-protection/#collect>

AIHW National Drug Strategy Household Surveys (NDSHS)

The NDSHS is a key data collection under the National Drug Strategy. The surveys began in 1985 and the AIHW has managed them since 1998. These are national surveys providing cross-sectional data on alcohol and other drug use in Australia. The surveys provide estimates of licit and illicit drug use. They also measure community attitudes to drug use, and awareness of and community support for various drug-related policies.

Currently the NDSHS is the only source of national data which asks women whether they consumed alcohol while pregnant, while breastfeeding, or while pregnant and breastfeeding in the previous 12 months. Detailed information about the quantity and regularity of alcohol consumption during pregnancy is not available from this survey. Alcohol consumption during pregnancy has been proposed for inclusion in the Perinatal National Minimum Data Set and is undergoing further development.

The 2010 NDSHS was conducted between April and September 2010 and is the 10th survey in the series. Over 26,600 Australians aged 12 years or older participated in the survey, in which they were asked about their knowledge of and attitudes towards drugs, their drug consumption histories and related behaviours.

The data collected from these surveys have contributed to the development of policies for Australia's response to drug-related issues.

The NDSHS sample is designed to be representative of the Australian population therefore all the proportions presented are proportions of the population. The sample was designed to provide a random sample of households within each geographic stratum. Respondents within each stratum were assigned weights to overcome imbalances arising in the design and execution of the sampling. The main weighting took into account geographical stratification, household size, age and sex. The population estimates, used for the weighting, were based on the latest available age/sex profile of each stratum using the latest published ABS-estimated resident population data.

Further information on demographics is available at <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3101.0Mar%202010>

Data availability: Triennially from 1985

Further information: AIHW 2011b or <http://www.aihw.gov.au/publication-detail/?id=32212254712>

AIHW National Hospital Morbidity Database (NHMD)

The NHMD is compiled by the AIHW from data supplied by the state and territory health authorities. It is a collection of electronic confidentialised summary records for separations (that is, episodes of care) in public and private hospitals in Australia. Almost all hospitals in Australia are included in the database: public acute and public psychiatric hospitals, private acute and psychiatric hospitals, and private free-standing day hospital facilities.

Hospital records are for 'separations' and not individuals, and as there can be multiple admissions for the same individuals, hospital separation rates do not usually reflect the incidence or prevalence of the disease or condition in question.

The collection contains establishment data (information about the hospital), patient demographic data, administrative data, length of stay data, and clinical and related data.

Data availability: Annual from 1993–94 onwards

Further information:< http://www.aihw.gov.au/national-hospital-morbidity-database/>

Data quality statement: <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=10737421911>

Australian National Infant Feeding Survey (ANIFS)

The 2010 ANIFS collected national baseline data on a range of infant feeding practices, including prevalence data on the initiation, duration and intensity of breastfeeding, from a cohort of infants aged 0–2 at the time of the survey (AIHW 2011a). Prior to this survey, there was limited national data to effectively monitor infant feeding practices. Further, due to a lack of standardised measures and inconsistent use of definitions, it was difficult to compare studies of breastfeeding rates.

The ANIFS is funded by the Australian Government Department of Health and Ageing and managed by the AIHW.

The objectives of the ANIFS are to collect and report:

- national baseline data on the prevalence and duration of breastfeeding
- national baseline data on other foods and drinks consumed by infants and toddlers
- national baseline data on perinatal depression
- national barriers to initiating and continuing breastfeeding by exploring the associations with demographic information and other characteristics of the infant and parent/carer.

The ANIFS was conducted between November 2010 and January 2011.

Data availability: 2011

Further information: <http://www.aihw.gov.au/publication-detail/?id=10737420927>

AIHW National Mortality Database

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

Data availability: Annual from 1964 onwards

Data quality summary: <http://www.abs.gov.au/Ausstats/abs@.nsf/0/D4A300EE1E04AA43CA2576E800156A24>

<http://www.abs.gov.au/Ausstats/abs@.nsf/0/9FD0E6AAA0BB3388CA25750B000E3CF5>

Further information: <http://www.aihw.gov.au/deaths/>

AIHW National Perinatal Data Collection (NPDC)

The AIHW NPDC is a national population-based cross-sectional data collection of pregnancy and childbirth. The data are based on births reported to the perinatal data collection in each state and territory in Australia. Midwives and other staff, using information obtained from mothers and from hospital or other records, complete notification forms for each birth. Selected information is then compiled annually into this national data set by the AIHW National Perinatal Epidemiology and Statistics Unit. Information is included in the NPDC on both live births and stillbirths of at least 400 grams birthweight or at least 20 weeks gestation.

Data availability: Annual from 1991 onwards

Further information: <http://www.preru.unsw.edu.au/PRERUWeb.nsf/page/NPDC>

Child Dental Health Survey

The Child Dental Health Survey is an annual survey that monitors the dental health of children and young people enrolled in school dental services operated by the Australian state and territory health departments. This survey represents the only data

routinely collected by all states and territories on child dental health.

Data for the Child Dental Health Survey are derived from routine examinations of children enrolled in school dental services. The survey collects information on selected demographic characteristics and dental health status, including decay experience of deciduous and permanent teeth, immediate treatment needs (some states and territories only) and fissure sealants.

Data availability: Annual from 1990

Further information: Armfield et al. 2007

Disability Services National Minimum Data Set (DS NMDS)

From 1 January 2009, the National Disability Agreement (NDA) replaced the Commonwealth State/Territory Disability Agreement (CSTDA) (<http://www.aihw.gov.au/cstda-nmds-collection/>) for the provision of disability services in Australia. From 1 July 2009, the CSTDA NMDS is referred to as the Disability Services NMDS even though there are no changes to the structure or content of the NMDS.

The 2009–10 DS NMDS provides data on users of all NDA-funded services, users of all Government-provided NDA-funded services and users of all non-Government-provided NDA-funded services. Specific items include age, sex, country of birth, primary disability, Indigenous status, presence of other disability, living arrangements, need for support or assistance in activities of daily living, residential setting, need for interpreter services, existence of an informal carer, labour force status and individual funding status.

Data availability: 1999–2002 (snapshot day collections only); financial year collections from 2003–04 onwards

Further information: <http://www.aihw.gov.au/disability-services-nmds-collection/>

Juvenile Justice National Minimum Data Set (JJ NMDS)

The JJ NMDS is a joint project between the Australasian Juvenile Justice Administrators (AJJA) and the AIHW and is an annual national collection of information on young people who were supervised by juvenile justice agencies in Australia, both in the community and in detention. It contains flow data from 2000–01 for all states and territories in Australia (except the Australian

Capital Territory—data are available from 2003–04). Data are provided by the department responsible for juvenile justice in each jurisdiction. The JJ NMDS provides nationally consistent data on young people's experience of juvenile justice supervision, both in the community and in detention and is designed to provide relevant and comparable information that will contribute to the national monitoring of juvenile justice policies and programs.

Information collected includes the number and characteristics of young people under juvenile justice supervision (age, sex, Indigenous status, age at first supervision), supervised orders (order start and end dates, end reason, order type) and detention periods (start and end dates, end reason and detention type).

Data availability: Annual from 2000–01 onwards

Further information: <http://www.aihw.gov.au/juvenile-justice/>

Data quality statement: <http://meteor.aihw.gov.au/content/index.phtml/itemId/490897>

National Cancer Statistics Clearing House (NCSCH)

Information on cancer diagnosed in the Australian population is provided by the state and territory cancer registries to the NCSCH, which is maintained by the AIHW. The NCSCH is the only national database of cancer incidence in Australia. It contains information on incidence, mortality, specific cancer sites, cancer histology, differentials in cancer rates by country of birth, geographical variation, trends over time and survival.

Data items enable record linkage to be performed (for example, to the National Death Index) and the analysis of cancer by site and histology.

Data availability: Annual from 1982 onwards

Further information: <http://www.aihw.gov.au/national-cancer-statistics-clearing-house/>

Data quality statement: <http://meteor.aihw.gov.au/content/index.phtml/itemId/480402>

National Diabetes Register (NDR)

The NDR, held at the AIHW, is a register of people living in Australia with insulin-treated diabetes. This includes persons using insulin to manage Type 1, Type 2, gestational and other types of diabetes. People are eligible to be on the NDR if they use

insulin to treat their diabetes and their insulin use began on or after 1 January 1999.

The NDR has two main data sources:

- the National Diabetes Services Scheme database, administered by Diabetes Australia
- the Australasian Paediatric Endocrine Group's state and territory database registers, which collect information on young people (under 15 years of age) with diabetes.

Data availability: Annual from 1999 onwards

Further information: <http://www.aihw.gov.au/national-diabetes-register/>

Data quality statement: <http://www.aihw.gov.au/WorkArea/DownloadAsset.aspx?id=10737421351&libID=10737421351>

Supported Accommodation Assistance Program (SAAP) National Data Collection (replaced by the Specialist Homelessness Services (SHS) on 1 July 2011)

The SAAP National Data Collection provided annual information on the provision of assistance through SAAP from 1996–97 to 2010–11. The National Data Collection consisted of distinct components, each of which can be thought of as a separate collection— the Client Collection, the Administrative Data Collection and the Demand for Accommodation Collection.

The Client Collection collected information about all clients receiving SAAP support of at least 1 hour duration. Data collected include basic sociodemographic information and information on the services requested by, and provided to, each client. Information about each client's situation before and after receiving SAAP support was also collected. The Administrative Data Collection provides information about the agencies providing SAAP accommodation and support services. The Demand for Accommodation Collection is conducted twice a year for two 1-week periods. It measures the level of unmet demand for SAAP accommodation by collecting information about the number of requests for accommodation from SAAP agencies that are not met, for whatever reason.

Data availability: Annual from 1996–97 to 2010–11

Further information: <http://www.aihw.gov.au/supported-accommodation-assistance-program/>

ABS data sources

ABS Births, Australia

The ABS compiles aggregate statistics on live births, based on data the parent(s) of the child provide to the state and territory Registrars of Births, Deaths and Marriages. The collection includes information on births to mothers whose place of usual residence is outside Australia and on births that occurred to Australian nationals employed overseas.

The statistics in the *Births, Australia* publications refer to births registered during the relevant calendar year. As there is usually an interval between the occurrence and registration of a birth, some births occurring in one year are not registered until the following year, or even later.

Data availability: Annual from 1993 onwards

Further information: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/mf/3301.0>

Data quality summary: <http://www.abs.gov.au/Ausstats/abs@.nsf/0/85F19B895CFAA211CA25766A001280E9>

ABS Causes of death, Australia

The ABS compiles aggregate statistics on the causes of all deaths that occur and are registered in Australia. The ABS Causes of death collection includes deaths of persons in Australia whose place of usual residence is overseas, but excludes deaths of Australian residents that occur outside Australia.

ABS cause of death statistics are based on data provided by the state and territory Registrars of Births, Deaths and Marriages. This includes information about the cause of death as supplied by the medical practitioner certifying the death or by a coroner, as well as information about the deceased supplied by a relative or other person acquainted with the deceased, or by an official of the institution where the death occurred. The ABS supplements this data with information from the National Coroners Information Service (NCIS).

The statistics in the *Causes of death, Australia* publications, and those presented in this report, refer to deaths registered during the relevant calendar year. As there is usually an interval between the occurrence and registration of a death, some deaths occurring in one year are not registered until the following year, or even later.

Data availability: Annual from 1964 onwards

Further information: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3303.0>

Data quality summary: <http://www.abs.gov.au/Ausstats/abs@.nsf/0/D4A300EE1E04AA43CA2576E800156A24>

ABS Census of Population and Housing

The Census aims to provide an accurate measure of the number of people in Australia (excluding Norfolk Island) at their usual place of residence on Census night, their key demographic, social and economic characteristics, and the dwellings in which they live. The Census reports on a range of topics including population, cultural diversity, community, living arrangements, education, work, economic resources and housing.

The Census includes all people in Australia on Census Night, with the exception of foreign diplomats and their families. Visitors to Australia are counted regardless of how long they have been in the country or how long they plan to stay. Australian residents out of the country on Census Night are out of scope of the Census.

Data availability: 1911 onwards; 5 yearly from 1976

Further information: <http://www.abs.gov.au/census>

ABS Childhood Education and Care Survey (CEaCS)

The CEaCS was conducted for the first time in June 2008. Prior to the CEaCS, the ABS conducted the Child Care Survey (CCS) triennially between 1969 and 2005. The main aims of the CCS were to provide information on the use and cost of child care in a survey (related to care usage in a survey reference week), and some aspects of families' requirements for formal care or preschool.

In addition to this information, the CEaCS collected information for the first time on early childhood education and learning (the types of learning activities in which children aged 0–8 engage, the environments in which these activities take place, and patterns of attendance at preschool and school).

The scope of the 2011 CEaCS was Australian resident children aged 0–12 and their families living in private dwellings in non-remote Australia. The CEaCS excludes people living in *Very remote* parts of Australia. For the Northern Territory, this represents over 20% of the population. In each selected household, detailed information about

child care arrangements and early childhood education was collected for a maximum of two children aged 0–12. Information was obtained via interview from an adult who permanently resided in the selected household and was the child's parent, step-parent or guardian.

Data availability: Child Care Survey: triennial from 1969 to 2005; Childhood Education and Care Survey: 2008, 2011

Further information: ABS 2009a and <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4402.0>

Data quality summary: <http://www.abs.gov.au/Ausstats/abs@.nsf/0/6EF8CC70C77E0A68CA2579F30011EA6C>

ABS Deaths, Australia

The ABS compiles aggregate statistics on all deaths that occur and are registered in Australia, based on data provided by the state and territory Registrars of Births, Death and Marriages. The ABS Deaths Registration collection includes deaths of persons in Australia whose place of usual residence is overseas, but excludes deaths of Australian residents that occur outside Australia.

The statistics in the *Deaths, Australia* publications, and those presented in this report, refer to deaths registered during the relevant calendar year. As there is usually an interval between the occurrence and registration of a death, some deaths occurring in one year are not registered until the following year, or even later.

Data availability: Annual from 1964 onwards

Further information: <http://www.abs.gov.au/ausstats/abs@.nsf/mf/3302.0>

Data quality summary: <http://www.abs.gov.au/Ausstats/abs@.nsf/0/9FD0E6AAA0BB3388CA25750B000E3CF5>

ABS Family Characteristics Survey

The Family Characteristics Survey collects information on household and family composition including demographics, labour force status and family type. Previous surveys are the Survey of Families in Australia, the Family Transitions and History Survey and the Family Characteristics and Transitions Survey. This survey provides detailed information on families with children aged 0–17 such as family structure, the social marital status of parents and contact and visiting arrangements for

children with non-resident parents. The 2009–10 survey also collected information about children's contact with their grandparents and about child support arrangements for children with a natural parent living elsewhere. Child support data includes the type of child support arrangement, the number of children covered by the arrangement and the amount and frequency of child support payments received or made. The Survey excludes people living in *Very remote* parts of Australia. For the Northern Territory, this represents over 20% of the population.

Data availability: 1992 (Survey of Families in Australia), 1997 and 2003 (Family Characteristics Survey), 2006–07 (Family Characteristics and Transitions Survey) and 2009–10 (Family Characteristics Survey)

Further information: <http://www.abs.gov.au/ ausstats/abs@.nsf/mf/4442.0>

ABS General Social Survey (GSS)

The ABS conducted the GSS in 2002, 2006 and 2010, with plans to repeat the survey at 4-yearly intervals. The aims of the GSS are to collect data on a range of social dimensions of the Australian community at a single point in time; enable analysis of the interrelationship of social circumstances and outcomes, including the exploration of multiple advantage and disadvantage; and provide a base for comparing social circumstances and outcomes over time and across population groups.

The focus of the GSS is on the relationships between characteristics from different areas of social concern, rather than in-depth information about a particular field. Topics include demographic characteristics, health and disability, housing, education, employment, income, financial stress, assets and liabilities, information technology, transport, family and community, crime and feelings of safety, attendance at culture and leisure venues, sports attendance and participation, social networks and social participation, voluntary work and visa category. The 2010 survey included new topics relating to social inclusion, such as experience of homelessness and financial resilience and exclusion.

The Survey excludes people living in *Very remote* parts of Australia. For the Northern Territory, this represents over 20% of the population.

Data availability: 2002, 2006 and 2010

Further information: ABS 2010b or <http://www.abs.gov.au/ausstats/abs@.nsf/ mf/4159.0 >

ABS National Aboriginal and Torres Strait Islander Social Survey (NATSISS)

The 2008 NATSISS was conducted between August 2008 and April 2009. Information was collected about the Aboriginal and Torres Strait Islander populations for a wide range of areas of social concern including health and disability (including infant and maternal health), education, employment, income, financial stress, housing, language and culture and social networks and support. This information was collected by personal interview from about 13,300 Aboriginal and Torres Strait Islander people aged 15 years and over and for Indigenous children aged 0–14 years throughout Australia, including those living in *Remote* areas and discrete communities.

Data availability: 1994, 2002 and 2008

Further information: < http://www.abs.gov.au/ AUSSTATS/abs@.nsf/mf/4714.0/>

Data quality summary: <http://www.abs.gov.au/ Ausstats/abs@.nsf/0/899037D72D9CA0CDCA25765E 0015A794>

ABS National Health Survey (NHS)

The 2007–08 NHS was conducted between August 2007 to June 2008 and collected information from around 21,000 people. Both urban and rural areas in all states and territories were included, but *Very remote* areas of Australia were excluded. One person aged 18 years and over in each dwelling was selected and interviewed about their own health and, if there were children resident, an adult was asked about the health of one child.

The NHS collected information on the health status of the population, and on health-related aspects of people's lifestyles such as, smoking, diet, exercise and alcohol consumption. Other information on the use of health services (such as, consultations with health practitioners, visits to hospital, days away from work and other actions people have recently taken for their health) was also collected, along with demographic and socioeconomic characteristics.

The NHS is a comprehensive survey of the Australian population; however, the survey population may not be sufficiently large to obtain

accurate information about people of a given age with a particular disease.

Data availability: 1977–78, 1983, 1989–90, 1995, 2001, 2004–05, 2007–08

Further information: <http://www.abs.gov.au/ ausstats/abs@.nsf/mf/4364.0>

ABS Recorded crime—victims

Recorded crime—victims, Australia is an annual publication that presents national crime statistics relating to victims of a selected range of both completed and attempted offences that police have recorded. These statistics provide indicators of the level and nature of recorded crime victimisation in Australia and are a basis for measuring change over time. The statistics for the publication are derived from administrative systems maintained by state and territory police. Offences reported on include homicide, assault, sexual assault, kidnapping/ abduction and robbery however, national data for assault is not available from this publication.

A break in the series in 2010 due to changes in police recording practices, implementation of a new offence classification and completion of the National Crime Recording Standard has meant that comparisons cannot be made between 2011 data and data published prior to this time.

Data availability: Annual from 1993 onwards

Further information: <http://www.abs.gov.au/ ausstats/abs@.nsf/mf/4510.0>

Data quality summary: <http://www.abs.gov.au/ Ausstats/abs@.nsf/0/311717D31A39554DCA2579AA 000F2CFF>

ABS Survey of Disability, Ageing and Carers (SDAC)

The SDAC collects information about people of all ages with a disability, older people (aged 60 years and over), and people who provide assistance to older people and people with disabilities.

The aims of the survey are to measure the prevalence of disability in Australia and the need for support of older people and those with a disability; provide a demographic and socioeconomic profile of people with disabilities, older people and carers compared with the general population; and to estimate the number of, and provide information about, people who provide care to older people and people with disabilities. The Survey excludes people living in *Very remote*

parts of Australia. For the Northern Territory, this represents over 20% of the population.

People with disability were asked questions relating to help and assistance needed and received for self-care, mobility, communication, health care, cognition and emotion, reading and writing tasks and transport activities. They were also asked about their computer/Internet use and participation in community activities. Those aged 5–20 (or their proxies) were also asked about schooling restrictions and 15–64 year olds about employment restrictions.

The most recent survey was conducted in April to December 2009.

Data availability: 1981, 1988, 1993, 1998, 2003 and 2009

Further information: ABS 2010a or <http://www.abs.gov.au/ausstats/abs@.nsf/ mf/4430.0>

Data quality summary: <http://www.abs.gov.au/ Ausstats/abs@.nsf/0/ FB632AC7C773292BCA2577FA0011C48D>

ABS Survey of Income and Housing (SIH)

The ABS SIH (previously known as the Survey of Income and Housing Costs) is a household survey that collects information from residents aged 15 and over on sources of income and amount received, and also housing, household and personal information. In 2007–08, the sample for the SIH was around 10,000 households. The SIH excludes people living in *Very remote* parts of Australia. For the Northern Territory, this represents over 20% of the population.

As income received by individuals is often shared between members of a household, equivalised household income is a commonly used measure in analysis of the SIH. Equivalised household income is calculated by using an equivalence scale to adjust household income for household size and composition. This survey allows analysis of the amount of income received and the source of that income, and how factors such as these vary depending on age, state or territory, the remoteness of the household, or household size. It is also possible to examine housing circumstances such as the rate of home ownership among various groups.

Data availability: Most years from 1994–95 to 2003– 04 (no survey was run in 1998–99 or 2001–02), 2005–06, 2007–08

Further information: <http://www.abs.gov.au/
AUSSTATS/abs@.nsf/DOSSbyTopic/F0CDB39ECC09
2711CA256BD00026C3D5?OpenDocument>

Other data sources

Australian Childhood Immunisation Register (ACIR)

The ACIR was established in 1996 and records information on the immunisation status of children aged less than 7 who are enrolled in Medicare; children not eligible to enrol in Medicare can also be added to the ACIR. The aims of the ACIR are to provide an accurate measure of the immunisation coverage of children in Australia and to provide an effective management tool for monitoring immunisation coverage and service delivery. Health professionals use the ACIR to monitor immunisation coverage levels, service delivery and disease outbreaks.

Data availability: Quarterly from March 1998 onwards

Further information:
<http://www.medicareaustralia.gov.au/provider/
patients/acir/statistics.jsp>

Australian Early Development Index: Building Better Communities for Children (AEDI)

The AEDI was completed nationwide for the first time in 2009. Information was collected on over 260,000 Australian children (97.5 per cent of the estimated 5 year old population) in their first year of full-time school between 1 May and 31 July. COAG has endorsed the AEDI as a national progress measure of early childhood development in Australia.

The AEDI is a population measure of children's health and development, based on the scores from a teacher-completed checklist in their first year of formal schooling. It aims to provide communities with a basis for reviewing the services, supports and environments that influence children in their first 5 years of life. The AEDI measures development in five domains:

- physical health and wellbeing
- social competence
- emotional maturity
- language and cognitive skills (school-based)
- communication skills and general knowledge.

The Australian Government funds the AEDI and it is conducted by the Centre for Community Child

Health (at The Royal Children's Hospital, Melbourne and a key research centre of the Murdoch Children's Research Institute) in partnership with the Telethon Institute for Child Health Research, Perth.

Data availability: 2009

Further information: <http://ww2.rch.org.au/aedi/
index.cfm?doc_id=13051>

Australian Institute of Criminology National Homicide Monitoring Program (NHMP)

The Australian Institute of Criminology has operated the NHMP since 1990.

The purpose of the program is to identify the characteristics of individuals that place them at risk of homicide victimisation, and of offending and the circumstances that contribute to the likelihood of a homicide occurring. The two main data sources used by the program are police records and coronial files.

Data availability: Annual from 1989–90 onwards

Further information: <http://www.aic.gov.au/about_
aic/research_programs/nmp/0001.aspx>

Australian Secondary Students' Alcohol and Drug (ASSAD) Survey

The ASSAD Survey is a triennial secondary school-based survey that monitors the use of tobacco, alcohol and other substances among adolescents in Australia. The Cancer Councils in each Australian state and territory conducted the first survey in 1984, and this was restricted to secondary school students' use of tobacco and alcohol. In 1996, the federal, state and territory health departments became collaborators with the Cancer Councils, and the survey was expanded to include questions on the use of illicit substances.

The 2008 survey collected information from a representative sample of over 24,000 secondary school students aged 12–17 across Australia. The questionnaire covers the use of tobacco, alcohol, pain relievers, sleeping tablets and the use of illicit substances such as cannabis and hallucinogens.

Data availability: 1984, 1987, 1993, 1996, 1999, 2002, 2005 and 2008

Further information:
<http://www.nationaldrugstrategy.gov.au/internet/
drugstrategy/Publishing.nsf/content/school08>

Australian Transport Safety Bureau Fatal Road Crash Database

The Fatal Road Crash Database contains information on road transport crash fatalities in Australia, as reported by the police each month to the state and territory road safety authorities.

The data can be examined by either fatalities or fatal crashes. Information collected for fatalities includes age, gender and road user group. Information collected for fatal crashes includes date, location and type of crash.

Data availability: Annual from 1988 onwards

Further information: <http://www.bitre.gov.au/statistics/safety/fatal_road_crash_database.aspx>

Household, Income and Labour Dynamics in Australia (HILDA) Survey

The HILDA survey was initiated, and is funded by, the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research at the University of Melbourne. The findings and views reported here, however, are those of the authors and should not be attributed to either FaHCSIA or the Melbourne Institute.

The HILDA Survey is a longitudinal household-based panel survey that began in 2001. It aims to describe the way people's lives are changing by tracking all members of an initial sample of households over an indefinite period. Wave 10 interviewed 13,526 persons. Data are collected on a wide range of issues including household structure, family background, marital history, family formation, education, employment history, current employment, job search, income, health and wellbeing, child care and housing. In addition, in every wave there is scope for additional questions on special topics. Interviews are conducted with all persons in the household aged 15 and over, although information may be collected on persons aged under 15 from other household members.

Data availability: Annual from 2001 onwards

Further information: <http://www.melbourneinstitute.com/hilda/>

National Assessment Program—Literacy and Numeracy (NAPLAN)

The NAPLAN tests are conducted in May each year for all students across Australia in Years 3, 5, 7 and 9.

All students in the same year level are assessed on the same test items in the assessment domains of Reading, Writing, Language Conventions (Spelling, Grammar and Punctuation) and Numeracy.

Each year, over one million students nationally sit the NAPLAN tests. National Protocols for Test Administration ensure consistency in the administration of the tests by all test administration authorities and schools across Australia.

National minimum standards have been developed for reading, writing, spelling, language conventions (grammar and punctuation) and numeracy for students in Years 3, 5, 7 and 9. Students who achieve the minimum standards have demonstrated at least the basic understanding required for their year level. In 2008, the first National Assessment Program—Literacy and Numeracy (NAPLAN) tests were conducted. For the first time, students in each state and territory sat the same tests, allowing the consistent assessment of students across Australia. There is now a common and continuous reporting scale used for all students in Years 3, 5, 7 and 9, which provides considerably more information about student achievement than was previously available (MCEETYA PMRT 2008).

The test administration authority in each state and territory manages the marking of the tests. Tests for Reading, Language Conventions (Spelling, Grammar and Punctuation) and Numeracy are marked using optical mark recognition software to score multiple-choice items. Writing tasks are professionally marked using well-established procedures for maintaining marker consistency.

Data availability: Annual from 2008

Further information: <http://www.nap.edu.au/Test_Results/National_reports/>

National Notifiable Diseases Surveillance System (NNDSS)

The NNDSS was established in 1990 and is the responsibility of the Communicable Diseases Network Australia. The system co-ordinates the national surveillance of 65 communicable diseases agreed upon nationally, although not all 65 are notifiable in each jurisdiction. Records of disease notifications are supplied by the states and territories to the Australian Government Department of Health and Ageing daily or several times a week, for collation, analysis and publication.

Data availability: 1991 onwards

Further information: <http://www.health.gov.au/internet/main/Publishing.nsf/Content/cda-surveil-nndss-nndssintro.htm>

National Report on Schooling in Australia—Attendance at primary school

States and territories, and school sectors reported aggregated student attendance data for the first time in 2007 for:

• all relevant schools (that is, not on a sample basis)

• special schools (except distance education schools, juvenile justice schools, intensive language centres, hospital schools and senior secondary colleges)

• students enrolled as full-time, or full-time equivalent

• students in Years 1 to 10.

The data are reported:

• by school sector (government, Catholic and independent), by state and territory

• separately for each of the agreed year levels

• for Indigenous and non-Indigenous students

• for males and females.

In the government sector, most jurisdictions measured student attendance over the entire first semester in the school calendar year. The remaining jurisdictions measured attendance over the term that included the month of May. The Catholic and Independent school sectors collected data over a 20-day period, in the month of May. The student attendance data collection is in a transitional phase until all sectors have the capacity to be able to report using the agreed standard. Therefore, each jurisdiction and sector provides explanatory notes about the method used to collect and report on student attendance data (MCEETYA 2010).

Variations by school sector, state and territory, and year level may be partly explained by differences in data collection methodology across states, territories and school sectors (MCEETYA 2010).

Until 2008, national reporting on schooling was the responsibility of the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA) and then the Ministerial Council for Education, Early Childhood Development and Youth Affairs (MCEECDYA). From 2009 this is now the responsibility of the Australian Curriculum, Assessment and Reporting Authority (ACARA).

Data availability: Annual from 1989

Further information: <http://www.acara.edu.au/reporting/national_report_on_schooling/national_report_on_schooling.html>

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This report provides the latest information on how Australia is faring according to key indicators of child health, development, and wellbeing.

Deaths rates for infants and children have declined since 1986, rates of risky drinking and smoking among children aged 12–14 are down, and most children achieve above the minimum standards for reading and numeracy. But there is still room for improvement. Almost one-quarter of children are developmentally vulnerable at school entry, and Aboriginal and Torres Strait Islander children and children in socioeconomic disadvantaged areas are likely to fare worse across a broad range of indicators.