

Early childhood (0–4 years)



This section focuses on infants and young children (0–4 year olds). COAG, supported by a growing body of research into the importance of the early years of life, has initiated a series of reforms to maternal and child health care and early childhood education. With the principle of early intervention for children at risk of poor outcomes underpinning policy development in this area, many initiatives have particular focus on disadvantaged population groups. Improving maternal and child health services and early learning opportunities for Aboriginal and Torres Strait

Islander children are important steps on the pathway to closing the gap in Indigenous disadvantage.

The following table presents national data for each of the measures of the five indicator topics relating to infant and child health, and for the indicators related to child care accessibility and early learning. Where time series data has been referred to on an indicator page, the direction of the recent trend is shown in the table.

Indicator	Measure	Value	Trend
Infant mortality	Deaths per 1,000 live born infants	5	✓
Teenage births	Live births per 1,000 females aged 15–19 years	17	✓
Low birthweight infants	Percentage of live born infants with low birthweight	6	..
Breastfeeding	Percentage of infants fully breastfed at 4 months of age	46	..
	Percentage of infants fully breastfed at 6 months of age	14	..
Childhood immunisation	Percentage of 1 year olds on the ACIR fully immunised	92	✓
	Percentage of 2 year olds on the ACIR fully immunised	93	✓
Access to child care	Number of 0–4 year olds with unmet demand for formal child care	110,000	~
	Number of 0–4 year olds with unmet demand for formal child care mainly due to cost	17,000	✓
	Number of 0–4 year olds with unmet demand for formal child care mainly due to lack of places	49,500	✗
	Number of 0–4 year olds with unmet demand for formal child care mainly due to lack of services locally	5,100	✓
Early childhood education	Percentage of 3–4 year olds attending pre-school or long day care	68	✓
	Percentage of 3 year olds attending preschool or long day care	56	✓
	Percentage of 4 year olds attending preschool or long day care	80	✓

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

▶ Infant mortality

Measure: Number of deaths of infants aged less than 1 year per 1,000 live births

A child's risk of death is greatest in the first year of life, and the first month in particular. The infant mortality rate reflects the effect of structural factors on population health, such as the prevailing health and hygiene conditions, and accessibility and effectiveness of the health system in maternal and perinatal health.³⁷ The infant mortality rate is used internationally as a key measure of population and child health.

Infant deaths have fallen substantially over the last two decades, and are a result of the work of neonatal intensive care units, increased community awareness of the risk factors for SIDS and the importance of early and exclusive breastfeeding, and reductions in vaccine-preventable diseases through the national childhood immunisation program.

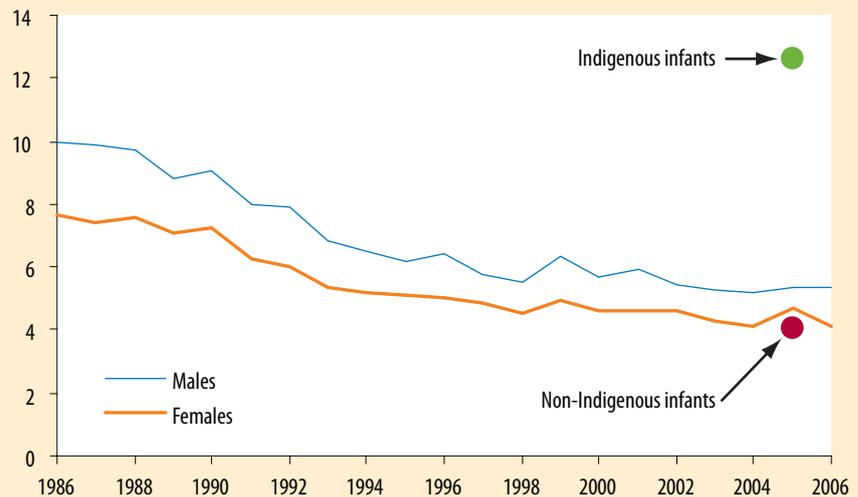
Infant mortality has been chosen as the mortality indicator to report on for early childhood, as the vast majority of deaths (85%) in this age group occur within the first year of life, and the causes of mortality in infants are quite different from mortality in young children. See *Mortality* (p. 7) for child mortality rates for 1–4 year olds.

Infant mortality has been endorsed by Health, Community and Disability Services Ministers as a Headline Indicator for children's health, development and wellbeing.³

COAG has committed to halving the mortality gap for Indigenous children under five within a decade.⁹ Improvements in Indigenous child mortality require better access to antenatal care, teenage reproductive and sexual health services, child and maternal health services, and integrated child and family services.¹⁰

- ▶ The infant mortality rate almost halved between 1986 and 1998, and has since stabilised at 4.7 deaths per 1,000 live births in 2006 (1,262 infants died in 2006).
- ▶ The Indigenous infant mortality rate was 3 times the non-Indigenous rate (2002–2006).

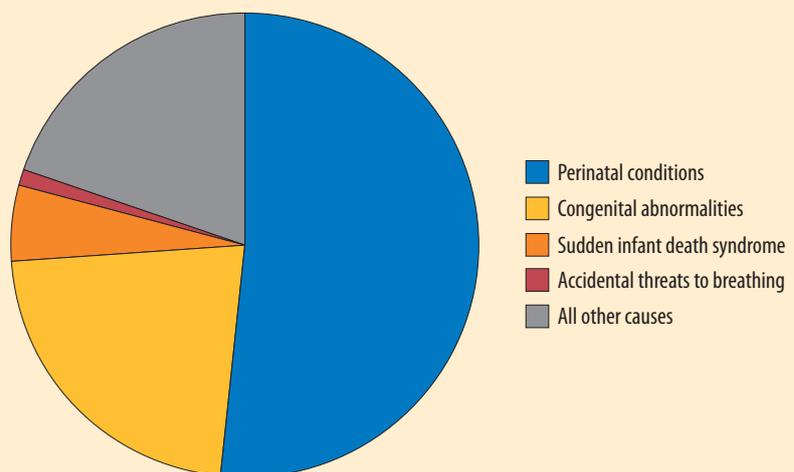
Infant deaths per 1,000 live births



Note: Infant mortality rates for 'Indigenous infants' and 'Non-Indigenous infants' are presented for the period 2002–06, based on death registrations in Qld, WA, SA and NT only.
Source: AIHW National Mortality Database.

- ▶ The leading causes of infant mortality were perinatal conditions (such as SIDS, complications of the placenta, cord and membrane) and congenital malformations, accounting for 80% of infant deaths.

Leading causes of infant mortality, 2006 (per cent)



Note: Each cause not listed separately (in 'all other causes' category) contributed less than 1% of the total number of infant deaths.
Source: AIHW National Mortality Database.

Key messages

- ▶ Indigenous infants were 3 times as likely as non-Indigenous infants to die in their first year of life, but the gap is closing.³⁸
- ▶ Australia's infant mortality rate ranks 20th out of 30 OECD countries.³⁹ Excluding the high Indigenous rate, Australia still ranks in the middle of the OECD (14th).
- ▶ 80% of infant deaths are caused by perinatal conditions (including SIDS) and congenital abnormalities. Mortality rates for Indigenous infants were particularly high for respiratory and parasitic or infectious diseases, compared to non-Indigenous infants.³⁸

▶ Teenage births

Measure: Number of live births to teenage mothers, per 1,000 females aged 15–19 years

Teenage motherhood, particularly at younger ages, can pose significant long-term risks to both mother and child. Teenage mothers often delay having their pregnancy confirmed and/or seeking antenatal care, and are more likely to engage in risky behaviour, including smoking and drinking alcohol during pregnancy. Consequently, teenage mothers face increased risk of miscarriage, preterm delivery, low birthweight and other complications, and perinatal mortality.⁴⁰

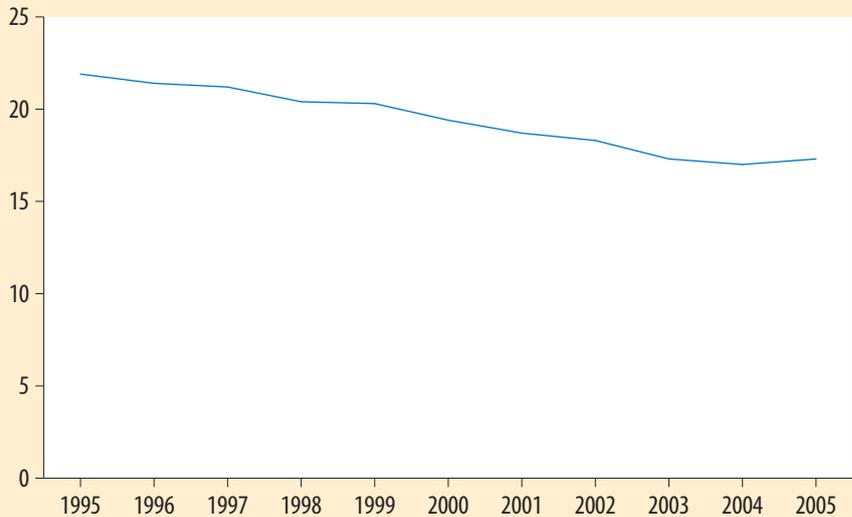
Parenthood during the teenage years often results in interrupted schooling, a high risk of single parenthood, greater dependence on government assistance, increased problems in engaging with the labour market, and poverty.⁴¹ All of these factors can affect the health, education and economic futures of children born to teenage parents. While not all teenage pregnancies result in negative outcomes for mother and child, the circumstances that often contribute to teenage pregnancy mean that many young mothers do not receive the support they need before and after birth.

Factors thought to contribute to teenage fertility include family history of teenage pregnancy, violence and sexual abuse in childhood, unstable housing arrangements, poor school attendance and performance, socioeconomic disadvantage, and absence of a father figure.⁴⁰

The teenage fertility rate has been endorsed by Health, Community and Disability Services Ministers as a Headline Indicator of children's health, development and wellbeing.³

- ▶ 11,700 infants were born to teenage mothers in 2005.
- ▶ The teenage fertility rate fell from 22 to 17 births per 1,000 between 1995 and 2005.

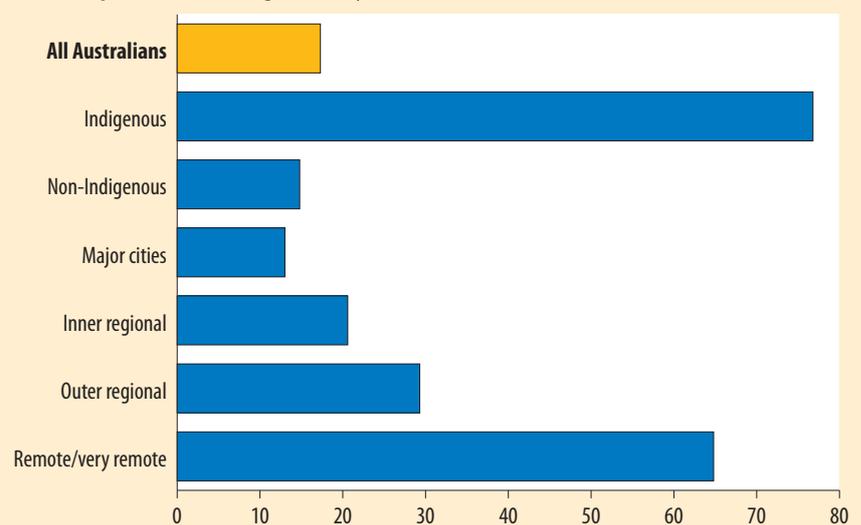
Live births per 1,000 females aged 15–19 years



Source: AIHW National Perinatal Data Collection.

- ▶ The Indigenous teenage fertility rate was 5 times the non-Indigenous rate in 2005.
- ▶ The rate increases with geographical remoteness—the rate in inner and outer regional areas was twice as high, and in remote/very remote areas 5 times as high, as in major cities.

Live births per 1,000 females aged 15–19 years



Source: AIHW National Perinatal Data Collection.

Key messages

- ▶ Australia's teenage fertility rate ranked 16th out of 24 OECD countries in 2003.²¹
- ▶ Rates are substantially higher for Indigenous Australians and those living outside major cities.

▶ Birthweight

Measure: Percentage of live born infants with a birthweight of less than 2,500 grams

Birthweight is an important indicator of a baby's chance of survival and good health. Low birthweight increases the probability of lengthy hospitalisation after birth, the need for resuscitation, or death, and is a risk factor for neurological and physical disabilities.⁴² In 2005, 70% of high-risk infants admitted to level III neonatal intensive care units in Australia were of low birthweight.⁴³

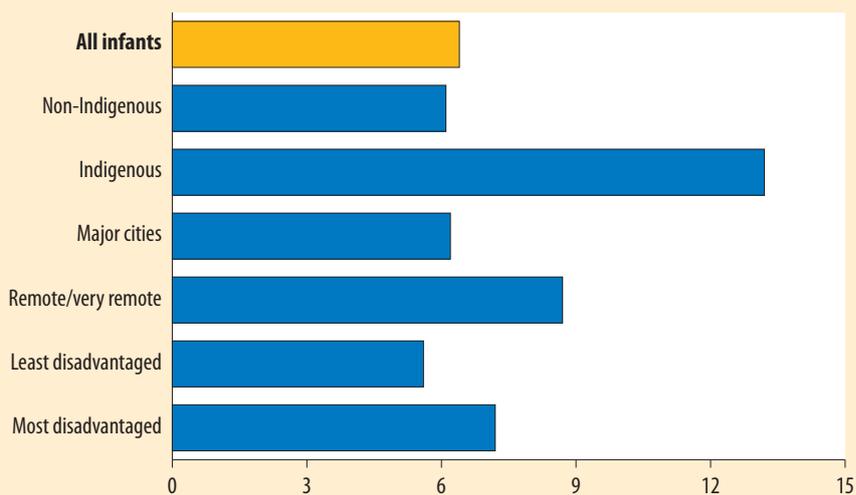
A baby may be small for its gestational age (intrauterine growth retardation) or due to being born early (preterm). Factors that contribute to low birthweight include maternal age, illness during pregnancy, low socioeconomic status, multiple fertility, maternal history of spontaneous abortion, harmful behaviours such as smoking or excessive alcohol consumption, poor nutrition during pregnancy and poor prenatal care.^{43,44}

Mothers aged less than 20 years, or 40 years or over, are at heightened risk of delivering a low birthweight infant. The increasing number of infants born to older mothers in Australia, and the disproportionate risk faced by certain population groups, including Indigenous women, makes this an important indicator of antenatal care and neonatal health.

The proportion of live born infants of low birthweight has been endorsed by Health, Community and Disability Services Ministers as a Headline Indicator for child health, development and wellbeing.³

- ▶ 6.4% of live born infants were of low birthweight in 2005 (17,241 infants), including 1.1% of very low or extremely low birthweight.
- ▶ The rate was double for Indigenous mothers (13.2%), and the gap between Indigenous and non-Indigenous mothers grew between 1991 and 2004.⁴⁵
- ▶ The percentage of low birthweight infants was also higher in remote and very remote areas (8.7%) and the most socioeconomically disadvantaged areas (7.2%).

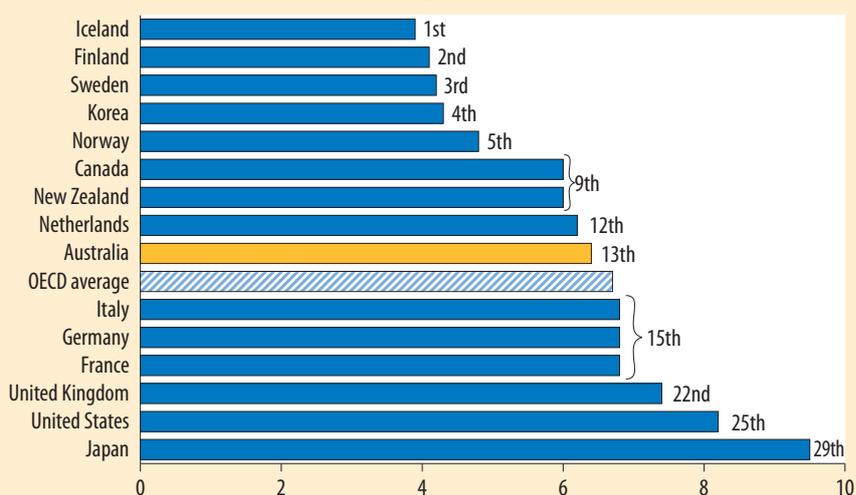
Percentage of live born infants with low birth weight, 2005



Source: AIHW National Perinatal Data Collection .

- ▶ Australia ranked 13th out of 30 OECD countries in the proportion of low birthweight infants in 2005.

Percentage of live born infants with low birth weight, selected OECD countries, 2005



Note: Data for France from 2004.

Source: OECD Health Database, OECD 2008.⁴⁶

Key messages

- ▶ Australia ranked in the middle of the OECD in 2005 (13th out of 30 countries).⁴⁶
- ▶ Indigenous mothers are twice as likely as non-Indigenous mothers to have a low birthweight infant, and the gap is widening.
- ▶ Infants born in remote areas or areas of high socioeconomic disadvantage were 30–40% more likely to be of low birthweight.

► Breastfeeding

Measure: Percentage of infants fully or exclusively breastfed at 4 and 6 months of age

Breastfeeding is extremely important in promoting healthy development in children. Breast milk provides the best nutritional start for infants and helps to protect against infectious disease.⁴⁷ Breastfeeding is also associated with long-term benefits, including improved cognitive development and protection against immune-related diseases such as Type 1 diabetes, celiac disease, inflammatory bowel disease and possibly some forms of cancer.⁴⁸ Breastfeeding has many positive health effects for mothers, as well as encouraging bonding between mother and child.⁴⁷

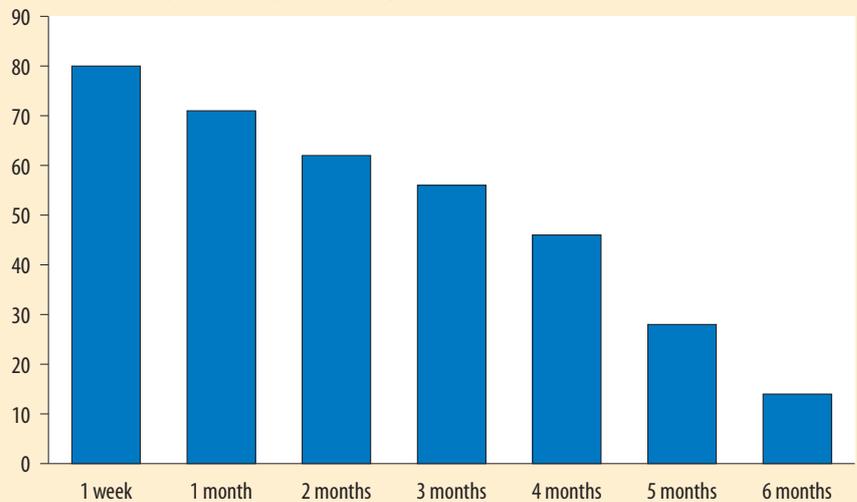
'Exclusive' breastfeeding is defined as the infant receiving only breast milk and no other food or drink, including water, while 'fully' breastfeeding infants can receive other fluids such as juice or water. The Australian dietary guidelines for children and adolescents recommend exclusive breastfeeding of infants until around 6 months of age to achieve optimal growth, development and health.⁴⁷

Currently, Australia has no reliable national data collection to effectively monitor infant feeding practices, and the inconsistent use of definitions and terms makes it difficult to compare studies of the rates of breastfeeding.

The proportion of infants exclusively breastfed at 4 months of age has been endorsed by Health, Community and Disability Services Ministers as a Headline Indicator of children's health, development and wellbeing.³

► **46% of infants were fully breastfed at 4 months of age, falling to 14% at 6 months, according to a longitudinal study of infants in 2004.**

Percentage of 0–1 year olds fully breastfed, by age, 2004

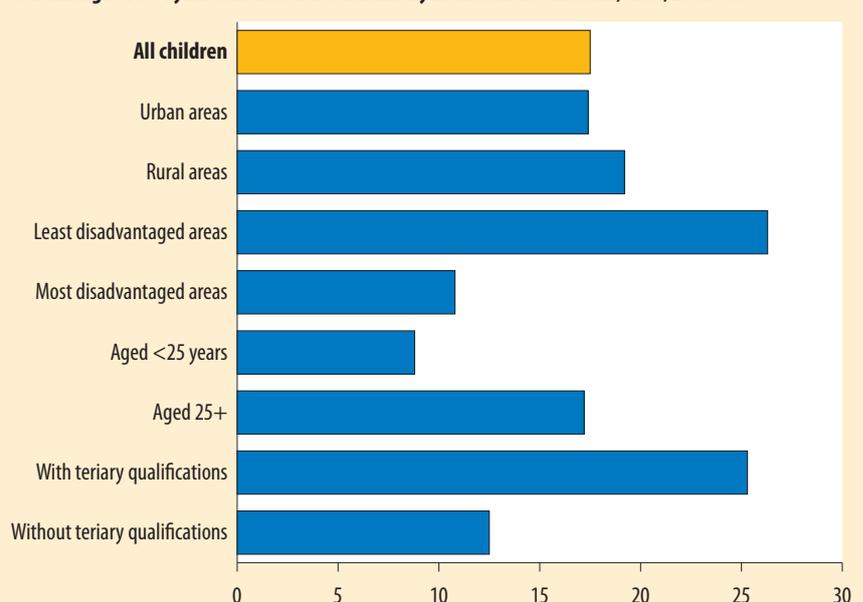


Source: Growing up in Australia: The Longitudinal Study of Australian Children, AIFS 2008.⁴⁹

► **According to state surveys, 18% of children in NSW⁵¹ (2005–06) and 15% in Victoria⁵⁰ (2006) had been exclusively breastfed up to 6 months of age.**

► **Exclusive breastfeeding rates in NSW were substantially lower for infants with mothers younger than 25, mothers without tertiary qualifications and those living in areas of the greatest socioeconomic disadvantage.**

Percentage of 0–4 year olds who were exclusively breastfed at 6 months, NSW, 2005–06



Source: NSW Child Health Survey, Centre for Epidemiology and Research 2008.⁵¹

Key messages

- Rates of breastfeeding decline substantially within the first 6 months after birth.
- One in seven infants were fully breastfed at 6 months of age, and there is currently no national data available on exclusive breastfeeding.
- Rates of exclusive breastfeeding in NSW were half as high among younger and less educated women, and women living in the most disadvantaged areas.

▶ Childhood immunisation

Measure: Percentage of children on the Australian Childhood Immunisation Register (ACIR) who are fully immunised at 1 and 2 years of age

Immunisation against childhood diseases is one of the most cost effective public health interventions in preventing childhood mortality and morbidity.⁵² Increased immunisation coverage has been one of the most important public health successes of the past three decades, and has resulted in significant declines in infant and child mortality.

Australian children are protected against a number of communicable diseases through routine immunisation as part of the Immunise Australia Program. Large-scale immunisation programs exist for a wide variety of communicable diseases including diphtheria, tetanus, pertussis (whooping cough), rotavirus, poliomyelitis, measles–mumps–rubella (MMR), *Haemophilus influenzae* type b (Hib), hepatitis B, varicella (chickenpox), meningococcal C and pneumococcal disease.

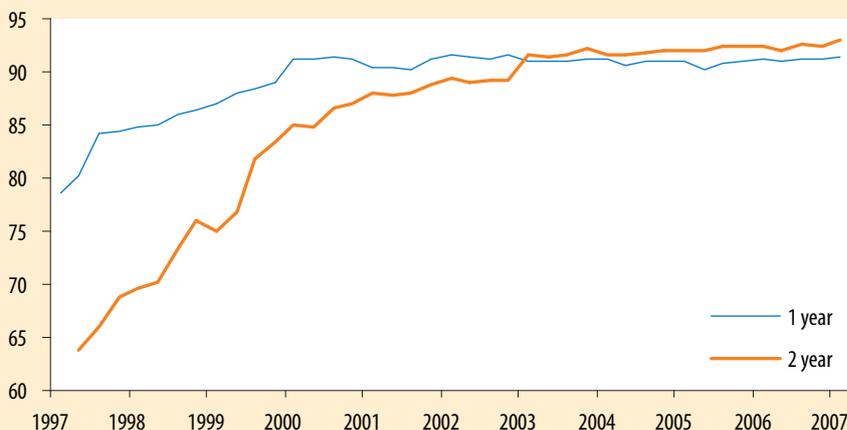
The ACIR, administered by Medicare Australia, records information on the immunisation status of approximately 99% of children aged less than 7 years.

Immunisation coverage at 2 years of age of children on the ACIR has been endorsed by Health, Community and Disability Services Ministers as a Headline Indicator for children's health, development and wellbeing.³

Immunisation coverage goals for Australia, recommended by the National Health and Medical Research Council (NHMRC) in 1993, called for higher than 90% coverage of children at two years of age, and near 100% coverage of children at school entry age.⁵³ The coverage target for 2 year olds was achieved in 2003.

- ▶ 92–93% of 1 and 2 year olds on the ACIR were fully immunised in 2007, meeting the 90% national coverage target.
- ▶ Immunisation coverage has increased over the past decade, particularly among 2 year olds (almost a 50% increase since 1997).

Percentage of children fully immunised at 1 and 2 years of age

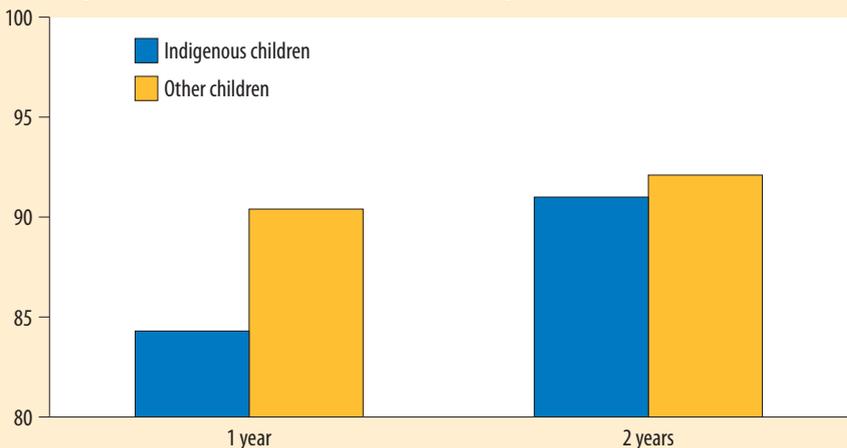


Note: Includes children who have received the scheduled doses of vaccines for diphtheria, tetanus and pertussis; poliomyelitis; hepatitis B; Hib; and measles–mumps–rubella. Excludes other scheduled vaccines for children aged up to 2 years (rotavirus, chicken pox, meningococcal C and pneumococcal conjugate).

Source: Australian Childhood Immunisation Register, unpublished data.

- ▶ In 2005, coverage for Indigenous children (84%) was lower than for other children (90%) at 1 year of age, largely due to lower coverage of diphtheria–tetanus–pertussis and poliomyelitis vaccines.
- ▶ Among 2 year olds, immunisation rates were similar for Indigenous and other children, meeting the 90% target.

Percentage of children fully immunised at 1 and 2 years of age



Note: Includes children who have received the scheduled doses of vaccines for diphtheria, tetanus and pertussis; poliomyelitis; hepatitis B; Hib; and measles–mumps–rubella. Excludes other scheduled vaccines for children aged up to 2 years (rotavirus, chicken pox, meningococcal C and pneumococcal conjugate).

Source: NCIRS 2006.⁵⁴

Key messages

- ▶ Immunisation coverage of 1 and 2 year olds is the highest on record and meets the NHMRC 90% coverage target. However, coverage at 6 years (89%) is well below the target of nearly 100%.
- ▶ There is potential for further increases in immunisation coverage—Australia's average coverage for 1 and 2 year olds ranked 14th out of 20 selected countries in 2006.⁵⁵

▷ Access to child care

Measure: Number of 0–4 year olds who required formal child care or additional formal child care, and did not receive it because of accessibility barriers

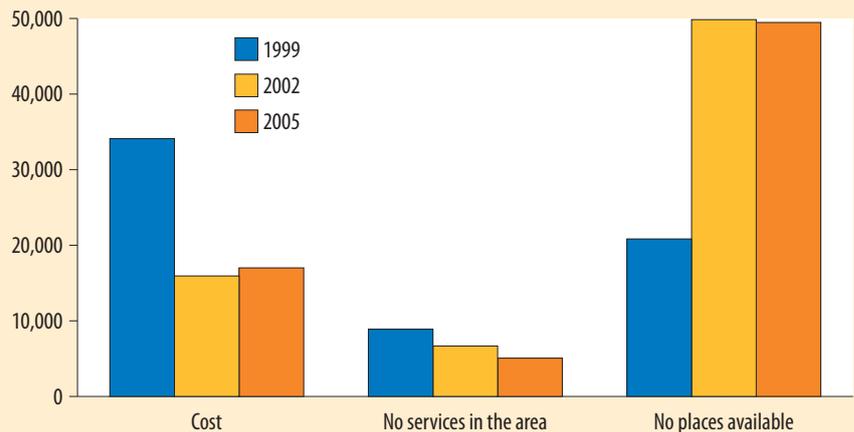
Access to affordable, high-quality child care services is a major concern for both parents and governments. Child care services are increasingly being recognised as being of vital importance to society as they help parents participate in work or study, offer families an opportunity to be involved in the community, help create social networks and provide children with opportunities to develop their social and intellectual skills. Child care services also give parents respite from caring for children with behavioural difficulties, and provide early intervention for developmentally and socioeconomically disadvantaged children.⁵⁶

In recent years there has been an expanding demand for child care services, reflecting trends in social factors such as family structure, employment patterns and population mobility.⁴ Unmet demand for child care is an important indicator of accessibility, and this information is available from the ABS Child Care Surveys, where parents were asked whether their formal child care requirements were met.

COAG has committed to improving the quality and availability of child care.⁹ This includes establishing children and family centres as part of a broader early childhood development agenda.¹⁰ The Australian Government is also committed to improving child care affordability for Australian families by increasing the Child Care Tax Rebate from 30% to 50%, and improving accessibility by establishing new long day care centres.⁵⁷

- ▶ 109,900 children aged 0–4 years had unmet demand for formal child care (including preschool) in 2005—has remained steady since 1999.
- ▶ Availability of places was the greatest single barrier (45% of unmet demand). Cost accounted for 15% of unmet demand.
- ▶ Lack of available places as the main barrier to formal child care has doubled, but unmet demand due to cost of child care has halved (1999–2005).

Main reason for not using required formal child care or preschool for 0–4 year olds in the past 4 weeks (number)

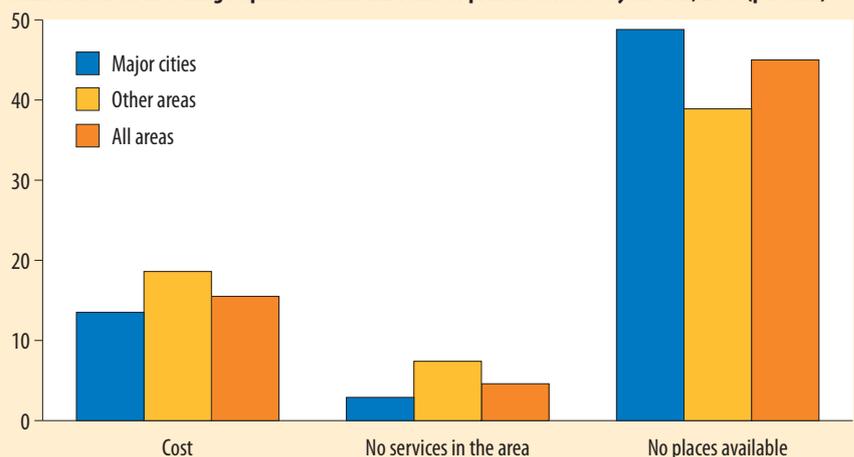


Note: Cost, no services in the area and no places available have been included in the figure as they account for two-thirds of the main reasons for unmet demand for childcare and are the most relevant for access.

Source: AIHW analysis of 1999, 2002 and 2005 ABS Child Care Surveys.

- ▶ Availability of places was a greater barrier in major cities than in other areas, while cost or availability of services was a greater barrier in areas outside major cities.

Main reason for not using required formal child care or preschool for 0–4 year olds, 2005 (per cent)



Notes

1. 'No services in the area' includes the response 'don't know of any in the area'.

2. 'Other areas' includes inner regional, outer regional, remote and very remote areas.

Source: AIHW analysis of 1999, 2002 and 2005 ABS Child Care Surveys.

Key messages

- ▶ Lack of available places (services booked out) was the main reason for unmet demand for child care in 2005, and reporting of this as a barrier to accessing child care has doubled since 1999.
- ▶ Children living outside major cities are more likely to have difficulty accessing formal child care or preschool due to cost or lack of services in the area (see also *Early childhood education*, p.20).

▶ Early childhood education

Measure: Percentage of children aged 3 or 4 years attending preschool or long day care centres

Attendance at high-quality early educational programs before the first year of compulsory schooling is considered to have a number of benefits that can help prepare children for successful transition to school, achieve at school and participate in society as adults. These include improved intellectual development and social, language and cognitive skills. Quality Early Childhood Education programs are especially beneficial for children from disadvantaged backgrounds.^{58,59}

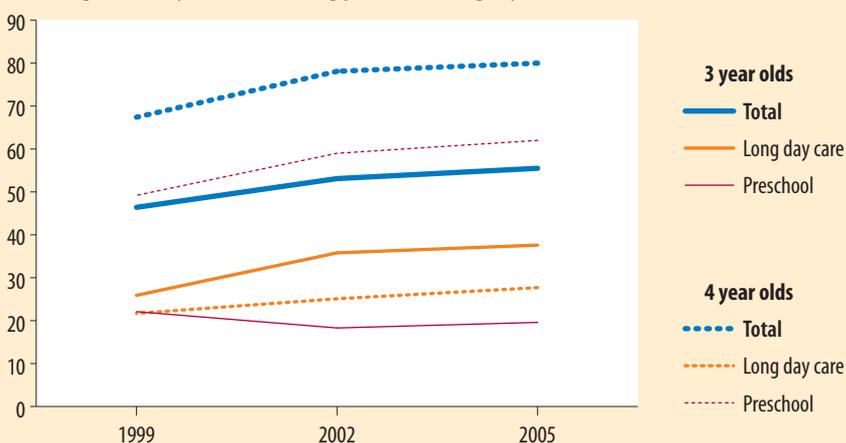
It is difficult to estimate the actual number of children participating in quality early childhood education programs in the year before primary school, due to the varied nature of children's services throughout Australia and differences in data collection between states and territories. Early education programs may be delivered in preschool or long day care facilities; however, the proportion of children receiving high-quality programs through these settings is uncertain, in particular whether the program is delivered by a university-qualified teacher.

Participation in early childhood education programs is usually for children in the year before school (generally 4 year olds) although it is open to 3 year olds in some jurisdictions. Attendance at an early educational program in the 2 years before beginning primary school has been endorsed by Health, Community and Disability Services Ministers as a Headline Indicator for children's health, development and wellbeing.³

COAG has committed to providing universal access to 15 hours of early childhood education programs a week, for a minimum of 40 weeks a year, delivered by degree-qualified teachers. In particular, COAG has committed to providing access to a quality early childhood education program for all Indigenous 4 year olds in remote Indigenous communities within 5 years.⁶⁰

- ▶ Two-thirds of 3–4 year olds attended preschool or long day care in 2005, attendance at either preschool or long day care was greater for 4 year olds (80%) than 3 year olds (56%).
- ▶ Attendance increased by around one-quarter in both settings for 4 year olds, whereas 3 year old attendance increased in long day care (40% increase) and decreased in preschool (14%) between 1999 and 2005.

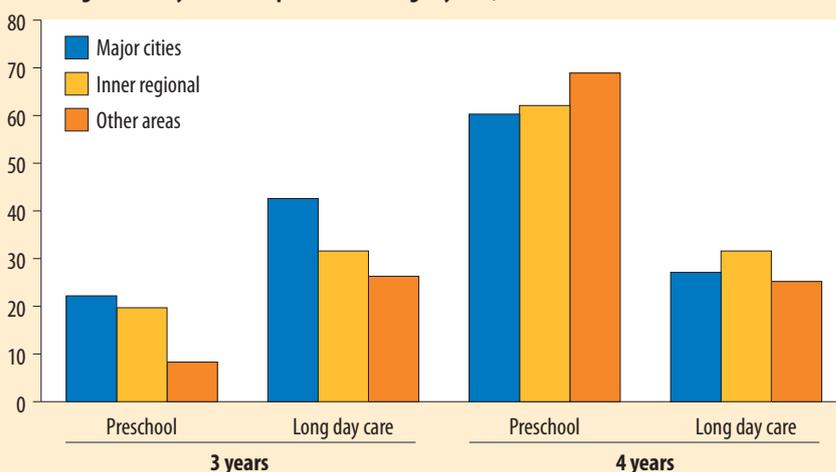
Percentage of 3 or 4 year olds attending preschool or long day care



Notes
 1. The total does not add up to the sum of the components as children may attend both preschool and long day care centres.
 2. Some long day care centres offer a preschool program delivered by a qualified early childhood teacher.
 Source: AIHW analysis of ABS 1999, 2002 and 2005 Child Care Surveys.

- ▶ Attendance at preschool increases with geographical remoteness for 4 year olds, but declines for 3 year olds. Long day care attendance for 3 year olds was also higher in capital cities than remote areas, while there was no clear pattern for 4 year olds.

Percentage of 3 or 4 year olds at preschool or long day care, 2005



Note: 'Other areas' includes outer regional, remote and very remote areas.
 Source: AIHW analysis of ABS 2005 Child Care Survey.

Key messages

- ▶ Australia's preschool attendance rate for 4 year olds ranked in the bottom third of OECD countries in 2005, the lower rate likely to be a considerable underestimate due to the large number of privately-operated child care facilities in Australia.⁶¹
- ▶ Attendance of 4 year olds at preschool and long day care centres is increasing.
- ▶ Attendance at preschool and long day care centres declines with increasing remoteness for 3 year olds, while it increases for 4 year olds in preschool (see also *Access to child care*, p.19).