

Health across the life stages

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Key points

- Death rates among children and young people more than halved in the two decades to 2005, largely because of a reduction in injury-related deaths.
- More children are now being vaccinated against major preventable childhood diseases—with over 90% of children fully vaccinated at 2 years of age.
- Close to three in 10 children and young people are overweight or obese.
- Among young Australians, one in 10 had a long-term mental or behavioural problem in 2004–05 and mental disorders accounted for almost half of their total disease burden in 2003.
- The most common causes of death among people aged 25–64 years are coronary heart disease for males (16% of their deaths) and breast cancer for females (15%).
- For older Australians, the most prominent health conditions in terms of death and hospitalisation are heart disease, stroke and cancer.
- At age 65, Australian males can now expect to live to about 83 years and females to 86 years—about 6 years more than their counterparts a century ago.

As mentioned in Chapter 3, health can be discussed in many ways. Chapter 3 provided the important perspective of population groups, showing how health status and the things that influence it can vary significantly with people's circumstances. This chapter presents a further view of the health of Australians—that of 'life stages'. It covers a range of age groups, from babies (and their mothers), through the early childhood and adolescent stages, to the 'working age' years and finally to those aged 65 years and over.

The chapter begins with an overview of how some general factors vary with age, such as death rates, the main causes of death and hospitalisation rates. It then discusses the four age groups in turn, sketching their special social and personal features and summarising the main aspects of their health.

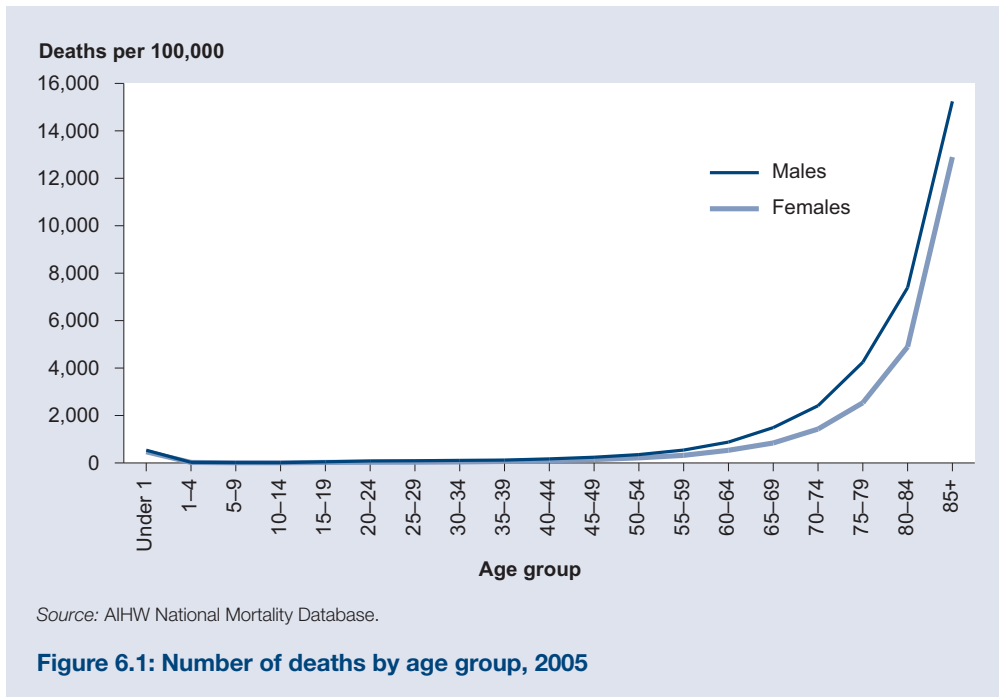
Why take this life stage perspective? First, several of these age groups are already a long established focus of the health system. For example, there are specialist health professionals and services dedicated to expectant mothers and childbirth, to infants and other children, and to the elderly. This chapter should be of special interest to those professionals.

Second, this approach can help to lay out a whole-of-life story that is difficult to obtain in other ways. It can be seen that some health problems are virtually confined to certain age groups but many problems—such as injury—run throughout life and only their prominence varies with age. Also, many problems may only become pronounced in older ages but their seeds begin in childhood with factors such as smoking, poor diet and obesity (see Chapter 4). Information such as this provides a long-range view that is important for health planning.

However, readers should note that the story presented here is only a rough guide to how health changes across the life stages because it relies on a 'snapshot' view of the various age groups as they are now, rather than following individuals over time. When today's children reach their later decades, for example, new social and medical circumstances may give them a different health profile from today's elderly.

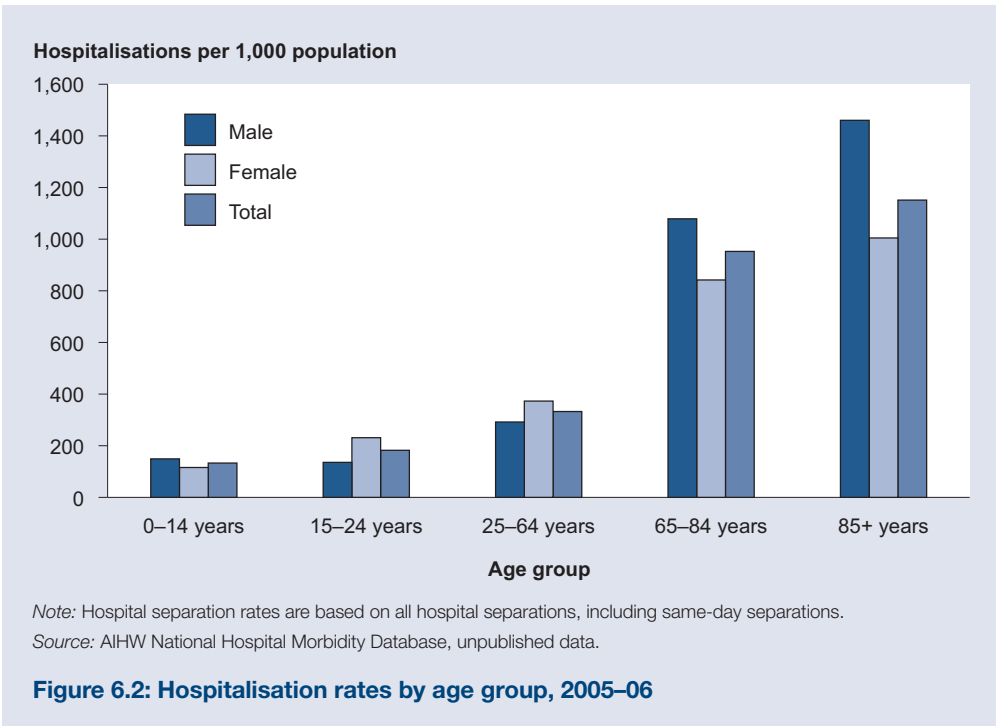
6.1 How does health status vary with age?

Most aspects of health status vary with age, with problems usually increasing over the life stages. Death rates are an example where there is a marked increase with age. The exception is in the infant group (aged under 1 year) where death rates are much higher than for children overall and exceeded only by people in the 55–64 years age range (Figure 6.1). After infancy, the death rate drops dramatically, is at its lowest among those aged 10–14 years, and then increases progressively to a peak among those aged 85 years and over (see also Section 2.5 and Table 2.2).



The leading causes of death also vary with age, reflecting different exposure to environmental factors and to the underlying ageing processes (see Section 2.5). For example, the most common causes of death for infants are conditions emerging from the perinatal period, followed by congenital anomalies. Injury and poisoning is the most common cause of death among children and young people and remains the leading cause among males aged 25–44 years. However, for females aged 25–44 years, cancer emerges as the most common cause of death. Cancer then becomes the most common cause of death among males and females aged 45–64 years, followed by cardiovascular disease. This pattern persists among males aged 65–84 years but cardiovascular disease becomes the most prominent cause of death for females of this age. For those aged 85 years and over, cardiovascular disease is the leading cause of death.

Information about the use of health services by different age groups provides another perspective on the health status of people at various life stages. For example, hospitalisation rates increase steadily across the age groups of interest in this chapter, from 133 per 1,000 children to the almost ninefold level of 1,150 among people aged 85 years and over (Figure 6.2).



In the remainder of this chapter, information is presented for each selected life stage. Sections include information about various aspects of health (for example, self-reported health status, disability, mortality and use of health services) and key risk and protective factors for health (for example, smoking and alcohol consumption).

6.2 Mothers and babies

Recent years have seen some notable changes in births and the health of Australian mothers and babies. From 1991 to 2005, the number of births fluctuated between about 254,000 and 263,000 per year until 2004, before increasing sharply to over 270,000 in 2005. During this period, the proportion of multiple births increased, and perinatal mortality declined. This section presents information on these topics, as well as on birthweight, pre-term births and congenital anomalies. The statistics draw largely on three key sources: birth registration data and perinatal death registration data published annually by the Australian Bureau of Statistics (ABS) and data from the National Perinatal Data Collection published annually by the AIHW National Perinatal Statistics Unit. The latest available data are for births registered in 2006 (ABS), deaths registered in 2005 (ABS) and births occurring in 2005 (National Perinatal Data Collection) (ABS 2007a; Laws et al. 2007).

Further information on fertility is also presented in Chapter 2 (Section 2.1).

Mothers

Maternal age

There has been an upward trend in maternal age in recent years. Data from the National Perinatal Data Collection show that in 2005 the average age of all females who gave birth was 29.8 years, compared with 27.9 in 1991. The average age of first-time mothers was 28.0 years in 2005, an increase from 25.8 in 1991. In 2005, 4.4% of all females who gave birth were aged under 20 years (compared with 5.9% in 1991) and 20.4% were aged 35 years and over, an increase from 10.7% in 1991.

Method of birth

In 2005, about 6 in 10 females who gave birth had spontaneous vaginal births, about three in 10 had caesarean sections and just over one in 10 had births involving forceps, vacuum extraction or vaginal breech delivery (Table 6.1).

Nationally, the proportion of females having caesarean sections has increased markedly since 1991 (from 18.0% in 1991 to 30.3% in 2005). In 2005, of all females who gave birth, 17.9% had a caesarean section without labour and 12.4% had a caesarean section following labour. The proportion of females having caesarean sections was higher in private hospitals than in public hospitals (40.3% versus 27.1%)(*NHPC indicator 3.12*).

Statistics from 2005 show differences between states and territories in the use of interventions to assist in birth (Table 6.1). Western Australia, South Australia and Queensland reported caesarean rates above the national average (33.9%, 32.3% and 32.1% respectively). Victoria recorded the highest percentage of forceps delivery (6.0%), and Tasmania the lowest (1.0%). The percentage of vacuum extractions also varied, from a high of 9.9% in Western Australia to 5.7% in the Northern Territory.

Table 6.1: Method of birth, all mothers, by state and territory, 2005

Method of birth	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Australia
Number of mothers									
Total	89,139	65,427	54,336	26,529	17,896	5,820	4,995	3,651	267,793
Per cent									
Spontaneous vaginal	61.2	56.2	59.6	53.5	55.8	64.6	58.3	62.3	58.5
Forceps	3.1	6.0	1.7	2.4	4.2	1.0	5.4	2.2	3.5
Vacuum extraction	7.1	7.1	6.2	9.9	7.3	7.8	6.8	5.7	7.2
Vaginal breech	0.4	0.4	0.4	0.4	0.4	0.1	0.6	0.7	0.4
Caesarean section	28.1	30.2	32.1	33.9	32.3	26.4	28.9	29.1	30.3
<i>Labour</i>	11.9	12.7	12.2	11.9	15.4	13.8	10.4	12.8	12.4
<i>No labour</i>	16.2	17.5	19.9	22.0	16.8	12.6	18.5	16.3	17.9
<i>Not stated</i>	0.0	—	—	—	—	—	—	—	0.0
Other	—	—	0.0	—	—	—	—	—	0.0
Not stated	0.0	0.0	—	—	—	—	—	—	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) 15.5% of females who gave birth in the Australian Capital Territory (ACT) were non-ACT residents. Care must be taken when interpreting ACT percentages.

Note: For multiple births, the method of birth of the first born baby was used in these statistics.

Source: Laws et al. 2007.

Aboriginal and Torres Strait Islander mothers

As discussed in Chapter 2, the total fertility rate for Aboriginal and Torres Strait Islander females is higher than for all Australian females (estimated to be 2.1 babies and 1.8 babies respectively in 2006)(ABS 2007a). High fertility at younger ages is a contributor to this higher overall fertility for Indigenous females.

Aboriginal and Torres Strait Islander mothers tended to be younger (average age 24.9 years) than other mothers (29.9 years) for those giving birth in 2005 (Laws et al. 2007).

In 2006, the teenage birth rate for Indigenous females (69 babies per 1,000) was more than five times that for non-Indigenous females (13 babies per 1,000). For Indigenous females, the peak age group for births in 2006 was 20–24 years (125 babies per 1,000), followed by those aged 25–29 years (110). In contrast, the peak age group for births to non-Indigenous females was 30–34 years (120 babies per 1,000)(ABS 2007a).

In 2005, Indigenous mothers had higher rates of spontaneous vaginal birth (69.8%) than non-Indigenous mothers (58.1%) and lower rates of delivery by caesarean section (24.0% compared with 30.5%) (Laws et al. 2007).

Maternal mortality

Maternal deaths occur infrequently in Australia. The most recent triennial report, covering the period 2003–2005, reported 65 maternal deaths for the 3 years (Sullivan & Hall 2008). A maternal death is defined as:

the death of a woman while pregnant or within 42 days of the termination of the pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (WHO 1992).

Maternal deaths are classified into direct deaths (deaths from pregnancy complications such as embolisms and obstetric haemorrhage), indirect deaths (deaths from pre-existing diseases aggravated by pregnancy, such as heart disease) and incidental deaths, where the pregnancy was unlikely to have contributed significantly to the death (for example, car accidents and cancers).

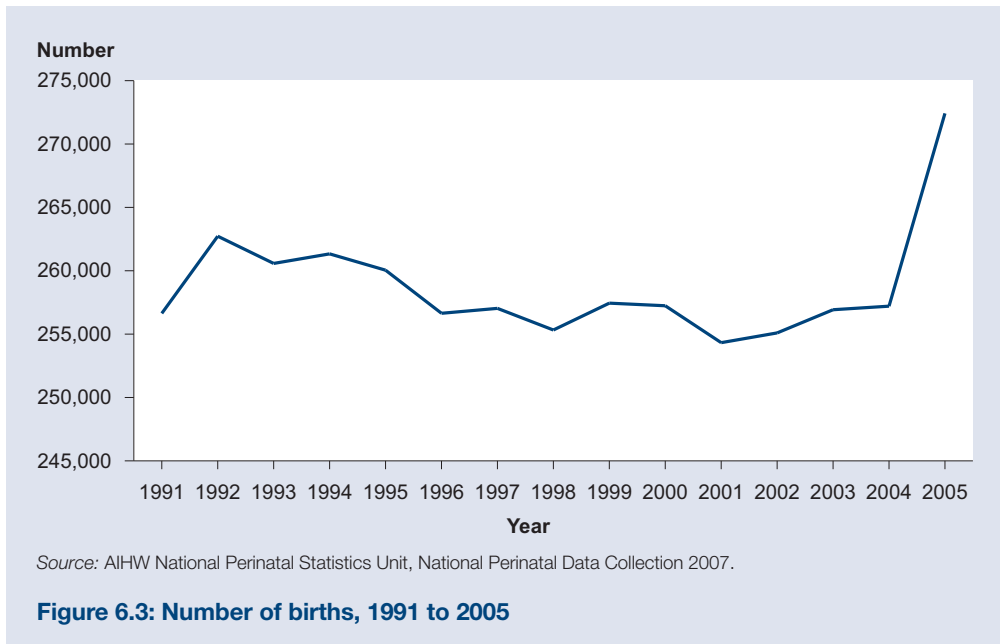
There were 29 direct maternal deaths (44.6% of the total) and 36 indirect deaths (55.4%) reported in 2003–2005. The leading causes of direct death were amniotic fluid embolism (8), hypertensive disorders of pregnancy (5) and thrombosis and thromboembolism (5). Almost half (16) of the 36 indirect deaths were attributed to heart and psychiatric conditions. In addition, there were 13 incidental deaths due to motor vehicle accidents, some cancers and infections that were deemed unlikely to have contributed significantly to the death. The maternal mortality ratio, calculated using direct and indirect deaths, was 8.4 deaths per 100,000 females who gave birth (Sullivan & Hall 2008). In comparison, the World Health Organization estimated that the ratio for the world was 400 deaths per 100,000 live births in 2000. The estimated ratio for developed regions (including Australia, New Zealand, United States of America, Europe, Japan and Canada) was 20 deaths per 100,000 live births and for developing countries it was 440 deaths (WHO 2004).

For the six year period 2000–2005, the maternal mortality for Aboriginal and Torres Strait Islander females was 31.5 per 100,000 females who gave birth, which was more than 3 times as high as the maternal mortality ratio for other females (8.8) (Sullivan & Hall 2008).

Babies

Births

In 2005, there were 272,419 births reported to the National Perinatal Data Collection, an average of 746 per day. These births included 270,440 live births and 1,979 fetal deaths. From 1991 to 2004, the number of births fluctuated between about 254,000 and 263,000 per year before increasing sharply by 5.9% in 2005 (Figure 6.3). The biggest increase was not seen in first-time pregnancies, but in females having their second or later babies.



During the 20th century, Australia's number of registered births reached a peak in 1971, with 276,400. The number then fell sharply during the remainder of the 1970s, before increasing from the early 1980s to reach 264,200 in 1992. Over the following decade, the number of births generally declined, but increased from 2002 (ABS 2006a).

The crude birth rate, which is the number of live births per 1,000 population, was 12.8 in 2005, down from 14.1 in 1995. Australia's rate lies between those of the United Kingdom (12.0) and the United States (14.0). Among developed countries, Germany's and Japan's rates are relatively low (8.3 and 8.4 in 2005), and Ireland's relatively high (14.8) (see Table S4).

Data from the Australian and New Zealand Assisted Reproduction Database show that in 2005 there were 8,500 births in Australia to females who had assisted reproduction technology (ART) treatment. These births included 8,399 live births, 91 fetal deaths and 10 babies with an unknown birth outcome.

Sex

Male births exceed female births in developed countries, including Australia (Table S4). In 2005, Australia's male births accounted for 51.3% of all births (138,792 males compared with 131,550 females). This proportion was similar across the states and territories, and has changed little over time.

Multiple births

The rate of multiple births in Australia has risen steadily since the early 1980s. This can be attributed to an increasing average age of mothers giving birth and growing use of fertility drugs and assisted conceptions.

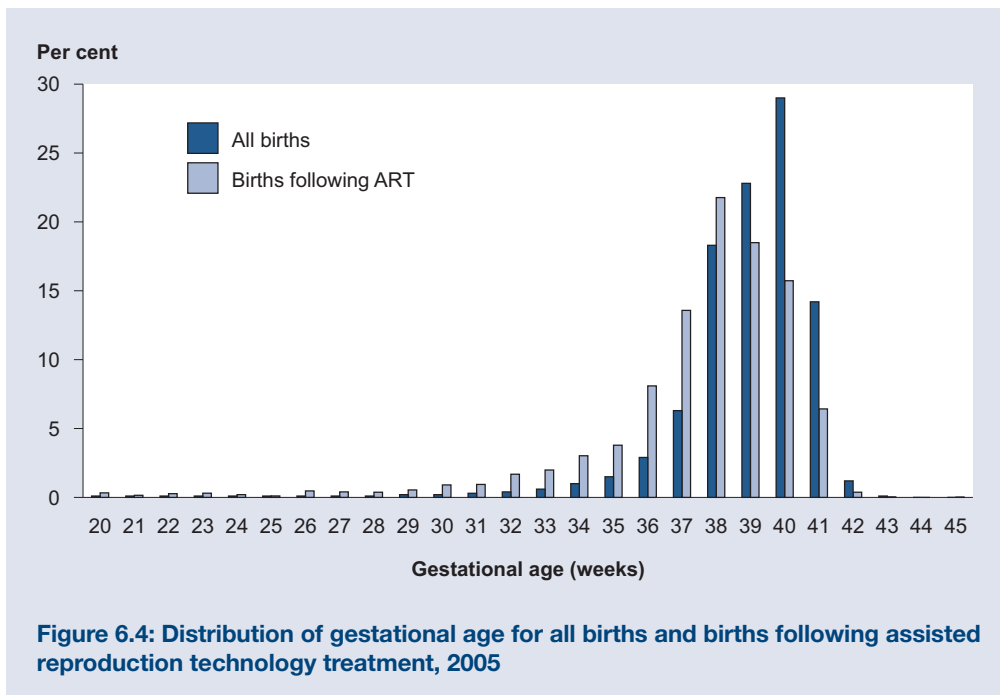
There were 8,871 twin and 284 triplet and higher order multiple births in 2005, representing 3.3% and 0.1% of all births in Australia, respectively. The associated multiple birth rate was 33.6 per 1,000 births, up from 26.9 in 1991.

Of the 8,500 births resulting from ART treatment, 25.5% (2,166) were multiple births. This included 2,094 twins (24.6%) and 72 higher order multiples (0.9%). See Chapter 7 for further information about ART treatment.

Gestational age

In 2005, the average gestational age of all babies born was 38.8 weeks. For babies of at least 20 weeks gestation born to females who had ART treatment, the average was 37.4 weeks. Figure 6.4 shows the differing distributions in gestational age at birth of all babies and babies born following ART.

The great majority of babies (90.7%) were born at term—that is, 37–41 weeks gestation. Only 1.2% of babies were born post-term, at 42 weeks or more gestation. Pre-term births—those occurring before 37 weeks gestation—may be associated with neonatal problems that cause significant illness and mortality in newborn babies and are sometimes associated with long-term disabilities. Of all births in 2005, 22,023 (8.1%) were pre-term. The Northern Territory had the highest proportion of pre-term births, 11.1% of all births, and Tasmania reported the lowest, 6.9%.



Pre-term birth was more likely for babies of multiple births. Whereas 6.5% of single births were pre-term, 53.1% of twins and 95.8% of higher order multiples were pre-term. Almost a quarter of babies born following ART treatment were pre-term (23.6%). Of ART twins, 61.3% were pre-term, and 91.7% of higher order multiples were pre-term.

Birthweight

A key indicator of infant health is the proportion of babies with low birthweight. These babies have a greater risk of poor health and dying, require a longer period of hospitalisation after birth, and are more likely to develop significant disabilities. The term 'low birthweight' is used when babies have a birthweight of less than 2,500 grams, 'very low birthweight' when the birthweight is less than 1,500 grams and 'extremely low birthweight' when it is less than 1,000 grams.

In 2005, 17,241 (6.4%) liveborn babies were of low birthweight, 2,875 (1.1%) were very low birthweight and 1,282 (0.5%, one in 200) were extremely low birthweight (*NHPC indicator 2.10*). The proportion of liveborn low birthweight babies ranged from 5.9% in New South Wales to 9.6% in the Northern Territory. Male liveborn babies were less likely to be low birthweight (5.9%) than female babies (6.9%). Of liveborn babies conceived after ART, 18.6% were low birthweight.

The average birthweight of liveborn babies in Australia in 2005 was 3,369 grams, ranging from 3,246 grams in the Northern Territory to 3,395 in Tasmania (Table 6.2). The average birthweight of liveborn male babies (3,427 grams) was about 4% (119 grams) higher than for female babies (3,307 grams). For liveborn single babies, the average birthweight was 3,402 grams, about 40% higher than for twins (2,407 grams) and more than double the average birthweight for triplets and other multiple births (1,668 grams). The average birthweight of liveborn babies conceived after ART was 3,069 grams.

Table 6.2: Live births by birthweight and state and territory, 2005

Birthweight (grams)	NSW	Vic	Qld	WA	SA	Tas	ACT ^(a)	NT	Australia
Average	3,379	3,368	3,376	3,343	3,352	3,395	3,362	3,246	3,369
	Number								
Total	90,073	66,041	54,905	26,783	18,066	5,874	5,041	3,657	270,440
	Per cent								
Less than 1,000	0.4	0.6	0.4	0.5	0.6	0.3	0.7	0.8	0.5
1,000–1,499	0.5	0.6	0.6	0.6	0.8	0.5	0.8	1.0	0.6
1,500–1,999	1.2	1.2	1.4	1.3	1.4	1.2	1.5	1.8	1.3
2,000–2,499	3.8	4.1	4.1	4.2	4.3	4.0	4.4	6.0	4.0
2,500–2,999	15.1	15.3	14.6	16.4	14.9	15.5	14.2	19.7	15.2
3,000–3,499	36.0	35.6	35.3	36.5	36.1	34.0	35.5	36.2	35.7
3,500–3,999	30.9	30.7	31.2	29.9	30.4	30.6	30.3	24.8	30.7
4,000–4,499	10.3	10.2	10.5	9.2	9.8	11.7	10.6	7.8	10.2
4,500 and over	1.8	1.8	1.8	1.4	1.6	2.1	2.0	1.8	1.8
Not stated	0.0	0.0	0.0	—	—	—	—	0.1	0.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Less than 1,500</i>	<i>0.9</i>	<i>1.1</i>	<i>1.1</i>	<i>1.0</i>	<i>1.4</i>	<i>0.9</i>	<i>1.5</i>	<i>1.8</i>	<i>1.1</i>
<i>Less than 2,500</i>	<i>5.9</i>	<i>6.4</i>	<i>6.6</i>	<i>6.5</i>	<i>7.0</i>	<i>6.1</i>	<i>7.3</i>	<i>9.6</i>	<i>6.4</i>

(a) 15.5% of females who gave birth in the Australian Capital Territory (ACT) were non-ACT residents. Care must be taken when interpreting percentages.

Source: Laws et al. 2007.

Babies of Aboriginal and Torres Strait Islander mothers

In 2005, there were 9,865 live births and 117 fetal deaths recorded for mothers who identified as being Aboriginal or Torres Strait Islander in the National Perinatal Data Collection, representing 3.7% of all births (Laws et al. 2007). Based on ABS birth registration data, there were about 12,100 live births registered in 2005 where at least one parent was of Indigenous origin, representing about 5% of all live births (ABS 2006a).

Babies born to Indigenous mothers are much more likely to be pre-term and/or low birthweight than those born to other Australian mothers. In 2005, 13.9% of babies of Aboriginal and Torres Strait Islander mothers were classified as pre-term compared with 7.9% in babies of non-Indigenous mothers. The proportion of low birthweight in liveborn babies of Aboriginal and Torres Strait Islander mothers was 13.2% in 2005, more than twice that of babies of non-Indigenous mothers (6.1%). The average birthweight of liveborn babies of Indigenous mothers was 3,157 grams.

Admission to special care or intensive care nurseries

Among all liveborn babies in 2005, close to one in six (15.5%) were admitted to a special care nursery (SCN) or neonatal intensive care unit (NICU). The proportion was higher for multiple births, and especially for higher order multiple births (three or more babies). Of these higher order multiple live births, 94.2% were admitted to an SCN or NICU, compared with 60.1% of twins and 14.0% of single babies.

Perinatal mortality

Perinatal deaths are deaths that occur in the period shortly before or after birth. In this report, the count of perinatal deaths includes stillbirths (fetal deaths) and deaths of infants within the first 28 days of life (neonatal deaths), where the fetus or infant weighed at least 400 grams (or, if birthweight is unknown, had a gestational age of 20 weeks or more).

In 2005, there were 2,213 perinatal deaths registered—1,411 fetal and 802 neonatal deaths. Almost 3 in 10 (29.8%) of all registered perinatal deaths were not allocated a specific cause of death, since medical certifiers are often unwilling or unable to provide an accurate cause of death without the assistance of an autopsy. The main listed causes of perinatal deaths (originating in the fetus/infant) were congenital malformations, deformations and chromosomal abnormalities (18.8%), respiratory and cardiovascular disorders specific to the perinatal period (15.5%), and disorders related to length of gestation and fetal growth (14.0%) (ABS 2007b).

Overall, the perinatal death rate declined over the most recent decade (from 9.4 per 1,000 births in 1995 to 8.5 in 2005). Fetal deaths accounted for 63.8% of perinatal deaths, and neonatal deaths for 36.2%. The perinatal death rate for males (8.9 per 1,000 births) was higher than that for females (8.0)(ABS 2007b).

The perinatal death rate is also higher among Indigenous babies than non-Indigenous babies. For the period 2003–2005, there were 350 perinatal deaths of Indigenous infants in the four jurisdictions with the most complete coverage of Indigenous deaths (Queensland, Western Australia, South Australia and the Northern Territory). The rate of perinatal deaths over this period was 15.7 per 1,000 births for Indigenous babies compared with 10.3 per 1,000 births for non-Indigenous babies (ABS & AIHW 2008). (See Section 3.2 for information about Indigenous infant mortality).

Congenital anomalies

Congenital anomalies are structural or functional defects (for more information see Box 6.1). These conditions are major causes of morbidity and mortality during childhood. More severe conditions and anatomically obvious conditions are detected at or before birth. Some conditions may manifest later in life or may not manifest at all during the lifetime.

The collection of data on these conditions has enabled their prevalence to be monitored over time, facilitated health service planning and research activities, and assisted in monitoring the impact of related health interventions (for example, the mandatory folic acid fortification of flour). Some conditions have shown a declining trend at birth, mainly because of early detection and termination of pregnancy at early stages. The rate of pregnancy termination is higher for severe congenital anomalies than for surgically correctable conditions.

Box 6.1: Congenital anomalies

Neural tube defects:

- **Anencephaly:** Total or partial absence of the cranial vault, the covering skin, and the brain tissue.
- **Spina bifida:** Non-closure of the spine during development, producing external exposure of the spinal cord and/or its coverings (the meninges).
- **Encephalocele:** Protrusion of the brain tissue and its coverings outside the skull (covered by normal or defective skin).

Cleft lip or cleft palate: A cleft lip is a narrow opening or gap in the skin of the upper lip that extends all the way to the base of the nose. A cleft palate is an opening between the roof of the mouth and the nasal cavity caused by abnormal facial development.

Polydactyly: Presence of extra fingers or toes. It can affect the hand, the foot, or both.

Limb reduction defects: Total or partial absence or severe failure of limb skeletal structures to grow.

Renal agenesis or dysgenesis: One or both of the kidneys are absent or severely abnormal in their development.

Trisomy 18: A genetic disorder associated with the presence of extra material from chromosome 18. The extra material interferes with normal development and is associated with multiple abnormalities and mental retardation.

Trisomy 21 (Down syndrome): A genetic disorder caused by the presence of all or part of an extra chromosome 21. Down syndrome is associated with impairment of cognitive ability and physical growth as well as a distinctive/characteristic facial appearance.

Data on congenital anomalies detected at birth (live births, stillbirths and terminations of pregnancy at or after 20 weeks gestation) are collected by all jurisdictions except the Northern Territory. The rates at birth presented below are therefore based on all states and the Australian Capital Territory. Only four states collect information about terminations of pregnancy at less than 20 weeks gestation—New South Wales, Victoria, South Australia and Western Australia. Therefore, estimated rates of congenital anomalies are based on data from those four states and include anomalies detected and terminated before 20 weeks of pregnancy. This rate is an estimate, rather than a count, because the total number of terminations of pregnancy is unknown. However, these rates are likely to be

underestimates because the number of anomalies aborted spontaneously is not known. See Box 6.1 for definitions of the selected birth anomalies.

Neural tube defects are relatively common severe congenital anomalies and include anencephaly, spina bifida and encephalocele. These anomalies are due to incomplete closure of the neural tube at the end of the fourth week of embryonic life. Some of these conditions are incompatible with life and some babies survive with lifelong neurological problems.

In 2001, the reported rate of neural tube defects at birth was 4.4 per 10,000 births and the estimated rate was more than 2 times as high, at 10.6. Both these rates were slightly lower in 2001 than their counterparts in 1998 (5.0 and 11.4 respectively) (Table 6.3).

Spina bifida is the most common condition arising from neural tube defects. In 2001, the rate at birth was 2.9 per 10,000 births, a slight reduction from 3.2 in 1998. Similarly, the estimated rate of spina bifida in 2001 was 5.4 per 10,000 births, compared with 5.9 in 1998. Anencephaly is not compatible with life and the estimated rate at birth was 4.4 per 10,000 births in 2001.

Studies have shown that increased folic acid around the time of conception can reduce the occurrence of neural tube defects. In June 2007, the Australia and New Zealand Food Regulation Ministerial Council issued a joint communiqué on mandatory fortification of folic acid to wheat flour for bread-making. This public health initiative has previously been adopted in a number of other countries to reduce the prevalence of neural tube defects. The implementation of the standard is expected to occur over a period of two years.

Table 6.3: Most common congenital anomalies reported to the Australian Congenital Anomalies Monitoring System

	1998			2001		
	Number ^(a)	Rate at birth ^(b)	Estimated rate ^(c)	Number ^(a)	Rate at birth ^(b)	Estimated rate ^(c)
Neural tube defects	127	5.0	11.4	111	4.4	10.6
Cleft lip and cleft palate	244	9.7	11.4	230	9.2	9.9
Polydactyly	226	9.0	9.9	227	9.1	10.2
Limb reduction defects	128	5.1	6.4	115	4.6	5.8
Renal agenesis/dysgenesis	134	5.3	6.7	132	5.3	5.7
Trisomy 18	59	2.3	6.5	44	1.8	6.0
Trisomy 21 (Down syndrome)	279	11.1	21.1	280	11.2	23.2

(a) Numbers are for the actual rate at birth, not the estimated rate. Numbers based on data from four states: New South Wales, Victoria, Western Australia and South Australia.

(b) Birth rates are per 10,000 births (live births and fetal deaths).

(c) Estimated rates are per 10,000 births (live births and fetal deaths), including anomalies detected and terminated before 20 weeks of pregnancy.

Source: Australian Congenital Anomalies Monitoring System unpublished data.

With increasing maternal age in Australia, more pregnancies are affected by chromosomal abnormalities. A large number of fetuses identified with Down syndrome (trisomy 21) are now being terminated in early pregnancy. There were 11.2 per 10,000 births of Down syndrome in 2001 and the estimated rate of cases increased more than twofold when early terminations before 20 weeks were included. The rate of trisomy 18 increased threefold when early terminations were added (from 1.8 to 6.0 per 10,000 births in 2001).

6.3 Children and young people

This section provides an overview of the health and wellbeing of Australia's children and young people. For more detailed information refer to *A picture of Australia's children 2005* and *Young Australians: their health and wellbeing 2007* (AIHW 2005, 2007a). Children are defined here as boys and girls aged under 15 years and young people as those aged 15–24 years.

Children

Childhood, particularly early childhood, is a period in which the foundations for children's later health and wellbeing are established. During this period, children acquire a vast range of skills and behaviours through their family, social and school environments. These experiences, along with biological factors, all influence children's physical and psychological health, their behaviour and their educational achievements (Patton et al. 2005; Prior et al. 2000; Zubrick et al. 2000).

In 2006, almost 4 million Australians (20% of the total population) were children aged under 15 years. Of these, 2.0 million were boys and 1.9 million were girls. There were around 171,000 Aboriginal and Torres Strait Islander children in 2006, constituting 4.3% of all children (ABS 2007c). The Indigenous population has a much younger age structure than the non-Indigenous population—in 2001, children made up 39% of Indigenous Australians and 20% of non-Indigenous Australians (ABS & AIHW 2005).

Health status

Most Australian children enjoy good health, as indicated by low and declining rates of infant and childhood deaths, and declines in specific conditions such as communicable diseases and injuries. However, there are a number of areas of concern, including high rates of overweight and obesity, insufficient physical activity and poor eating habits, mental health problems, and long-term health conditions such as asthma and diabetes.

According to the ABS 2003 Survey of Disability, Ageing and Carers, 8% of children had a disability (around 320,000 children)—much less than the overall disability rate of 20%. Around half (52%) of all children with disability had a severe or profound core activity limitation, indicating they sometimes or always needed assistance with activities of daily living, and 62% had schooling limitations (ABS 2004).

In 2005–06, there were 536,978 hospitalisations among children—this was 7% of all hospitalisations. Hospitalisation rates were higher for boys than girls (14,807 compared with 11,478 hospitalisations per 100,000 children, respectively), and 26% of all child hospitalisations were of infants (children aged under 1 year). The most common reason for hospitalisation among children overall was for respiratory conditions (17%), followed by injury and poisoning (13%) (Table 6.4). However, injury and poisoning was the leading cause of hospitalisation among children aged 10–14 years.

Table 6.4: Most common causes of hospitalisations^(a) for children aged 0–14 years, 2005–06

	0–4 years		5–9 years		10–14 years		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Respiratory conditions	60,600	19.8	22,068	18.1	10,541	9.7	93,209	17.4
Injury and poisoning	22,865	7.5	20,191	16.6	24,567	22.6	67,623	12.6
Digestive conditions	19,358	6.3	18,261	15.0	16,276	15.0	53,895	10.0
Perinatal conditions	53,922	17.6	57	0.0	36	0.0	54,015	10.1
Infectious and parasitic diseases	30,031	9.8	7,056	5.8	4,050	3.7	41,137	7.7
Other conditions	119,803	39.0	54,260	44.5	53,036	49.0	227,099	42.2
Total	306,579	100.0	121,893	100.0	108,506	100.0	536,978	100.0

(a) All hospital separations, including same-day separations.

Source: AIHW National Hospital Morbidity Database.

Long-term health conditions

Based on the 2004–05 National Health Survey (NHS), about 41% of Australian children had a long-term health condition—that is, a condition which has lasted or is expected to last for 6 months or more. The most commonly reported conditions were asthma (12%), hayfever and allergic rhinitis (8%) and other allergies (6%) (ABS 2006b).

The prevalence of asthma among children remained steady between 2001 and 2004–05 (13% and 12%, respectively), with boys continuing to have slightly higher rates than girls (13% and 10% respectively in 2004–05) (ABS 2002, 2006b; 2004–05 NHS unpublished data). Of the estimated 451,500 children with asthma in 2004–05, almost half (46%) had taken a health action for their asthma in the previous 2 weeks—44% of all children with asthma took medication, 6% consulted a GP/specialist and 7% had days away from school or days of reduced activity (ABS 2006b). In 2005–06, there were 21,363 hospitalisations for asthma among 0–14 year olds, representing 4% of all hospitalisations for this age group (AIHW National Hospital Morbidity Database).

The rate of new cases of Type 1 diabetes in children is increasing in Australia and is high compared with that of other countries; a recent study found Australia is among the 10 countries with the highest incidence of Type 1 diabetes among children (AIHW: Catanzariti et al. 2007; IDF 2006). In 2005, the National Diabetes Register recorded 901 new cases of Type 1 diabetes among children aged under 15 years. The rate of 23 new cases per 100,000 children represents a significant increase from 19 in 2000. In 2005–06, there were 2,813 hospitalisations of children for diabetes, representing less than 1% of all hospitalisations for this age group (AIHW National Hospital Morbidity Database). Type 1 diabetes accounted for nearly all (97%) diabetes hospitalisations for children, and Type 2 diabetes was responsible for 1%. Available data sources do not currently provide reliable national estimates of the prevalence of Type 1 or Type 2 diabetes among children and young people.

In 2004, there were 610 new cases of cancer diagnosed among children, a rate of 15 per 100,000 children—a similar rate to 1994. By comparison, the all-ages cancer incidence rate in 2004 was 474 per 100,000 persons. The risk of most cancers increases with age and most

types of cancer are uncommon in children. The most common cancers affecting children in 2004 were leukaemia (37% of all childhood cancers) and brain cancer (12%) (AIHW cancer incidence data cubes).

Based on parents' reports, 7% of Australian children had a long-term mental or behavioural problem in 2001 and 2004–05 (ABS 2002, 2006a). From the 1997 National Survey of Mental Health and Wellbeing it was estimated that around one in seven (14%) children aged 4–14 years had a mental health problem in 1998—13% of children aged 6–14 years had attention deficit hyperactivity disorder (ADHD), 3% had conduct disorder and 3% depressive disorder (AIHW 2005). These estimates were based on parents' responses to a diagnostic interview schedule and behaviour checklists for children.

Injury

Injury is the leading cause of death and a major cause of disability among Australian children (AIHW 2005). The 2004–05 NHS indicated that one in four children (25%) had some kind of injury in the previous 4 weeks that required a 'health action' (self-help or professional help) (ABS 2006b).

In 2005–06, injury (including poisoning) was the second leading cause of hospitalisations for children overall, and the leading cause of hospitalisation for those aged 10–14 years. In this period there were 67,623 hospitalisations for injury among children, accounting for 13% of all their hospitalisations. The boys' hospitalisation rate for injury was almost twice that of girls (2,025 compared with 1,303 hospitalisations per 100,000 children). The most common causes of injury hospitalisations among children were falls (38% of all their injury hospitalisations), transport and pedestrian accidents (14%), and hitting something or being hit or crushed by something (8%) (AIHW National Hospital Morbidity Database). (See also Section 5.10 on injury.)

Dental health

In 2001, 60% of 12 year olds had no dental caries (decayed, missing or filled teeth) in their permanent teeth—an increase from 42% in 1991. In line with this trend, the average number of teeth with dental caries had also declined over this period, from 1.26 to 0.95 (AIHW 2007a). The 2002 National Dental Telephone Interview Survey found that almost nine in ten (88%) children aged 5–11 years had visited a dentist within the previous 12 months, and 98% had visited a dentist in the previous 2 years. Almost three in four (73%) children in this age group attended their last dental visit for a check-up rather than for a specific problem (Carter & Stewart 2003).

Vaccine-preventable diseases

More children are now being vaccinated against major preventable childhood diseases. Data from the Australian Childhood Immunisation Register indicate that the proportion of children who had been fully vaccinated at 1 year of age rose from 76% to 91% between 1997 and 2007. Similarly, the proportion fully vaccinated at 2 years of age increased from 66% to 92% between 1998 and 2007 (Medicare Australia 2007). (See Section 4.5 for further information about vaccination rates.)

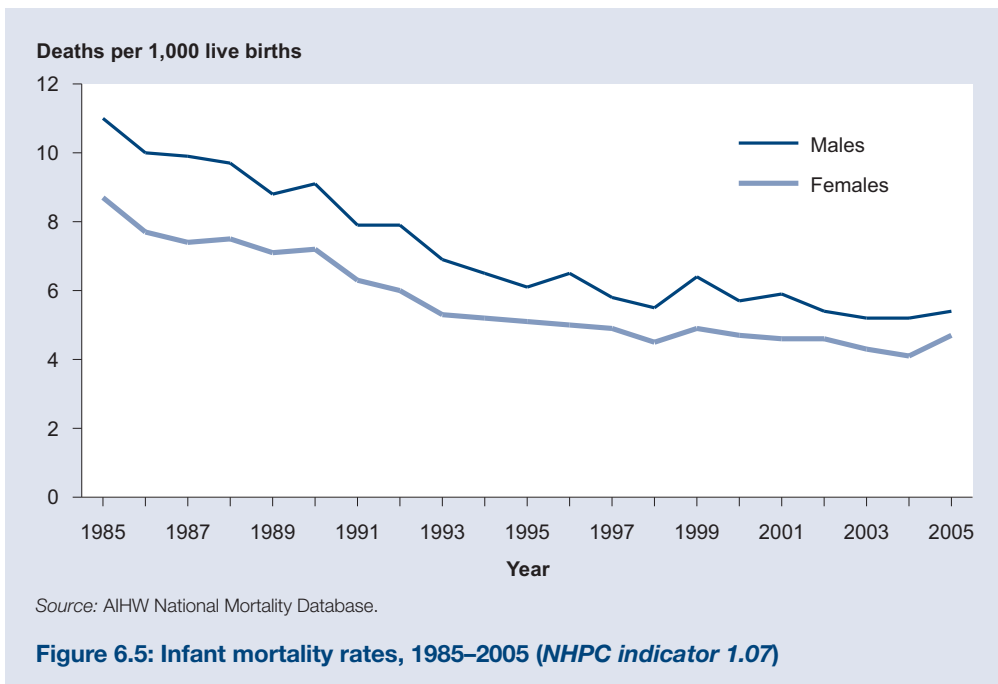
In line with this trend, the notification rates for a number of vaccine-preventable diseases have been steadily declining. Between 1996 and 2006, aged-standardised notification rates for rubella and measles rapidly decreased—for rubella, from 21.4 to 0.1 per 100,000 children, and for measles, from 12.2 to 1.7. In 2006, there were no cases of polio, tetanus or diphtheria among children aged under 15 years (National Notifiable Diseases Surveillance System 2007).

Mortality

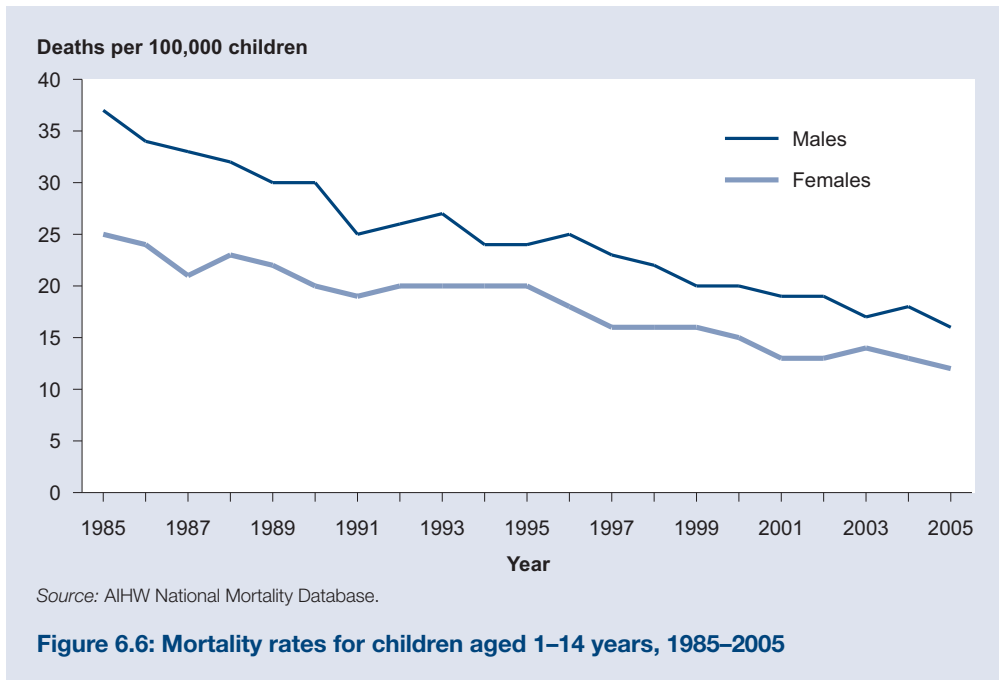
In 2005, there were 1,831 deaths among Australian children, representing 45 deaths per 100,000 children. Over the two decades to 2005, child death rates more than halved (from 94 deaths per 100,000 children in 1985). Most of the child deaths in 2005, 71%, occurred among infants (children under 1 year of age) (AIHW National Mortality Database).

Australian infant mortality rates halved between 1985 and 2005—from 10 to 5 deaths per 1,000 live births (Figure 6.5). The death rates for male infants have remained consistently higher than for female infants over this period. In 2005, the major causes of infant death were conditions originating in the perinatal period (51% of all infant deaths), congenital malformations (24%) and sudden infant death syndrome (7%). Based on data from Queensland, Western Australia, South Australia and Northern Territory, the death rate among Indigenous infants was three times that of non-Indigenous infants in 1999–2003—among males, 15 compared with 5 deaths per 1,000 live births; among females, 12 compared with 4 (ABS & AIHW 2005).

Despite their considerable fall over time, Australia's infant mortality rates do not compare favourably with other OECD countries. In 2005, although below the OECD average infant mortality rate of 5.4 deaths per 1,000 live births, Australia's infant mortality rate (5.0) was ranked twentieth among OECD countries—meaning that 19 other countries had lower rates. By comparison, Iceland had the lowest infant mortality rate with 2.3 deaths per 1,000 live births, and Turkey had the highest at 23.6 (OECD 2007).



Similar to the trends among infants, mortality rates among children aged 1–14 years more than halved between 1985 and 2005 (from 31 to 14 deaths per 100,000). They also remained consistently higher among boys (Figure 6.6).



Injury (including poisoning) remains the leading cause of death among children aged 1–14 years—189 deaths in 2005, which was 36% of all deaths among this age group. Transport accidents and accidental drowning were the most common causes of injury deaths (67 and 32 deaths respectively). Other leading causes of mortality among children aged 1–14 years include cancer (89 deaths, 17% of all child deaths), and diseases of the nervous system, such as cerebral palsy and epilepsy (46 deaths, 9% of all deaths). There was a major decline in the rate of deaths due to transport accidents and accidental drowning between 1985 and 2005—transport accident deaths declined from 8 to 2 per 100,000 children, and accidental drowning deaths declined from 3 to 1 per 100,000.

Based on data from Queensland, Western Australia, South Australia and the Northern Territory, the mortality rate among Indigenous children is around three times that of non-Indigenous children (41 deaths compared with 14 per 100,000 children aged 1–14 years in 2003–2005).

Health risk and protective factors

Nutrition, physical activity and body weight

Breastfeeding plays a major role in protecting infants against infection and chronic diseases such as diabetes and asthma, and it has been suggested that it also reduces the risk of obesity in childhood (NHMRC 2003). The 2004–05 NHS indicated that 88% of children aged 0–3 years had been breastfed, a similar proportion to 2001 and 1995 (87% and 86%, respectively) (AIHW 2007b). The National Health and Medical Research Council dietary guidelines suggest that it is an achievable goal to have 80% of Australian mothers still breastfeeding their child at 6 months (NHMRC 2003a). In 2001, less than half (48%) of all infants were receiving any breast milk at the age of 6 months, and none were being fully breastfed—that is, receiving only breast milk (and not breast milk substitutes or solids) (ABS 2003).

Poor eating habits (considering the quality and quantity of food consumed) and lack of physical activity are often cited as being prime contributors to the rising prevalence of overweight and obesity in developed nations (AIHW 2007a). However, there are limited national and recent data available on these issues relating to Australian children.

Data from the 2004–05 NHS indicated that only 26% of children aged 12–14 years met the national guidelines for daily fruit consumption and 28% met the consumption guidelines for vegetables—three serves of fruit and four serves of vegetables per day (DoHA & NHMRC 2005).

The 2004 NSW Schools Physical Activity and Nutrition Survey (SPANS) found that, among Year 6 students, 84–89% of boys and 72–80% of girls met the national recommendation for at least 1 hour of moderate-to-vigorous-intensity exercise each day. However, it was also found that Year 6 students engaged in 25 hours (median) of sedentary behaviour per week, and 61% of boys and 45% of girls were exceeding the recommended limit of 2 hours per day using electronic media for entertainment (for example, watching television or DVDs, or playing computer or console games) (Booth et al. 2006).

As indicated by the 2004 SPANS, among Year 4 and 6 students, 19–22% of boys and 16–22% of girls were overweight but not obese, and 7–9% of boys and 8% of girls were obese. The remaining 70% or so were considered to be a healthy weight (Booth et al. 2006).

Exposure to tobacco smoke

The harmful effects of inhaling environmental tobacco smoke, or passive smoking, and the impacts of smoking during pregnancy, are well documented (AIHW 2006b; Laws et al. 2007). In 2007, around 1 in 12 Australian households (8%) with children under 15 years had a household member that smoked inside the home—a decrease from 31% in 1995 (National Drug Strategy Household Survey). Data from New South Wales, Western Australia, South Australia, and the Australian Capital Territory reveal that 16% of females who gave birth in 2005 smoked during pregnancy—this proportion had declined steadily from 19% in these jurisdictions in 2001 (Laws et al. 2007; Laws & Sullivan 2004).

Sun protection

Sun exposure during childhood and adolescence is considered to be the most significant risk factor for developing melanoma skin cancer (AIHW 2007a). The 2003–04 National Sun Survey found that the most commonly reported sun protection behaviours used by children aged 0–11 years were wearing headwear (64% of respondents), using 15+ sunscreen (58%) and staying mainly in the shade (32%) (Cancer Council Australia 2007). From the 2004–05 NHS, around three in five children aged under 15 years (61%) had their skin regularly checked, by themselves or someone else, for changes in freckles or moles (ABS unpublished data).

Young people

Youth is a period of rapid emotional, physical and intellectual transition, where young people progress from being dependent children to independent adults. Young people face a range of life events and make decisions that can affect their immediate and longer term health and wellbeing. Features of this life stage may include final school years, decisions about further education, training and employment, leaving the family home and possibly parenthood and new family life. This is also a period where young people learn to drive and many have sexual experiences and experiment with alcohol, tobacco and perhaps other drugs. It follows that injuries (especially from traffic accidents), psychological problems

and the harmful effects of alcohol and other drug use are prominent hazards for many young Australians.

In 2006, there were 2.7 million young people (that is, those aged 15–24 years) in Australia, accounting for 14% of the total population. Of these, 1.4 million were males and 1.3 million were females. This included around 86,000 Aboriginal and Torres Strait Islander young people, representing 3.2% of all young people in Australia (ABS 2007c).

Health status

Most young Australians are in good health, as indicated by self-reported health status and relatively low and declining morbidity and mortality. However, there are a number of health concerns that can affect them during youth and influence their health later in life. These include mental health problems, substance use, injury and high levels of overweight and obesity.

Most young people in Australia rate their own health favourably. According to the 2004–05 NHS, around 70% of young Australians rated their health as either 'excellent' or 'very good' and a further 24% rated it as 'good'. Only 7% rated their health as either 'fair' or 'poor' (ABS 2006b).

From the Survey of Disability, Ageing and Carers, in 2003 there were around 251,300 young Australians (9%) with disability (ABS 2004). Of these, almost one in four (24%) had a severe or profound core activity limitation, indicating they sometimes or always needed assistance with activities of daily living, and 61% had employment limitations because of their disability (ABS 2004; AIHW 2007a).

In 2005–06, there were 519,139 hospitalisations among young people, comprising 7% of all hospitalisations. Female hospitalisation rates were higher than those for males (22,939 hospitalisations per 100,000 young people compared with 13,532). The most common reasons for hospitalisation among young people overall were pregnancy and childbirth (21%), digestive conditions (17%, with almost half of these due to embedded/impacted teeth) and injury and poisoning (15%) (Table 6.5).

Table 6.5: Most common causes of hospitalisations^(a) for young people aged 15–24 years, 2005–06

	15–19 years		20–24 years		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Pregnancy and childbirth	29,025	13.5	78,993	26.0	108,018	20.8
Digestive conditions	39,646	18.4	46,087	15.2	85,733	16.5
Injury and poisoning	37,261	17.3	37,799	12.5	75,060	14.5
Mental and behavioural disorders	17,722	8.2	23,425	7.7	41,147	7.9
Respiratory conditions	14,072	6.5	11,957	3.9	26,029	5.0
Other conditions	77,819	36.1	105,342	34.7	183,152	35.3
Total	215,536	100.0	303,603	100.0	519,139	100.0

(a) All hospital separations, including same-day separations.

Source: AIHW National Hospital Morbidity Database.

Long-term health conditions

In the 2004–05 NHS, two-thirds of young people (66%) reported having a long-term health condition. The most commonly reported conditions were hayfever and allergic rhinitis (19%), short-sightedness (18%), asthma (12%) and back pain or disc disorder (9%) (ABS 2006b).

The prevalence of asthma among young Australians declined from 16% to 12% between 2001 and 2004–05 (ABS 2002, 2006b). Of the 333,100 young people with asthma in 2004–05, almost half (49%) had taken a health action for their asthma in the previous 2 weeks: 48% of all young people with asthma used medication and 6% consulted a GP/specialist (ABS 2006b). In 2005–06, there were 2,686 hospitalisations for asthma among 15–24 year olds, representing less than 1% of all hospitalisations among young Australians (AIHW National Hospital Morbidity Database).

In 2005, there were an estimated 425 new cases of Type 1 diabetes among 15–24 year olds, a rate of 15 new cases per 100,000 young people (the same rate as in 2000). In 2005–06, there were 3,704 hospitalisations of young people for diabetes. Type 1 accounted for the great majority (75%) of these hospitalisations and Type 2 was responsible for 4%. Hospitalisation rates were much higher among females than males (171 hospitalisations per 100,000 young females compared with 91 for young males), reflecting that 20% of all diabetes hospitalisations of young people were for gestational diabetes among young females (AIHW National Hospital Morbidity Database).

In 2004, there were 907 new cases of cancer diagnosed among young Australians, a rate of 32 per 100,000 young people—a similar rate to 1994 (31). By comparison, the all-ages cancer incidence rate in 2004 was over 14 times as high at 474 per 100,000 persons. Although cancer is generally more common among older age groups, it is still one of the leading causes of death among young Australians. The most common cancers affecting them in 2004 were melanomas (27% of all cancers among this age group), cancer of the testis (12%) and Hodgkin disease (12%) (AIHW cancer incidence data cubes).

In 2003, mental disorders were the leading contributor to the total burden of disease among young Australians, accounting for 49% of that total (AIHW 2007a). The NHS surveys indicate that one in ten young people had a long-term mental or behavioural problem in 2001 and 2004–05 (based on parent- and self-reports) (ABS 2002, 2006b). Of all respondents aged 18–24 years, one in six (16%) reported high or very high levels of psychological distress in 2004–05 (19% of females, 12% of males).

In 2005–06, there were 41,147 hospitalisations for mental and behavioural disorders among 15–24 year olds, a rate of 1,439 per 100,000 young people, accounting for 8% of all their hospitalisations. The rates were higher for young females than young males (1,709 per 100,000 young females compared with 1,182 for males). The most common reasons for mental and behavioural disorder hospitalisations among young males were substance use and schizophrenia (28% and 21% of these hospitalisations, respectively), whereas depressive episodes and eating disorders were the most common among young females (18% and 12% of these, respectively). In 2005–06, there were also 6,980 hospitalisations for intentional self-harm, a rate of 246 hospitalisations per 100,000 young people. The hospitalisation rate for intentional self-harm among females was more than twice that for males (345 and 152 hospitalisations per 100,000 females and males, respectively) (AIHW National Hospital Morbidity Database).

Injury

Injuries are common among young Australians and are the leading cause of their hospitalisations and deaths. In 2004–05, almost one in four young people (24%) had some kind of injury in the previous 4 weeks that required a 'health action' (self-help or professional help) (ABS 2006b). Among these young people, the most frequently reported types of injury were being cut (33%), hitting something or being hit by something (16%) and falling from a low height (16%).

Injury (including poisoning) was a leading cause of hospitalisation for young people in 2005–06 with 75,060 hospitalisations, representing 15% of all their hospitalisations. Injury hospitalisation rates were more than twice as high among young males as among young females (3,664 hospitalisations per 100,000 compared with 1,562). The most common causes of injury hospitalisations among young people were transport accidents (20% of all injury hospitalisations), falls (12%) and assault (10%) (AIHW National Hospital Morbidity Database).

Sexually transmitted infections

Sexually transmitted infections (STIs) can cause significant long-term morbidity and they remain a major public health concern in Australia (DoHA 2005). In 2006, there were 32,459 notifications for STIs among young Australians (a rate of 1,135 notifications per 100,000 young people), representing 55% of all STI notifications that year. Chlamydia notification rates more than tripled over the decade from 1996 to 2006, from 291 to 998 notifications per 100,000 young people, respectively. Similarly, notification rates for gonococcal infections almost doubled over this period (from 77 to 124 per 100,000). In contrast, syphilis notification rates are low and declining (from 23 to 13 notifications per 100,000 young people between 1996 and 2006) (National Notifiable Diseases Surveillance System 2007). In 2005, there were 88 HIV notifications for those aged 18–24 years (75 for males, 13 for females), a rate of four notifications per 100,000 in that age group, representing a slight decrease from six in 1995 (National Centre in HIV Epidemiology and Clinical Research, unpublished data).

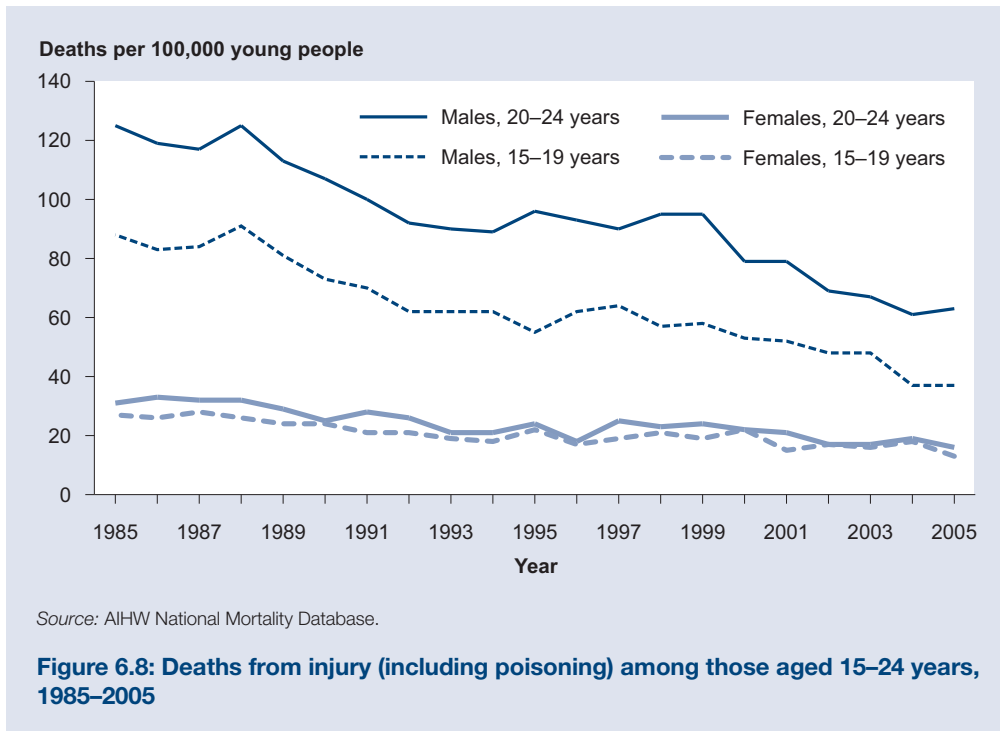
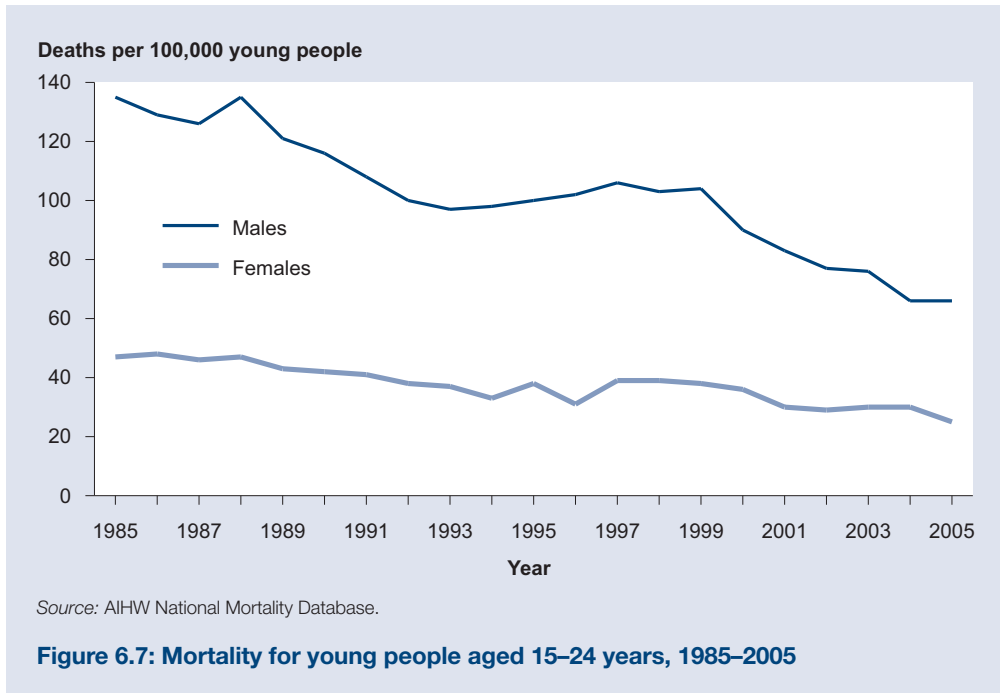
Mortality

In 2005 there were 1,309 deaths among young Australians—a rate of 46 deaths per 100,000 young people—with males accounting for 73% of these deaths. The male rates were consistently higher than those for females over the 20 years to 2005, but the rates for both halved (Figure 6.7) (AIHW National Mortality Database).

Injury (including poisoning) was the leading cause of death for young Australians in 2005—919 deaths, representing 70% of all deaths among this group. Motor vehicle traffic accidents and suicide were the main causes of these injury deaths (39% and 32% respectively). The overall decline in mortality among young people in the 20 years to 2005 can be attributed largely to a fall in the death rates from injury (including poisoning)—a fall from 68 to 32 deaths per 100,000 young people between 1985 and 2005. The injury death rates halved among males and females in both the 15–19 and 20–24 age groups over this period (Figure 6.8).

Cancers (malignant neoplasms) were also a leading cause of death among young Australians in 2005—114 deaths, accounting for 9% of all their deaths. Over a quarter (27%) of cancer deaths among young people were due to leukaemia, with a further 11% due to brain cancer.

Based on data from Queensland, Western Australia, South Australia and the Northern Territory, the mortality rate among young Indigenous Australians is almost three times that of non-Indigenous young people (146 deaths per 100,000 young people compared with 51, in 2003–2005).



Health risk and protective factors

Nutrition, physical activity and body weight

Poor eating habits, low levels of physical activity and being overweight or obese are linked to a range of immediate and long-term health problems (AIHW 2007a). For young people aged 15–18 years, the national recommendations are for three serves of fruit and four serves of vegetables each day, and for people aged 19 years and over, two serves of fruit and five serves of vegetables per day are recommended (DoHA & NHMRC 2005). In 2004–05, 37% of young people met the daily fruit consumption guidelines and 10% reported they did not usually eat any fruit. Around one in six young people (16%) met the daily vegetable consumption guidelines (2004–05 NHS unpublished data).

According to the 2004–05 NHS, 46% of males and 30% of females aged 15–24 years participated in levels of physical activity as recommended in the national guidelines to obtain a health benefit (AIHW 2007a). More young females (32%) than males (23%) were sedentary, or undertook low levels of physical activity (38% and 31%, respectively).

Based on self-reported height and weight, 29% of young people aged 18–24 years were considered overweight or obese in 2004–05 (22% overweight, 7% obese). This is an increase from 1995, when 17% were considered overweight and 5% obese (ABS 2006b).

Tobacco, alcohol and other substance use

Alcohol and illicit drug use were the leading risk factors contributing to the burden of disease among young Australians in 2003—mainly through motor vehicle accidents, injury, substance dependence, overdose and suicide (AIHW 2007a; Begg et al. 2007). The 2007 National Drug Strategy Household Survey (NDSHS) indicated that 17% of young people were current smokers (with 13% smoking daily), with another 76% reporting they had never smoked. Most adult smokers begin during adolescence, and in 2007 the average age of starting was 15.8 years (2007 NDSHS unpublished data).

The 2007 NDSHS indicated that around two in five young Australians (37%) consumed alcohol at least once a month at levels considered to be risky or high risk in the short term; that is, on any one day, seven or more standard drinks for males and five or more standard drinks for females (NHMRC 2001).

In 2007, nearly a quarter of young people (23%) had used an illicit drug in the preceding 12 months. The most common types of illicit drugs used were marijuana/cannabis (18% of all young people), ecstasy (9%) and methamphetamine (including ice) (4%) (2007 NDSHS unpublished data).

In 2005–06, there were 8,013 hospitalisations among young people for mental and behavioural disorders due to drug and alcohol use (almost 2% of all hospitalisations among young people). In addition, there were 195 hospitalisations for accidental overdose of narcotics and hallucinogens, and 120 for accidental poisoning by alcohol (AIHW National Hospital Morbidity Database).

The Australian Secondary Students' Alcohol and Drug Survey has found that smoking prevalence among secondary students aged 12–17 years declined between 1999 and 2005 (AIHW 2007c). Over this period, the use of illicit substances also declined or remained stable, with steady decreases in the proportion of students ever using marijuana/cannabis, inhalants, tranquilisers, amphetamine, hallucinogens and opiates. Results from the 1999, 2000 and 2005 surveys showed a significant decrease in the proportion of 12–17 year olds who had consumed alcohol (ever, in the last month or in the last week).

Sun protection

Melanoma is the most serious type of skin cancer, and is the most common cancer diagnosed among young people. Sun exposure is a key risk factor for developing melanoma (AIHW 2007a). In 2003–04, the most commonly reported sun protection behaviours among 18–24 year olds were wearing sunglasses (52%), wearing headwear or long leg cover (37% each) and wearing 15+ sunscreen (36%) (Bowles et al. 2005). Based on self-reports from the 2004–05 NHS, almost half (49%) of young people aged 15–24 years regularly checked their skin for changes in freckles or moles, or had it checked by a doctor—a decrease from 55% in 2001 (AIHW 2006a). Young females were more likely than young males to have their skin checked—53% compared with 45% in 2004–05 (2004–05 NHS unpublished data).

Teenage pregnancy

Teenage pregnancies pose an increased risk to the health and socioeconomic conditions of both mothers and babies (AIHW 2007a). In 2006, 4% of all births in Australia were to females aged under 20 years (10,474 births). Fertility rates among young Australian females steadily declined over the two decades between 1986 and 2006—from 22 to 15 births per 1,000 females under 20 (ABS 2007a).

Fertility at younger ages continues to be much higher among Indigenous females. In 2006, the fertility rates among Indigenous females were 4 times as high as the national rates for those aged under 20 years (69 births per 1,000 females compared with 15).

6.4 People aged 25–64 years

The 25–64 years age group—often referred to as ‘working-age adults’—constitutes just over half the total Australian population (54% in June 2006). Throughout the 40 years of life included in this age group, there are many changes that can occur for individuals. These may include marriage and parenthood, establishment in the workforce, changes in career paths, and, for many people, retirement. It is also the ‘life stage’ at which a wide variety of health conditions are likely to emerge. This is the group in which foundations for good or bad health in older years may become more set, especially in terms of health behaviours. Examining patterns in health and health behaviours for this group can therefore not only benefit the people concerned but also assist in predicting future health needs in the older population.

In Australia, people aged 25–64 years generally enjoy good health. However, as individuals progress through those years, their likelihood of maintaining good health diminishes because ageing itself is a risk factor for ill health. Health status varies within this age group. For example, as for other ages, working-age Aboriginal and Torres Strait Islander peoples and people from lower socioeconomic groups often have poorer health and shorter life expectancy than other population groups.

Health and functioning

Life expectancy

As for other age groups, life expectancy for those aged 25–64 years has increased over time and this trend is continuing. In the 10 years up to 2005, life expectancy improved by 3 years for males and 2 years for females (ABS 2006c). Females have higher life expectancy than males at all ages. At age 25, males in 2005 could expect to live until 79.5 years, and females until 84.0 years. At age 64, males could expect to live to age 82.9, and females to 86.2.

Self-assessed health status

Most Australians in the 25–64 years age group rate their health highly, but the proportions doing so decrease with age (Table 6.6). Estimates from the 2004–05 National Health Survey (NHS) show that almost two-thirds (64%) of 25–34 years olds rate their health as excellent or very good and this proportion declines to under half (47%) in the 55–64 years group. At all ages, higher proportions of females than males rate their health as excellent or very good.

Table 6.6: People aged 25–64 years who assessed their health as excellent or very good, 2004–05 (per cent)

Sex	Age group			
	25–34	35–44	45–54	55–64
Males	61.9	57.5	53.2	46.8
Females	65.8	66.1	56.1	47.6

Source: ABS 2006b.

Self-assessed health status declines as a person's number of long-term health conditions increases (Table 6.7). Only a third (32%) of people who reported five or more long-term conditions assessed their health as excellent or very good, compared with three quarters (74%) of those with no long-term conditions.

Table 6.7: Number of long-term health conditions reported by self assessed health status, people aged 25–64 years (per cent)

Health status	Number of long-term health conditions					
	None	One	Two	Three	Four	Five or more
Excellent/very good	74	70	65	57	51	32
Good	22	25	28	31	32	31
Fair/poor	4	5	8	12	17	37
Total	100	100	100	100	100	100

Note: Long-term health conditions are self-reported.

Source: AIHW analysis of the ABS 2004–05 NHS.

Long-term health conditions

In general, most people (nearly 90%) in the 25–64 years age group have at least one long-term health condition, and as people age their likelihood of developing more long-term conditions increases.

The long-term conditions they most commonly reported in the 2004–05 NHS are sight problems—mainly long- and short-sightedness (Table 6.8). The frequency of reporting certain conditions varies by age: for example, long-sightedness was rarely reported by those aged 25–34 years but was common in those aged 45 years and over. As Table 6.8 shows, in the younger age groups (under 45 years), asthma was commonly reported, whereas hypertensive disease and high cholesterol were not frequently reported until 45 years and over.

Table 6.8: Ten most commonly reported long-term health conditions, people aged 25–64 years, 2004–05 (per cent of each age group)

Long-term condition	Age group (years)				Total
	25–34	35–44	45–54	55–64	
Long-sightedness	. .	14.7	52.2	63.0	30.1
Short-sightedness	22.3	21.6	30.5	36.5	27.1
Back pain & disc problems ^(a)	15.3	21.6	22.5	26.1	21.0
Hayfever & allergic rhinitis	22.0	20.3	19.3	14.9	19.4
Arthritis (all types)	. .	10.0	20.0	38.6	15.6
Chronic sinusitis	11.3	11.6	12.3	12.3	11.8
Deafness	5.3	8.5	10.8	17.9	10.1
Hypertensive disease	. .	. .	13.6	26.4	8.8
Migraine	10.4	10.4	10.3	. .	8.3
Asthma	10.7	8.8	9.2	. .	7.7
Astigmatism	5.6	. .	. .	. .	. .
Presbyopia	. .	. .	. .	10.7	. .
Allergy	5.8	. .	. .	. .	. .
Mood affective problems	6.6	7.8	. .	. .	. .
High cholesterol	. .	. .	. .	17.6	. .

(a) Includes back problems not elsewhere classified.

. . These conditions are not applicable as they are not one of the ten most commonly reported conditions for that age group.

Note: Long-term conditions are self-reported.

Source: ABS 2006b.

Burden of disease

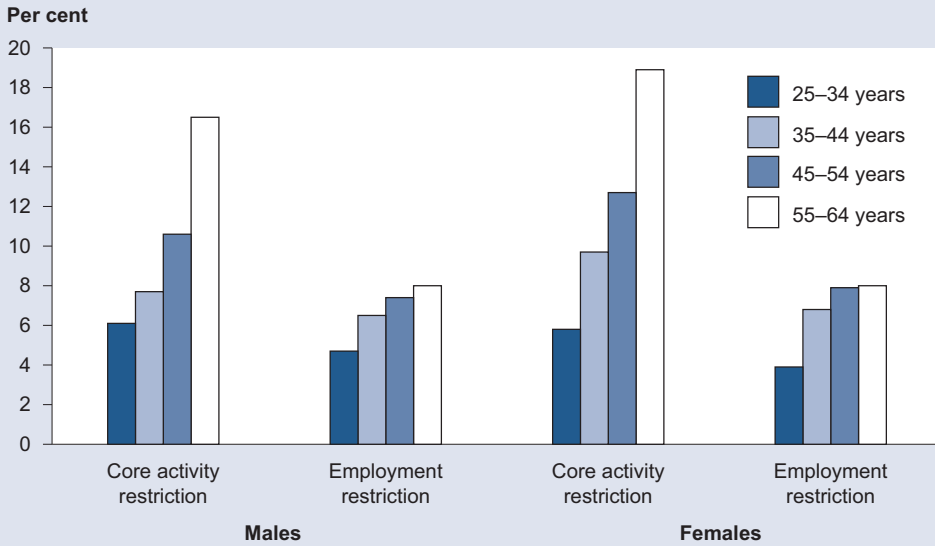
The impact of conditions causing illness, impairment, injury or premature death—known as the ‘burden of disease’—has been estimated using a measure called the disability adjusted life year (DALY). For further information about DALYs, see Chapter 2.

The conditions that cause the most burden to those aged 25–64 years differ for males and females (Begg et al. 2007). For example, in 2003, coronary heart disease was the largest single contributor to disease burden for males (9.5% of all DALYs), whereas anxiety and depression was the largest contributor for females (15.7%).

Suicide and self-inflicted injuries (4.8%), road traffic accidents (2.9%), and alcohol dependence and harmful use (3.2%) were included in the top ten conditions for males but not for females. Breast cancer (8.0%), Type 2 diabetes (6.7%), lung cancer (2.9%), and personality disorders (2.3%) are included in the top ten for females.

Disability

Results from the ABS 2006 General Social Survey show that most people aged 25–64 years (85%) do not have disabilities that restrict them in their core activities or with their employment. Proportions of those who do have such restrictions increase with age and, generally, higher proportions of females than males report having core activity restrictions (Figure 6.9). In 2006, 6% of survey respondents aged 25–34 years reported restrictions with core activities and 4% with employment. These proportions increased for those aged 55–64 years—about 17% of the males and 19% of the females reported restrictions with core activities, and 8% of both males and females reported restrictions affecting their employment.



Notes

1. There are four levels of core activity limitation (profound, severe, moderate, and mild). For further information about how people were classified for the General Social Survey, readers should refer to the source of these data.
2. People are classified as having an employment restriction if they have any difficulties with employment because of their long-term health conditions.

Source: ABS 2007d.

Figure 6.9: Activity restrictions by age and sex, 2006

Work-related injury and absenteeism

Over 80% of Australians aged 25–64 years are employed, hence the term ‘working-age Australians’. Illness and injury affect a person’s ability to work, leading to productivity losses. Results from the 2004–05 NHS show that 8% of employed persons had days away from work because of an illness in the fortnight before the survey interview (ABS 2006b). This equated to almost 3 million days away from work because of personal illness within that period.

In 2004–05 there were over 140,600 new workers compensation claims for either a workplace injury or a disease or condition caused by the workplace (ASCC 2007). The great majority of these claims (85%) were for people aged 25–64 years and 64% were for males in that age group. The majority of these claims were for sprains and strains of joints and adjacent muscles (44%) and the most common bodily locations of injuries or diseases were the back (24%) and hands (12%).

Diseases of the musculoskeletal system are also commonly reported as a cause of work-related conditions. In the 2004–05 NHS, over 20% of respondents aged 25–64 years reported a long-term condition originally caused by their work. Back pain/problems and disc disorders were the most common work-related conditions (36%), followed by deafness (10%).

Use of health services

During 2006, there were 135 million Medicare services for Australians aged 25–64 years. This equates to 12.2 services per person in that age group. The most used services were general practitioner (GP) and specialist consultations (5.9 on average), and pathology services (4.3 on average). Service rates vary by sex and increase with age. Males and females aged 25–34 years had on average 5.6 and 13.5 services per year respectively, with the higher average rate among females relating mainly to obstetrics services. The Medicare service rate increased to 16.3 and 19.2 respectively for males and females aged 55–64 years.

In 2005–06, the problem most commonly managed at GP consultations in the age group was hypertension (high blood pressure) (Table 6.9).

Table 6.9: Problems most commonly managed at GP encounters, people aged 25–64 years, 2005–06

Males		Females	
Problem	Per 100 encounters	Problem	Per 100 encounters
Hypertension	9.4	Hypertension	7.1
Upper respiratory infection	5.3	Depression	5.8
Lipid (cholesterol) disorders	4.5	Female genital check up	5.1
Back complaints	4.5	Upper respiratory infection	4.8
Diabetes	4.1	Lipid (cholesterol) disorders	3.1

Source: Australian GP Statistics and Classification Centre analysis of BEACH data.

Consulting with health professionals other than doctors is common, with 12% of male and 18% of female respondents in the 25–64 years age group reporting doing so in the 2004–05 NHS. Of those consulting other health professionals, nearly one-third (30%) consulted chemists and about one-fifth consulted chiropractors (21%) or physiotherapists/hydrotherapists (19%).

Within the population aged 25–64 years, rates of hospitalisation vary by age group and sex (Table 6.10). Female rates are higher than male rates in all age groups until 54 years of age. This includes hospitalisations for pregnancy and childbirth, both of which are the dominant reasons for hospital admissions in females aged 25–34 years. However, in the 55–64 year age group, male hospitalisation rates are higher than those for females: 536 per 1,000 population in 2005–06 compared with 476.

Table 6.10: Hospitalisation^(a) by age group and sex, people aged 25–64 years, 2005–06

Sex/measure	Age group			
	25–34	35–44	45–54	55–64
Males				
Total hospital separations	232,300	328,400	441,200	601,000
Number per 1,000 population	162	219	316	536
Females				
Total hospital separations	554,600	491,600	482,900	528,800
Number per 1,000 population	389	324	341	476

(a) All hospital separations, including same-day separations.

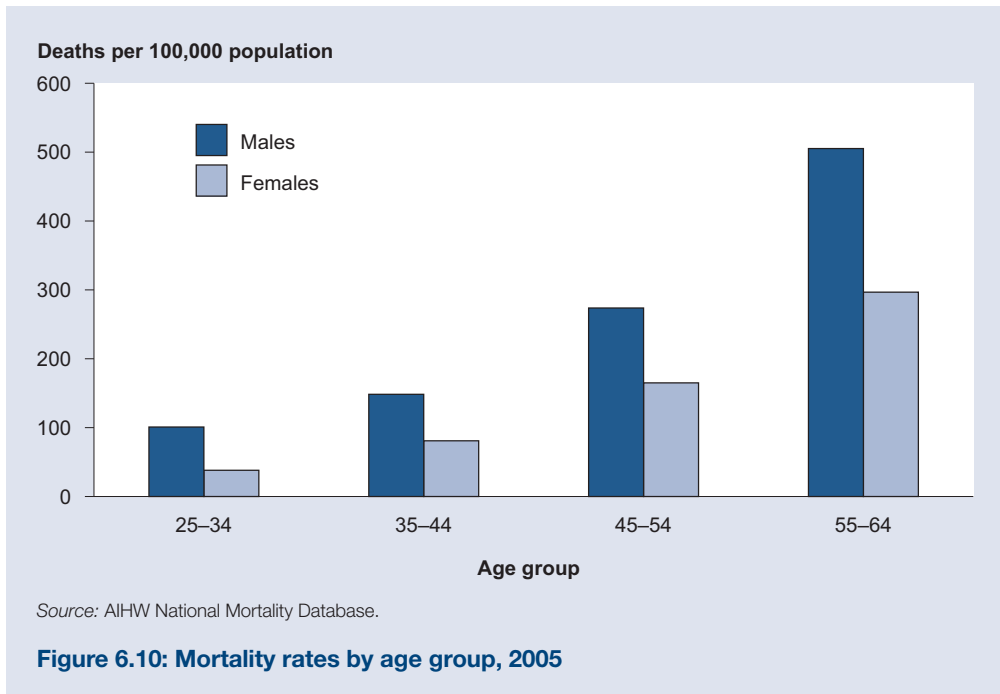
Source: AIHW 2007d.

The most common reason for hospitalisation for males aged 25–64 years was *Admit for renal dialysis*. For females, this was also the most frequently recorded reason with the exception of the 25–34 years age group, where the leading five reasons were obstetrics-related.

Mortality

With life expectancy at birth in 2003–2005 at 78.5 years for males and 83.3 years for females (ABS 2006c), deaths in those aged 25–64 years are considered premature. In 2005, 18% of all deaths were among those aged 25–64 years (23% of all male deaths and 14% of all female deaths).

Many more males than females die in this age group (Figure 6.10). In the younger age group (25–34 years), male deaths are more than twice as common as female deaths. This difference decreases with age but the male rate at age 55–64 years is still 70% higher than the female rate.



The most common specific causes of death in the 25–64 years age group differ by sex (Table 6.11)—for males, it is coronary heart disease (15.7%) and for females, breast cancer (14.5%). However, these leading causes are not representative of the younger ages within the group. For both males and females in the 25–34 years age group, external causes such as intentional self-harm (suicide), land transport accidents and accidental poisonings feature strongly. With increasing age, chronic diseases emerge. In the oldest group (55–64 years), the top four causes of death for both males and females are heart disease and types of cancer.

Table 6.11: Five leading causes of death by age group, 2005 (per cent of age group)

Cause of death	Age group (years)				Total 25–64 years
	25–34	35–44	45–54	55–64	
Males					
Coronary heart disease	2.9	11.4	18.0	18.2	15.7
Intentional self-harm	24.9	16.8	7.7	..	7.9
Lung cancer	..	..	5.8	11.5	7.5
Land transport accidents	17.9	7.4	..	..	4.2
Colorectal cancer	..	..	4.4	5.5	4.2
Other heart disease	2.7	..	..	3.8	..
Unknown primary site cancers	..	..	..	3.8	..
Cirrhosis and other disease of the liver	..	4.8	5.5	..	..
Accidental poisoning	11.1	6.5	..	..	..
Females					
Breast cancer	5.5	15.1	18.4	13.3	14.5
Lung cancer	..	..	7.5	11.2	8.2
Coronary heart disease	..	4.9	6.0	7.6	6.5
Colorectal cancer	..	..	4.9	5.0	4.5
Cerebrovascular disease	..	4.7	3.8	..	3.6
Chronic obstructive pulmonary disease	..	..	..	3.8	..
Intentional self-harm	14.4	7.7	..	..	..
Land transport accidents	11.2	..	..	..	..
Accidental poisoning	7.7	4.9	..	..	..
Other heart disease	4.4	..	..	..	..

.. Not applicable because the cause of death is not one of the five most commonly causes of death for that age group.

Source: AIHW National Mortality Database.

Although this age group largely consists of people who are in the workforce, there are relatively few work-related deaths each year. Preliminary data for 2004–05 show that there were 214 compensated fatality claims related to work, about 74% of which were for people aged 25–64 years (ASCC 2007). The majority of these deaths were of males and the highest number of fatalities occurred in the transport and storage industry.

Health risk and protective factors

There are many factors that can either raise or lower the risk of ill health for individuals, both in the short- and longer term. These are discussed in detail in Chapter 4 of this report. This section provides information about the prevalence of a number of well-known health risk and protective factors among the working-age population.

Health risk and protective factors vary across the 25–64 years age group by sex (Table 6.12). In 2004–05, levels of excess body weight for this group were high. Almost two-thirds (64%) of males in this group were overweight or obese and for females this proportion was 42%. One quarter (25%) were current smokers. Alcohol intake at risky or high-risk levels

was relatively uncommon, but still a concern—in the 2004–05 NHS, 17% of males and 13% of females reported consuming alcohol at levels that are considered risky to health.

Dietary patterns are also of concern: less than 15% in this group eat the recommended daily serves of vegetables. Fruit consumption estimates are more positive, with 46% of males and 60% of females eating the recommended two or more serves per day. The majority of people in the age group (67.5%) undertook some form of exercise for sport, recreation or fitness in the 2 week period before the survey, and one-third reported exercising at low levels or being sedentary.

Table 6.12: Selected health risk and protective factors, people aged 25–64 years, 2004–05 (per cent)

Risk and protective factor	Males	Females	Total
Current smokers ^(a)	28.4	22.5	25.4
Risky or high risk alcohol consumption ^(b)	16.8	12.5	14.7
Sedentary exercise ^(c)	33.6	31.5	32.5
Overweight or obese ^(d)	64.2	42.2	53.1
Usually eats less than the recommended daily fruit intake ^(e)	53.6	40.4	47.0
Usually eats less than the recommended daily vegetable intake ^(f)	88.0	82.9	85.4
High blood pressure	11.0	10.2	10.6
High blood cholesterol	7.8	6.6	7.2

(a) Daily or other current smokers.

(b) In a 1-week period.

(c) Physical activity for sport, recreation or exercise only; does not include those who exercised for transport or for work.

(d) Body mass index greater than or equal to 25.

(e) Dietary guidelines recommend at least two serves of fruit per day.

(f) Dietary guidelines recommend at least five serves of vegetables per day.

Source: AIHW analysis of the 2004–05 NHS.

Risk factors—such as smoking, risky consumption of alcohol and high blood cholesterol—can help initiate chronic illnesses, speed up their progression, or impede recovery or quality of life. The risk of developing illness increases with the number of risk factors. From the 2004–05 NHS, most people aged 25–64 years had at least one risk factor (99% of males and 96% of females) and large proportions had three or four (58% of males and 42% of females). Of the 85% of adults aged 25–64 years who did not eat the recommended number of serves of vegetables, 61% also exercised at low levels or were sedentary, 45% were overweight or obese, and 43% ate fewer than the recommended serves of fruit.

6.5 Older people

Good health is a crucial factor in older Australians being able to enjoy a good quality of life, stay independent and participate fully in the community. Good health among older Australians also helps to moderate demand for health and aged care services, which is important as Australia's population ages over coming decades. In response to population ageing, Australia has made improving older people's health a national research priority. One area of special interest is the adoption of a healthy lifestyle at older ages because its benefits include the prevention of disease and functional decline, extended longevity and enhanced quality of life (WHO 2002).

The evidence shows that today's older Australians are living longer and, in several respects, healthier lives than previous generations. This section documents some of that evidence and examines the health conditions and diseases that have the biggest impact on older Australians. A focus on hospital use among older Australians is also presented.

Older Australians, defined in this section as people aged 65 years and over, make up a little over one in eight Australians, about 13% of the population (2,687,000 people at 30 June 2006) (ABS 2007e).

Health status

Life expectancy

At age 65, Australia's males can now expect to live to be 83.1 years and females to be 86.4 years, which is about 6 years more than their counterparts at the beginning of the 20th century (ABS 2006c). Males and females aged 85 years can expect to live for a further 5.9 and 7.1 years respectively, which is about 2 years more than for the early 1900s. Most of these gains in life expectancy among older Australians occurred during the latter three decades of the 20th century, when mortality from cardiovascular diseases (notably heart disease and stroke) fell rapidly.

Even though age-specific prevalence rates of disability appear relatively stable in Australia, the ageing of the population and the greater longevity of individuals are leading to growing numbers of people, especially at older ages, with a disability and a severe or profound core activity limitation.

Indeed, the evidence for Australia suggests that most of the recent gain in life expectancy for individuals was spent with disability in those last extra years, much of the period with a profound or severe core activity limitation (AIHW 2006b). A recent analysis of Australian data over the 15-year period from 1988 to 2003 showed that a male's life expectancy at age 65 increased by 1.5 years over this period (AIHW 2006b). Of this gain, one extra year of life was spent with disability (67% of the gain), including 27% of the gain being spent with profound or severe core activity limitation. Older females increased their life expectancy at age 65 by 1.2 years; over 90% of the gain was estimated to be time spent with disability, including 58% of the gain being spent with profound or severe limitation.

These patterns in life expectancy and disability have important consequences for the number of Australians reaching older ages and for patterns of health, disease and disability in the community.

Self-assessed health status

According to the 2004–05 NHS, the majority of older Australians consider themselves to be in excellent, very good or good health, although the proportion reporting fair or poor health increases with age (Table 6.13). Thus, many older people have a positive view of their health even though older age may be generally associated with increasing levels of disability and illness. Over the latest 10 years there has been a general increase in the proportion of older Australians reporting their health as excellent or very good (ABS 2006b). At the same time, older females have been consistently more likely than older males to rate their health as excellent or very good.

Table 6.13: Self-assessed health status of Australians aged 65 years and over, by age and sex, 2006

Health status ^(a)	65–74	75–84	85 and over	65 and over
Males				
Excellent/very good	36.3	28.2	*24.4	32.7
Good	34.8	34.4	*37.5	34.8
Fair/poor	28.9	37.4	38.1	32.5
Total	100.0	100.0	100.0	100.0
Females				
Excellent/very good	40.1	31.0	20.5	34.7
Good	35.4	30.3	37.2	33.7
Fair/poor	24.5	38.8	42.3	31.7
Total	100.0	100.0	100.0	100.0
Persons				
Excellent/very good	38.2	29.8	21.9	33.8
Good	35.1	32.1	37.3	34.2
Fair/poor	26.6	38.2	40.8	32.0
Total	100.0	100.0	100.0	100.0

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

(a) The person's general assessment of his or her own health against a five-point scale ranging from excellent through to poor.

Note: Components may not add to total because of rounding.

Source: ABS 2007d.

Causes of death and disability

The top 12 specific causes of death were responsible for almost 70% of all deaths among older Australians in 2005 (Table 6.14).

Coronary heart disease and cerebrovascular disease (notably stroke) were the two leading causes of death, accounting for about 30% of all deaths among older males and females in 2005. These diseases are also major causes of disability among older Australians. Other heart diseases, which include heart failure, also featured prominently.

Lung cancer was the third most common cause of death for older males and the fifth for older females. Colorectal cancer was also prominent for both sexes, and prostate cancer and breast cancer were two prominent sex-specific causes of death. Cancers where the primary site was unknown were ranked in the top 12 causes of death for both older males and females.

Chronic pulmonary obstructive disease, which includes emphysema, was a significant cause of death for older males and females (ranked sixth for both), responsible for just over 4% of all deaths among older Australians.

Table 6.14: Leading causes of death in Australians aged 65 and over, by sex, Australia, 2005

Males	Deaths	Per cent of total	Females	Deaths	Per cent of total
Coronary heart disease	10,016	20.1	Coronary heart disease	10,565	19.7
Cerebrovascular disease	4,226	8.5	Cerebrovascular disease	6,527	12.2
Lung cancer	3,542	7.1	Other heart diseases	4,050	7.6
Prostate cancer	2,752	5.5	Dementia & related disorders	3,234	6.0
Other heart diseases	2,625	5.3	Lung cancer	1,990	3.7
Chronic obstructive pulmonary disease	2,589	5.2	Chronic obstructive pulmonary disease	1,839	3.4
Colorectal cancer	1,687	3.4	Influenza & pneumonia	1,615	3.0
Diabetes	1,462	2.9	Diabetes	1,594	3.0
Dementia & related disorders	1,445	2.9	Breast cancer	1,450	2.7
Cancers (unknown primary site)	1,353	2.5	Colorectal cancer	1,448	2.7
Influenza & pneumonia	1,227	2.6	Cancers (unknown primary site)	1,294	2.4
Diseases of arteries etc.	1,090	2.2	Diseases of arteries etc.	1,110	2.1
Total (12 leading causes)	34,014	68.1	Total (12 leading causes)	36,716	68.5
Total (All deaths 65+)	49,920	100.0	Total (All deaths 65+)	53,566	100.0

Source: AIHW National Mortality Database.

Although the ‘burden of disease’ caused by dementia is due mainly to disability rather than to premature death, dementia and related disorders, which include Alzheimer’s disease, still cause many deaths among older Australians (ranked ninth for males and fourth for females).

Diabetes was the underlying (primary) cause of over 3,000 deaths and was ranked the eighth leading cause for both older males and females. It is more commonly listed as an associated (contributory) cause of death, especially when coronary heart disease, cancer and stroke are the underlying causes. It is also associated with disability and poor quality of life.

Diseases of the arteries, which include aortic aneurysm, atherosclerosis and other peripheral vascular diseases, were the twelfth leading cause of death for older males and females.

The top 12 causes of death show important differences for each of the age groups 65–74 years, 75–84 years and 85 years and over (AIHW 2007e). For example, the top causes of death for 65–74 year olds include pancreatic cancer, cirrhosis of the liver (males) and ovarian cancer (females). At 75–84 years, deaths from dementia and related disorders become relatively more important, and influenza and pneumonia appear in the top causes of death for the first time. For those aged 85 years and over, influenza and pneumonia become relatively more important and kidney failure appears among the top causes.

When the effect of disability is taken into account, the other conditions with a large impact on older Australians include adult-onset hearing loss, Parkinson’s disease (males), osteoarthritis (females) and falls (females) (Begg et al. 2007).

Use of health services

In 2004–05, there were 2.5 million separations from Australian hospitals for people aged 65 years and over, representing 35% of all separations (see Box 7.9 for more information about terms and data sources relating to hospital use). Although overall rates of hospital bed use among the Australian population have remained reasonably stable among younger people since the early 1990s, these rates have declined among the population aged 65 and over, reflecting interactions between growth in the older population and the relative increase in same-day (versus overnight) hospital separations (Gray et al. 2004). However, at the same time, older people have grown as a proportion of the population. The effect of these trends is that the share of hospital patient days used by older people has remained stable (AIHW: Karmel et al. 2007).

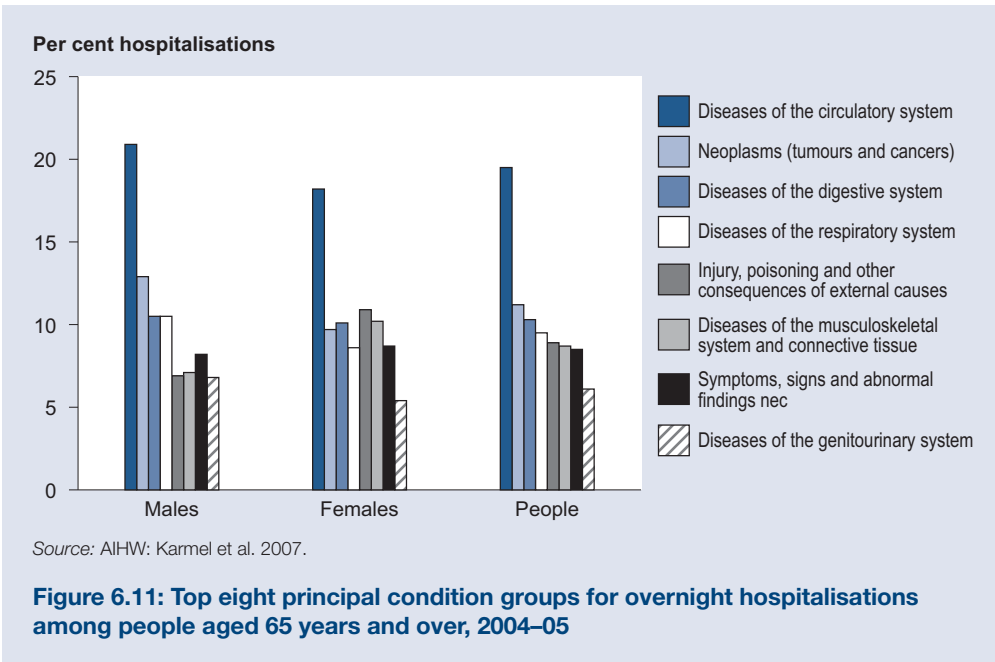
Nevertheless, older people are still much higher users of hospitals than their younger counterparts, making up 53% (29,000) of people in hospital on the night of 30 June 2004 and accounting for 37% of hospitalisations lasting at least one night during 2004–05 (AIHW: Karmel et al. 2007). Age-specific rates of separation increase for each age group within the population aged 65 years and over, as does average length of stay (AIHW 2007e).

Older males have higher rates of hospital use than older females—with separation rates of 475 overnight hospital episodes per 1,000 older males compared with 414 for older females (AIHW: Karmel et al. 2007). However, because older females make up a larger proportion of the older population, they constituted over half (55%) of the older people in hospital on 30 June 2004.

Consistent with the information about major causes of death, the most common principal diagnoses for older Australians admitted to hospital in 2004–05 were diseases of the circulatory system (accounting for one-fifth of overnight hospitalisations for older males and females) and cancers and tumours (11%) (Figure 6.11; AIHW: Karmel et al. 2007). Other common principal diagnoses were respiratory and digestive diseases (both around 10% of hospital separations), injury or poisoning (9%), musculoskeletal diseases (9%) and diseases included in the category *Symptoms, signs and abnormal findings not elsewhere classified* (9%).

On discharge from hospital, older people are less likely than younger people to return to their usual residence, and more likely to enter residential aged care or die. In particular, a relatively high proportion of injury-related hospitalisations for older people are followed by discharge to a residential aged care or 'other health facility' (AIHW: Karmel et al. 2007).

The interface between acute hospital care and residential aged care has long been recognised as an important issue in aged care services policy and research (Duckett 2002; Renwick et al. 1992). The analysis of movements of older people between these two sectors of the health-care system has recently become possible with the development of a data linkage method using administrative by-product data for hospital separations and residential aged care admissions (Karmel & Gibson 2007; AIHW: Karmel & Rosman 2007; AIHW: Karmel et al. 2008).



Although, from the perspective of the hospital sector, a relatively small proportion of separations among older people involve transfers to residential aged care, a substantial proportion of residential aged care admissions come from hospital. (In addition, many aged care residents have periods in hospital.) During 2001–02, across six selected jurisdictions, there were over 620,000 separations from hospital for stays lasting at least one night for people aged 65 years and over (Table 6.15). Of these hospital separations, about one in ten (61,700) involved transferring into residential aged care, either as returns (6% of all separations) or as new admissions (3% to permanent and 1% to respite residential age care).

In contrast, across the six jurisdictions there were 67,348 residential aged care admissions during 2001–02, of which nearly one-third were from hospital (23% into permanent and 10% into respite residential aged care) (Table 6.15). From the perspective of the residential aged care sector, this means that more older people made the transition to aged care facilities on a permanent basis via hospitals (15,600 out of 38,511, or 41% of all permanent admissions) than from the community (9,200 out of 38,511, or 24% of all permanent admissions). The remaining permanent admissions (13,730) related to transfers between residential aged care facilities. Quite a different pattern was seen for respite admissions, with admissions from the community accounting for more than three times as many respite admissions as those from hospital (21,000 compared with 6,800). Transfers into respite care from other residential aged care facilities were a relatively small group (1,007 admissions).

Table 6.15: Movement types for hospital separations and residential aged care (RAC) admissions, people aged 65 or more, 2001–02 (six jurisdictions)

Type of movement	Number	Per cent
Hospital separations		
Return to permanent RAC ^{(a) (b)}	39,200	6.3
To permanent RAC ^{(a) (b) (c)}	15,700	2.5
To respite RAC ^{(b) (c)}	6,800	1.1
<i>All to RAC</i>	<i>61,700</i>	<i>9.9</i>
To community/other ^(d)	528,900	85.3
Died in hospital ^(d)	29,755	4.8
All	620,372	100.0
RAC admissions		
From hospital to permanent RAC ^{(a) (b) (c)}	15,600	23.2
From hospital to respite RAC ^{(a) (b) (c)}	6,800	10.1
Transfer into permanent RAC ^(e)	13,730	20.4
Transfer into respite RAC ^(e)	1,007	1.5
From community into permanent RAC ^(e)	9,200	13.6
From community into respite RAC ^(e)	21,000	31.2
<i>Total into permanent RAC</i>	<i>38,511</i>	<i>57.2</i>
<i>Total into respite RAC</i>	<i>28,837</i>	<i>42.9</i>
All	67,348	100.0

- (a) Links to a permanent admission on the same or next day as the end of a period of hospital leave for the same person have been reassigned as linking to the hospital leave. This affected 102 links to permanent admissions.
- (b) Based on linked hospital and RAC records. Same-day and next-day re-admissions into permanent RAC are treated as transfers and so have been combined into a single period of care when identifying returns to RAC after hospital leave. Links to RAC hospital and social leave are both classified as returns to RAC.
- (c) Estimates between hospital and RAC vary slightly depending on whether movements from hospital or into RAC are being examined because of transitions occurring across either the beginning or end of the financial year or at different ages.
- (d) Unlinked hospital separations. Deaths are based on reported hospital mode of separation.
- (e) Unlinked RAC admissions (includes people changing RAC facility on return from hospital).

Notes

1. Age is as at time of hospital admission or RAC admission.
2. Table excludes same-day hospital episodes, statistical discharges and transfers to other hospitals.
3. Table includes all states/territories except Victoria and Western Australia.
4. The numbers for live discharges from hospital and non-transfer admissions into RAC have been adjusted to allow for underidentification of transitions into RAC and so are rounded to the nearest hundred. Numbers not affected by these adjustments are not rounded. Percentages are based on the unrounded numbers.

Source: AIHW: Karmel et al. 2008.

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