



## 4 Health of population groups

Australia's health can be described many ways—including birth rates, death rates, life expectancies, disease incidence, disability and self-perceptions of health status. Regardless of how health is measured, good health is not equally shared by all people in Australia, and different levels of health are experienced by different groups. The health of groups, rather than of individuals or the general population, can also be of special interest because it may suggest common causes of ill health and possibly common solutions.

This chapter, therefore, focuses on various population groups. It highlights key health areas over stages of the life span, by summarising the health of babies, young people, working-age persons, and older people. In this edition of *Australia's health*, the health of children is explored in detail in Chapter 5. People of all ages may have special health needs and problems, depending on their cultural background, genetic inheritance, socioeconomic position or geographic location. For these reasons the chapter also examines population groups defined on these lines, along with specially serviced populations such as veterans and prisoners.

### 4.1 Babies

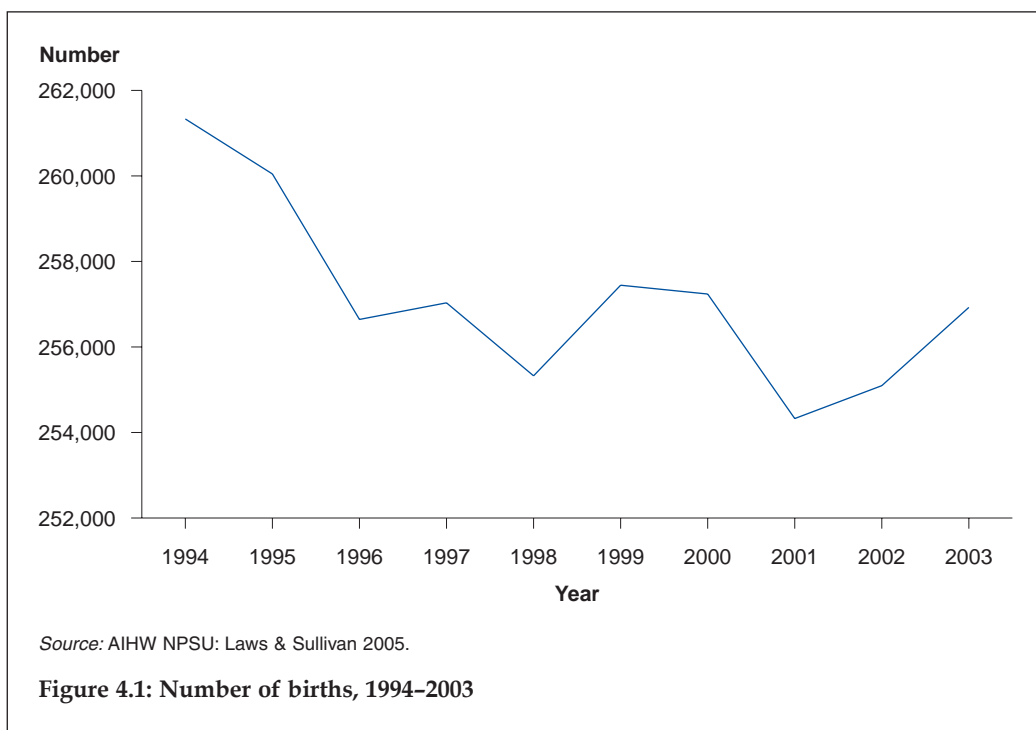
Recent years have seen some notable trends in births and the health of babies. During the decade to 2003, the number of births generally decreased and the proportion of multiple births increased, while perinatal mortality declined. This section presents information on these topics, as well as others including birthweight, pre-term births and congenital abnormalities.

#### Births

In 2003, there were 256,925 births reported to the National Perinatal Data Collection, an average of 704 per day. These births included 255,099 live births and 1,826 fetal deaths. The number of births in 2003 was clearly lower than a decade before, despite a recent upturn (Figure 4.1).

In Australia, the number of births reached its all-time peak in 1971, when 276,400 were registered. It then fell sharply during the remainder of the 1970s, before increasing from the early 1980s to reach 264,200 in 1992. Over the decade up to 2001, the number of births generally declined, but they increased in 2002 and 2003 (ABS 2005a).

The crude birth rate, which is the number of live births per 1,000 population, was 12.7 in 2004, down from 14.5 in 1994. Australia's rate lies between those of the United Kingdom (11.3 in 2002) and the United States (13.9 in 2003). Among developed countries, Japan's rate is low (8.8 in 2003), and Ireland's is high (15.5 in 2003) (see Table S4).



## Sex ratio

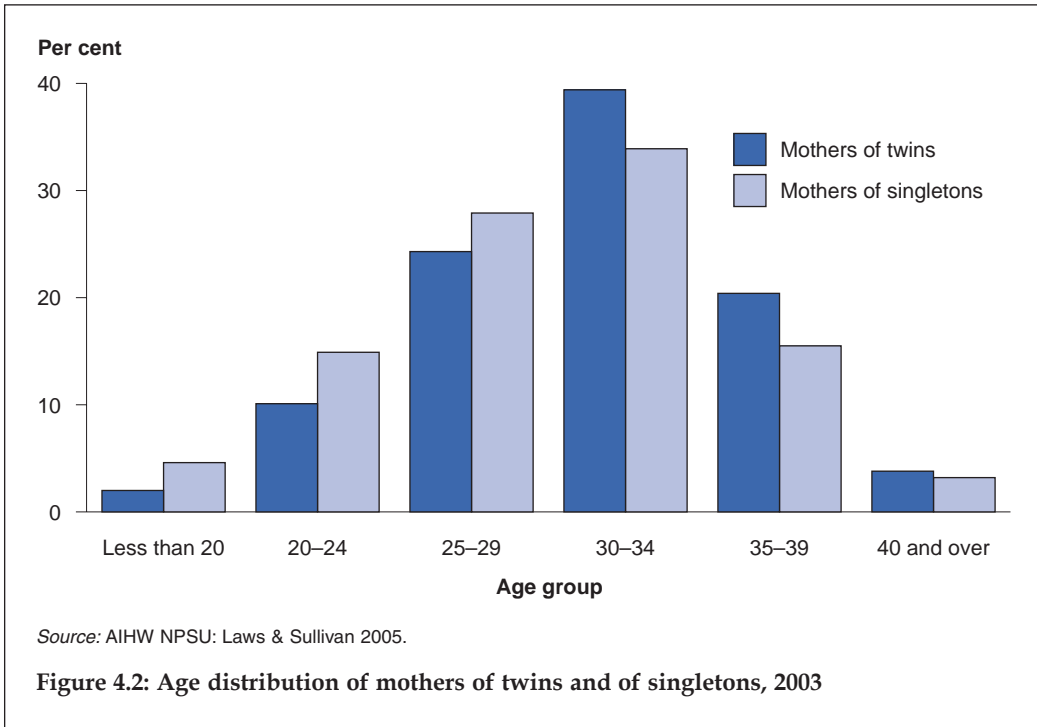
Male births exceed female births in developed countries, including Australia (Table S4). In 2003, Australia's male births accounted for 51.5% of all births. This proportion was similar across the states and territories, and has changed very little over time. In 2003, the national sex ratio was 106.1 male births per 100 female births. The ratio was highest in Tasmania, at 110.3 male births per 100 female births, and lowest in Western Australia, at 104.8. For single births nationally, the sex ratio was 106.3, falling to 100.9 for twins and 84.8 for other multiple births.

## Multiple births

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

There were 8,356 twin and 244 triplet and higher order multiple births in 2003, representing 3.3% and 0.1% of all births in Australia, respectively. The associated multiple birth rate was 33.5 per 1,000 births, increasing from 27.8 in 1994.

Figure 4.2 shows the different age distributions for mothers having twins compared with mothers having a single baby (a singleton). In 2003, mothers having twins were older, with 39.4% being aged 30–34 years and 24.2% being aged 35 years or over. This compared with 33.9% aged 30–34 years and 18.7% aged 35 years or over for mothers having a singleton.



## Birthweight

A key indicator of infant health is the proportion of babies with a birthweight of less than 2,500 grams. These low-birthweight 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.

In 2003, the average birthweight of all live-born babies was 3,372 grams. The average birthweight of live-born males (3,433 grams) was slightly higher than that of females (3,308).

There were 16,086 live-born low-birthweight babies in 2003, representing 6.3% of all live births, up from 5.8% in 1994 (Table S5). Low birthweight was more likely among female babies (6.9%) than male babies (5.8%), and more male babies (48.0%) than females (37.5%) had a birthweight of 3,500 grams or over.

Singleton babies generally have higher birthweights than babies of multiple births. In 2003, the average birthweight for singleton live births was 3,406 grams, higher than that for live-born twins (2,403) or higher order multiples (1,598).

The average birthweight of live-born babies conceived in 2003 after assisted reproductive technology (ART) was 3,019 grams. This compares with 3,372 grams for all Australian live-born babies born in 2003. Further, 20.8% of live-born ART babies conceived in 2003 were low-birthweight babies, compared with 6.3% of all live-born babies in 2003.

## Pre-term births

Pre-term births – those occurring before 37 weeks gestation – are associated with neonatal problems that cause significant morbidity and mortality in newborn babies and may sometimes be associated with long-term disabilities. Of all births in Australia in 2003, 20,243 (7.9%) were pre-term. The Northern Territory had the highest proportion, at 11.3% of all births, and New South Wales reported the lowest, at 7.0% (Table 4.1). The average gestational age of all babies was 38.9 weeks in 2003, and for pre-term births it was 33.2 weeks.

**Table 4.1: Gestational age of pre-term births, by state and territory, 2003**

| Gestational age (weeks) | NSW                             | Vic        | Qld        | WA         | SA         | Tas        | ACT <sup>(a)</sup> | NT          | Australia  |
|-------------------------|---------------------------------|------------|------------|------------|------------|------------|--------------------|-------------|------------|
|                         | <b>Number</b>                   |            |            |            |            |            |                    |             |            |
| Total                   | 6,032                           | 5,058      | 4,272      | 2,032      | 1,504      | 503        | 430                | 412         | 20,243     |
|                         | <b>Per cent of total births</b> |            |            |            |            |            |                    |             |            |
| 20–27 <sup>(b)</sup>    | 0.7                             | 1.0        | 0.8        | 0.8        | 0.8        | 0.9        | 1.6                | 1.4         | 0.8        |
| 28–31                   | 0.7                             | 0.7        | 1.0        | 0.8        | 0.9        | 1.1        | 0.5                | 1.0         | 0.8        |
| 32–36                   | 5.6                             | 6.2        | 6.8        | 6.7        | 6.7        | 7.1        | 6.7                | 8.8         | 6.2        |
| <b>Total</b>            | <b>7.0</b>                      | <b>8.0</b> | <b>8.5</b> | <b>8.2</b> | <b>8.4</b> | <b>9.1</b> | <b>8.8</b>         | <b>11.3</b> | <b>7.9</b> |

(a) 15.2% of females who gave birth in the ACT were non-ACT residents. Care must be taken when interpreting percentages. For example, the proportions for ACT residents were as follows: 20–27 weeks gestation: 1.1% of total births; 28–31 weeks: 0.3%; and 32–36 weeks: 5.3%.

(b) Includes seven babies of less than 20 weeks gestation.

Note: For multiple births, the gestational age of the first-born baby was used for all subsequent babies.

Source: AIHW NPSU: Laws & Sullivan 2005.

Pre-term birth was more likely for babies of multiple births. Whereas 6.3% of singletons were pre-term, 52.3% of twins and 100% of higher order multiples were pre-term.

The average gestational age of babies of at least 20 weeks gestation born after conception by ART in 2003 was 37.2 weeks. In this group, pre-term birth occurred in 11.7% of singleton births, 59.3% of twins and 95.2% of triplets.

## Admission to special care or intensive care nurseries

Among all live-born babies in 2003, 15.0% were admitted to a special care nursery or neonatal intensive care unit. The proportion was higher for multiple births, and especially higher order multiple births; that is, three or more babies. Of these live births, 89.4% were admitted, compared with 57.6% of twins and 13.6% of singletons.

## Babies of Aboriginal and Torres Strait Islander mothers

In 2003, there were 8,958 babies born to Aboriginal or Torres Strait Islander mothers, representing 3.5% of all Australian births. Of live births to Indigenous mothers, 12.9% were classified as low-birthweight, compared with 6.0% for live-born babies of non-Indigenous mothers. Babies of Indigenous mothers were also more likely to be pre-term (14.1%), compared with babies of non-Indigenous mothers (7.6%).

For the period 1998–2002, the perinatal mortality rate for babies born to Indigenous mothers in Queensland, Western Australia, South Australia and the Northern Territory (21.4 deaths per 1,000 relevant births) was more than twice that for babies born to non-Indigenous mothers in these jurisdictions (9.6 per 1,000 births) (ABS & AIHW 2005).

## Perinatal mortality

Perinatal deaths occur in the period shortly before or after birth. Here, perinatal deaths include stillbirths (fetal deaths) and deaths of infants within the first 28 days of life (neonatal deaths), where the fetus or infant weighs at least 400 grams or, if birthweight is unknown, has a gestational age of 20 weeks or more.

Overall, the perinatal death rate declined over the decade from 9.1 per 1,000 births in 1994 to 8.0 per 1,000 births in 2004 (see also Tables S7 and S8). Fetal deaths (5.3 per 1,000 births) accounted for 65.8% of perinatal deaths in 2004, and neonatal deaths (2.8 per 1,000 live births) for 34.2%. The perinatal death rate for males (8.8 per 1,000 births) was higher than that for females (7.2) (ABS 2006a).

In 2004 there were 2,048 perinatal deaths – 1,347 fetal and 701 neonatal. Two-fifths (42.3%) of all registered fetal deaths were not allocated a specific cause of death, since medical certifiers are often unable to provide an accurate cause without the assistance of an autopsy. The main documented causes of fetal deaths were respiratory and cardiovascular disorders specific to the perinatal period (14.8% of recorded causes), intrauterine hypoxia (14.1%), and congenital malformations, deformations and chromosomal abnormalities (13.9%) (ABS 2006a).

## Congenital anomalies

Congenital anomalies are structural defects present at birth. Table 4.2 presents data on these for selected states (Victoria, Western Australia and South Australia). The reported rate (including live births and stillbirths) of selected congenital anomalies is presented as well as their estimated rate (including live births, stillbirths and induced abortions under 20 weeks gestation) – see Box 4.1 for definitions of the selected birth anomalies. The measure including abortions is estimated because the total number of induced abortions under 20 weeks gestation was unknown. This estimated rate is useful for evaluating the effectiveness of primary prevention and prenatal screening strategies.

### Box 4.1: Congenital anomalies

**Anencephalus:** Total or partial absence of the cranial vault, the covering skin and the brain tissue.

**Diaphragmatic hernia:** Protrusion of the abdominal organs into the chest through a defect in the diaphragm.

**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).

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

**Exomphalos:** An umbilical hernia. Protrusion of abdominal contents through the navel (umbilicus).

**Gastroschisis:** Protrusion of the gut through an abdominal wall defect next to the navel.

**Down syndrome:** Condition caused by a genetic defect known as trisomy 21 – an extra chromosome 21, making three instead of two. Produces a characteristic facial appearance and shortness, often with heart defects and usually reduced intelligence.

Source: Based on Riley & Halliday 2004.

In 2001, the reported rate of neural tube defects was 5.5 per 10,000 births. These defects occur when an embryo's forerunner of the brain and spinal cord—the neural tube—does not form normally. The estimated rate was markedly higher at 13.6 per 10,000 births. Of the neural tube defects, spina bifida had the highest reported rate—3.7 per 10,000 births. Spina bifida also had the highest estimated rate (6.3 per 10,000 births). For Down syndrome, the estimated rate was markedly higher than the reported rate (25.4 per 10,000 births compared with 11.4) (Table 4.2).

**Table 4.2: Selected congenital anomalies, Victoria, Western Australia and South Australia, 2001<sup>(a)</sup>**

| Congenital anomaly                     | ICD-9-BPA code <sup>(b)</sup> | Live births and stillbirths |                                  | Live births, stillbirths and induced abortions <20 weeks gestation |                                  |
|--|-------------------------------|-----------------------------|----------------------------------|--|----------------------------------|
|  |                               | Number                      | Per 10,000 births <sup>(c)</sup> | Number   | Per 10,000 births <sup>(c)</sup> |
| <b>Neural tube defects</b>             |                               |                             |                                  |  |                                  |
| All neural tube defects                | 740.00–742.09                 | 58                          | 5.5                              | 142  | 13.6                             |
| Anencephalus                           | 740.00–740.29 <sup>(d)</sup>  | 9                           | 0.9                              | 61   | 5.8                              |
| Spina bifida                           | 741.00–741.99                 | 39                          | 3.7                              | 66   | 6.3                              |
| Encephalocele                          | 742.00–742.09                 | 10                          | 1.0                              | 15   | 1.4                              |
| <b>Renal agenesis or dysgenesis</b>    |                               |                             |                                  |  |                                  |
|  | 753.00–753.01                 | 51                          | 4.9                              | 59   | 5.6                              |
| <b>Anomalies of the abdominal wall</b> |                               |                             |                                  |  |                                  |
| All anomalies of abdominal wall        | 756.70–756.79                 | 56                          | 5.3                              | 72   | 6.9                              |
| Exomphalos                             | 756.70                        | 22                          | 2.1                              | 35   | 3.3                              |
| Gastroschisis                          | 756.71                        | 32                          | 3.1                              | 33   | 3.1                              |
| <b>Diaphragmatic hernia</b>            |                               |                             |                                  |  |                                  |
|  | 756.61                        | 24                          | 2.3                              | 29   | 2.8                              |
| <b>Down syndrome</b>                   |                               |                             |                                  |  |                                  |
|  | 758.00–758.09                 | 119                         | 11.4                             | 266  | 25.4                             |

(a) Births and induced abortions under 20 weeks gestation occurring in 2001 with congenital anomalies notified by 31 December 2002 are included.

(b) Classified using the British Paediatric Association Classification of Diseases (British Paediatric Association 1979).

(c) Numerator: Reported rate—live births and stillbirths 20 weeks or more gestation or 400g or more birthweight with the specified congenital anomaly. Estimated rate—live births and stillbirths 20 weeks or more gestation or 400g or more birthweight and induced abortions under 20 weeks gestation or under 400g birthweight with the specified congenital anomaly. Denominator: live births and stillbirths 20 weeks or more gestation or 400g or more birthweight.

(d) Includes 740.1 Craniorachischisis and 740.20–740.29 Iniencephaly.

Source: AIHW NPSU 2004.

## 4.2 Young people aged 15–24 years

*Australia's health 2006* features a special chapter on Australia's children (aged 0–14 years: see Chapter 5). This section focuses on those aged 15–24 years and here they are referred to throughout as 'young people' or 'young Australians'. Where a different age group is used, such as 15–17 or 18–24 years, it is specified.

In June 2004, there were 2.8 million young people in Australia, representing 14% of the total population. A little over 3% (about 84,000) of all young Australians in June 2001

were Indigenous. These young people make up 18% of the total estimated Indigenous population, which has a younger age profile generally.

Most young Australians are in good health, as indicated by general health levels, low and declining overall mortality, and low levels of morbidity and disability. Most also rate their own health positively. However, health is not always as good for young people who are socially disadvantaged, who live in rural and regional areas or who are Indigenous.

In addition, some areas of concern remain about the health of young people generally. They include mental health problems, a number of long-term health conditions, obesity, substance use, and accidents and injury. These are discussed later in this section.

## **Health status (self-rated) and disability**

From self-ratings in the 2004–05 National Health Survey (NHS), about 70% of young Australians were in either ‘excellent’ or ‘very good’ health, while a further 24% rated their health as ‘good’. Only 7% reported their health to be either ‘fair or poor’. By contrast, the proportion of Indigenous young Australians rating their health as ‘excellent’ or ‘very good’ was only 59%; and similarly they were more likely, at 9%, to rate their health as ‘fair or poor’ (ABS 2006b; ABS 2006c).

About 251,300 young Australians (9%) were living with a disability in 2003. The effect of these disabilities on a person’s daily living is indicated by the presence or otherwise of a ‘profound or severe core activity limitation’. Of the young people with a disability, 24.2% experienced such limitations, amounting to almost 1 in 40 among young Australians overall (ABS 2004b).

## **Risk and protective factors**

### **Nutrition and body weight**

The National Health and Medical Research Council (NHMRC) recommends a minimum of three servings per day of fruit and three of vegetables for children and adolescents aged 12–18 years. For people aged 19 years and over, the recommended minimum daily intake is two serves of fruit and five serves of vegetables (NHMRC 2003a, 2003b).

The 2004–05 NHS found that 26% of young people aged 15–18 years who were surveyed ate one or less serves of vegetables per day, and 49% ate one or less serves of fruit per day. Among young people aged 19–24 years, 57% ate one or less serves of fruit, and 79% ate three or less serves of vegetables per day (ABS unpublished data).

Based on self-reported height and weight, 19% of young Australians (22% of males, 15% of females) were overweight but not obese, and 6% (5% males, 6% females) were obese in 2004–05 (ABS 2006b; ABS unpublished data). Indigenous young people were more likely than non-Indigenous young Australians to be obese. In 2004–05, 17% of Indigenous young people (19% males, 14% females) were overweight but not obese, and 12% (12% males, 12% females) were obese (ABS 2006c). Among young females in 2001, those in regional areas were 30% more likely than those in major cities to be overweight or obese. By contrast, young males in regional areas were less likely to be overweight or obese than those in major cities (AIHW 2005h).

## **Alcohol, tobacco and other substance use**

According to the 2004 National Drug Strategy Household Survey (NDSHS), in 2004 about 22% of young people were current smokers, and 71% had never smoked (2004 NDSHS unpublished data).

In 2004, 39% of both male and female young Australians had consumed alcohol at levels considered risky or high risk in the short term; that is, seven or more standard drinks in any one day within a month (2004 NDSHS unpublished data).

One in six Australians (15.3%) overall had used an illicit drug in the preceding 12 months but this included almost three in 10 young Australians—31% of the males and 26% of the females (AIHW 2005a). The illicit drugs most commonly used by young people in the preceding 12 months were marijuana/cannabis (24% had used it), ecstasy (9%) and methamphetamines or amphetamines (8%) (2004 NDSHS unpublished data).

## **Physical activity**

From self-reports in 2004, over 50% of young people surveyed said that they had participated in physical activity three or more times a week in the preceding year, while 8% had engaged in no physical activity. The types of activities included aerobics/fitness (24.8% undertaking it), walking (22.7%) and swimming (19.4%) (ASC 2005).

## **Sun protection**

According to the 2001 NHS, 82% of Australians aged 15–17 years had used some form of sun protection in the month before the survey. About 49% of young people in the 2004–05 NHS reported that they regularly checked their skin for changes in freckles and moles or had it checked by a doctor, a decrease from 55% in 2001 (ABS unpublished data).

## **Teenage pregnancy**

In 2004, 4.3% of all births (10,857) in Australia were to females aged less than 20 years and a further 14.2% (36,146) were to those aged 20–24 years. These proportions have declined since 1994, when 5.0% of births were to females aged less than 20 years, and 19.1% to those aged 20–24 years.

Fertility at younger ages continued to be much higher among Indigenous females. In 2004, the fertility rate among Indigenous females aged 15–19 years was 71 per 1,000 females and for those aged 20–24 years it was 128. The corresponding rates for all females of those ages were 16 and 53 (ABS 2005a).

## **Health conditions**

### **Mental health**

Mental health problems in young people, if not resolved early, can affect their learning abilities, social development and physical health, and can often also lead to risky behaviours, substance use, and suicidal thoughts and attempts (Raphael 2000). Almost one in eight young people (13%) aged 15–17 years had a mental health ‘problem’ according to a national survey conducted in 1998 (see Box 4.2). The survey also found that nearly one in 10 young people (9.8%) of that age had a mental health ‘disorder’ such

as attention-deficit hyperactivity disorder (ADHD), conduct disorder or depression (Sawyer et al. 2000).

The prevalence of a mental health disorder among those aged 18–24 years was 27% in 1997. The most prevalent disorders in this age group were substance use disorders (one in six were affected), followed by anxiety disorders (one in nine) (ABS 1998).

#### **Box 4.2: Measuring the mental health of young Australians**

*The most recent national effort to assess the mental health of young Australians was the National Survey of Mental Health and Wellbeing. The survey's adult component (ages 18 or over) was run in 1997 and the child and adolescent part was in 1998.*

*For the children and adolescents in the survey, mental health was assessed in two different ways – mental health 'problems' and mental health 'disorders'. They were described as having a 'mental health problem' if the number of emotional and behavioural problems they were reported as having by their parents was similar to the number previously reported for children and adolescents attending mental health clinics. For adolescents aged 13–17 years, reports of emotional or behavioural problems were also obtained from the adolescents themselves. Adolescent-reported 'problems' were defined as present if the number of emotional and behavioural problems an adolescent reported was similar to that previously reported by adolescents attending a mental health clinic.*

*Children, adolescents and adults were considered to have a mental 'disorder' if they had a pattern of symptoms and impairments that make up a diagnosis, such as major depressive disorder, generalised anxiety disorder or substance abuse disorder. For children and adolescents (up to age 17 years), mental health disorders were assessed through face-to-face interviews with their parents, using a structured interview technique. Participants older than 17 years were interviewed directly.*

*Because these methods take different perspectives, it follows that an individual young person could have a mental health problem, a mental health disorder, both or neither. It also follows that the prevalence of mental health problems on the one hand and of mental health disorders on the other will overlap and the two cannot be added to each other to give some overall figure.*

## **Injury**

Injuries are common in young Australians and are the leading cause of their hospitalisations and death; for young males, injuries accounted for 26% of hospitalisations in 2003–04. Transport accidents and intentional self-harm, discussed further below, are the most common causes of death among young people.

The self-reported data from the 2004–05 NHS showed that close to one in four young people had some kind of injury in the previous four weeks. The most frequently reported injury requiring 'health action' (self-help or professional help) was a cut with a knife, tool or other implement (33% with an injury reporting this), followed by hitting or being hit by something (16%) and a low fall (16%) (ABS 2006b).

## Sexually transmitted infections

The most commonly notified sexually transmitted infection among young people is chlamydia, with 21,527 notifications in 2004 (Table 4.3). The highest rates of chlamydia, gonococcal and syphilis infections were in the 20–24 years age group. Rates of chlamydia, gonococcal and syphilis were much higher among young Indigenous Australians than among other young Australians (ABS & AIHW 2005).

**Table 4.3: Notifications of sexually transmitted diseases, 2004**

| Disease     | Aged 15–19 years |                     | Aged 20–24 years |                     | Total Australian population |                     |
|-------------|------------------|---------------------|------------------|---------------------|-----------------------------|---------------------|
|             | Number           | Rate <sup>(a)</sup> | Number           | Rate <sup>(a)</sup> | Number                      | Rate <sup>(a)</sup> |
| Chlamydia   | 8,328            | 602.1               | 13,199           | 938.2               | 36,212                      | 180.0               |
| Gonococcal  | 1,432            | 103.5               | 1,579            | 112.2               | 7,194                       | 35.8                |
| Syphilis    | 35               | 2.5                 | 32               | 2.3                 | 139                         | 0.7                 |
| Donovanosis | 2                | 0.1                 | 1                | 0.1                 | 10                          | 0.0                 |

(a) Number per 100,000 persons in the group.

Source: DoHA National Disease Surveillance System.

## Long-term health conditions

According to self-reports from young Australians in the 2004–05 NHS, 60% of the males and 72% of the females had a long-term condition, namely one that had lasted, or was expected to last, for six months or more. The conditions they most commonly reported were hay fever and allergic rhinitis, short-sightedness, asthma, and back pain or disc disorder. Indigenous young people, at 65% overall, were no more likely to report having a long-term health condition. The long-term conditions they most commonly reported were diseases of the respiratory system including asthma, followed by eye diseases (ABS 2006b).

From the NHS, about one in eight of both young males and females currently had asthma in 2004–05, a clear increase from about one in 10 young Australians in 1989–90. However, it is uncertain whether this increase reflects a higher incidence of asthma, greater community awareness, increased detection by doctors, or some combination of these factors (AIHW 2005g).

Cancer is uncommon among young Australians. In 2001, the incidence of cancer among those aged 15–19 years was 21 per 100,000 persons and for those aged 20–24 years it was 41. These can be compared with an all-ages cancer incidence of 455 per 100,000 persons that year (AIHW & AACR 2004). Despite its low incidence in young people, however, cancer is one of the leading causes of death among them. The most common cancers affecting them in 2001 were melanoma (25% of all cancers diagnosed in the age group), all lymphomas (18%), cancer of the testis (13%) and leukaemias (7%).

## Dental health

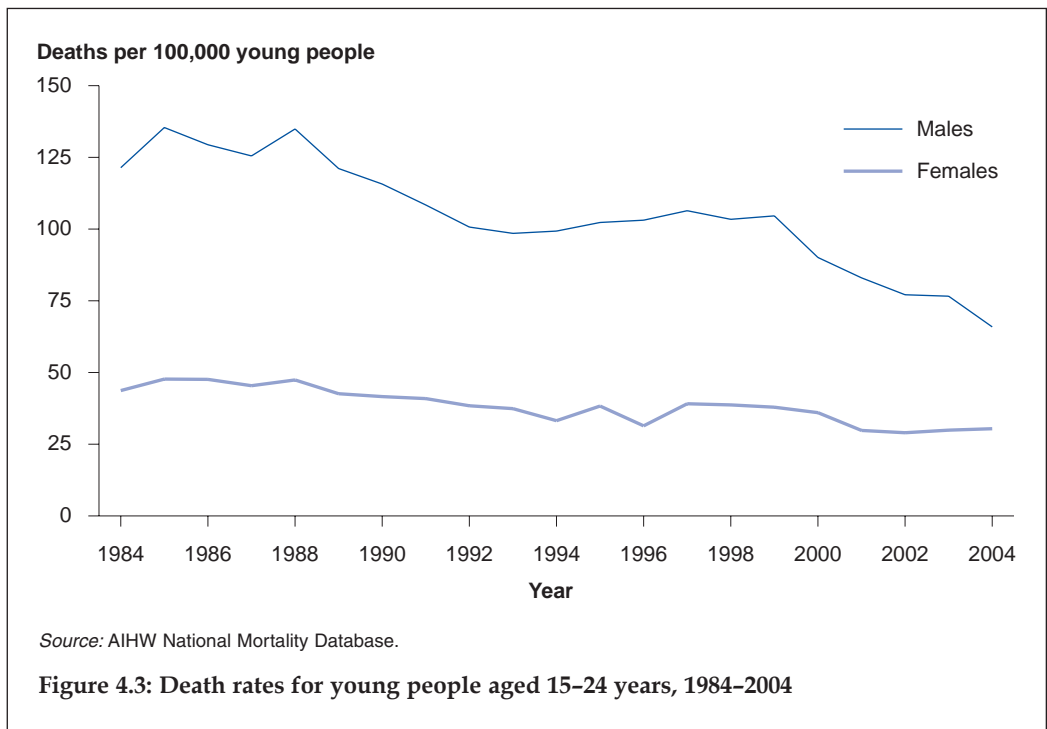
In 2002, over 50% of South Australians aged 15–17 years attending the School Dental Service were found to have previous or present caries in their permanent teeth. A dental examination done as part of the 1999 South Australian dental survey of young adults in the Adelaide metropolitan area showed that nearly one in four persons aged

20–24 years had between one and two teeth affected by caries. This survey also revealed that a further 23% had between three and four teeth affected. Nearly 14% had eight or more teeth affected by caries, suggesting a high risk of developing further caries. Only 20% were free of caries (Ellershaw et al. 2005).

From self-reports in the 1999 National Dental Telephone Survey, 52% of those aged 18–24 years had visited the dentist in the previous six months but 8.3% had not done so in the preceding five years (Carter & Stewart 2002).

## Mortality

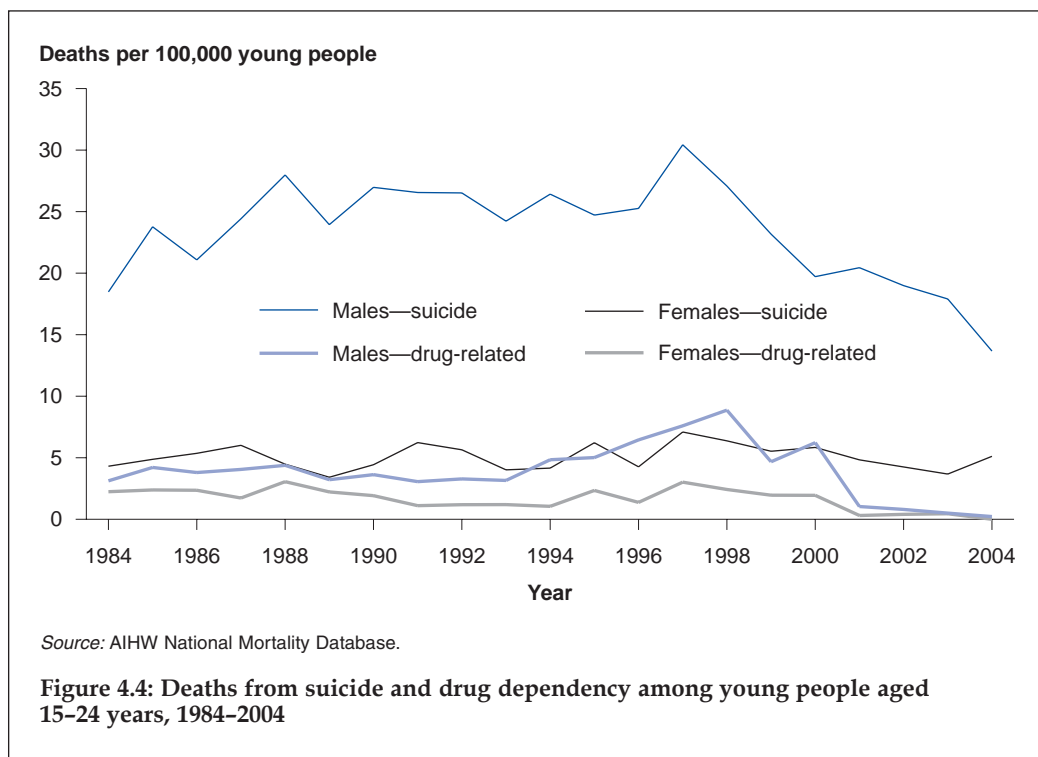
There were 1,350 deaths of young Australians in 2004, nearly 70% being of males. The death rate for young males declined by 46% over a recent 20-year period, from 121.4 deaths per 100,000 in 1984 to 65.9 in 2004. Correspondingly, the rate for young females declined by 30%, from 43.7 per 100,000 to 30.4 (Figure 4.3).



The death rates among young people varied markedly by their Indigenous status and where they lived. Although young Indigenous people comprise only about 3% of their age group, Indigenous deaths among young males accounted for 11.8% of the total in 2000–2004 and for Indigenous females the corresponding figure was 12.4%. And considering both Indigenous and non-Indigenous young Australians combined, the mortality rate in Remote and Very Remote areas was 3–4 times that in Major Cities.

In 2004, external causes (including transport accidents and intentional self-harm) were the leading cause of death among young people (702 males and 250 females). Transport accidents were responsible for 32% of all deaths of young people (312 males and 116 females) and intentional self-harm for 20% (196 and 69). Deaths from malignant neoplasms (cancer) followed at 9% of all deaths of young people. Based on data from Queensland, Western Australia, South Australia and the Northern Territory, 26% of young Indigenous deaths in 2004 were due to transport accidents and 31% from intentional self-harm.

The rate of deaths attributed to drug dependence among young Australians fluctuated between 1984 and 2004 but there has been a noticeable decline in recent years (Figure 4.4). The age-standardised drug dependency death rate for young Australians dropped by 97% between 2000 and 2004, with the decline being largely due to a fall in heroin-related deaths that coincided with a period of reduced heroin supply in Australia (ABS 2003a; Stafford et al. 2005).



### 4.3 Males and females aged 25–64 years

Males and females aged 25–64 years—referred to here as ‘working-age adults’—make up the largest proportion of the Australian population. In June 2004, 53% of the total population (10.7 million persons) were aged 25–64 years, comprising equally 5.4 million

males and 5.4 million females. This group of people includes the so-called 'baby boomers' – those born between the end of World War II and the early 1960s.

Working-age adults in Australia enjoy good health, taken as a whole, and when gauged by available measures such as mortality and hospitalisation rates, self-reported health, disability and service use, and health risk factor behaviours. Mortality rates have declined rapidly in recent decades, medical advances have produced better diagnosis and treatment, and awareness of avoidable or modifiable risk factors has increased. These provide scope for further improvement in the health of working-age adults (AIHW 2000).

Within this group, however, there are significant variations in health status. Adults who are Indigenous or from lower socioeconomic groups, for example, often have poorer health. They are discussed in more detail elsewhere. Also, older working-age adults are more likely to have poorer health, since ageing is a risk factor for ill health. Recent discussion has also highlighted that, as this large group of people ages, they are expected to place greater demands on health and aged care spending (Commonwealth of Australia 2002).

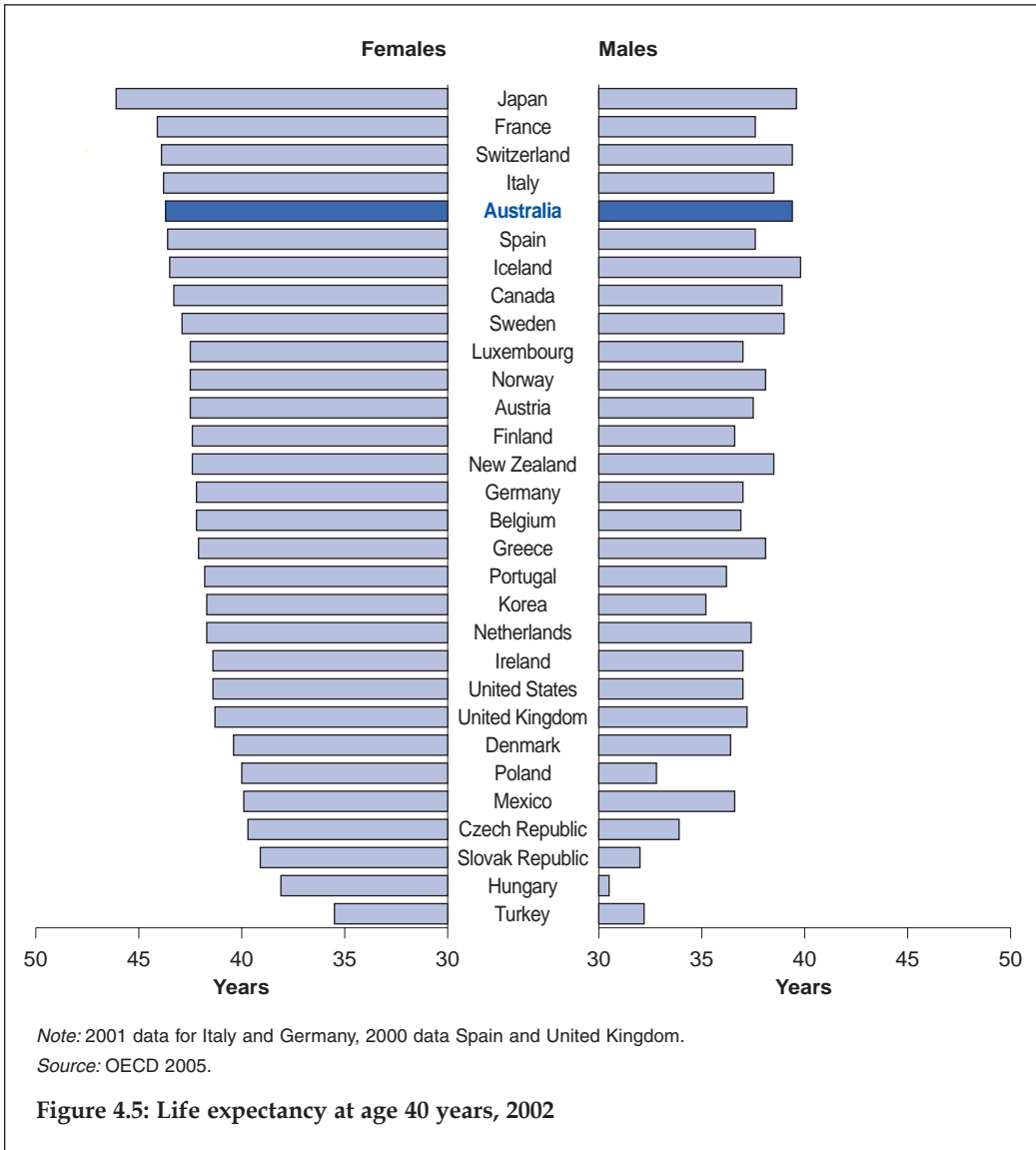
This section provides a broad overview of the health of working-age males and females.

## Life expectancy

Life expectancies for working-age males and females are higher now than at any time in the past. For the years 2002–2004, males at age 25 years could on average expect to live to 79.1 years, and females 83.7 years. At age 45 years, life expectancy was 35.2 years for males (to 80.2 years) and 39.3 years for females (84.3); and at age 65 years, 17.8 years for males (82.8) and 21.1 years for females (86.1) (ABS 2005c).

Life expectancies for working-age adults in Australia rank among the highest in the world (Figure 4.5). In 2002, life expectancy at age 40 years for Australian males was 39.4 years, third behind Iceland and Japan. Female life expectancy at age 40 years was 43.7 years, with only Japan, France, Switzerland and Italy having higher life expectancies (OECD 2005).

Persons of working age in Australia can expect to live most of their years in good health. Disability-free life expectancy (DFLE) is a measure of the expected number of years still to be lived without restrictions on everyday activities resulting from a health condition. In 2003, males at birth could on average expect to live 77.8 years, of which 59.1 years (76%) would be free from disability. Females at birth could expect to live 82.8 years, of which 62.2 (75%) would be free from disability. Males aged 25 years could expect 37.3 of 53.8 remaining years (69%) to be free from disability; females aged 25 years could expect 39.6 of 58.5 remaining years (68%) free from disability. At age 65 years, males could expect to live another 17.6 years, of which 7.6 (43%) were free from disability; and females another 21.0 years, of which 8.8 (42%) were free from disability (AIHW: Wen in press).



## Self-reported health

The great majority of working-age Australians consider themselves to be in good health. According to the 2004–05 NHS, 91% of persons aged 25–34 years rated their health as good, very good or excellent, with the remaining 9% reporting only fair or poor health. This figure fell progressively to 75% of persons aged 55–64 years reporting good health or better. Self-reported health status is similar for males and females, but declines with age (ABS 2006b).

## Functioning and disability

Almost two million persons aged 25–64 years were estimated to be living with a disability in 2003—about 19% of the population in that age range (AIHW 2005d). In the 2003 ABS Survey of Disability, Ageing and Carers, disability was identified as one or more of 17 impairments, activity limitations or participation restrictions which had lasted, or were expected to last, for at least six months. Of these working-age persons living with a disability in 2003, 452,000 (4% of the population aged 25–64 years) experienced profound or severe limitations, enough to require assistance with daily activities of self-care, mobility and communication.

The most common group of disabling conditions—physical/diverse disability—affects activities such as mobility. In the survey, an estimated 71% of persons aged under 65 years with a disability reported this group as their main disabling condition. Psychiatric (13%), sensory and speech (10%), and intellectual impairments (6%) were the remaining main disabling conditions among persons aged under 65 years.

Disability prevalence rates begin to increase from age 35 years with the onset of risk factors and their impact (AIHW 2005d). Among young adults, and especially young males, injuries involving the spinal cord and brain pose a relatively high risk. During working-age years, injuries related to work are more prevalent, as are arthritis and other musculoskeletal conditions, heart diseases, hearing and psychiatric disabilities. Persons aged 65 years or over are those approaching the years when they may need aged care, or need to move from disability services to aged care services.

## Risk factors

Factors increasing the risk of ill health in individuals or populations are discussed in more detail in Chapter 3. These health risk factors can affect all ages, but some are more prevalent among certain age groups. Young persons are more likely to smoke daily, drink alcohol at risky levels, use illicit drugs and eat less than the recommended number of serves of fruit or vegetables. Working-age adults, on the other hand, are more likely to be obese, have high blood cholesterol (males only) and not be sufficiently active. Older persons are more likely to have high blood pressure and high blood cholesterol (females only).

The risk of illness increases with the length of time a person has a risk factor, and with the presence of multiple risk factors. Most adults in the 2001 NHS, regardless of age, were likely to have two risk factors. The estimated prevalence of having five or more risk factors increased with age to 74 years, then decreased slightly for people aged 75 years or over (AIHW: O'Brien 2005).

## Illness and disease

Most working-age Australians consider their health to be good, but results from the 2004–05 ABS NHS indicate that 87% had at least one long-term health condition (ABS 2006b). Most common among these were problems with eyesight, including long- or short-sightedness (affecting 32% and 27% respectively) and back and disc problems (21%). Other commonly-reported conditions include hay fever and allergic rhinitis (19%), chronic sinusitis (12%), asthma (9%), arthritis (17%), complete or partial hearing

loss (10%) and hypertensive disease (11%). By and large, the prevalence of these diseases increases with age.

The impact of conditions causing major illness, impairment, injury or premature death has been quantified using a measure called the Disability Adjusted Life Year (DALY). One DALY is equivalent to one year of 'healthy' life lost due to premature death or disability (Mathers et al. 1999).

Estimates that are provisional at the time of writing indicate that in 2003 the major contributors to the total number of DALYs, known as the burden of disease, among working-age males included ischaemic heart disease (8.8% of total DALYs), diabetes (7.7%), anxiety and depression (5.6%), suicide and self-inflicted injury (4.7%), road traffic accidents (3.8%) and chronic obstructive pulmonary disease (3.6%). Among working-age females, anxiety and depression (15.1%), breast cancer (7.8%), diabetes (6.2%), chronic obstructive pulmonary disease (3.6%), ischaemic heart disease (3.5%) and chronic back pain (3.1%) were leading causes. It should be noted that these leading contributors to the burden of injury and disease include many of the leading causes of death in this age group, discussed further below, but also additional causes such as anxiety and depression and chronic back pain. Most disability and death in Australia occurs among older people. However, the years lost among working-age adults due to premature death and disability, along with the greater number of persons in this age group, means that the total DALYs are almost as large in absolute terms as those for older persons.

In 2003–04 there were more than 137,500 compensated workplace injury and disease claims resulting in one week or more lost from work—85% of these occurred among those aged 25–64-years, and 68% among males. It is estimated that, in 2000–01, the economic cost of work-related injuries and diseases exceeded \$34 billion, or 5% of GDP. Priority industries for occupational health and safety improvement are agriculture, forestry and fishing; manufacturing; construction; transport and storage; and health and community services (NOHSC 2005).

## Doctor visits and hospitalisation

During 2005, there were an average of 11.7 Medicare services per Australian, comprising mostly general practitioners (GP) and specialist attendances (6.0 on average) and pathology services (3.9). Service rates vary by sex and age—males and females aged 25–34 years received 5.4 and 12.9 Medicare services respectively, rising to an average of 15.7 and 18.7 services among males and females aged 55–64 years. Among younger males and females aged 25–44 years, much of the difference is due to services related to conception, childbirth and problems associated with the female reproductive system.

The number of problems managed at a GP visit, along with the number of prescriptions written, also rises with age. More problems are managed among females, but prescription rates for both males and females are similar (Britt et al. 2005).

Hospitalisation rates also vary by age group and sex (Figure 4.6). Rates are higher for females of child-bearing age, reaching almost 400 per 1,000 population at age 30–34 years, and then falling to age 40–44 years, before rising again. Male rates rise during working age, but more rapidly after age 45–49 years, and are higher than those for females from age 55–59 years.



The most common reason for both males and females of working age to be admitted to hospital is dialysis for renal disease (Table 4.4). ‘Other medical care’ is the next most common diagnosis, the majority of which includes treatments such as radiotherapy, chemotherapy or palliative care. Admissions for pain in the throat and chest, or in the abdomen and pelvis are common. Among females aged 25-44 years, diagnoses related to pregnancy and childbirth (perineal laceration during delivery, medical abortion, and single spontaneous delivery) are frequent.

**Table 4.4: Most common principal hospital diagnoses among working-age persons, 2003-04**

| Males                         |   |         | Females                       |                                     |         |
|-------------------------------|---|---------|-------------------------------|-------------------------------------|---------|
| ICD-10-AM principal diagnosis | Number  |         | ICD-10-AM principal diagnosis | Number                              |         |
| Z49                           | Care involving dialysis                         | 226,653 | Z49                           | Care involving dialysis             | 155,281 |
| Z51                           | Other medical care                              | 64,705  | Z51                           | Other medical care                  | 96,554  |
| R07                           | Pain in throat and chest                        | 29,625  | R10                           | Abdominal and pelvic pain           | 40,231  |
| M23                           | Internal derangement of knee                    | 25,094  | O70                           | Perineal laceration during delivery | 40,063  |
| I20                           | Angina pectoris                                 | 22,957  | Z31                           | Procreative management              | 31,559  |
| K40                           | Inguinal hernia                                 | 22,421  | O04                           | Medical abortion                    | 29,176  |
| R10                           | Abdominal and pelvic pain                       | 20,080  | K80                           | Cholelithiasis                      | 26,521  |
| Z50                           | Care involving use of rehabilitation procedures | 20,032  | R07                           | Pain in throat and chest            | 25,059  |
| K21                           | Gastro-oesophageal reflux disease               | 19,766  | O80                           | Single spontaneous delivery         | 23,804  |
| G47                           | Sleep disorders                                 | 18,318  | F32                           | Depressive episode                  | 23,670  |

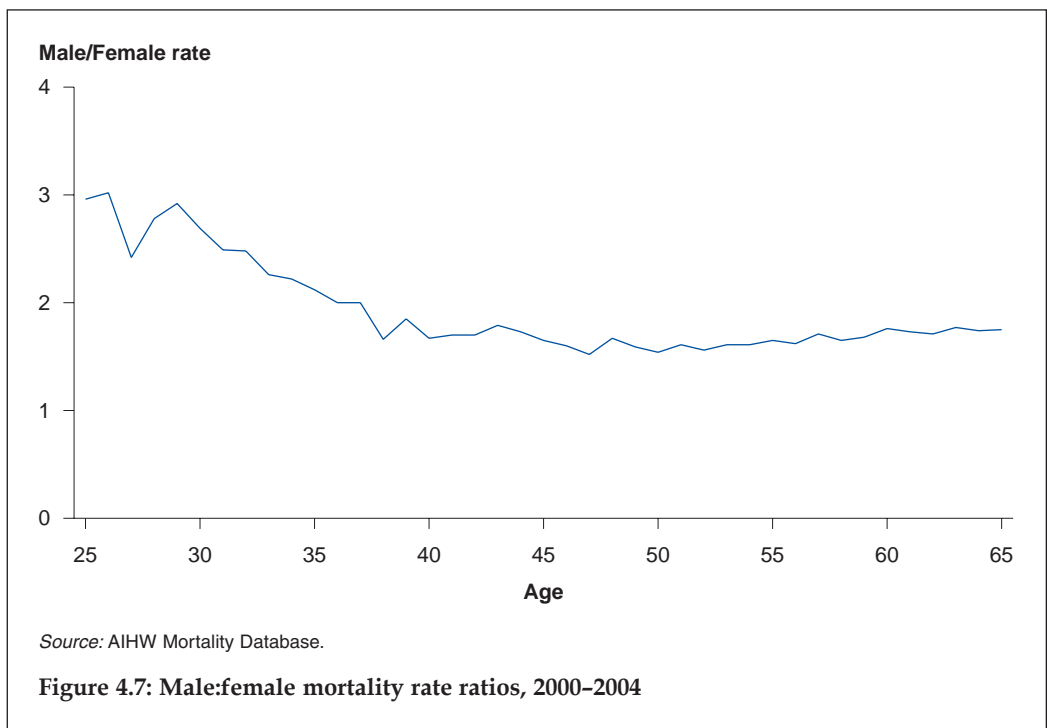
Source: AIHW 2005e.

After excluding hospitalisations related to pregnancy and childbirth, admission rates are similar for males and females. Males are more commonly admitted to hospital for problems associated with the circulatory system or the respiratory system, and for external causes, especially injury. Females are more likely to be admitted to hospital for problems associated with the genitourinary system than males.

## Mortality

With life expectancies at birth currently at 78 years for males and 83 years for females, deaths during working age are now considered premature. Nonetheless, in 2004, 22% of all male and 14% of all female deaths were among persons aged 25–64 years.

Death during working ages is more common among males than females. At age 25 years, male deaths are 3 times as common as female deaths, falling to 1.5 times as common at age 50 years, before beginning to rise again to age 64 to approach being twice as common (Figure 4.7).



Among younger working-age males, death is more likely to result from external causes rather than other causes (Table 4.5). In 2004, the leading single cause of death for males aged 25–44 years was intentional self-harm (26 deaths per 100,000 population), followed by transport accidents (14 per 100,000). Although young females were more likely to die from non-external causes (that is, those causes arising from pathological processes), intentional self-harm was also a leading single cause of death in this age group (6 per 100,000). The cancer death rate among females aged 25–44 years exceeded the corresponding male rate – breast cancer was responsible for 11% of all female deaths in this age group, at a rate of 6 per 100,000 population.

At ages 45–64 years, deaths from non-external causes predominate for both sexes. Among males, 42% of all deaths in this age group were due to cancer (a rate of 202 per 100,000 population). Among females, this figure rose to 56% (162 per 100,000), with breast cancer the most common form. Diseases of the circulatory system, most commonly ischaemic heart disease, were responsible for 27% of male and 15% of female deaths at age 45–64 years (129 and 44 deaths per 100,000 respectively).

**Table 4.5: Most common causes of death of people aged 25–44 years and 45–64 years, 2004**

|                                    | Age 25–44 years |            |                  | Age 45–64 years |            |                  |
|------------------------------------|-----------------|------------|------------------|-----------------|------------|------------------|
|                                    | Number          | Per cent   | Rate per 100,000 | Number          | Per cent   | Rate per 100,000 |
| <b>Males</b>                       |                 |            |                  |                 |            |                  |
| <b>All causes</b>                  | <b>3,656</b>    | <b>100</b> | <b>125</b>       | <b>11,612</b>   | <b>100</b> | <b>477</b>       |
| <i>Non-external causes</i>         | <i>1,776</i>    | <i>49</i>  | <i>61</i>        | <i>10,453</i>   | <i>90</i>  | <i>430</i>       |
| Cancer                             | 539             | 15         | 18               | 4,907           | 42         | 202              |
| Lung cancer                        | 49              | 1          | 2                | 1,145           | 10         | 47               |
| Diseases of the circulatory system | 501             | 14         | 17               | 3,131           | 27         | 129              |
| Ischaemic heart disease            | 279             | 8          | 10               | 2,166           | 19         | 89               |
| <i>External causes</i>             | <i>1,880</i>    | <i>51</i>  | <i>64</i>        | <i>1,159</i>    | <i>10</i>  | <i>48</i>        |
| Transport accidents                | 418             | 11         | 14               | 259             | 2          | 11               |
| Intentional self-harm              | 775             | 21         | 26               | 424             | 4          | 17               |
| <b>Females</b>                     |                 |            |                  |                 |            |                  |
| <b>All causes</b>                  | <b>1,759</b>    | <b>100</b> | <b>60</b>        | <b>6,971</b>    | <b>100</b> | <b>287</b>       |
| <i>Non-external causes</i>         | <i>1,266</i>    | <i>72</i>  | <i>43</i>        | <i>6,536</i>    | <i>94</i>  | <i>269</i>       |
| Cancer                             | 629             | 36         | 21               | 3,933           | 56         | 162              |
| Lung cancer                        | 57              | 3          | 2                | 651             | 9          | 27               |
| Breast cancer                      | 188             | 11         | 6                | 976             | 14         | 40               |
| Diseases of the circulatory system | 206             | 12         | 7                | 1,068           | 15         | 44               |
| Ischaemic heart disease            | 74              | 4          | 3                | 473             | 7          | 19               |
| <i>External causes</i>             | <i>493</i>      | <i>28</i>  | <i>17</i>        | <i>435</i>      | <i>6</i>   | <i>18</i>        |
| Transport accidents                | 99              | 6          | 3                | 107             | 2          | 4                |
| Intentional self-harm              | 169             | 10         | 6                | 130             | 2          | 5                |

Source: AIHW Mortality Database.

Although this age group is typified by the term ‘working age’, relatively few deaths are formally work-related. During 2004–05, there were 173 work-related injury fatalities notified to occupational health and safety agencies. Over 90% of these were of males, with more than one-third (34%) aged 55 years or over. The causes of work-related fatalities are dominated by vehicle accidents, and to a lesser degree include falls, electrocution and falling objects. Almost half (49%) of the fatality notifications received were for workers employed in the agriculture, forestry and fishing industries, or in construction. These data underestimate work-related deaths, however, since they may not be notified or may occur later in life as a result of work-related injury or disease. A conservative estimate of work-related deaths in Australia is at least 2,000 (NOHSC 2005).

## 4.4 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 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 age 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 healthier lives than previous generations. This section documents some of that evidence using summary statistics such as life expectancy along with other important national data. The section also examines some specific health conditions that have a considerable impact on the quality of life of older people—conditions such as dementia, vision problems, and arthritis and musculoskeletal conditions.

Older Australians, defined in this section as people aged 65 years or over, make up 13.0% of the population (2,604,900 people in 2004).

### Life expectancy

At age 65, Australia's males now expect to live for a further 17.8 years and females for another 21.1 years, which is about six years more than their counterparts at the beginning of the twentieth century (ABS 2005c). Males and females aged 85 years can expect to live for a further 5.7 and 6.9 years respectively, which is about two 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 last century, when mortality from cardiovascular diseases (notably heart disease and stroke) fell rapidly.

### Health conditions and disability

The 2003 Survey of Disability, Ageing and Carers (SDAC) collected information on health conditions and level of disability, as reported by people or their carers. The combination of the prevalence of a health condition and the extent of disability among those with the condition is a measure of the impact of the condition on the population.

According to the survey, over 560,000 older Australians had a profound or severe limitation (Table 4.6), which represents 22% of that population. Among this group, arthritis was the most common health condition, affecting 50% of older people with a profound or severe core activity limitation. Hearing disorders (43%), hypertension (38%), heart disease (30%) and stroke (23%) were also common conditions among this group. For each of these conditions, its prevalence in the population combined with its likelihood of being associated with a profound or severe core activity limitation leads to a considerable burden on the community. For example, 10% of people aged 65 years or over reported a stroke and half of these reported a profound or severe core activity limitation, meaning that 126,200 older people had both a stroke and a profound or severe limitation.

**Table 4.6: Most common health conditions among older people with a profound or severe core activity limitation<sup>(a)</sup>, 2003**

|                                     | With a health condition |                          | With a health condition and a profound or severe core activity limitation |  |  |
|-------------------------------------|-------------------------|--------------------------|---|--|--|
|                                     | Number                  | Per cent of older people | Number  | As per cent of those with the health condition | As per cent of people with a profound or severe limitation |
| Arthritis and related disorders     | 893,400                 | 35.8                     | 280,500   | 31.4   | 50.0   |
| Hearing disorders                   | 732,900                 | 29.4                     | 242,600   | 33.1   | 43.3   |
| Hypertension                        | 927,500                 | 37.1                     | 210,300   | 22.7   | 37.5   |
| Heart disease                       | 448,800                 | 18.0                     | 167,000   | 37.2   | 29.8   |
| Stroke                              | 252,800                 | 10.1                     | 126,200   | 49.9   | 22.5   |
| Vision disorders                    | 205,700                 | 8.2                      | 116,200   | 56.5   | 20.7   |
| Back problems                       | 408,900                 | 16.4                     | 112,000   | 27.4   | 20.0   |
| Diabetes                            | 304,000                 | 12.2                     | 100,300   | 33.0   | 17.9   |
| Dementia and Alzheimer's disease    | 99,300                  | 4.0                      | 97,300  | 98.0   | 17.4   |
| Osteoporosis                        | 221,900                 | 8.9                      | 85,100  | 38.3   | 15.2   |
| Problems with speech                | 78,000                  | 3.1                      | 67,800  | 86.9   | 12.1   |
| Depression/mood affective disorders | 98,000                  | 3.9                      | 58,400  | 59.5   | 10.4   |
| <b>All older people</b>             | <b>2,496,800</b>        | <b>100.0</b>             | <b>560,890</b>  | <b>22.5</b>                                    | <b>. .</b>   |

(a) The technical appendix in *Australia's Welfare 2005* (AIHW 2005d) provides a detailed definition of terms.

Note: People may have more than one health condition so percentages do not sum to 100.

Source: AIHW analysis of ABS 2003 Survey of Disability, Ageing and Carers confidentialised unit record file.

Each condition in Table 4.6 is clearly more common among older people with a profound or severe core activity limitation than among the general older population; with the exception of hypertension (high blood pressure). For example, the prevalence of dementia and Alzheimer's disease was 17% among older people with a profound or severe limitation compared with 4% among the older population in general.

This survey relies on self-reporting by people or their carers to identify their health conditions, which can result in mis-reporting, particularly when conditions are in their mild or moderate stage or have not yet been diagnosed. This can lead to underestimation of the prevalence of some conditions when compared with prevalence estimates based on clinical assessment.

## Hospital use

In 2003–04 there were 2.38 million separations from Australian hospitals for people aged 65 years or over (Table 4.7), representing 35% of all separations. The most common principal diagnosis was care involving dialysis, which is usually related to chronic kidney disease (AIHW 2005f). Other common principal diagnoses were other medical care (for example, radiotherapy sessions, maintenance chemotherapy, palliative care), care involving rehabilitation procedures (for example, cardiac rehabilitation, speech

therapy, training in activities of daily living) and 'other cataract' (excludes senile cataract and congenital cataract).

**Table 4.7: Hospital separations of older people, by most common principal diagnoses, 2003–04**

| <b>Principal diagnosis</b>                      | <b>Aged<br/>65–74</b> | <b>Aged<br/>75–84</b> | <b>Aged<br/>85+</b> | <b>Total<br/>65+</b> | <b>Per<br/>cent</b> |
|---|-----------------------|-----------------------|---------------------|----------------------|---------------------|
| Care involving dialysis                         | 202,231               | 153,229               | 11,233              | 366,693              | 15.4                |
| Other medical care                              | 72,959                | 37,020                | 3,783               | 113,762              | 4.8                 |
| Care involving use of rehabilitation procedures | 25,648                | 42,411                | 20,367              | 88,426               | 3.7                 |
| Other cataract                                  | 29,460                | 47,150                | 10,981              | 87,591               | 3.7                 |
| Angina pectoris                                 | 22,356                | 20,940                | 6,112               | 49,408               | 2.1                 |
| Other malignant neoplasms of skin               | 16,480                | 21,948                | 8,530               | 46,958               | 2.0                 |
| Other chronic obstructive pulmonary disease     | 16,165                | 19,946                | 5,651               | 41,762               | 1.8                 |
| Heart failure                                   | 7,947                 | 16,542                | 11,698              | 36,187               | 1.5                 |
| Pain in throat and chest                        | 15,908                | 12,209                | 3,652               | 31,769               | 1.3                 |
| Type 2 diabetes mellitus                        | 12,574                | 14,248                | 3,508               | 30,330               | 1.3                 |
| Pneumonia, organism unspecified                 | 8,167                 | 12,895                | 8,792               | 29,854               | 1.3                 |
| Senile cataract                                 | 10,460                | 15,673                | 3,536               | 29,669               | 1.2                 |
| Acute myocardial infarction                     | 10,639                | 11,941                | 5,688               | 28,268               | 1.2                 |
| Follow-up examination for malignant neoplasms   | 12,895                | 11,967                | 2,079               | 26,941               | 1.1                 |
| Atrial fibrillation and flutter                 | 9,542                 | 10,493                | 3,493               | 23,528               | 1.0                 |
| Arthrosis of knee                               | 12,594                | 9,259                 | 1,214               | 23,067               | 1.0                 |
| <b>Total</b>                                    | <b>1,062,168</b>      | <b>1,002,899</b>      | <b>313,010</b>      | <b>2,378,077</b>     | <b>100.0</b>        |

Source: AIHW National Hospital Morbidity Database.

Comparing tables 4.7 and 4.6 indicates that heart diseases, stroke, diabetes and vision problems are among the most common reasons for hospital separations among older Australians and are also among the most common health conditions experienced by older people with a profound or severe core activity limitation. Treatment and management of these conditions tends to include both acute and long-term care.

Care involving dialysis (usually associated with chronic kidney disease) and 'other skin cancer' ('other malignant neoplasms of skin', for example lip, eyelid, ear, scalp and neck) are among the most common principal diagnoses for hospital separation. However, they do not feature among the most common health conditions experienced by people with a profound or severe core activity limitation. Although chronic kidney disease requires long-term care, dialysis often occurs in hospitals. 'Other skin cancer' requires hospital treatment such as surgery but usually not long-term care.

Conversely, hearing disorders, dementia and depression are among the health conditions that most commonly occur among people with a profound or severe core activity limitation but do not feature among the most common principal diagnoses for hospital separations. These conditions are more likely to include long-term care associated with managing the associated disability, rather than acute care.

## Dementia

Dementia is a major health problem among older people. It refers to a collection of symptoms that can be caused by a number of diseases that impair the brain. It is marked by the progressive impairment of brain functions such as language, memory, perception, personality and understanding. It restricts daily activities and, in the long term, it leads to the need for care. Many diseases can cause dementia, the most common being Alzheimer's disease, which is responsible for about 70% of cases (AIHW 2004c).

Dementia is the greatest single contributor to the burden of disease due to disability at older ages, as well as the greatest single contributor to the cost of care in residential aged care (AIHW 2004c). Dementia in a person also affects those around them.

It is estimated that in 2004 about 171,000 people aged 65 years or over had dementia (Table 4.8). The estimate for females is greater than that for males because females live longer, and the age-specific rates on which the estimates are based are higher for females in the older age groups. Rates increase markedly with age but, although dementia is common in very elderly people, it is not considered to be an inevitable part of the ageing process.

**Table 4.8: Older people with dementia, 2004**

| Age group        | Number        |                |                | Rate (per cent) |            |            |
|------------------|---------------|----------------|----------------|-----------------|------------|------------|
|                  | Males         | Females        | Persons        | Males           | Females    | Persons    |
| 65–69            | 4,800         | 3,600          | 8,500          | 1.3             | 1.0        | 1.1        |
| 70–74            | 8,600         | 8,600          | 17,200         | 2.8             | 2.6        | 2.7        |
| 75–79            | 13,900        | 19,300         | 33,300         | 5.6             | 6.4        | 6.1        |
| 80–84            | 15,500        | 30,200         | 45,700         | 10.0            | 13.1       | 11.9       |
| 85–89            | 10,200        | 28,100         | 38,300         | 15.5            | 21.9       | 19.8       |
| 90–94            | 4,400         | 16,500         | 20,900         | 20.1            | 29.1       | 26.6       |
| 95+              | 1,400         | 5,800          | 7,200          | 23.6            | 33.5       | 30.9       |
| <b>Total 65+</b> | <b>58,800</b> | <b>112,200</b> | <b>171,000</b> | <b>5.0</b>      | <b>7.8</b> | <b>6.6</b> |

*Note:* Derived from aggregated age–sex-specific rates from a meta-analysis of data from European studies (Lobo et al. 2000). Percentages are of the estimated Australian resident population of that age and sex at 30 June 2004.

*Source:* AIHW unpublished.

The estimates of dementia prevalence in Table 4.8 are based on data from numerous international and Australian studies that used clinical or other diagnostic assessment. These studies together are considered to capture all severities of dementia and they produce an estimate of prevalence among Australians aged 65 years or over that is greater than the equivalent estimate based on self-report from the 2003 SDAC (Table 4.6). While the SDAC is considered to capture all severities of dementia in the cared accommodation component of the survey, for the household component it is believed to capture mainly profound or severe cases of dementia and to underestimate mild or moderate cases.

Demand for services is most likely to arise from people whose dementia is associated with profound or severe disability, leaving them unable to carry out core activities of daily living without assistance. Based on diagnostic assessment, the number of people

aged 65 years or over in 2004 with dementia who also experienced a profound or severe core activity limitation was estimated to have been 102,100 (AIHW unpublished).

Chalmers and others (2005) reported that the oral health of older people with dementia is significantly worse than that of their unaffected age peers. Most people with dementia also have other long-term health conditions such as gait disturbance, slowed movement, fractures, arthritis, osteoporosis and urinary tract infections. However, for most people with dementia (67%), it is also their main disabling condition.

In summary, dementia is associated with high levels of disability and the need for long-term care is high. Care and organisation of the environment can assist with physical problems such as incontinence, difficulties of food intake and problems in lying down. Although there is no cure for dementia, medication can improve its symptoms. This in turn may improve quality of life, ease the burden on caregivers and delay admission to residential care.

## Vision problems

Visual impairment can affect physical, functional, emotional and social wellbeing, and markedly reduce quality of life. The ability to perform basic activities of daily living can be affected, leading to less independence. Visual impairment is often accompanied by isolation, depression and poorer social relationships, and is strongly associated with falls and hip fractures. Preventing and treating visual impairment increases the prospect of enjoying life as a healthy, productive older person.

Based on studies that have included an eye examination, cataract is the most common eye disease among Australians aged 65 or more, affecting over 1.2 million people (almost half of that population). This is followed by age-related macular degeneration (AMD), diabetic retinopathy and glaucoma (Table 4.9). Almost 170,000 Australians aged 65 years or over have visual impairment caused by eye disease. Of these, 51,000 people are classified as blind and almost 119,000 other people have low vision. There is a strong association between visual impairment and advancing age (AIHW 2005i).

**Table 4.9: Most prevalent eye diseases and associated visual impairment and blindness among older people, 2004**

|                                  | Eye disease            |             | Visual impairment |            | Blindness     |            |
|----------------------------------|------------------------|-------------|-------------------|------------|---------------|------------|
|                                  | Number                 | Rate (%)    | Number            | Per cent   | Number        | Per cent   |
| Cataract                         | 1,215,400              | 46.7        | 71,800            | 42         | 6,600         | 13         |
| Age-related macular degeneration | <sup>(a)</sup> 138,800 | 5.3         | 50,600            | 30         | 28,300        | 55         |
| Glaucoma                         | 87,200                 | 3.3         | 13,300            | 8          | 8,100         | 16         |
| Diabetic retinopathy             | 97,100                 | 3.7         | 5,400             | 3          | 8,000         | 16         |
| Other                            | n.a.                   | n.a.        | 28,500            | 17         |               |            |
| <b>Total</b>                     | <b>n.a.</b>            | <b>n.a.</b> | <b>169,600</b>    | <b>100</b> | <b>51,000</b> | <b>100</b> |

(a) A further 398,400 older Australians are estimated to have early age-related maculopathy, which usually carries no symptoms, and are therefore at risk of developing age-related macular degeneration.

### Notes

1. Visual impairment was defined as visual acuity <6/12 and blindness as visual acuity <6/60. Visual acuity of 6/12 is the ability to see only at 6 metres what the normal eye can see at 12 metres. Visual acuity includes blindness.
2. Refractive error is not included.

Source: AIHW 2005i.

Cataract is the primary cause of 42% of cases of visual impairment in older Australians and AMD the primary cause of 30%. The leading causes of blindness among Australians aged 65 years or over are AMD (55%), glaucoma (16%) and diabetic retinopathy (16%). Uncorrected refractive error, which can be corrected by eyewear, is the cause of visual impairment in a further 204,600 Australians aged 65 years or over.

The estimate for total vision disorders from the 2003 SDAC (Table 4.6) is less than the estimates based on clinical examination (Table 4.9) because of differences in methods and definitions. For example, respondents to the 2003 SDAC who were in the early (symptomless) stages of a condition may not have known they had a condition, which would lead to underestimation when compared with estimates based on an ophthalmological examination.

The availability of successful treatments differs according to the eye disease. There is a simple and effective surgical procedure that restores vision for cataract. There is no cure for AMD but treatment may delay or halt its progress. Medical treatment, laser treatment or surgery can slow the progress of glaucoma but any vision loss cannot be restored. Diabetic retinopathy can be successfully treated by laser surgery if identified early, and laser treatment can be used to prevent severe vision loss and blindness even in advanced cases.

## Arthritis and musculoskeletal conditions

Arthritis and musculoskeletal conditions are large contributors to illness, pain and disability among older Australians (AIHW 2005c). Highly prevalent, these conditions have a significant effect on the community, including disruptions to daily life, lost productivity through disability, and the use of hospital and primary care services.

Arthritis covers a diverse group of diseases and conditions marked by pain and stiffness in the joints, which can often produce disability and sometimes deformity. Other musculoskeletal conditions include disorders of the bones, muscles and their attachments to each other.

Based on self-report, the most common form of arthritis—osteoarthritis—affects about 645,000 Australians aged 65 years or over (Table 4.10). The condition mainly affects the hands, spine and weight-bearing joints such as hips, knees and ankles. It usually worsens with time, often limiting a person’s movements and daily functioning.

**Table 4.10: Prevalence of arthritis and musculoskeletal conditions among older people, 2001**

| Condition            | Males         | Females      | Persons        | Males        | Females      | Persons      |
|----------------------|---------------|--------------|----------------|--------------|--------------|--------------|
|                      | Number ('000) |              |                | Rate ('000)  |              |              |
| Osteoarthritis       | 209.6         | 435.6        | 645.3          | 208.5        | 350.9        | 286.8        |
| Rheumatoid arthritis | 64.3          | 95.6         | 159.9          | 63.6         | 77.0         | 71.1         |
| Osteoporosis         | 25.1          | 154.9        | 180.0          | 25.4         | 124.5        | 80.6         |
| Other                | 610.2         | 664.3        | 1,274.5        | 597.6        | 535.5        | 564.1        |
| <b>Total</b>         | <b>608.1</b>  | <b>831.0</b> | <b>1,439.1</b> | <b>598.3</b> | <b>669.6</b> | <b>637.6</b> |

*Note:* The total is smaller than the sum of its components because more than one condition may be reported by the same individual.

*Source:* AIHW analysis of ABS 2001 National Health Survey.

Rheumatoid arthritis, the most common autoimmune disease in Australia, affects around 160,000 older Australians, a large proportion of whom are females. It involves inflammation of the joints, most often affecting the hand joints in symmetrical fashion, and often producing deformities.

Osteoporosis is a thinning and weakening of the bone substance with a resulting risk of fracture, and it is estimated to affect 180,000 older Australians. Fractures after minimal trauma are a typical sign of osteoporosis. A person's ability to walk unassisted can be affected and a loss of independence may occur.

These estimates differ slightly from those in Table 4.6 because of differences in methods and definitions between the 2003 SDAC and the 2001 NHS. For example, the 2003 SDAC included people residing in non-private dwellings such as residential aged care, whereas the 2001 NHS did not.

Strategies for treating osteoarthritis include pain control, improving functioning and health-related quality of life, and total joint replacement. Treatment of rheumatoid arthritis focuses on early diagnosis and controlling the symptoms of chronic inflammation. Management of osteoporosis includes treatments that reduce fracture risk, and lifestyle changes including appropriate nutrition and exercise.

## 4.5 Aboriginal and Torres Strait Islander peoples

Aboriginal and Torres Strait Islander people suffer much more ill health than other Australians. They die at much younger ages and are more likely to experience disability and reduced quality of life due to ill health (ABS & AIHW 2005). This is clear despite a continuing need to improve information about Indigenous health.

Data from a number of sources indicate that the Indigenous population is disadvantaged across a range of socioeconomic factors that affect health. In 2002, Aboriginal and Torres Strait Islander people reported lower incomes than other Australians, higher rates of unemployment, poorer education achievements and lower rates of home ownership (ABS 2004c).

However, measurements of socioeconomic status alone do not explain all the variations in health status that exist between Indigenous and non-Indigenous Australians. Higher levels of health risk behaviours such as smoking and alcohol misuse, and other risk factors such as poor housing and exposure to violence are also important determinants of Indigenous health. Numerous other aspects of the living and social conditions of Indigenous Australians, along with a reduced sense of control over their own lives, may help explain their generally poor health.

This section discusses data sources used to compile the health information on Aboriginal and Torres Strait Islander peoples and some problems with the data quality; it then describes their demographic profile and some measures of health status, disability rates and service use. The section concludes with information on behaviours that affect health status such as smoking, excessive alcohol drinking and the use of illicit drugs; and finally discusses the housing conditions of Indigenous people.