

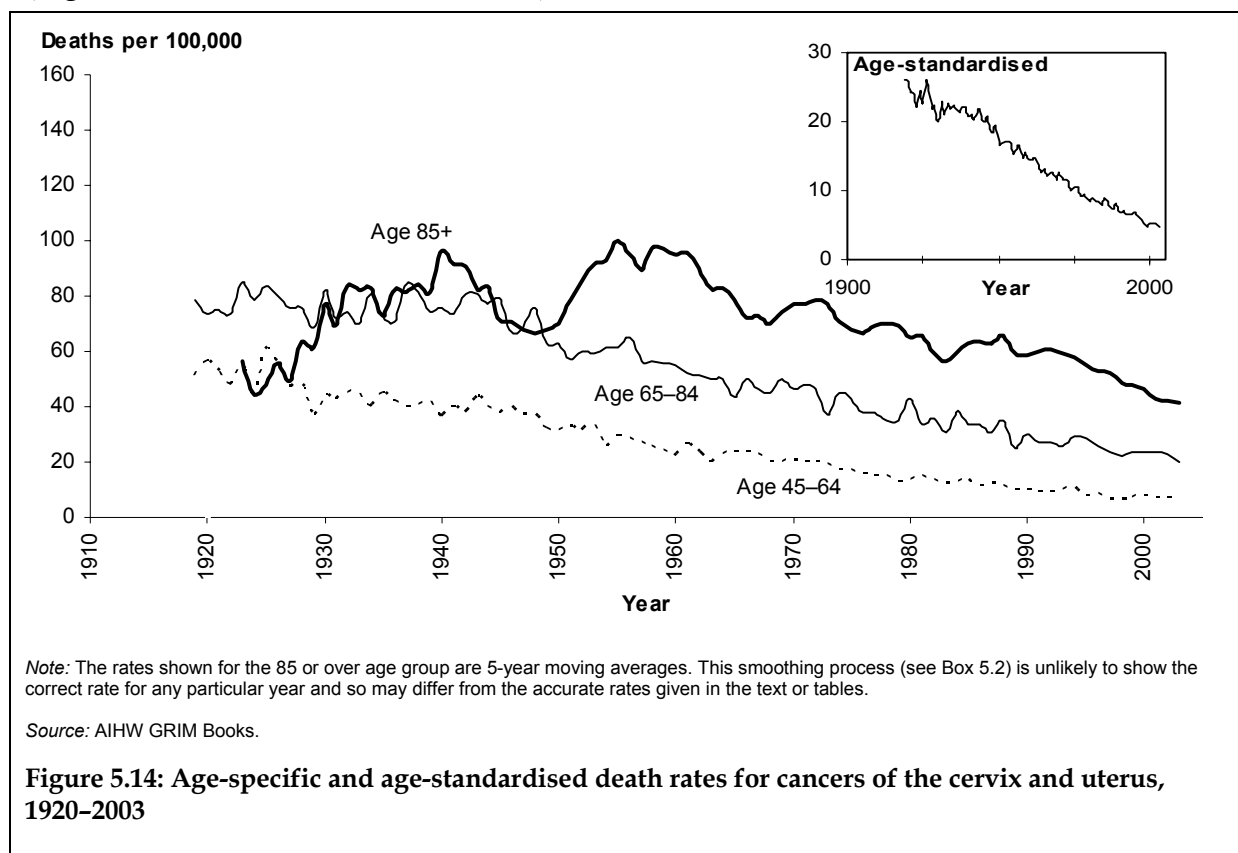
Cancers of the cervix and uterus, from 1920

Background

Deaths from cancers of the cervix and uterus were first specifically recorded in 1930 but numbers have been pro-rated from ICD-3 item 46 (cancer of the female genital organs) back to 1920, when the age-standardised rates were 26 deaths per 100,000 population. Rates fell markedly from then, and very consistently from around the 1940s, down to around 5 deaths per 100,000 by the end of the century (Figure 5.14; Table B10).

Age-specific death rates

Death rates around 1920 were about 60 (when 'unsmoothed' – see Box 5.2), 80, and 50 deaths per 100,000 females aged 85 or over, 65–84, and 45–64 respectively. Rates fluctuated for females aged 85 or over, peaking in 1940 and again in the mid-1950s at around 100 deaths per 100,000, before falling to 40 in 2000 (Figure 5.14). The death rates for ages 65–84 and 45–64 fell steadily after registering highs in the early part of the century of around 70 and 50 deaths per 100,000 respectively, to 24 and 7 in 2000 (Figure 5.14; tables B30, B36 and B42).



Cerebrovascular disease

Background

Cerebrovascular disease refers to any disorder of the blood vessels supplying the brain or its covering membranes. Most cases of cerebrovascular deaths are due to stroke. Stroke occurs when a vessel that supplies blood to the brain is either blocked or bleeds, resulting in part of the brain dying from lack of oxygen and nutrients. This causes loss of function of the affected part of the brain leading to death or damage to functions such as movement, communication, thinking and emotions (AIHW 2004b).

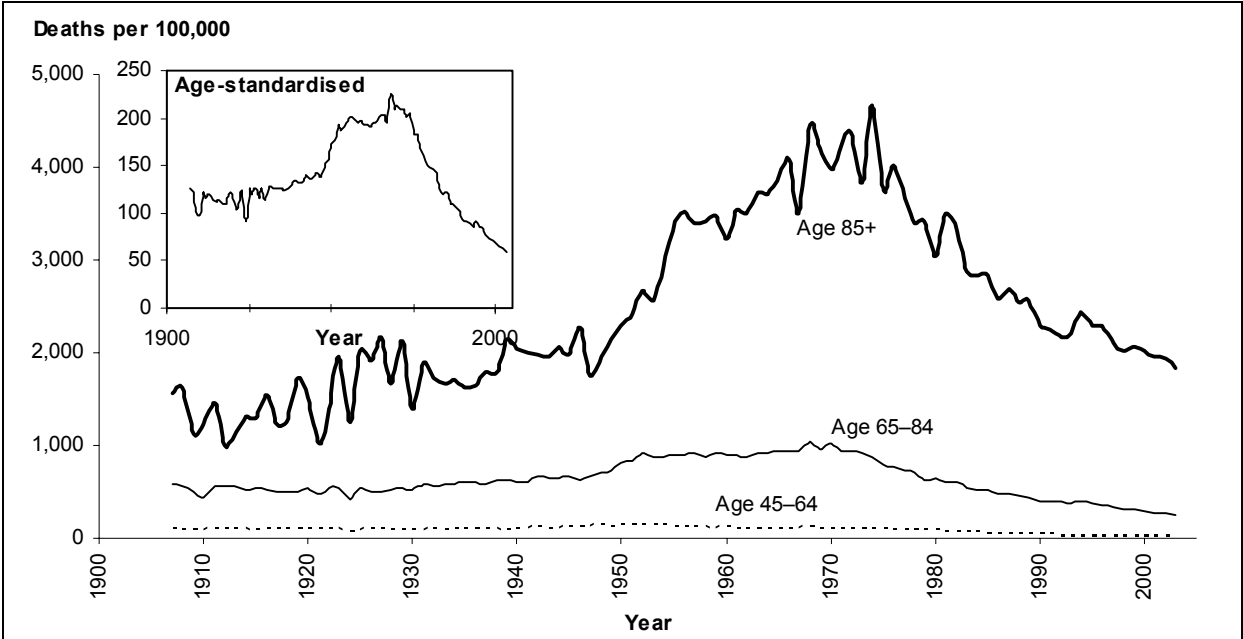
Cerebrovascular disease was a major cause of death throughout the twentieth century and age-standardised rates increased over the first 70 years. However, after that the rates fell rapidly for both sexes and by 2000 were half the early-century levels.

In 1907, the age-standardised death rates were 127 deaths per 100,000 population for males and 130 for females. The rates began to rise during the 1930s and continued to increase, reaching peaks of 226 per 100,000 for males in 1968 and 221 for females in 1952. Rates remained around that level for around two decades before beginning to fall sharply in the last three decades of the century. By 2000, rates had fallen to 69 and 63 deaths per 100,000 population for males and females respectively (figures 5.15 and 5.16; tables B7 and B8).

Age-specific death rates

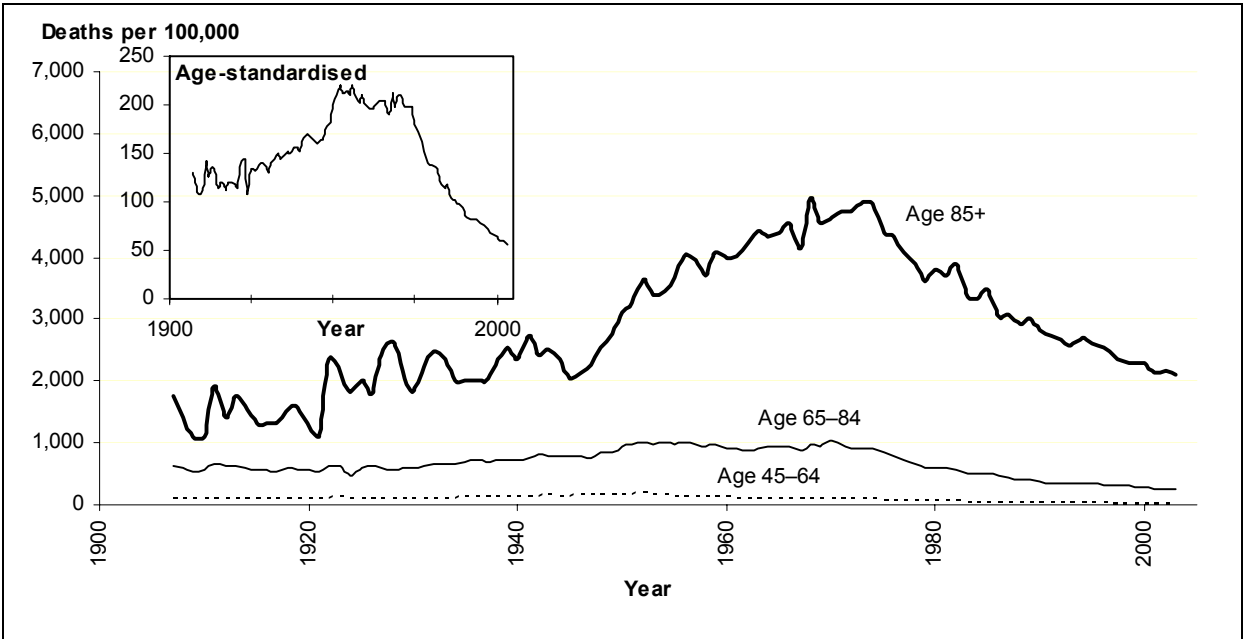
The rates for males and females aged 85 or over increased markedly over the first 70 years, especially in the second half of that period, rising from 1,560 deaths per 100,000 males and 1,755 for females in 1907, to 4,660 and 4,867 respectively in 1974. The rates then fell rapidly to around 2,012 and 2,239 deaths per 100,000 males and females respectively in 2000 (figures 5.15 and 5.16).

Death rates for males and females aged 65–84 rose from 574 and 619 deaths per 100,000 males and females respectively in 1907, to 1,012 and 1,024 in 1970. After 1970, the rates fell to 298 and 267 deaths per 100,000 males and females respectively in 2000 (figures 5.15 and 5.16; tables B37, B38, B43 and B44).



Source: AIHW GRIM Books.

Figure 5.15: Age-specific and age-standardised death rates for cerebrovascular disease, males, 1907-2003



Source: AIHW GRIM Books.

Figure 5.16: Age-specific and age-standardised death rates for cerebrovascular disease, females, 1907-2003

Ischaemic heart disease, from 1950

Background

Deaths from ischaemic heart disease (also known as coronary heart disease) are commonly referred to as fatal heart attacks. Heart attacks are life-threatening emergencies that occur when one of the heart's own blood supply vessels (the coronary arteries) is suddenly blocked completely by a blood clot. Heart attacks leave 4 in 10 of their victims dead within 12 months of the attack and over half of these have died before reaching hospital.

Over the last five decades of the century, ischaemic heart disease was Australia's single largest cause of death overall and especially among the older age groups. The specific recording of deaths from ischaemic heart disease began with ICD-6 in 1950. The numbers of these deaths back to 1940 were estimated by d'Espaignet (1993) who noted, however, that there was 'an obvious dislocation when comparing the estimated rates prevailing in the 1940s to those in the 1950s'. This report includes estimated rates going back to 1940 but it follows that those before 1950 should be treated with caution. In any case, it is clear that age-standardised ischaemic heart disease death rates rose very rapidly for both sexes to a peak around 1970, and then fell almost as rapidly. By 2000 rates for both males and females were approaching their 1950 levels.

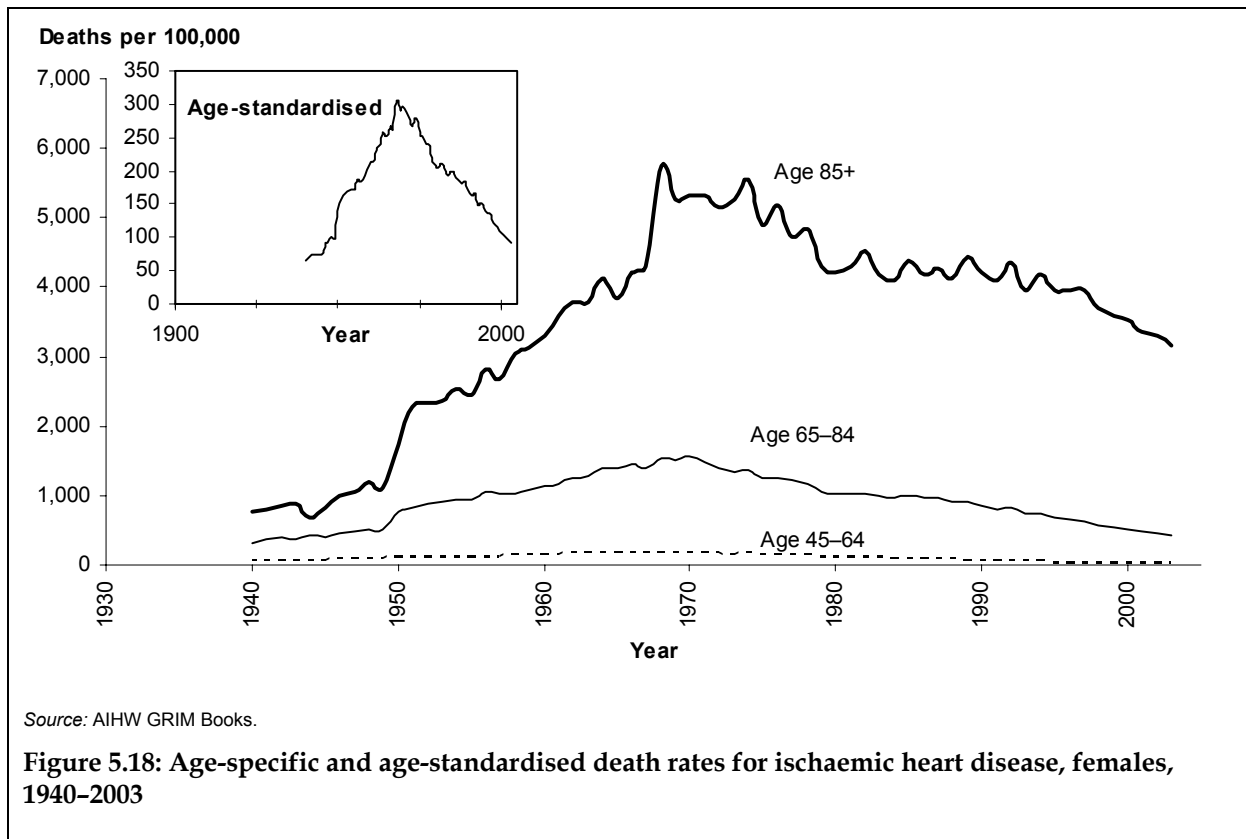
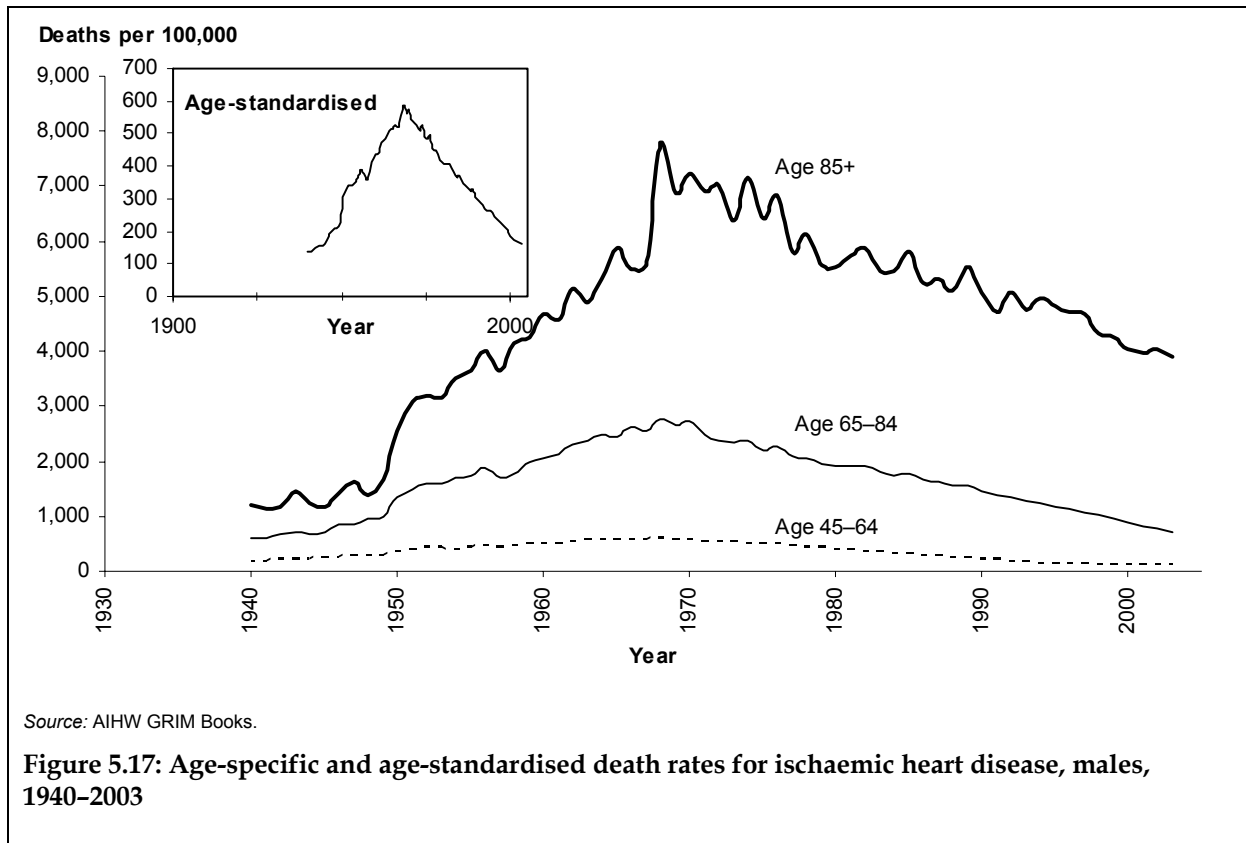
Death rates rose from 287 per 100,000 population for males and 140 for females in 1950, to 575 and 298 respectively in 1970. The fall after 1970 was to 185 deaths per 100,000 population for males in 2000 and to 108 for females, a decline of about two-thirds for both sexes (figures 5.17 and 5.18; tables B7 and B8).

It can also be seen that age-standardised male ischaemic heart disease death rates were roughly double the female rates throughout.

Age-specific death rates

It is estimated that in 1950 the death rates for males aged 45–64, 65–84 and 85 or over were respectively 358, 1,370 and 2,550 deaths per 100,000 males. The rates increased rapidly to reach 591, 2,760 and 7,760 deaths per 100,000 males in the late 1960s. They then fell to 103, 861 and 4,012 deaths per 100,000 males across the respective age ranges in 2000 (Figure 5.17; tables B31, B37, and B43).

For females it is estimated that the death rates for the ages 45–64, 65–84 and 85 or over in 1950 were respectively 117, 734, and 1,733 deaths per 100,000 females. The rates increased rapidly to reach 180, 1,550 and 5,735 deaths per 100,000 females in the late 1960s. They then fell to 27, 498 and 3,453 deaths per 100,000 females across the respective age ranges in 2000 (Figure 5.18; tables B32, B38 and B44).



Senility

Background

In ICD versions 1 to 5, conditions described as senility and old age were contained in one chapter and applied to older people, mainly to those aged 70 and over. In everyday use the term 'senility' refers to the characteristic of being old, or of being physically or mentally infirmed because of old age.

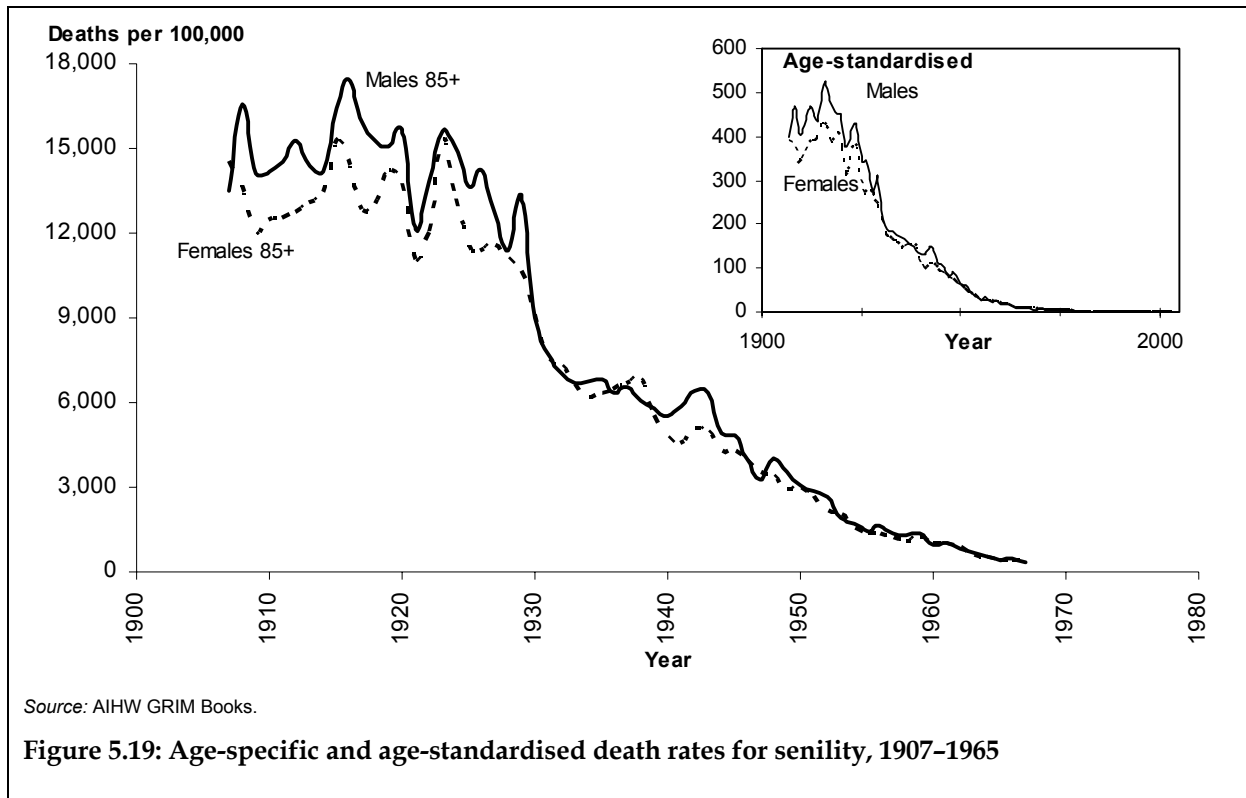
It is unclear what 'senility' would correspond to in today's understanding of diseases and conditions. It may be that the term was frequently used as a 'default' classification for deaths among older people with no obvious health conditions or only some signs of dementia.

However, some statistics on 'senility' are provided in this report because early in the twentieth century it accounted for a large proportion of deaths in the 80 years or over age range and, indeed, made a major contribution to overall deaths. For example, in 1907 senility ranked fourth as a cause of death for both males and females (Table 5.1) and the age-standardised death rate for both males and females was about 400 deaths per 100,000 population (Figure 5.19; tables B17 and B18).

Although the simple classification of senility was discontinued after ICD-5, it could still be tracked forward through similar terms in ICDs 6 and 7. However, with changes after that it was not able to be tracked with confidence. It is reasonable to speculate that such a broad classification was replaced with more precise causes of death as diagnostic methods improved. In any case, for the reasons given, the analysis presented here extends only to 1967, the last year of ICD-7.

Age-specific death rates

For males and females aged 85 or over, the death rates for senility fell from highs of around 17,500 and 15,300 deaths per 100,000 respectively, a few years before 1920, to 391 and 411 in 1965. For males and females aged 65–84, the rates followed a similar decline, peaking before 1920 at around 1,600 and 1,500 deaths per 100,000 males and females respectively, falling to 11 and 18 respectively in 1965 (Figure 5.19; tables B33, B34, B39 and B40).



Conditions originating in the perinatal period and congenital conditions, for ages 0–4 years

Deaths due to conditions originating in the perinatal period

For this publication, 'conditions originating in the perinatal period' are conditions which have their origin in the perinatal period (that is, shortly before or after birth, usually 28 days), although death due to these conditions occurs after birth. They include conditions such as disorders related to length of gestation and foetal growth, birth trauma, and respiratory and cardiovascular disorders specific to the perinatal period.

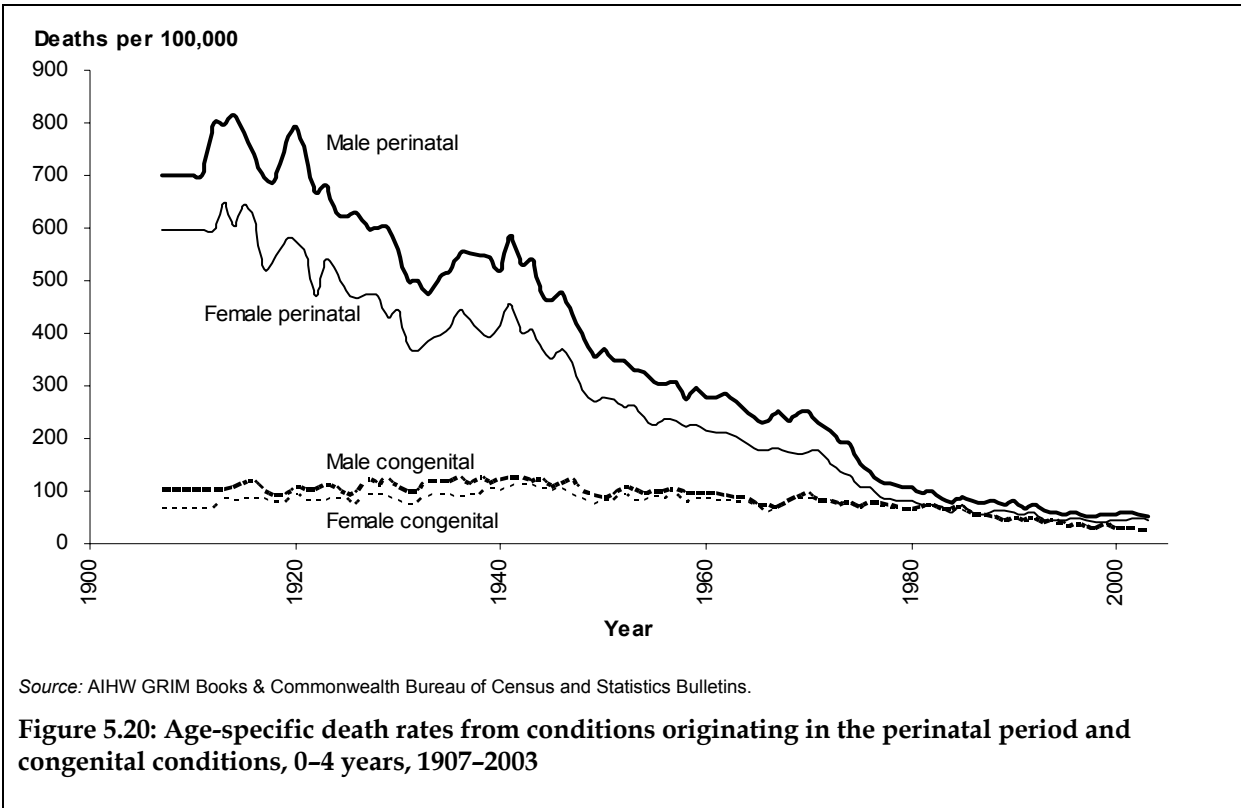
Congenital conditions

Congenital conditions are malformations, deformations and chromosomal abnormalities recognised at birth or believed to have been present since birth. They are a significant source of chronic disease and disability resulting in premature mortality. Many of these deaths occur during the first year of life, although some congenital conditions, notably Down syndrome, lead to premature death at older ages. Other well-known congenital conditions include congenital heart diseases, which in recent decades have been correctable by surgery but would have brought about early death early in the century.

Death rates

Death rates for conditions originating in the perinatal period showed a steady fall through the century, from highs of around 800 and 650 deaths per 100,000 males and females aged 0–4 years respectively to 55 and 45 in 2000 (Figure 5.20; tables B19 and B20).

The death rate for congenital conditions, on the other hand, increased somewhat during the first half of the century from 103 and 67 deaths per 100,000 for males and females respectively early in the century to 126 and 107 during the early 1940s. From the late 1940s, however, the death rates fell more rapidly than they had risen, to 30 and 25 deaths per 100,000 for males and females respectively in 2000 (Figure 5.20; tables B19 and B20).



Motor vehicle accident deaths, from 1924

Background

Deaths included in this section consist of those resulting from motor vehicle accidents occurring on public roads (that is, originating on, terminating on, or involving a vehicle partially or fully on the road). Pedestrian deaths on public roads are included (see Table A6.21 for complete list of inclusions).

Deaths from motor vehicle accidents were separated from an inclusive item called 'other crushings' in 1924, and in that year death rates were 11 and 4 deaths per 100,000 population for males and females respectively. Rates in 2000 were very similar to those in 1924, following a series of rises and falls. The rates for both sexes tripled from the late 1940s to respective peaks around 1970, and then fell almost as swiftly back to their 1924 levels by 2000. The 1970 rates were 49 and 18 deaths per 100,000 population for males and females respectively; and corresponding 2000 rates were 14 and 6 (figures 5.21 and 5.22; tables B13 and B14). The male rates were consistently almost three times those of females. Collectively, falls in the motor vehicle accident death rates can be attributed to public health policies such as drink driving restrictions, the compulsory use of seat belts, lower speed limits, better roads and car design and safety.

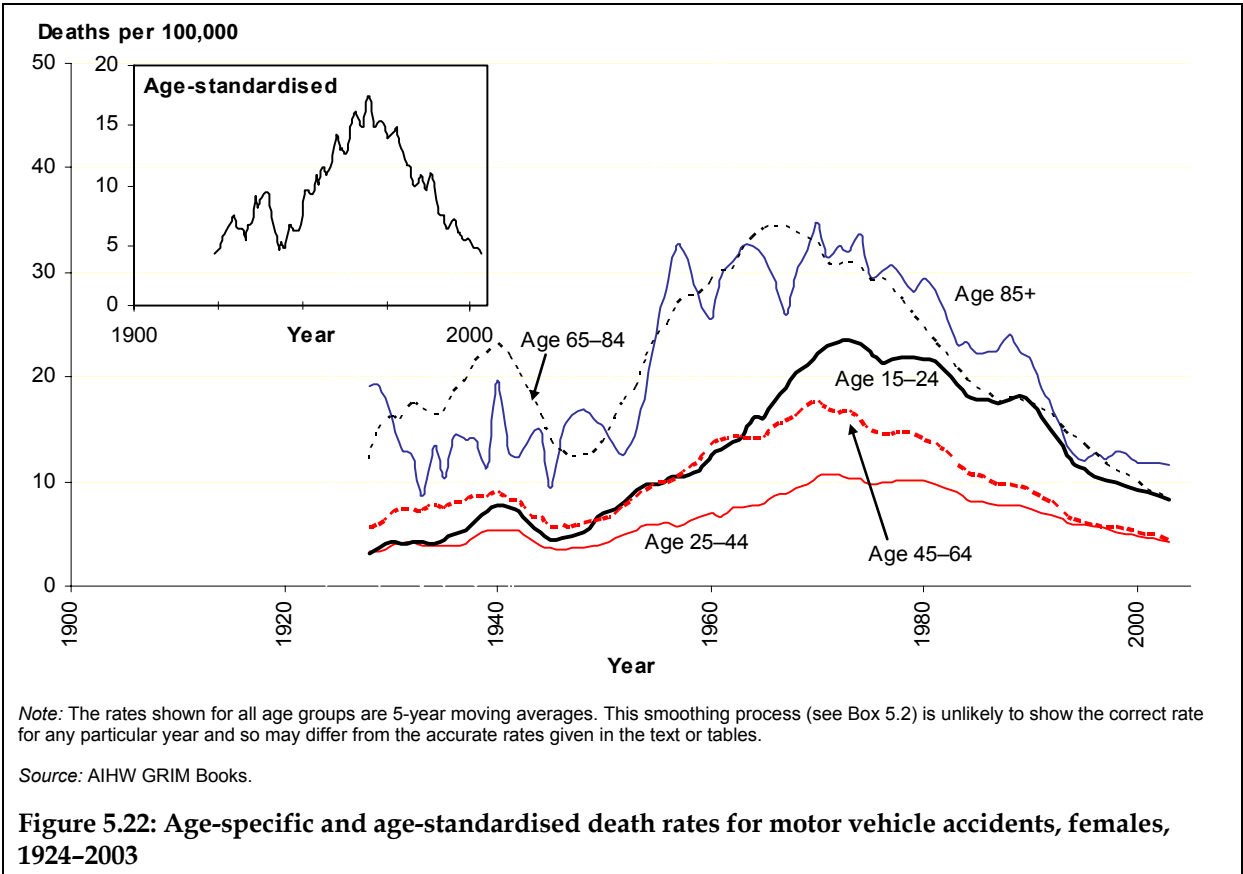
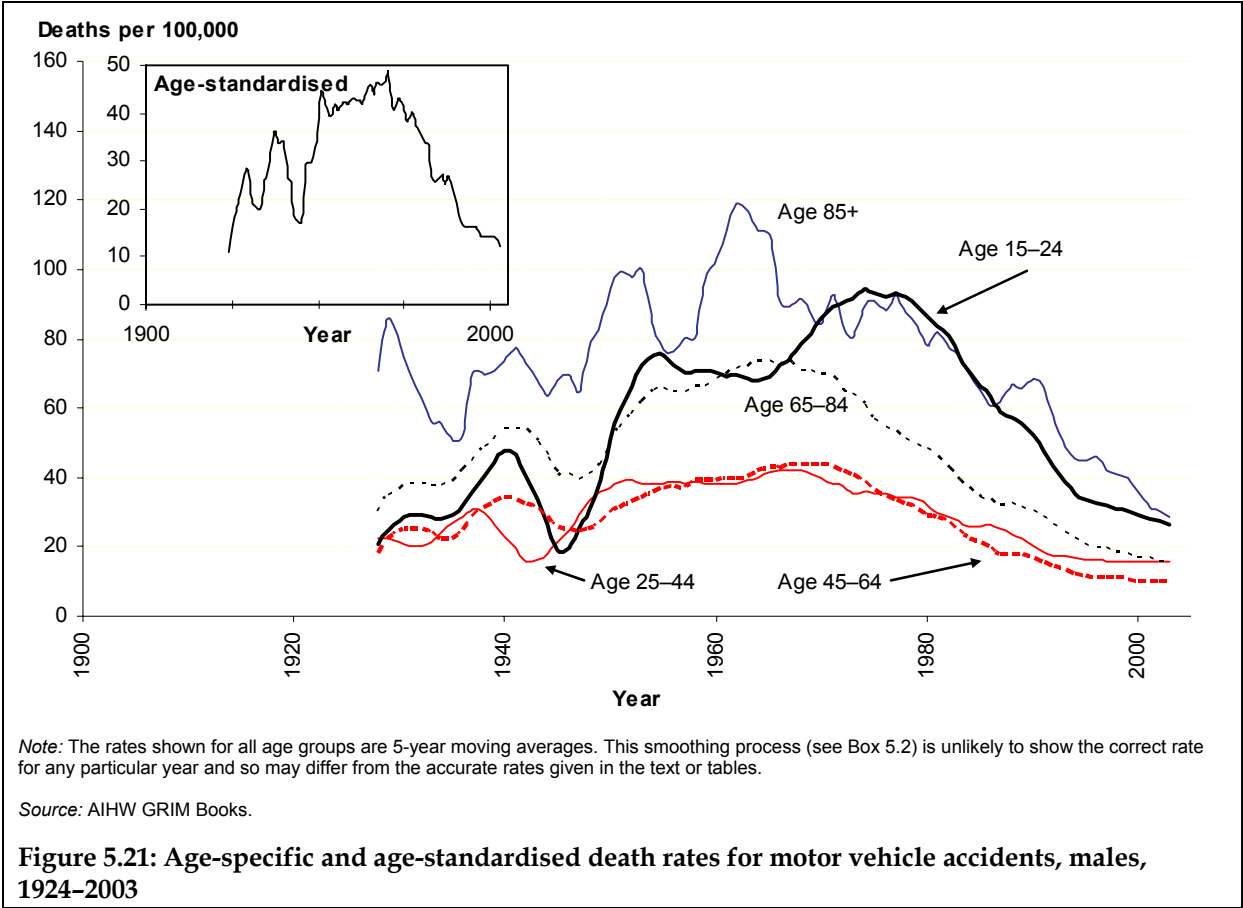
Age-specific death rates

For males, those aged 85 or over were the group with the highest death rates over the eight decades, except between 1970 and 1990. For females, rates were highest among this age group for every decade. Death rates in this oldest age group fell for both males and females since the 1960s and 1970s, to 35 and 10 deaths per 100,000 males and females respectively in 2000 (Table B47).

Motor vehicle accident death rates for males and females aged 15–24 became a notable concern from the 1950s, particularly for young males. For the most recent decades their rates ranked second among the age groups. Rates for both males and females in this age group peaked during 1965–1980 at over 95 and 25 deaths per 100,000 respectively, with the male rates even exceeding those of the oldest group for some years during this period (tables B23, B24 and B47).

Persons aged 25–44 generally showed the lowest mortality rates from motor vehicle accidents over the decades, although the trends mirrored those of the 15–24-year age groups (figures 5.21, and 5.22; tables B25, B26 and B47).

Death rates for males and females for all ages reduced considerably in the latter years of the century, suggesting that safety measures and policies were effective.



Suicide, for ages 15 years or over

Background

Suicide is a prominent and continuing public health problem and is in the top 20 causes of death in Australia. For most of the century, overall suicide rates were relatively constant, with male rates exceeding those of females by a ratio of four to one. Deaths from suicide are recorded under injury and poisoning.

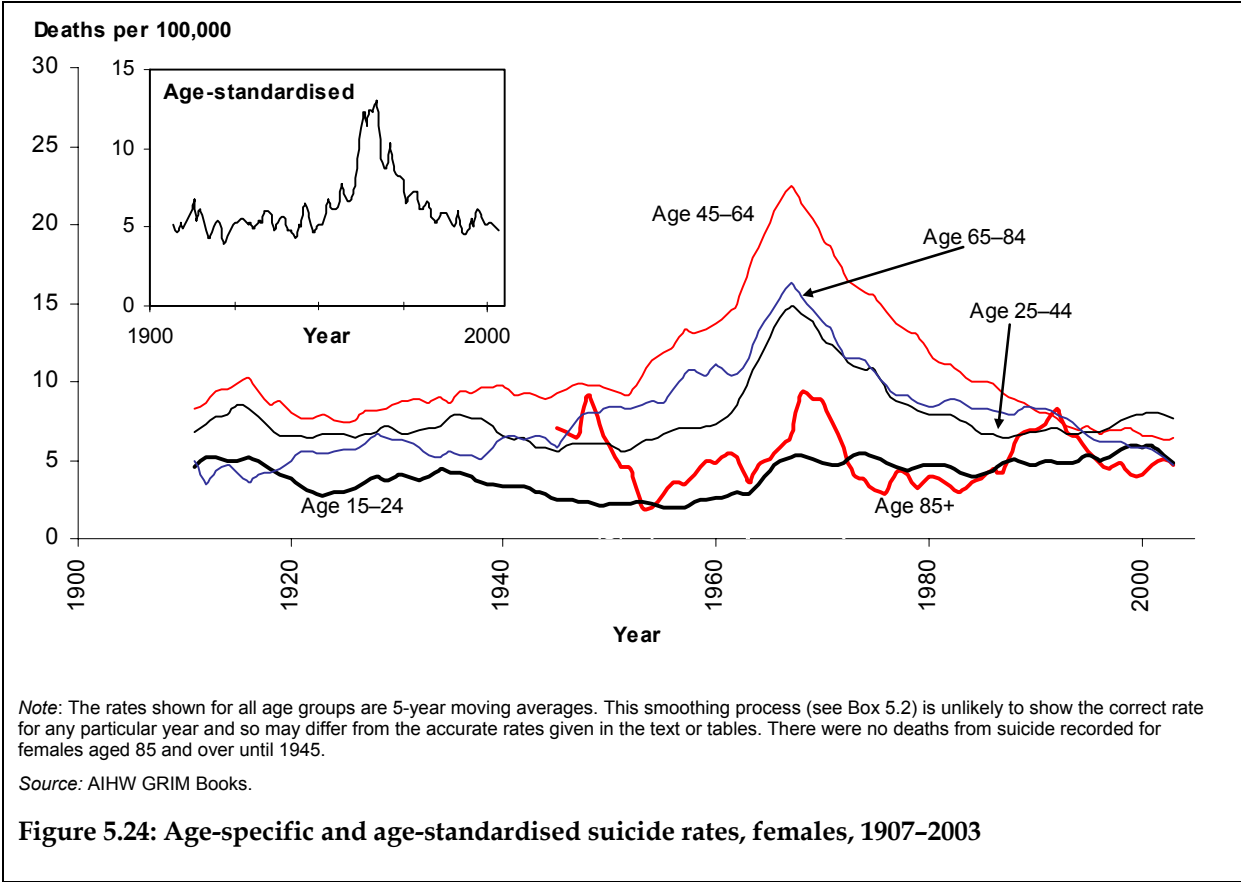
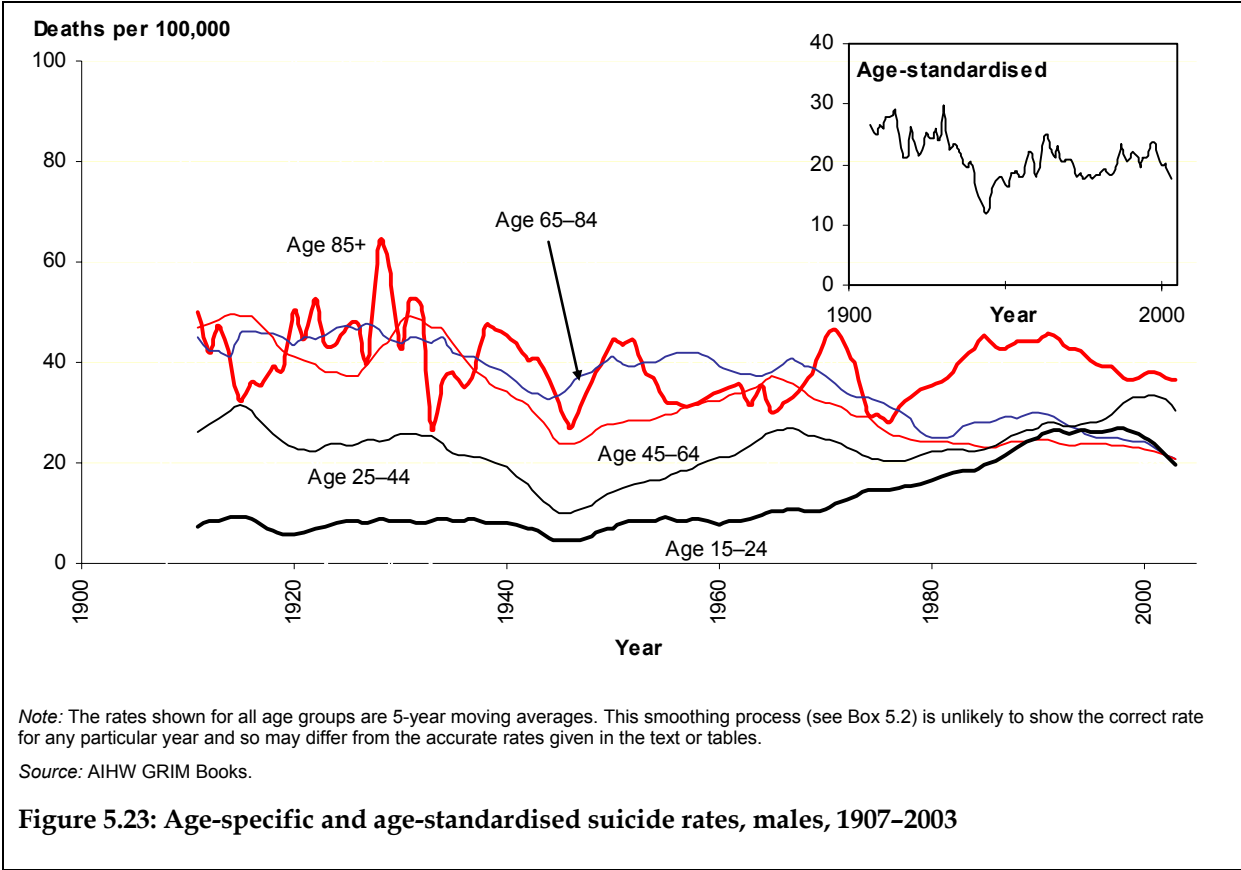
In 1907 the age-standardised suicide rates were 27 and 5 deaths per 100,000 population for males and females respectively (tables B13 and B14). The peak rate for males was 30 deaths per 100,000 in 1930, the lowest was 12 deaths per 100,000 during World War II, and there were around 20 deaths per 100,000 population for the second half of the century.

For females, the suicide rate remained steady for the first half of the century around 5 deaths per 100,000 population. It rose rapidly during the 1960s to a peak of around 13 deaths per 100,000 population during the mid-1960s. By the 1980s the rate had returned to around 5 deaths per 100,000 population, (Figure 5.24). The rise in the female suicide rate has been attributed to the increased availability of barbiturates and the subsequent fall in the rate to related restrictions.

Age-specific death rates

For males, the increase in the suicide rates for those aged 15–24 and 25–44 years became a concern in the latter decades of the century, with marked overall increases over the last 30 years of the century for the former and the last 40 years for the latter. The rate for 15–24-year-old males increased from 6 deaths per 100,000 in 1907 to 27 during the 1990s and was 20 in 2000. The corresponding increase among 25–44-year-old males was from 24 deaths per 100,000 in 1907 to 32 in 2000. Over the century rates for older males aged 45–64, 65–84 and 85 or over declined respectively from 47 to 20, 54 to 20 and 68 to 46 deaths per 100,000 (Figure 5.23; Table B48).

For females, all age groups except the 15–24-year-olds showed the characteristic peak during the 1960s and 1970s. Otherwise, there was no marked pattern across the age groups or within each group over time, although across the century rates were generally highest among those aged 45–64 years and lowest among both the 15–24 and the 85 or over age groups. The changes for the female age groups across the century were small, with the age groups 15–24 years, 25–44, 45–64 and 65–84 changing respectively from 4 to 6, 5 to 8, 8 to 5 and 10 to 6 deaths per 100,000 females, comparing 1907 and 2000. For the 85 or over age group, no female suicides were recorded before 1945. For the latter half of the century the rates for this age group were comparable on average to those aged 15–24 years, but showed more variation (Figure 5.24; Table B49).



SIDS, for age under 1 year

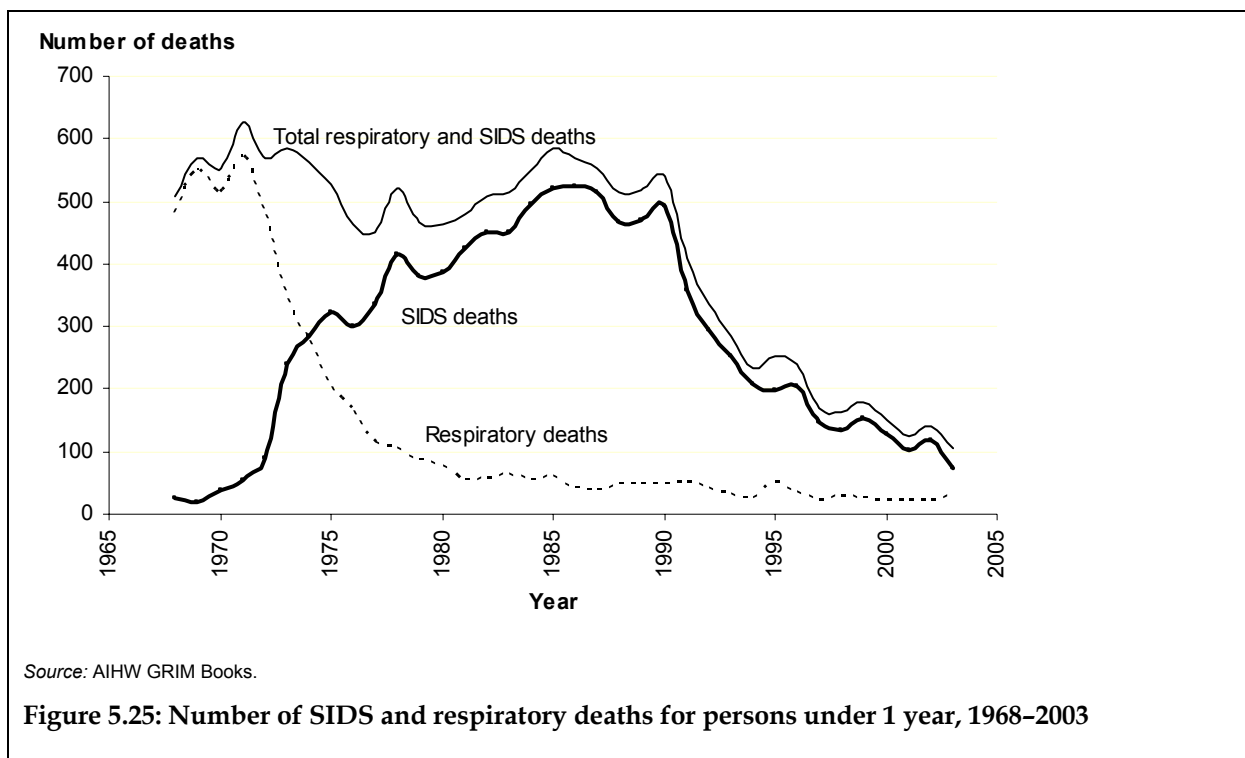
Background

In the change from ICD-7 to ICD-8 in 1968, a newly designated cause called 'sudden infant death syndrome in a crib or cot', which became known as SIDS, was entered in the 'ill-defined and unknown cause of mortality' subchapter of the ICD chapter on 'symptoms, signs, and ill-defined conditions'.

Number of deaths

Because of the low death rates for SIDS, it is more meaningful to refer to numbers of deaths. For persons under one year of age, the number of SIDS death registrations climbed from 26 in 1968 to 88 in 1972, and to 525 deaths in 1986. As shown in Figure 5.25, there was a corresponding decrease in deaths attributed to a range of respiratory diseases among those aged less than 1 year, notably the 'unspecified' types of pneumonias. It is therefore possible that the apparent emergence of SIDS could be due to a change or a refinement of deaths classification (Figure 5.25; Table B50).

Whatever the explanation for SIDS' apparent emergence, the resulting research and public health steps in Australia are credited with major falls in the rates. After their peak in 1986, Australian SIDS deaths fell sharply and numbered 129 in 2000.



HIV/AIDS

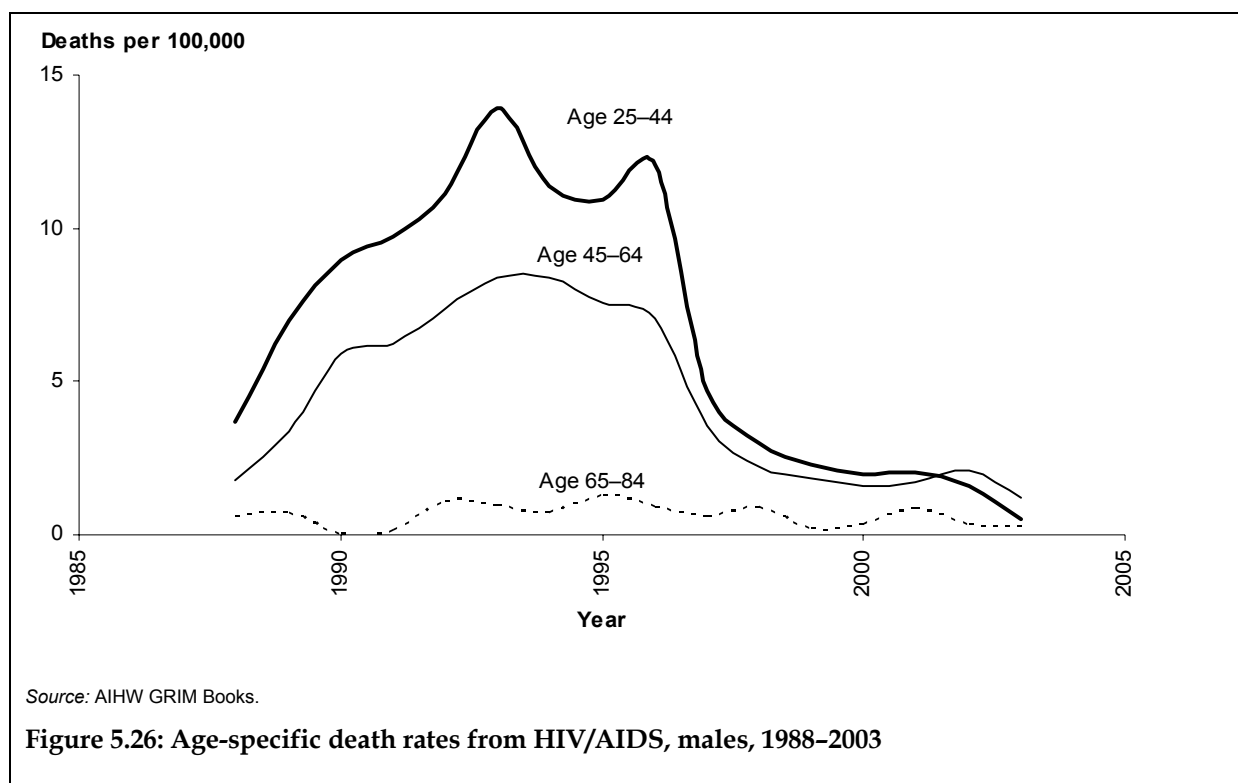
Background

HIV/AIDS is a bloodborne viral disease of the late twentieth century that has become a worldwide threat. It involves the human immunodeficiency virus (HIV) that greatly impairs a person's immunity to a range of infections. This can lead to acquired immune deficiency syndrome (AIDS), a symptomatic stage that usually signifies death within a few years or earlier. In Australia, the vast majority of new HIV diagnoses have been among homosexual males and relatively small numbers have been attributed to injecting drug use or heterosexual contact. Data on HIV/AIDS deaths in Australia were first collected in 1988.

The age-standardised HIV/AIDS death rates for males peaked in 1993 at 6.4 deaths per 100,000. For females, the rate was much lower, peaking at 0.3 in 1995. In 2000, the rate had fallen to 1 death per 100,000 for males and 0.1 for females (Figure 5.26).

Age-specific death rates

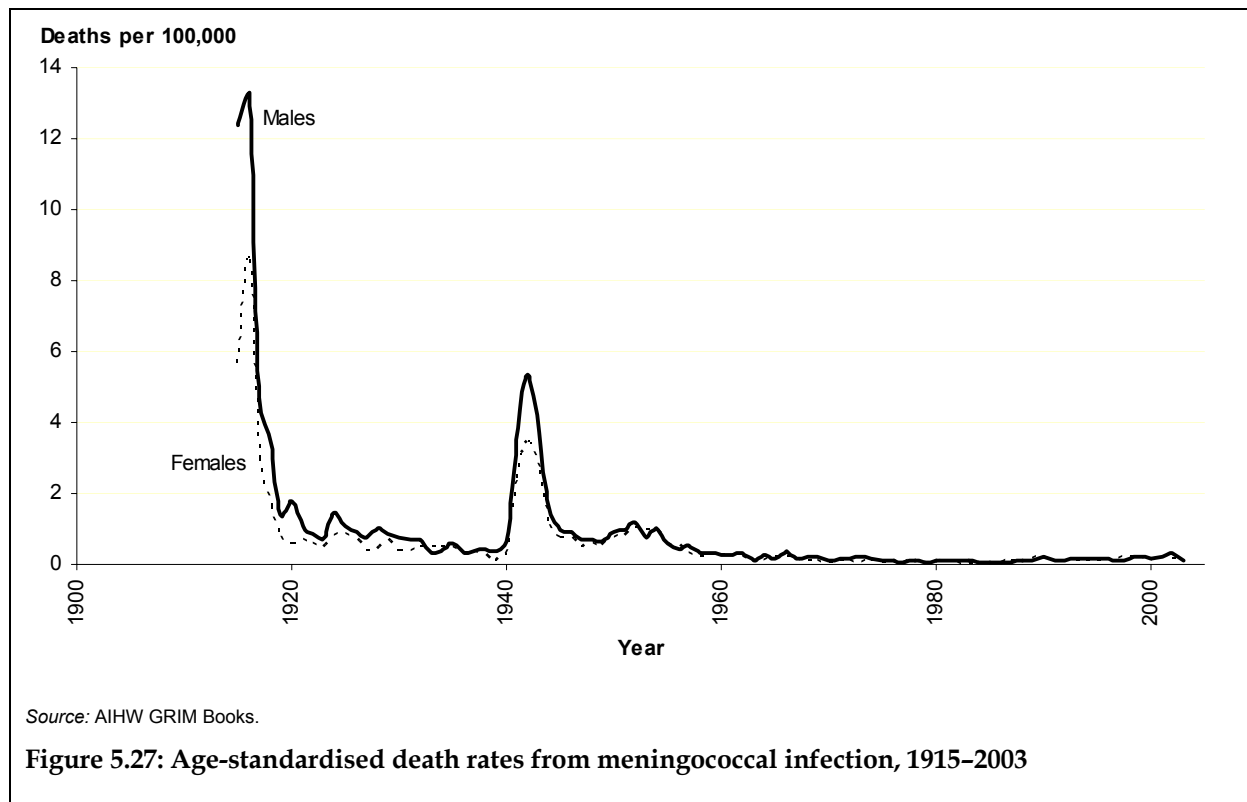
Figure 5.26 reflects the rise and fall of HIV/AIDS deaths in Australia and shows that males aged 25–44 years, followed by those aged 45–64, had the highest rates from the late 1980s to 2000. Rates among males aged 65–84 were low throughout. The death rates for males aged 25–44 peaked in 1993 at 14 deaths per 100,000; for males aged 45–64, the peak was 8.4 deaths per 100,000 for both 1993 and 1994 (Table B52).



Meningococcal infection

Meningococcal infection is an uncommon bacterial infection that can be dramatic and life-threatening at any age, but is especially dangerous in young children and young adults. Deaths from the infection were first recorded in 1915. The number of male and female deaths has been very similar, with a slight excess of male deaths on average (Figure 5.27; Table B53). Despite the low rates, deaths from this condition receive considerable media attention because of the rapidity of onset and the nature and degree of damage caused to the bodies of those affected. Hence the condition is included in this report.

The number of deaths from meningococcal infection is presently small, with rates under 1 death per 100,000, apart from the early century and World War II years. Therefore it is more meaningful to present numbers rather than rates. Deaths due to meningococcal disease in Australia numbered 644 in 1916, fell dramatically during the next three years to 79 deaths in 1919, then continued to fall gradually to less than 50 deaths per year in the 1930s. During the World War II years, deaths again increased to a peak of 256 in 1943 before decreasing gradually throughout the following decades to less than 20 deaths per year in the 1980s. In the 1990s, deaths fluctuated between 20 (in 1992) and 41 (in 1999). In 2000, there were about 700 notified cases of meningococcal infection in Australia, and 29 people died.



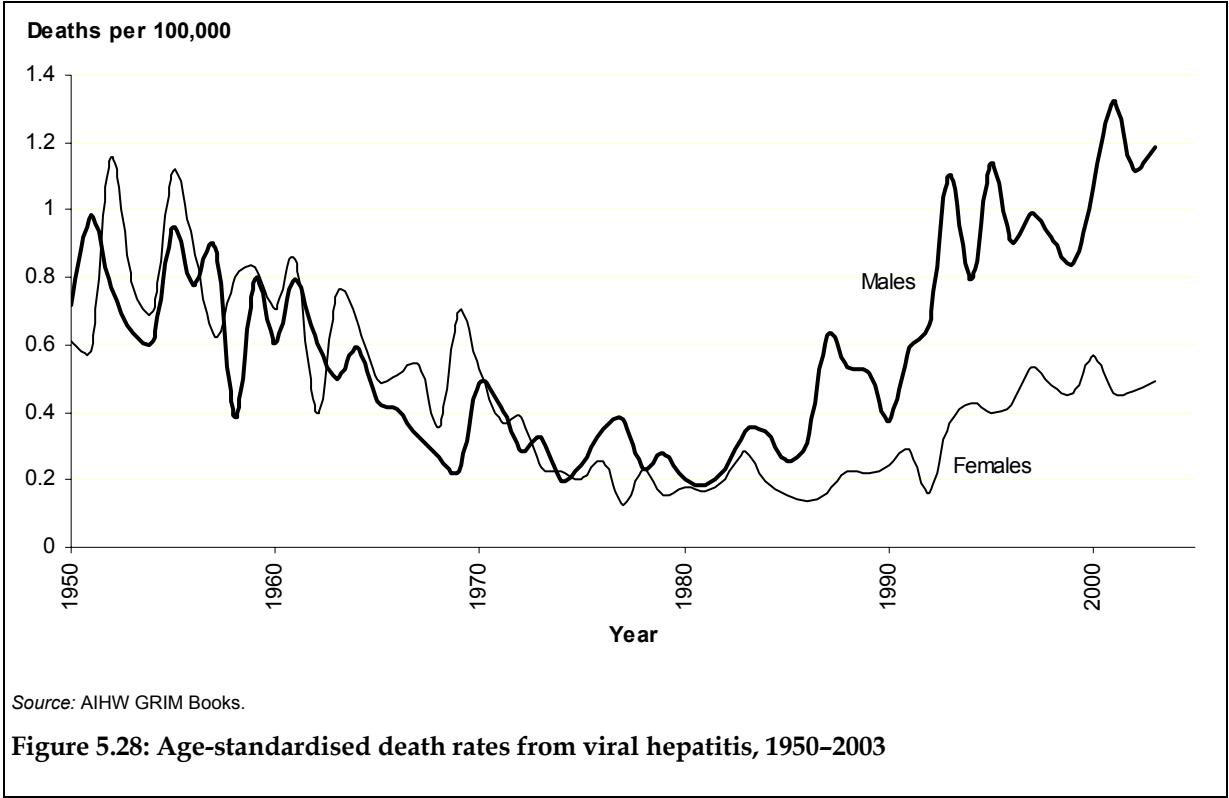
Viral hepatitis

Viral hepatitis is inflammation of the liver caused by viral infections. Several different viruses can cause hepatitis, some being more serious than others in their effects. Deaths from viral hepatitis in Australia were first recorded in 1950, with rates of about 0.7 per 100,000 for both males and females. The rates fluctuated throughout the following decade, between 0.5 and 1 death per 100,000 persons, generally with a small excess of female deaths.

Death rates started to decline in the 1960s and were at their lowest in 1981, at 0.2 deaths per 100,000 for both males and females. From the early 1980s, deaths from viral hepatitis began increasing among both males and females. In 2000, rates for males had risen to 1.1 deaths per 100,000, while for females the rates had increased to 0.6. For males, the rates exceeded their 1950s levels during most of the 1990s, although for females the rates remained significantly below them (Figure 5.28; Table B53).

Again, because of the low rates it is meaningful to also provide numbers. There were 46 deaths from viral hepatitis in 1950, 23 each for males and females. After falling to respective lows of 11 and 8 deaths in the mid-1970s, the numbers increased to 96 and 58 in 2000.

The post-1980 increase can be partly attributed to the increase in injecting drug use, which is higher among males.



Diabetes

Diabetes is currently one of the top 10 causes of death in Australia. It is a chronic condition in which the body either makes none of the hormone insulin, makes too little or cannot use it properly. This raises the blood level of the body's main energy source, the sugar glucose. Diabetes often leads to long-term damage of various parts of the body and contributes to a number of conditions, especially those affecting the heart and blood vessels, and the eyes, kidneys and nerves. Although the condition is not always directly responsible for death or listed as the underlying cause (see Chapter 1), it is often a contributing factor.

Researchers have concluded that the number of people with diabetes has trebled since 1981, estimating that almost 1 million Australians had diabetes in 2000, and that half of these people were unaware of having the condition (AIHW 2002). However, death rates from diabetes between 1980 to 2000 have not reflected this finding, moving from 16 to 20 deaths per 100,000 for males and from 15 to 13 for females (Table B53).

Figure 5.29 suggests a modest rise in male diabetes death rates over the century, on average, but a marked general fall in the female rates since they peaked in the early 1940s after an initial steady rise. In addition, female rates clearly exceeded those of males until the late 1960s, after which the reverse was true (Table B53).

Despite these suggested time trends it is important to note that medical concepts of diabetes have probably changed over time and this may have been reflected in what has been entered on death certificates. For example, there appear to have been sudden changes in the rate of diabetes with the transition to new ICD versions in 1930, 1950 and 1968. Analysis by the AIHW on the change to ICD-10 also found that there was some discontinuity in the latter years of the century (AIHW: Phillips 2003).

Therefore, the rates presented here and any resulting interpretations should be treated with some caution. Any changes, however, should not have affected the comparison between the male and female rates at any one time, so the change from a female to male predominance is probably real.

