

Chapter 1

Overview

Injury is the principal cause of death in people under 45 years of age, a leading cause of mortality, morbidity and permanent disability in Australia, and a major source of health care costs. Injuries cause a range of physical, cognitive and psychological disabilities that seriously affect the quality of life of injured people and their families. However, injury is preventable and there are significant opportunities for reducing the burden of injury by implementing effective prevention strategies.

1.1 Injury profile

Extent of the problem

Injury is a significant source of persisting disability in the community. According to a 1993 survey, approximately 15 per cent of people with a disability in Australia attribute their disabling condition to an injury or accident (ABS 1996).

Deaths

Injury and poisoning resulted in more than 7,000 deaths in 1996. They are the fourth leading causes of death, accounting for 6 per cent of all deaths in the general population, 47 per cent of deaths in the young (aged 1–44 years) and 70 per cent of deaths in young males (aged 15–29 years).

In 1994, deaths attributed to unintentional injury accounted for 14.7 per cent of all years of potential life lost (YPLL) before the age of 75 years, while suicide accounted for another 8.6 per cent of YPLL. Injury has most impact on the young, resulting in an average 32 YPLL before age 75 compared with nine YPLL for cancer and five YPLL for ischaemic heart disease.

Hospitalisations

Injury and poisoning accounted for approximately 377,955 hospital inpatient episodes in 1995–96 (excluding those due to medical and surgical misadventure), which represents 7.5 per cent of all hospital episodes. This is higher than the hospitalisation rate for any of the other NHPAs in 1995–96 except cardiovascular health, which accounted for 8 per cent of all hospital episodes. Moreover, 11 per cent of all inpatient episodes for children and young adults (aged 1–44 years) were due to injury. However, the average length of stay for injury-related hospitalisations was lower than that for other NHPAs, with more than one-quarter of all injury hospitalisations being for less than one day (AIHW & DHFS 1997).

Other injuries

The annual incidence of injury is unknown. Many injuries do not result in death or hospitalisation, and such statistics reflect only a small proportion of the number of

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injuries occurring each year. For every person admitted to hospital, several people attend emergency departments and several others visit a general practitioner. In addition, a substantial percentage of injured people seek attention from a non-medical health professional only, or do not consult a health professional at all.

Major causes of injury

Suicide and transport-related accidents are the primary causes of injury mortality, accounting for 32 per cent and 29 per cent of all injury deaths respectively in 1996. Other major causes of injury deaths include falls, poisoning, homicide, and fire, burns and scalds (see Figure 1.1).

Figure 1.1 Deaths due to injury and poisoning by external cause, Australia 1996

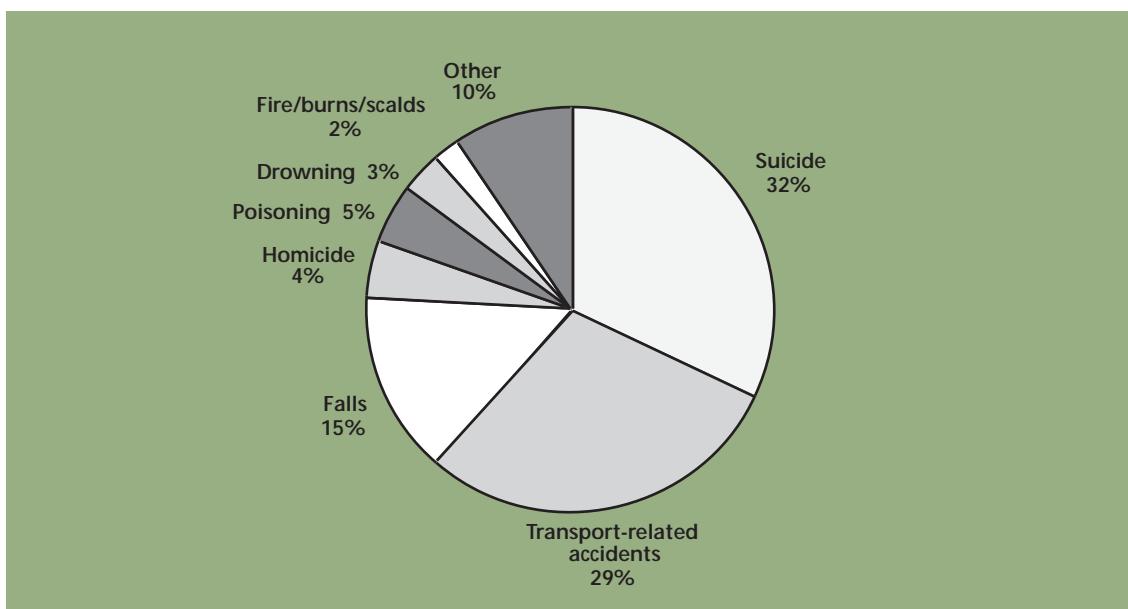
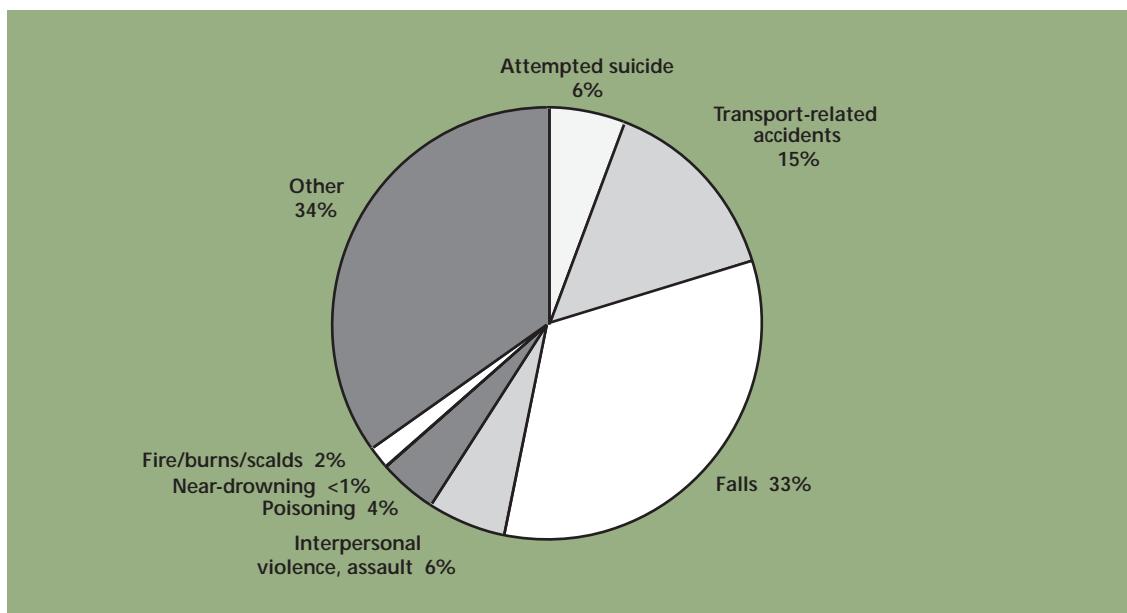


Figure 1.2 Hospital separations due to injury and poisoning by external cause, Australia 1995–96



The major external causes of injury leading to hospitalisation are falls (33 per cent) and transport-related accidents (15 per cent). Other major causes include intentional self harm, interpersonal violence, poisoning (particularly from pharmaceuticals), and fire, burns and scalds (see Figure 1.2).

The pattern of injury varies significantly with age. Near-drowning and drowning are major causes of injury and death in early childhood (a stage at which a child is unable to swim and unable to recognise the danger of water). Self harm and road crashes are primary causes of injury in young adulthood. Falls are the most common cause of injury death among the elderly. Even apparently minor falls can be fatal, due to a high susceptibility to trauma among the elderly.

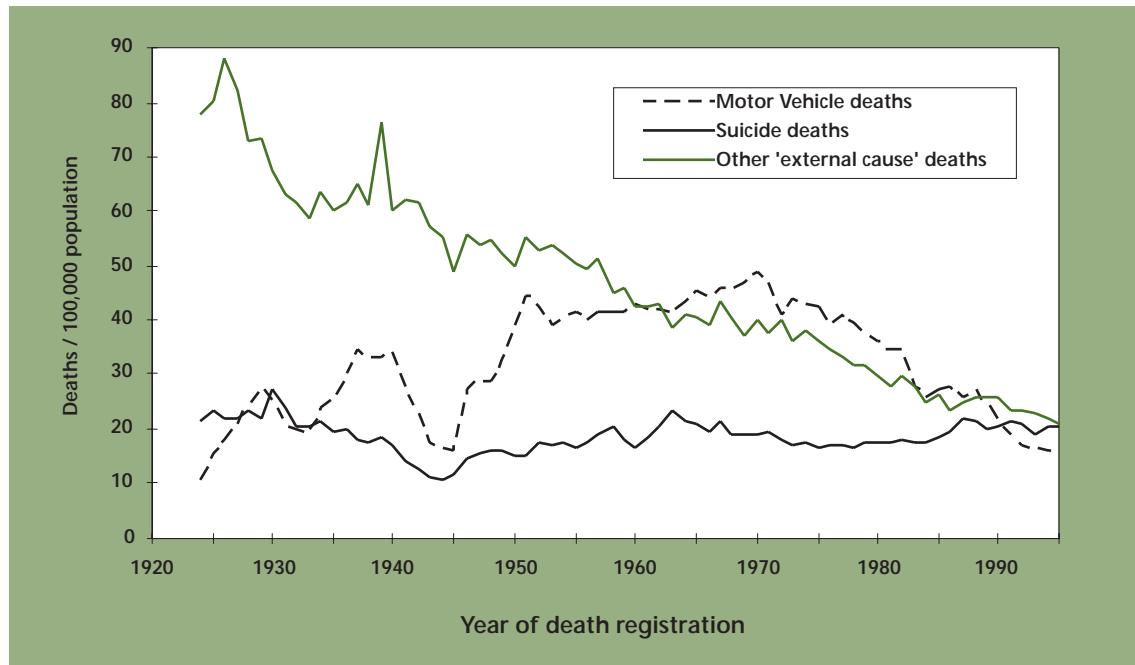
Long-term trends in injury mortality

There has been a significant decline in the injury mortality rate over the past 25 years. However, since similar declines have occurred for other conditions, injury has continued to account for approximately 5–6 per cent of all deaths.

Figures 1.3a and 1.3b show injury death rates in Australia since 1924 for three major categories of injury: *motor vehicle deaths*, *suicides* and *all other deaths attributed to an external cause*.

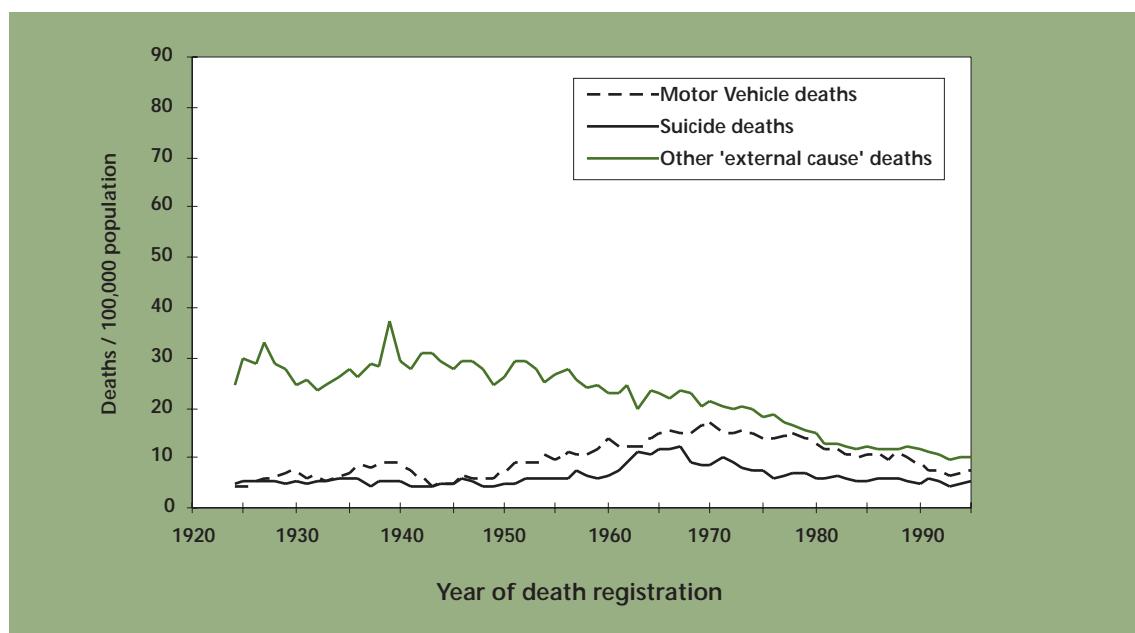
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Figure 1.3a Injury mortality in Australia 1924–95 by external cause — males



Note: Rates are adjusted to the Australian population in 1988.

Figure 1.3b Injury mortality in Australia 1924–95 by external cause — females



Note: Rates are adjusted to the Australian population in 1988.

After rising in the early part of the century, the road injury death rate declined rapidly after 1970. This can be attributed to vigorous road safety initiatives including the introduction of compulsory seatbelts, electronic speed measuring, breath testing, speed and red light cameras, higher penalties and educational programs. The Federal Office of Road Safety (FORS) is responsible for the Australian Design Rules program, which has led to safer vehicles (more controllable and more protective in a crash), and the Commonwealth 'Black Spot' funding programs, aimed at creating safer roads.

By contrast, suicide rates in the general population in Australia showed less variation over this period. The male suicide rate fluctuated around 20 per 100,000 population, being highest during the late 1920s, the late 1960s, and since the late 1980s. The female suicide rate remained at approximately 5 per 100,000 population, except for an increase during the 1960s. The increase in male and female rates during the 1960s is largely attributed to poisoning by barbiturates. Social factors may have contributed to an apparent decline in suicide during World War II.

There has been a long-term, steep decline in deaths from 'other causes', for reasons that are complex and not fully understood. The decline began in the 1920s for males and in the 1950s for females. A long-term decline in mortality due to drowning appears to account for approximately one-fifth of the improvement in males. Contributing factors may be an increase in the proportion of people able to swim and changes in patterns of exposure to water.

Limitations in the available data prevent assessment of other factors underlying the decline in mortality rate from the 'other causes' category. However, mechanisation and the rise of the service economy may have reduced the proportion of people (mainly men) engaged in occupations placing them at special risk of fatal injury. Specific injury prevention efforts are likely to be responsible for some improvements, such as the virtual disappearance of deaths due to flammable children's nightwear. The rate of decline in female deaths due to 'other causes' has slowed in recent years. The long-term downward trend for males continued into the 1990s, but the rate of improvement is likely to slow unless remaining injury issues are addressed.

Cost of injury

Injuries are a significant source of health care costs, accounting for 8 per cent of the total direct costs of all diseases. In 1993–1994 alone, direct medical costs attributable to injury and poisoning were estimated to be \$2,607 million, compared with a total direct cost for cancer of \$1,361 million (Mathers et al 1997).

A significant proportion of the direct health costs of injury are associated with road transport-related accidents. Fire and fire-related injury costs are also high, as are costs attributable to fall-related injuries, particularly among older Australians.

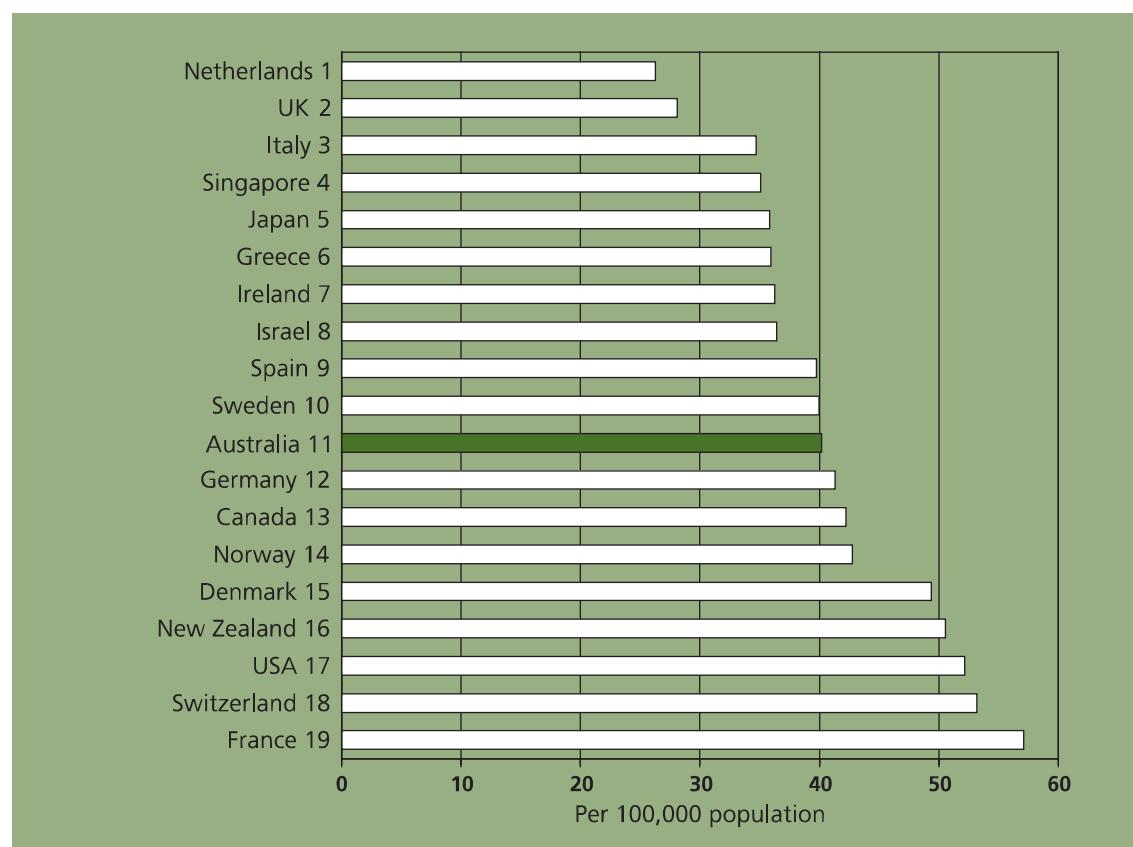
At-risk groups

Overall injury rates mask substantial differences within the Australian population. For nearly all categories of injury, death and hospitalisation rates for males, particularly young adult males, are higher than those for females. Indigenous peoples experience injury mortality rates several times higher than the overall rates (Anderson, Bhatia & Cunningham 1996). People who reside in remote areas and, to a lesser degree, in rural areas, have higher injury hospitalisation and death rates than do urban residents (Titulaer, Trickett & Bhatia 1997). For example, injury hospitalisation rates for remote residents are double those for people living in metropolitan regions. Finally, the total injury mortality rate is highest in early adult years and in old age.

Comparison with other OECD countries

International comparisons are made difficult by differences in the way injury-related deaths are recorded. Australia ranks in the middle of other OECD countries in terms of total deaths resulting from injury and poisoning (see Figure 1.4). Over the five-year period 1988–92, Australia ranked eleventh among a total of 19 developed countries. In addition, despite having had one of the highest road fatality rates, whether measured per person, per vehicle or per kilometre travelled, Australia now ranks in the middle of the OECD countries for fatal road accidents.

Figure 1.4 Age-standardised death rates for injury and poisoning in OECD countries, 1988–92



Note: Rates adjusted to the World Standard Population.

Source: AIHW.

The age-adjusted death rate for injury in Australia during 1988–92 was 40.8 per 100,000 persons, which compares favourably with those of a number of countries (eg 57.1 deaths per 100,000 persons in France). However, in view of the injury death rate in countries such as the Netherlands (26.3 per 100,000 persons), there is potential for further lowering the injury mortality rate in Australia.

National statistics on injury hospitalisations in Australia cannot be used to give an indication of trends over time due to technical factors such as changing hospital coverage, possible changes in hospital admission practices, and uncertainty about the quality of external cause coding. These issues are discussed in Appendix 2.

Injury as a national health priority

Although initiatives in road safety were well established in the 1970s, it was not until 1986 that injury was recognised as a national priority for the health sector (Better Health Commission 1986). Subsequently, the report *Goals and Targets for Australia's Health in the Year 2000* confirmed the importance of injury prevention (Nutbeam et al 1993). In 1994, the *Better Health Outcomes for Australians* report further clarified and developed specific goals, targets and strategies for injury control and prevention (DHS 1994). The NHPA process continues to assess the impact of injury on the Australian community and monitor progress towards the set targets.

Injury and the role of the health sector

Effective reduction of the burden of injury on Australian society requires a partnership between all relevant sectors, based on firm policy decisions at appropriate levels of government. The health sector bears many of the direct and indirect costs of injury, although other sectors may have responsibility for implementing the necessary preventive strategies. However, health outcomes in general, and injury prevention in particular, are not the core business of non-health sectors, and consequently they may not identify injury prevention as a priority. The health sector should focus on communicating the importance of injury prevention to other sectors and must establish efficient mechanisms for developing intersectoral prevention strategies.

Broadly, the health sector has five roles to play in injury prevention and control:

- planning and implementing prevention strategies for those aspects of injury that are the direct responsibility of the health sector;
- treating and caring for injured persons and providing rehabilitation services aimed at achieving optimal functioning;
- identifying priority injury issues through injury control research, especially through the collection and analysis of data obtained from hospitals and health practitioners and by working with relevant sectors to develop effective prevention strategies (eg sports and consumer product safety);
- supplementing the injury prevention initiatives of well-established sectors through the provision of information and complementary prevention initiatives (eg road safety, workplace safety); and
- developing intersectoral cooperation on injury issues including cooperative strategies aimed at specific risk groups across a number of injury types, multidisciplinary training, and the development of information systems and evaluation strategies for injury prevention.

