

Executive Summary

Injury is an internationally recognised public health problem across all age groups. In 2002, injury was the fourth leading cause of death in New South Wales (NSW) and the leading cause of death for all people aged one to four years and 10–44 years. Approximately 2500 people died each year in NSW as the result of an injury from 1986 to 2002.

This report presents a detailed profile of injury mortality in NSW using currently available data from the Australian Bureau of Statistics for 1986 to 2002. Injury mortality was defined in terms of the underlying cause of death. Cases were included where the underlying cause of death was determined to be an external cause of injury (injury mechanism or Ecode) and the state of residence of the deceased person was NSW.

Data from 1986 to 2002 were used to produce trends in annual death rates over time for the 15 most common injury death mechanisms. Data during 1998–2002 were grouped for each mechanism and used to calculate injury death rates for all people, males and females, as well as age-specific injury death rates and frequencies for all people. Injury death rates and frequencies for all people, males and females, were also calculated for injury mechanism subcategories (e.g. the different methods of suicide).

This report presents the detailed profiles of the 15 leading causes of injury death during 1998–2002. These 15 injury mechanisms account for 86% of all injury deaths. The top four of these 15 injury mechanisms accounted for 70% of all injury deaths occurring during 1998–2002 (in descending order):

- suicide
- motor vehicle transport
- poisoning
- falls.

Analysis of all injury death rates from 1986 to 2002 in NSW showed a statistically significant decline overall. A statistically significant decline was also found in nine of the 15 injury mechanisms profiled. These injury mechanisms were: motor vehicle transport, interpersonal violence, drowning, fire/burns, rail transport, natural/environmental factors, air transport, machinery and firearms. There was a statistically significant increase in poisoning deaths during 1986 to 2002. There was no significant trend in the remaining five injury mechanisms between 1986 and 2002.

Comparison of the age-specific death rates for all injuries between 1998 and 2002 showed that people aged 70+ years had the highest death rates for all injuries. Within each of the 15 injury mechanisms

profiled, particular age groups had higher rates of death. Comparison of the age-specific rates showed that, as people age, their risk for different types of injury death changes:

- In children under the age of one year, suffocation was the leading cause of death.
- In children aged one to four years, drowning was the leading cause of injury death followed very closely by motor vehicle transport.
- In people aged five to 24 years, motor vehicle transport was the leading cause of death.
- In people aged 25–74 years, the leading cause of injury death was suicide.
- In people aged 75–79 years, two injury mechanisms (motor vehicle transport and falls) were the leading causes of death.
- In people aged 80+ years, falls were the leading cause of death.

An analysis of the number of deaths by age group showed that people aged 70+ years accounted for just over 27% of all injury deaths. The age group with the second highest of all injury death rates was people aged 20–44 years. This age group accounted for almost 41% of all injury deaths from 1998–2002.

Males accounted for 70% of all injury deaths between 1998 and 2002. Death rates for males exceeded those in females for all injury mechanisms reported. A comparison of male and female mortality rates for each of the 15 injury mechanisms profiled showed that males were at least three times more likely than females to die from the following injury causes:

- struck by or against another object or person (unintentional)
- rail transport
- air transport
- suicide
- drowning.

The statements below summarise the key findings from the analysis of all injuries and individual injury mechanisms. Death data from 1986 to 2002 were used to describe the demographic profile of injury mortality in NSW. Death data during 1998–2002 were used for the majority of the analyses, but trend analyses used death data from 1986 to 2002. One or more words in some key points are italicised. These italicised words correspond to specific subcategories of the injury mechanisms (e.g. the different methods of suicide).

All injury

- In 2002, injury and poisonings were the fourth leading cause of death in NSW overall.
- In 2002, injury and poisonings were the leading cause of death among people aged 1–4 years and 10–44 years.

- There was a statistically significant decline in injury death rates from 1986 to 2002.
- People aged 70+ years had the highest age-specific injury death rate in NSW from 1986 and 2002.
- Males accounted for 70% of all injury deaths in NSW between 1998 and 2002.
- Death rates for males were significantly higher than those for females for all major injury mechanisms, except for complications of care.

Suicide

- Suicide was the leading cause of injury mortality in NSW during 1998–2002, accounting for 30% of all injury deaths.
- There was no statistically significant trend in suicide death rates over 1986 to 2002.
- People aged 30–39 and 85+ years had the highest and second highest rates of death due to suicide respectively.
- Males accounted for 80% of all suicide deaths.
- *Hanging, strangulation or suffocation* was the leading suicide method for persons aged 10–44 years and 65+ years, while *poisoning* ranked highest for persons aged 45–64 years followed by *hanging, strangulation or suffocation*.

Motor vehicle transport

- There was a statistically significant decline in motor vehicle transport death rates from 1986 to 2002.
- People aged 15–24 and 80+ years had the highest rates of death due to motor vehicle transport in NSW during 1998–2002.
- Males accounted for 72% of all motor vehicle transport deaths in NSW during 1998–2002.
- *Motor vehicle occupant in traffic* was the leading road-user class for all motor vehicle transport deaths, except in children aged 5–9 years. Children aged 5–9 years died most often as *pedestrian traffic*.

Poisoning

- There was a statistically significant increase in poisoning death rates from 1986 to 2002.
- People aged 25–44 years had the highest rates of death due to poisoning in NSW during 1998–2002.
- Males accounted for 73% of all poisoning deaths in NSW during 1998–2002.

- Narcotics and hallucinogens caused the highest number of poisoning deaths in people aged 15–44 years. Other pharmaceuticals caused the highest number of poisoning deaths in people aged 45+ years.

Falls

- There was no statistically significant trend in falls death rates from 1986 to 2002.
- People 70+ years had the highest rates of death due to falls in NSW during 1998–2002.
- Males accounted for 59% of all falls deaths in NSW during 1998–2002.
- Fall *from a building or other structure* was the leading cause of falls death for children aged one to nine years and people aged 35–44 years. For people aged 10–34 years, fall *from one level to another* was the leading cause of falls death. Fall on the *same level* was the leading cause of falls death for children aged one to nine years and people aged 35–44 years. For people aged 55 and older, *other and unspecified* falls were the leading cause of falls death.

Interpersonal violence

- There was a statistically significant declining trend in interpersonal violence death rates from 1986 to 2002.
- People aged 30–34 years had the highest rate of death due to interpersonal violence in NSW during 1998–2002. Children under age five years also had high interpersonal violence rates.
- Males accounted for 70% of all interpersonal violence deaths in NSW during 1998–2002.
- *Sharp or blunt object* (used to hit, cut or stab another person causing bleeding or other type of injury) was the leading method used in interpersonal violence deaths in people aged 10+ years, with the exception of people aged 15–24 years. The majority of deaths in this age group were caused by *firearms*. Children under age one year died most often as the result of interpersonal violence by being *struck by/struck against* (another person or object) and children aged one to nine years died most often as a result of *hanging, strangulation or suffocation*.

Drowning

- There was a statistically significant decline in drowning death rates from 1986 to 2002.
- Children under age five years and people aged 75–79 years had the highest rates of death due to drowning in NSW during 1998–2002.
- Males accounted for 78% of all drowning deaths in NSW during 1998–2002.
- *Bathtubs* were the location where the majority of drowning deaths occurred in children under age one year. *Swimming pools* were the location where the majority of drowning deaths occurred in children aged one to four years. For people over age five years, *natural water* was the location where the majority of drowning deaths occurred.

Suffocation

- There was no statistically significant trend in suffocation death rates from 1986 to 2002, though there was a suggestion of a rise since 1995.
- People aged 75+ years had the highest rates of death due to suffocation. An elevated rate was also seen in children under age five years.
- Males accounted for 64% of all suffocation deaths in NSW during 1998–2002.
- *Other and unspecified causes* were responsible for the majority of suffocations in people aged one to 54 years. Children aged under one year died of suffocation caused in bed most often (due to linens, pillows, co-sleeping) and people aged 55+ years died most often due to suffocation caused by food.

Fire/burns

- There was a statistically significant decline in fire/burn death rates from 1986 to 2002.
- People aged 70+ years had the highest rates of death due to fire/burns.
- Males accounted for 57% of all fire/burn deaths in NSW during 1998–2002.
- *Fires in private dwellings and other buildings* were the leading cause of fire/burns deaths across all age groups. People aged 65+ years experienced the majority of burn-related deaths compared to all other age groups.

Complications of care

- There was no statistically significant trend in complications of care death rates from 1986 to 2002, though there was a suggestion of a rise since 2000.
- People aged 65+ years had the highest rates of death due to complications of care.
- Males accounted for 49% of all complications of care deaths in NSW during 1998–2002.
- *Misadventures to patients during surgical and medical care* resulted in all complications of care deaths in children under age one year. For people aged 15+ years, procedures causing abnormal reaction or complication of care after procedure resulted in the majority of complications of care deaths.

Struck by/struck against

- There was no statistically significant trend in struck by/struck against death rates from 1986 to 2002.
- People aged 85+ years had the highest rates of death due to struck by/struck against, but accounted for only 2% of all struck by/struck against deaths. Other high death rates for struck by/struck against were seen in children under age five years and people aged 45–54 years.

- Males accounted for 89% of all struck by/struck against deaths in NSW during 1998–2002.
- Struck by/struck against a person or object was the leading cause of struck by/struck against deaths in all age groups.

Rail transport

- There was a statistically significant declining trend in rail transport death rates from 1986 to 2002.
- People aged 15–19 years and people aged 25–29 years had the highest rates of death due to rail transport.
- Males accounted for 84% of all rail transport deaths in NSW during 1998–2002.
- People aged 15–64 years died most often in rail transport incidents as pedestrians.

Natural and environmental factors

- There was a statistically significant decline in natural/environmental factors death rates from 1986 to 2002.
- People aged 80+ years had the highest rates of death due to natural/environmental factors.
- Males accounted for 66% of all natural/environmental factors deaths in NSW during 1998–2002.
- *Excess temperatures* were the leading cause of natural/environmental factors death in children aged one to four years, people aged 25–54 years and people aged 65+ years. *Other and unspecified causes* were responsible for the majority of natural/environmental factors deaths in people aged 54–64 years. *Natural events* were the leading cause of natural/environmental factors death in people aged five to 24 years, but accounted for only a small number of deaths.

Air transport

- There was a statistically significant decline in air transport death rates from 1986 to 2002.
- People 60–69 years had the highest rates of death due to air transport in NSW during 1998–2002.
- Males accounted for 82% of all air transport deaths in NSW during 1998–2002.
- *Other and unspecified aircraft types* were the leading cause of air transport deaths in people aged 10–24 years, people aged 35–44 years and people aged 55+ years. For people aged 25–34 years and people aged 45–54 years, *powered aircraft* was the leading cause of air transport death.

Machinery

- There was a statistically significant decline in machinery death rates from 1986 to 2002.
- People aged 50–54 years had the highest rate of death due to machinery in NSW during 1998–2002.
- Males accounted for all machinery deaths in NSW during 1998–2002.
- *Other and unspecified machinery* was the leading cause of machinery death in all people aged 15+ years, with the exception of people aged 25–34 years. *Agricultural machinery* was the leading cause of machinery death for people in this group.

Firearm

- Overall, there was a statistically significant decline in death rates from firearms from 1986 to 2002. However, when restricted to the period 1993 to 2002, there was a significant increase in death rates from firearms.
- People aged 60–64 years had the highest rate of death due to firearms and accounted for 11% of all firearms deaths. Other high death rates from firearms were seen in people aged 25–29 years and people aged 50–54 years.
- Males accounted for 91% of all firearms deaths in NSW during 1998–2002.
- *Other and unspecified firearm* use was the leading cause of firearms death in people age 15+ years. *Larger firearm* use was the only cause of firearms death in children aged 5–9 years.

