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Australian Institute of Health and Welfare

Trends in injury deaths, Australia

1999-00 to 2009-10



INJURY RESEARCH AND STATISTICS SERIES NO. 74



Authoritative information and statistics to promote better health and wellbeing

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Australian Institute of Health and Welfare Canberra Cat. no. INJCAT 150

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Abbreviations

ABS	Australian Bureau of Statistics
AIC	Australian Institute of Criminology
AIHW	Australian Institute of Health and Welfare
ARIA	Accessibility/Remoteness Index of Australia
ASGC	Australian Standard Geographical Classification
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CODURF	Cause of Death Unit Record File
ERP	estimated resident population
ICD	International classification of diseases
ICD-10	International classification of diseases and related health problems, 10th revision
MCoD	multiple cause of death
NCIS	National Coronial Information System
nec	not elsewhere classified
RLSS	Royal Life Saving Society
SLA	Statistical Local Area
UCoD	underlying cause of death

Symbols

п	number
n.a.	not applicable
n.p.	not publishable because of small numbers, confidentiality or other concerns about the quality of the data
>	greater than
≥	greater than of equal to
≤	less than of equal to

Summary

This report describes trends in the occurrence of injury deaths in Australia from 1 July 1999 to 30 June 2010 and provides a summary of injury deaths in 2009–10. The information is based on all causes of death recorded on death certificates – that is, the underlying cause of death and any other causes.

Injury deaths in 2009–10

Injury was recorded as a cause of 10,668 deaths in 2009–10 in Australia, corresponding to a crude rate of 49 deaths per 100,000 population. Rates were 61 (males) and 37 (females) per 100,000).

Rates were highest in the oldest age groups: 177 (males) and 164 (females) per 100,000 aged 65 and older. Rates for males were much higher than for females except in the oldest and youngest groups. At 15–24 years, the rates were 41 (males) and 13 (females) per 100,000.

The age-standardised injury death rate for residents of the Northern Territory – 93 deaths per 100,000 population – was about twice the national rate. The age-standardised injury death rate tended to increase with increasing remoteness of place of residence. The rate for residents of *Remote* areas (75 deaths per 100,000 population) was 1.8 times the rate for residents of the *Major cities* (41 per 100,000 population).

The 2 main causes of injury deaths in 2009–10 were unintentional falls (33%; 3,480 deaths) and suicide (21%, 2,247 deaths). More than 93% (3,251) of fall injury deaths occurred at ages 65 and older. There were more than 3 times as many male suicides (1,710) as female suicides (537).

Trends in injury deaths

The age-standardised rate of injury deaths decreased by an average of 3% per year, from 55 to 47 deaths per 100,000 between 1999–00 and 2004–05, and changed little after that. The number of injury deaths varied, but was close to around 10,000 per year during this period.

Rates of injury deaths involving most external causes tended to decline from 1999–00 to 2007–08, by 4.1% per year for transport injury, 3.2% for thermal injury, 2.7% for suicide and 5.2% for homicide. Drowning rates declined by an average of 5.5% per year to 2007–08 then rose. Rates of poisoning deaths involving pharmaceuticals fell sharply to 2001–02, then rose by 2.2% per year to 2007–08. Rates of fall injury deaths did not show a marked trend.

Analysis of changes in rates over time was complicated, especially for some external causes of injury, due to changes in the way that causes have been recorded and classified over recent years. An accompanying technical report describes the changes in detail.

Trends in injury deaths among Indigenous people

Age-standardised injury death rates for Aboriginal and Torres Strait Islander people fluctuated but tended to decline over the period from 1999–00 to 2009–10. Rates for Aboriginal and Torres Strait Islander people were 2 to 3 times as high as rates for Other Australians over this period.

1 Introduction

This report presents trends in the number of injury-related deaths in Australia from 1 July 1999 to 30 June 2010, in terms of year of death. It also provides a summary of injury mortality in 2009–10. A report presenting data in a similar way on hospitalised injury has been published (AIHW 2013).

Most injuries occur in settings such as car crashes, interpersonal violence, sporting and recreational activities, and work. Injury deaths that occurred in these types of community settings are the focus of this report.

Injury is a National Health Priority Area. Injury is also the subject of three national prevention plans – the National Injury Prevention and Safety Promotion Plan: 2004–2014 (NPHP 2005b), National Falls Prevention for Older People Plan: 2004 Onwards (NPHP 2004) and the National Aboriginal and Torres Strait Islander Safety Promotion Strategy (NPHP 2005a).

1.1 Structure of this report

The topics addressed in the report are:

- an overview of injury deaths in 2009–10
- trends in injury deaths and death rates, overall and for the deaths involving major external causes of injury.

Chapter 2 presents the overview of injury deaths in Australia, including time series information.

Chapters 3 to 11 present analyses for each major external cause of injury-related deaths.

Appendix A provides summary information on the Australian Bureau of Statistics (ABS) mortality data collection and on other data sources used in the report, and includes notes on the presentation of data, the population estimates used to calculate population rates, and analysis methods. A companion technical report provides additional information on data sources, validity and methods (focusing on aspects particular to the period covered by this report) and the effects of changes made to the recording and classification of cause of death information (AIHW 2015).

Appendix B provides tables of counts of deaths and rates that are presented in figures in the body of the report.

Appendix C presents additional summary statistics for transport-related deaths in 2009–10 that involved motor vehicle traffic.

1.2 Chapter structure

In this report, chapters are structured to address a common set of questions, which include:

- What data were reported?
- How many injury deaths were there in 2009–10?
- How have injury deaths changed over time?
- How have injury deaths varied by age and sex?

- How have injury deaths varied by jurisdiction and remoteness of usual residence?
- How have injury deaths of Aboriginal and Torres Strait Islander people changed over time?

Generally, summary tables and figures are placed immediately below the related commentary. Tables and figures in the chapter are accompanied by footnotes referring readers to statistical tables at Appendix B.

1.3 Methods

What data were reported?

The main source for the injury deaths data reported here is the series of ABS Cause of Death unit record files (CODURFs) for ABS reference years 1999 to 2010. CODURF data are provided to the Australian Institute of Health and Welfare (AIHW) by the Registries of Births, Deaths and Marriages and the National Coronial Information System (NCIS) and coded by the ABS. The data are maintained by the AIHW in its National Mortality Database. Underlying cause of death (UCoD) and multiple cause of death (MCoD) information for deaths reported here were coded by the ABS according to the *International statistical classification of diseases and related health problems, 10th revision* (ICD–10). Other data sources were used to obtain supplementary information for some external causes of injury death. These are specified where they are used.

How were data presented?

Data are reported according to the year in which each death occurred. This date is more directly relevant to the subject of the report than the alternative – date of death registration – and is also less susceptible to fluctuation because of variation in time from death to registration. Years are the periods ending on 30 June.

The ABS now makes 3 releases of the deaths registered in each calendar year: *Preliminary*, *Revised* and *Final*. The cause codes assigned to injury deaths can change between releases. This is discussed further at Appendix A. When analysis was undertaken for this report, *Final* release data were available for none of the deaths that occurred in 2009–10 and for only 43% of those in 2008–09. However, data for about 99.9% of the injury deaths that occurred in earlier years was *Final*, or predated the introduction of the multiple release system.

This difference between the most recent 2 years of death and all earlier years is made plain in the report by presenting rates for the years based on essentially entirely *Final* data as lines and data for the 2 most recent years with markers.

Analyses provide information on:

- age
- sex
- external cause of injury
- remoteness of the person's area of usual residence
- Indigenous status.

In tables and charts, the following apply, unless stated otherwise:

- The age is as at the date of death.
- Deaths for which table variables such as age and sex were not reported are included in totals.
- Rates are age-standardised.

Further information is provided at Appendix A.

Which deaths were included?

Deaths were regarded as due to injury and poisoning and included in this report if they met the following selection criteria:

• Death occurred between 1 July 1999 to 30 June 2010 inclusive and had been registered by 31 December 2010.

and

• The UCoD was an external cause code in the range V01–Y36.

or

• At least one MCoD was an external cause code in the range V01-Y36 and at least one other MCOD was a code for injury (S00-T75 or T79).

The codes are from ICD-10 <http://apps.who.int/classifications/icd10/browse/2015/en>. The code range V01–Y36 includes all unintentional (accidental) deaths, intentional self-harm (suicide), homicide, and deaths where intent remained undetermined. The code range V01–Y36 includes traumatic injuries (such as fractures and lacerations), burns, poisoning and toxic effects of substances and certain other effects of external causes such as drowning, asphyxiation, effects of radiation, heat, pressure, deprivation and maltreatment.

Details on selection criteria for each topic are given at the start of each chapter.

Important terms regarding the data used in this report are summarised in boxes 1.1 and 1.2 and in the Glossary.

Box 1.1: Key terms and concepts

An **external cause** is the environmental event, circumstance or condition that was the cause of injury or poisoning. A **multiple cause of death** (MCoD) is a code representing a disease, condition or external cause recorded on the death certificate. For injury deaths, the **underlying cause of death** (UCoD) is a code representing the external cause of the injury that initiated the train of morbid events leading directly to a person's death, according to information available to the coder.

The diseases or conditions recorded on the death certificate consist of the following: the cause that led directly to the death (the underlying cause of death), the causes that gave rise to the underlying cause of death, and the causes of death that contributed to the death but were not related to the disease or condition causing it.

Coding is according to the ICD-10, which includes a chapter for injury and another for external causes of injuries and other conditions. Rules that form part of the International Classification of Diseases (ICD) determine which cause should be coded as the UCoD.

Box 1.2: Multiple causes of death

Deaths generally have more than one cause. For example, a car crash may result in a person being drowned or burned, and some deaths by drowning are associated with diseases (for example, epilepsy). Deaths that occur soon after falls resulting in hip fracture or other serious injuries of older people typically result from the effects of the serious injury on a person whose advanced age, frailty and perhaps other diseases limit their capacity to tolerate the injury. Australian deaths data provide for more than one cause to be recorded and this information was used for this report.

Box 1.3: Aboriginal and Torres Strait Islander reporting

Indigenous status data are considered to be of sufficient quality for statistical reporting for the period 1999 to 2010 for the following jurisdictions: Queensland, South Australia, Western Australia and the Northern Territory. For recent years, data for New South Wales is also adequate, and have been included in reporting of Indigenous injury in 2009–10. Appendix A provides further information.

Box 1.4: What are the limitations of the data?

The ABS introduced new methods to process deaths registered in 2007 and subsequent years in order to improve the data (see Appendix A). Similar methods were applied later to 2006 registrations. These changes improved the quality of external causes coding of injury deaths.

The external causes of all deaths that occurred in 2009–10, and those of nearly half the deaths that occurred in 2008–09, are subject to review and possible revision by the ABS. Findings based on ABS *Final* data for these years will be presented in a future report.

2 Overview of injury deaths

This chapter provides a brief overview of injury deaths in 2009–10 and trends to 2009–10. The selection criteria given in Section 1.3 were applied.

2.1 What is the profile of injury deaths in 2009–10?

Injury was recorded as a cause of 10,668 deaths in 2009–10 in Australia, 7.6% of all deaths (Table 2.1). In 8,310 of these deaths (5.9% of all deaths), the UCoD code assigned to the death was from the 'External causes of morbidity and mortality' chapter of ICD-10 (Chapter XX).

Indicator	Males	Females	Persons
Injury deaths	6,608	4,060	10,668
Crude rate/100,000 population	60.6	36.8	48.6
Age-standardised rate/100,000 population	62.1	29.7	45.4

Table 2.1: Key indicators for injury deaths, Australia, 2009-10

Source: AIHW National Mortality Database.

Age and sex

One-third of male injury deaths and almost two-thirds of female cases occurred at ages 65 and older. Fewer than 2% of deaths were at ages younger than 15 (Table 2.2).

Population-based rates in 2009–10 were highest for males and females aged 65+. Rates for males were higher than for females in every age group, especially at ages 15 to 24 (Table B19).

	Males		Fema	ales	Pers	Persons		
Age group (years)	Number	%	Number	%	Number	%		
0–4	68	1.0	45	1.1	113	1.1		
5–14	58	0.9	28	0.7	86	0.8		
15–24	642	9.7	189	4.7	831	7.8		
25–44	1,875	28.4	575	14.2	2,450	23.0		
45–64	1,596	24.2	606	14.9	2,202	20.6		
65+	2,369	35.9	2,617	64.5	4,986	46.7		
Total	6,608	100	4,060	100	10,668	100		

Table 2.2: Injury deaths by age and sex, Australia, 2009-10

Source: AIHW National Mortality Database.

State or territory of usual residence

Residents of the Northern Territory had the highest age-standardised injury mortality rate – 92.5 deaths per 100,000 population – which was about double the national rate (Table 2.3). Most of the other jurisdictions recorded rates above the national rate, with residents of Victoria recording the lowest rate of 41.1 deaths per 100,000 population.

	State or territory of usual residence							
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	3,317	2,442	2,279	1,208	806	285	170	160
Per cent	31.1	22.9	21.4	11.3	7.6	2.7	1.6	1.5
Age-standardised rate/ 100,000 population	42.2	41.1	50.8	52.9	43.5	51.3	50.8	92.5

Table 2.3: Injury deaths by state or territory of usual residence, Australia, 2009-10

Source: AIHW National Mortality Database.

Remoteness of usual residence

The number and rate of injury-related deaths varied with remoteness of usual residence (Table 2.4). Age-standardised rate of injury death tended to increase with increasing remoteness. The rate for residents of the *Remote* region (75.2 deaths per 100,000 population) was 1.8 times the rate for residents of the *Major cities* region (40.8 per 100,000 population).

Table 2.4: Injury of	deaths by remotene	ss of usual residence,	, Australia, 2009–10
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	Remoteness of usual residence ^(a)						
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)	
Deaths	6,648	2,398	1,197	222	112	10,577	
Per cent	62.9	22.7	11.3	2.1	1.1		
Age-standardised rate/ 100,000 population	40.8	51.6	57.4	75.2	69.9		

(a) Remoteness of usual residence (Australian Standard Geographical Classification [ASGC] areas).

(b) Excludes 91 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Aboriginal and Torres Strait Islander people

The age-standardised injury death rate for Aboriginal and Torres Strait Islander people was 1.8 times the rate for Other Australians (Table 2.5).

Table 2.5: Key indicators for injury deaths, Indigenous Australians and Other Australians, Australia^(a), 2009–10

	Indigenous Australians			Other Australians		
Indicator	Males	Females	Persons	Males	Females	Persons
Deaths	201	90	291	4,622	2,857	7,479
Age-standardised rate/100,000 population	105.5	53.4	79.6	62.3	29.9	45.6
Rate ratio ^(b)	1.7	1.8	1.8			
Rate difference ^(c)	42.5	23.7	33.8			

(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.3.

(b) Rate ratios are the standardised rate for Indigenous males, females and persons divided by the standardised rate for Other males, females and persons.

(c) Rate differences are the standardised rate for Indigenous males, females and persons minus the standardised rate for Other males, females and persons.

Source: AIHW National Mortality Database.

There were marked differences between Aboriginal and Torres Strait Islander people and Other Australians in terms of the proportions of injury deaths occurring in each age group (Table 2.6). For Aboriginal and Torres Strait Islander people, almost half of all injury deaths occurred for those aged 25–44 for both males and females, compared with 27% and 13%, respectively, for Other Australian males and females. Conversely, the proportions of injury deaths of Aboriginal and Torres Strait Islander males and females at 65 years and older were much lower than equivalent proportions for Other Australians.

Age group	Indigenous A	ustralians	Other Au	stralians
(years)	Number	%	Number	%
Males				
0–4	4	2.0	45	1.0
5–14	5	2.5	36	0.8
15–24	44	21.9	430	9.3
25–44	100	49.8	1,252	27.1
45–64	39	19.4	1,143	24.7
65+	9	4.5	1,716	37.1
Total	201	100	4,622	100
Females				
0–4	5	5.6	31	1.1
5–14	4	4.4	18	0.6
15–24	15	16.7	128	4.5
25–44	43	47.8	368	12.9
45–64	13	14.4	445	15.6
65+	10	11.1	1,867	65.3
Total	90	100	2,857	100

Table 2.6: Injury deaths, by age and sex, Indigenous Australians and Other Australians, Australia^(a), 2009–10

(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.3.

Source: AIHW National Mortality Database.

2.2 How have injury deaths changed over time?

During the period reported, injury deaths have comprised a fairly constant proportion of all deaths in Australia, ranging from 7.4% to 8.1% (Figure 2.1).



Age-standardised rates of injury decreased from 55.1 per 100,000 population in 1999–00 to 46.8 in 2004–05, with little change in more recent years (Figure 2.2). Rates decreased by an average of 3% per year between 1999–00 and 2004–05, continuing a decline that began several years earlier.



2.3 How have injury deaths varied by age and sex over time?

Age-standardised rates of injury deaths for both males and females tended to decline from the start of the reported period (Figure 2.3). In 1999–00, rates for males and females were 76.8 and 34.5 per 100,000 population, respectively. Age-standardised rates for males were consistently more than double the rates for females.



Changes over time in injury death rates, stratified by age as well as by sex, are shown in Figure 2.4. Note that the rates in Figure 2.4 have not been age-standardised. All age-specific rates for males were higher than equivalent rates for females, though differences were relatively small for the youngest and oldest age groups.

A downward trend in rates was seen for both males and females in the younger age groups, while trends in rates for males and females aged 45–64 remained relatively steady over the period, and rates rose for the oldest group.



- Males are represented by the thick line and dark-filled triangles symbols (▲), and females are represented by the thin line and empty triangles symbols (△).
- 2. Data for the period 1999–00 to 2007–08, represented by lines, are final. Those for the last 2 years, represented by triangular symbols, are subject to revision. (See Appendix A for further information.)
- 3. Data underpinning this figure are available in Table B19 at Appendix B.

Source: AIHW National Mortality Database.

Figure 2.4: Age-specific rates of injury deaths (all causes) by age and sex, Australia, 1999–00 to 2009–10

2.4 How have injury deaths varied by remoteness of usual residence over time?

Rates of injury deaths rose with remoteness of place of usual residence and were substantially higher for residents of *Very remote* areas than for residents of other remoteness areas, apart from 2009–10 (Figure 2.5). There was a downward trend in rates for residents of *Very remote* areas while rates for the residents of the other four remoteness areas remained relatively steady over time.



2.5 How have injury deaths of Aboriginal and Torres Strait Islander people changed over time?

Rates for Aboriginal and Torres Strait Islander people were 2 to 3 times as high as rates for Other Australians during the period from 1999–00 to 2009–10. There was no strong trend in age-standardised rates for Aboriginal and Torres Strait Islander people, which fluctuated over the period (Figure 2.6).



2.6 How have the causes of injury mortality varied over time?

Changes in the age-standardised rates of injury for major external causes over the period from 1999–00 to 2007–08 are summarised in Table 2.7. The estimated rates for 2008–09 and 2009–10 were not used when estimating trends because they are subject to revision. More information on trends in each of the causes of injury listed in the table is available in subsequent chapters of this report.

Rates of injury deaths involving most external causes tended to decline from 1999–00 to 2007–08, by 4.1% per year for transport injury, 3.2% for thermal injury, 2.7% for suicide and 5.2% for homicide. Drowning rates declined by an average of 5.5% per year to 2007–08 then rose (but note that the rates for subsequent years are subject to revision). Rates of poisoning deaths involving pharmaceuticals fell sharply to 2001–02, then rose by 2.2% per year to 2007–08. Rates of fall injury deaths did not show a marked trend.

External cause	Trend	Per cent change per year ^(a)	Per cent of all injury deaths 2009–10	Comments
Unintentional injuries				
Transport	\downarrow	-4.1 ^(b)	13.9	
Drowning	$\sim^{(c)}$		2.7	Recent rise
Poisoning, pharmaceuticals	\uparrow	+2.2 (2001–02 to 2007–08)	8.5	Decline to 2001–02
Poisoning, other substances	$\boldsymbol{\sim}^{\scriptscriptstyle{(c)}}$		3.4	
Falls	$\longleftrightarrow^{(d)}$		32.2	
Smoke, fire, heat and hot substances	\downarrow	-3.2	0.9	Large peak in 2008–09
Intentional injuries				
Intentional self-harm (suicide)	\downarrow	-2.7 ^(b)	20.8	
Homicide	\downarrow	-5.2 ^(b)	2.2	

Table 2.7: Trends in age-standardised rates of external cause groups for injury deaths, Australi	a,
1999-00 to 2007-08	

(a) Average annual change for the period 1999–00 to 2007–08 unless another period is specified.

(b) Supplementary sources of data give similar rates of decline.

(c) Direction of trends varied during the study period.

(d) Average per cent change per year did not differ significantly from zero ($p \ge 0.05$).

Source: AIHW National Mortality Database.

3 Transport injury

This chapter provides a brief overview of unintentional (accidental) transport injury deaths in 2009–10 and presents trends in these injury deaths to 2009–10.

Summary statistics for unintentional transport injury deaths in 2009–10 that involved motor vehicle traffic are provided at Appendix C.

What methods were used?

The criteria given in Section 1.3 were applied and the CODURF records that included the following ICD-10 codes were included in this chapter:

• The UCoD was transport accident (V01-V99).

or

• The MCoDs included codes for transport accident (V01–V99) and for injury (S00–T75 or T79).

Suicide and homicide deaths (UCoD X60-Y09) were excluded. The concepts underlying the abbreviations used above are defined in the Glossary.

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 3.1. Further information on methods is provided at Appendix A.

Box 3.1: External causes of unintentional transport injury deaths

The **Transport accidents** (V01–V99) section of Chapter XX, 'External causes of morbidity and mortality' includes the following 12 groups:

- Pedestrian injured in transport accident (V01-V09)
- Pedal cyclist injured in transport accident (V10–V19)
- Motorcycle rider injured in transport accident (V20-V29)
- Occupant of three-wheeled motor vehicle injured in transport accident (V30–V39)
- Car occupant injured in transport accident (V40-V49)
- Occupant of pick-up truck or van injured in transport accident (V50-V59)
- Occupant of heavy transport vehicle injured in transport accident (V60–V69)
- Bus occupant injured in transport accident (V70–V79)
- Other land transport accidents (V80–V89)
- Water transport accidents (V90–V94)
- Air and space transport accidents (V95–V97)
- Other and unspecified transport accidents (V98–V99).

3.1 Overview of transport injury deaths

While most transport injury deaths are unintentional, some are found to be suicides or homicides. Those deaths are not included in most of this chapter. The CODURF data on injury deaths in 2009–10 available for use in this report also include 45 deaths involving the crashing of a motor vehicle where intent remained undetermined (though it might be determined for some or all in *Final* release ABS data); these deaths are also not included in most of this chapter.

Table 3.1 summarises all the transport-related injury deaths in 2009–10 that can be identified by means of the ICD-coded injury death data that are in-scope for this report. Unintentional transport injury deaths, the subject of this chapter, accounted for 95% of all transport injury deaths in 2009–10.

The remainder of this chapter is limited to unintentional transport injury.

Number of deaths	Percentage of all transport-related injury deaths (%)	ICD-10 codes	Terminology in this report	Coverage in this report
1,498	95.4	UCoD V01–V99; or MCoD V01–V99 and S00–T75, T79	Unintentional transport injury	Transport-related injuries (Chapter 3)
24	1.5	UCoD X82; or MCoD X82 and S00–T75, T79	Intentional self-harm by crashing of motor vehicle	Suicide (Chapter 10)
3	0.2	UCoD Y03; or MCoD Y03 and S00–T75, T79	Assault by crashing of motor vehicle	Homicide (Chapter 11)
45	2.9	UCoD Y32; or MCoD Y32 and S00–T75, T79	Crashing of motor vehicle, undetermined intent	Undetermined intent (Chapter 2)
1,570	100.0		Total transport-related deaths	

Table 3.1: All identifiable transport injury deaths in 2009-10

Source: AIHW National Mortality Database.

3.2 How many deaths due to unintentional transport injury were there in 2009–10?

Transport injuries accounted for 1,498 unintentional injury deaths in Australia during 2009–10 (Table 3.2). This was about 14% of all injury deaths in this period. In 2009–10, unintentional transport injury deaths were nearly 3 times as common for males as for females.

Indicator	Males	Females	Persons
Deaths	1,124	374	1,498
Per cent of all injury deaths	17.0	9.2	14.0
Crude rate/100,000 population	10.3	3.4	6.8
Age-standardised rate/100,000 population	10.2	3.3	6.7

Table 3.2: Key	v indicators for	unintentional	transport injury	deaths, Australia,	2009–10
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Source: AIHW National Mortality Database.

Age and sex

Almost one-third of all transport injury deaths occurred at ages 25–44 (32%) and one-fifth at ages 15–24 (20%; Table 3.3). These proportions are much higher than for the same age groups for all injury deaths combined (Table 2.3). The proportion of transport injury deaths occurring at these ages was higher for males (55%) than for females (42%). Population-based rates in 2009–10 were highest for males aged 15–24 (15 per 100,000 population) and males aged 65+ (14 per 100,000 population). Rates for males were higher than for females at every age, but to the greatest extent at ages 15–24 and 25–44 (Table B20, Appendix B).

	Males		Females		Persons	
Age group (years)	Number	%	Number	%	Number	%
0–4	13	1.2	9	2.4	22	1.5
5–14	20	1.8	14	3.7	34	2.3
15–24	232	20.6	60	16.0	292	19.5
25–44	383	34.1	96	25.7	479	32.0
45–64	292	26.0	104	27.8	396	26.4
65+	184	16.4	91	24.3	275	18.4
Total	1,124	100	374	100	1,498	100

Table 3.3: Unintentional transport injury deaths by age and sex, Australia, 2009-10

Source: AIHW National Mortality Database.

State or territory of usual residence

The age-standardised rate for transport-related injury deaths during 2009–10 for residents of the Northern Territory was more than double the national rate of 6.7 deaths per 100,000 population (Table 3.4). Most other jurisdictions recorded rates either moderately above or moderately below the national rate.

	State or territory of usual residence							
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	402	329	334	199	128	46	24	36
Per cent	26.8	22.0	22.3	13.3	8.5	3.1	1.6	2.4
Age-standardised rate/ 100,000 population	5.6	5.8	7.6	8.7	7.8	8.8	6.6	15.3

Table 3.4: Unintentional transport injury deaths by state or territory of usual residence, Australia, 2009–10

Source: AIHW National Mortality Database.

Remoteness of usual residence

The rate of transport-related injury deaths increased with greater remoteness of usual residence (Table 3.5). The rate of transport-related injury deaths for residents of *Very remote* areas was almost 4.5 times the rate for residents of *Major cities*.

Table 3.5: Unintentional transport injury deaths by remoteness of usual residence, Australia, 2009–10

	Remoteness of usual residence ^(a)							
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)		
Deaths	712	425	239	60	36	1,472		
Per cent	48.4	28.9	16.2	4.1	2.4			
Age-standardised rate/ 1000,000 population	4.6	10.1	11.9	19.0	20.4			

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 26 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

3.3 How have unintentional transport injury deaths changed over time?

Figure 3.1 compares the number of transport injury deaths occurring each year with the baseline number of deaths in 1999–00 (2,039). From 2002–03, the annual numbers of transport injury deaths have been lower than for the baseline period. The largest difference was in 2009–10 when there were 541 fewer (1,498 in total) transport injury deaths. However, the data for the last 2 years are subject to review and possible revision.



Age-standardised rates of deaths from transport accidents decreased from 10.7 deaths per 100,000 population in 1999–00 to 6.7 in 2009–10 (Figure 3.2). CODURF data indicate an average rate of decrease of 3.8% per year between 1999–00 and 2007–08. This decrease and the pattern of variation with time should be treated with caution due to issues related to data processing during this period (see Appendix A). Supplementary estimates, based on road death data from the Bureau of Infrastructure, Transport and Regional Economics (BITRE), indicate an average rate of decrease of 3.3% per year between 1999–00 and 2007–08, with less fluctuation of trend in the mid-2000s.



3.4 How have unintentional transport injury deaths varied by age and sex?

Age-standardised rates of transport-related injury deaths decreased over time for both males and females (Figure 3.3). For males, rates decreased from 15.8 per 100,000 population in 1999–00 to 10.2 per 100,000 population in 2009–10. For females, rates decreased from 5.8 per 100,000 population in 1999–00 to 3.3 per 100,000 population in 2009–10. Rates were consistently about 3 times as high for males as for females.



An examination of changes in rates of transport-related injury deaths over time by age and sex is shown in Figure 3.4. Age-specific rates for males were higher than female rates across all age groups for all years, except in a couple of years for young children aged 0–4, where numbers of deaths were low. The differences in rates between males and females was most marked at ages 25–44, where male rates were consistently over 4 times as high as female rates. Rates generally tended to decline over time, though with fluctuations, for both males and females. The least decline occurred for the 45–64 age group.



Figure 3.4: Age-specific rates of unintentional transport injury deaths by age and sex, Australia, 1999–00 to 2009–10

3.5 How have unintentional transport injury deaths varied by remoteness?

Rates of transport injury deaths were consistently higher over time for residents of *Very remote* areas compared with residents of all other remoteness areas (Figure 3.5). The rate ratio for residents of *Very remote* areas compared with residents of *Major cities* varied from 4.4 times as high in 2009–10 to almost 7 times as high in 2004–05.

The fluctuation in rate of injury deaths in the *Very remote* and *Remote* areas of Australia partly reflects the small population and number of incidents occurring each year.



usual residence, Australia, 2001-02 to 2009-10

3.6 How have unintentional transport injury deaths of Aboriginal and Torres Strait Islander people changed over time?

Age-standardised rates for both Aboriginal and Torres Strait Islander males and females showed no marked trends over the period from 1999–00 to 2007–08 (Figure 3.6). Rates for males were higher than for females across the entire period, ranging from 1.5 times as high in 2001–02 to 3.7 times as high in 2000–01.



Note that the lower rates in the last 2 years are subject to revision.

4 Drowning

This chapter provides a summary of all drowning deaths in 2009–10 that are identifiable in the deaths data, a summary of unintentional drowning deaths in that year and a description of trends in unintentional drowning deaths from 1999–00 to 2009–10.

What methods were used?

The criteria given in Section 1.3 were applied and the records that included the following ICD-10 codes were included in this chapter:

• The UCoD was accidental drowning and submersion (W65–W74).

or

• The MCoDs included codes for accidental drowning and submersion (W65–W74) and for injury (S00–T75 or T79).

or

• The MCoDs included codes for drowning and non-fatal submersion (T75.1) and for an unintentional external cause of injury (V01–X59).

Suicide and homicide deaths (UCoD X60–Y09) were excluded. The concepts underlying the abbreviations used above are defined in the Glossary.

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 4.1. Further information on methods is provided at Appendix A.

Box 4.1: External causes of drowning and submersion injury

The **Accidental drowning and submersion** (W65–W74) section of Chapter XX, 'External causes of morbidity and mortality' contains the following groups:

- Drowning and submersion while in bath-tub (W65)
- Drowning and submersion following fall into bath-tub (W66)
- Drowning and submersion while in swimming-pool (W67)
- Drowning and submersion following fall into swimming-pool (W68)
- Drowning and submersion while in natural water (W69)
- Drowning and submersion following fall into natural water (W70)
- Other specified drowning and submersion (W73)
- Unspecified drowning and submersion (W74).

4.1 Overview of total drowning

Drowning occurs in many circumstances, and deaths are assigned codes from several parts of the ICD. Table 4.1 summarises all the drowning deaths in 2009–10 that can be identified by means of the ICD-coded cause of death data.

Unintentional drowning deaths, the subject of this chapter, accounted for just over three-quarters (76%) of all drowning deaths in 2009–10 (Table 4.1). Those reported as due to

Intentional self-harm by drowning and submersion, Assault by drowning and submersion and Drowning and submersion, undetermined intent are not included elsewhere in this chapter.

Number of deaths	Percentage of all drowning deaths (%)	ICD-10 codes	Terminology in this report	Coverage in this report
290	76.1	UCoD W65–W74; or MCoD S00–T75,T79 and W65–W74; or MCoD T75.1 and V01–X59	Unintentional drowning ^(a)	Drowning (Chapter 4)
53	13.9	X60–X84 and T75.1	Intentional self- harm by drowning and submersion	Suicide (Chapter 10)
5	1.3	X85–Y09 and T75.1	Assault by drowning and submersion	Homicide (Chapter 11)
32	8.4	Y10–Y34 and T75.1	Drowning and submersion, undetermined intent	Undetermined intent (Chapter 2)
381 ^(b)	100.0		Total drowning deaths	

(a) Includes deaths that meet the inclusion criteria for Chapter 3, Transport injury in which drowning occurred.

(b) Includes 1 additional drowning death, which does not meet the criteria for any of the other categories.

4.2 How many unintentional drowning deaths were there in 2009–10?

There were 290 unintentional drowning deaths in Australia in 2009–10 (Table 4.2). This was about 3% of all injury deaths in this period. About 3.5 times as many males as females drowned unintentionally in 2009–10.

Indicator	Males	Females	Persons
Deaths	226	64	290
Per cent of all injury deaths	3.4	1.6	2.7
Crude rate/100,000 population	2.1	0.6	1.3
Age-standardised rate/100,000 population	2.1	0.6	1.3

Table 4.2: Key indicators for unintentional drowning deaths, Australia, 2009-10

Source: AIHW National Mortality Database.

Drowning tends to occur at younger ages than injury from most other causes: 55% of drowning deaths occurred at ages under 45 (compared with 32% of all injury deaths) and 11% occurred at ages 0–4 (compared with 1% of all injury deaths) (Table 4.3).

	Males	Males		6	Persons	
Age group (years)	Number	%	Number	%	Number	%
0–4	21	9.3	10	15.6	31	10.7
5–14	9	4.0	n.p.	n.p.	n.p.	n.p.
15–24	32	14.2	n.p.	n.p.	n.p.	n.p.
25–44	67	29.6	15	23.4	82	28.3
45–64	54	23.9	16	25.0	70	24.1
65+	43	19.0	17	26.6	60	20.7
Total	226	100	64	100	290	100

Table 4.3: Unintentional	drowning	deaths by a	age and sev	. Australia.	2009-10
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Source: AIHW National Mortality Database.

The age-standardised rate for drowning deaths during 2009–10 for residents of the Northern Territory was almost 5 times that of the national rate (Table 4.4). Most other jurisdictions recorded rates moderately above or moderately below the national rate, with residents of South Australia recording the lowest rate of 0.5. These observations must be treated with some caution since relatively small counts in the Northern Territory and the other less populated jurisdictions can cause rates to fluctuate markedly from year to year.

			State or te	rritory of u	sual resid	lence		
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	84	51	79	37	8	12	4	15
Per cent	29.0	17.6	27.2	12.8	2.8	4.1	1.4	5.2
Age-standardised rate/ 100,000 population	1.1	0.9	1.8	1.6	0.5	2.2	1.3	6.2

Table 4.4: Unintentional drowning deaths by state or territory of usual residence, Australia, 2009–10

Source: AIHW National Mortality Database.

The age-standardised rate of drowning deaths increased with increasing remoteness, with the rate of drowning deaths among residents of *Very remote* areas being almost 3 times the rate for residents of *Major cities* (Table 4.5). These observations should be treated with some caution due to the relatively small counts in *Remote* and *Very Remote* areas.

Table 4.5: Unintentional drowning	ng deaths by	remoteness of usua	l residence,	Australia,	2009-10
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		Remoteness of usual residence ^(a)							
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)			
Deaths	161	61	43	8	6	279			
Per cent	57.7	21.9	15.4	2.9	2.2				
Age-standardised rate/ 100,000 population	1.1	1.4	2.1	2.3	3.2				

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 11 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Associated factors

Drowning in natural bodies of water

A total of 119 (41%) of deaths were the result of drowning while in a natural body of water, such as a lake, river or the open sea. The majority of deaths in this group involved males (n = 98, 82%). In 87 (73%) of drowning deaths, the person drowned while in the water, while in the remaining 32 (27%), drowning occurred after the person fell into a body of natural water.

Drowning in bathtub

A total of 17 (6%) of the drowning deaths occurred in a bathtub. Three (3) deaths involved children aged 0–4. In most instances, the person drowned while in a bathtub, while in a small number of instances the person drowned after a fall into the bathtub.

Transport-related drowning

A total of 46 (16%) unintentional drowning deaths were related to transport and so are included in Chapter 3. In 24 of these deaths (52%), drowning was caused by an accident to watercraft (for example, overturning or sinking boat, falling or jumping from a burning boat, and so on). In another 10 (22%) deaths, the drowning was related to water transport, but did not result from an accident to watercraft (for example, fall from ship, fall overboard, and so on).

Drowning in swimming pools

In 45 (16%) deaths, the drowning occurred in a swimming pool. A total of 15 (33%) of these deaths involved children aged under 5. Across all ages, drowning deaths were more frequent among males (n = 28, 62%) than females (n = 17, 38%). In 30 (67%) of the 45 deaths, the deceased person was already in the swimming pool when they drowned, while in the remaining 15 (33%), drowning occurred after the person fell into a pool.

Drowning in swimming pools has been a major cause of death for young children in Australia for several decades and the subject of specific preventative efforts. Age-standardised rates of swimming pool drowning for males and females aged 0–4 did not change markedly over the period (Figure 4.1). In 2009–10, the rate of death by drowning in a swimming pool for children aged 0–4 was 1.0 per 100,000 population.


4.3 How have unintentional drowning deaths changed over time?

Figure 4.2 compares the number of unintentional drowning deaths occurring in each year with the baseline number of deaths in 1999–00 (328). The number of drowning deaths has been lower than the baseline in every year except 2000–01. The largest difference was in 2007–08, when there were 97 fewer drowning deaths than in 1999–00.



Rates of drowning deaths decreased from 1.7 deaths per 100,000 population in 1999–00 to 1.1 in 2007–08 (Figure 4.3). This decrease represented an average decline of 5.5% per year over this period. The rates for 2008–09 and 2009–10 suggest a recent rise in rates at the end of the period of interest, but it should be noted that these rates are subject to review and revision.

Estimates based on CODURF data are supplemented here by rates based on 2 other sources of data. Data based on annual drowning reports published by the Royal Life Saving Society (RLSS) indicate an average rate of decrease of 4.9% per year between 2002–03 and 2007–08. Estimates based on NCIS data as at August 2013 indicate that the average annual decrease was 4.3% per year between 2001–02 (the first full year for which national NCIS data were available) and 2007–08.

It should be noted that differences in case definitions and methods between sources, particularly between the CODURF and the RLSS, are such that identical rates should not be expected. Further information on the method used to produce the supplementary estimates is provided at Appendix A.



4.4 How have unintentional drowning deaths varied by age and sex?

During the period of interest, age-standardised rates of drowning deaths decreased over time for males, but remained relatively steady for females (Figure 4.4). For males, rates decreased from 2.7 per 100,000 population in 1999–00 to 2.1 per 100,000 population in 2009–10. Rates were consistently 3 to 4 times as high for males than for females.



An examination of changes in drowning death rates over time by age and sex is shown in Figure 4.5. Age-standardised rates for males were higher than female rates across all age groups for all years, except in 1 year for young children aged 0–4, where case numbers are low. The differences in rates between males and females was most marked for those aged 25–44, where male rates were over 4 times as high as female rates. For males, rates declined early in the period in most age groups, but showed little change later in the period. Rates for females tended to remain relatively steady throughout the period in all age groups. (Female rates are not shown for 2 age groups due to small numbers of deaths.)



Figure 4.5: Age-specific rates of unintentional drowning deaths by age and sex, Australia, 1999–00 to 2009–10

4.5 How have unintentional drowning deaths varied by remoteness?

The *Remote* and *Very remote* areas are combined here due to small numbers of deaths. Rates of drowning deaths for residents of the combined remote areas were high compared with rates for residents of less remote areas in the later part of the period (Figure 4.6). The rate ratio for residents of *Remote* and *Very remote* areas combined compared with that for residents of *Major cities* varied from 1.8 times as high in 2003–04 to almost 3.9 times as high in 2008–09.

The fluctuation in the rate of injury deaths in the combined remote areas of Australia is partly a reflection of the small population and number of incidents occurring each year.



4.6 How have unintentional drowning deaths of Aboriginal and Torres Strait Islander people changed over time?

Age-standardised rates of drowning for Aboriginal and Torres Strait Islander people fluctuated widely from year to year for the period from 1999–00 to 2009–10, at least partly due to small numbers of deaths (Figure 4.7). Overall, there was weak evidence of a downward trend in rates over that period, but the apparent rise in the most recent 2 years prompts cautious interpretation (while noting that those rates are subject to review and possible revision).



Australia, 1999-00 to 2009-10

5 Poisoning, pharmaceuticals

This chapter provides a summary of all poisoning deaths involving pharmaceuticals in 2009–10 that are identifiable in the deaths data, a summary of unintentional poisoning deaths involving pharmaceuticals in that year and a description of trends in unintentional poisoning deaths involving pharmaceuticals from 1999–00 to 2009–10.

What methods were used?

The criteria given in Section 1.3 were applied and the records that included the following ICD-10 codes were included in this chapter:

- The UCoD was unintentional poisoning by pharmaceuticals (X40–X44). or
- The MCoDs include codes for unintentional poisoning by pharmaceuticals (X40–X44) and for injury (S00–T75 or T79).

or

• The MCoDs include codes for the toxic effects of pharmaceuticals (T36–T50) and for external causes of unintentional injury (V01–X59).

Suicide and homicide deaths (UCoD X60-Y09) were excluded. The concepts underlying the abbreviations used above are defined in the Glossary.

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 5.1. Further information on methods is provided at Appendix A.

Box 5.1: External causes of poisoning by pharmaceuticals

Accidental poisoning by and exposure to noxious substances (X40–X49) is the subject of a section of Chapter XX, 'External causes of morbidity and mortality'. The first 5 categories in this section refer to poisoning by and exposure to drugs, medicaments and biological substances (X40–X44):

- Accidental poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics (X40)
- Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified (X41)
- Accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified (X42)
- Accidental poisoning by and exposure to other drugs acting on the autonomic nervous system (X43)
- Accidental poisoning by and exposure to other and unspecified drugs, medicaments and biological substances (X44).

5.1 Overview of total poisoning by drugs

In 2009–10, *unintentional* poisoning deaths involving pharmaceuticals accounted for 61% of all poisoning by drugs deaths (Table 5.1). Those reported as *Intentional self-harm by drug poisoning*, *Assault by drug poisoning* and *Drug poisoning*, *undetermined intent* are not included in this chapter.

Number of deaths	Percentage of all poisoning by drugs deaths (%)	ICD-10 codes	Terminology in this report	Coverage in this report
917	61.3	UCoD X40–X44; or MCoD X40–X44 and S00–T75,T79; or MCoD V01–X59 and T36–T50	Unintentional poisoning by drugs	Poisoning, pharmaceuticals (Chapter 5)
326	21.8	UCoD X60–X64; or MCoD X60–X64 and S00–T75, T79	Intentional self- harm by drug poisoning	Suicide (Chapter 10)
n.p.	0.1	UCoD X85; or MCoD X85 and S00–T75, T79	Assault by drug poisoning	Homicide (Chapter 11)
237	15.8	UCoD Y10–Y14; or MCoD Y10–Y14 and S00–T75, T79	Drug poisoning, undetermined intent	Undetermined intent (Chapter 2)
1,496 ^(a)	100.0		Total deaths involving poisoning by drugs	

Table 5.1: All identifiable p	oisoning deaths involving	pharmaceuticals in 2009–10
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(a) Includes deaths that do not meet the criteria for the categories in the table. The number of these was suppressed to prevent calculation of the small number of homicide deaths, which has been suppressed to comply with a requirement of the Australian coordinating registry.

5.2 How many unintentional poisoning deaths involving pharmaceuticals were there in 2009–10?

Unintentional poisoning by pharmaceuticals accounted for 917 injury deaths in Australia during 2009–10 (Table 5.2). This was 8.6% of all injury deaths for this period. Unintentional poisoning deaths involving pharmaceuticals were over twice as numerous for males as females in 2009–10.

Table 5.2: Key indicators for unintentional poisoning deaths involving
pharmaceuticals, Australia, 2009–10

Indicator	Males	Females	Persons
Deaths	626	291	917
Per cent of all injury deaths	9.5	7.2	8.6
Crude rate per 100,000 population	5.7	2.6	4.2
Age-standardised rate/100,000 population	5.9	2.5	4.2

Source: AIHW National Mortality Database.

Persons aged 25–44 and 45–64 accounted for 53% and 30%, respectively, of all unintentional poisoning deaths involving pharmaceuticals (Table 5.3). In comparison, 22% and 20% of all injury deaths, respectively, were at these ages.

The proportions of deaths within age groups differed for males and females, with males proportionally higher than females in the age range 25–44, while females were proportionally higher than males in the age range of 65 and over.

	Mal	es	Fem	ales	Pers	sons
Age group (years)	Number	%	Number	%	Number	%
0–4	0	0.0	n.p.	n.p.	n.p.	n.p.
5–14	0	0.0	n.p.	n.p.	n.p.	n.p.
15–24	35	5.6	14	4.8	49	5.3
25–44	366	58.5	120	41.2	486	53.0
45–64	180	28.8	95	32.6	275	30.0
65+	45	7.2	61	21.0	106	11.6
Total	626	100	291	100	917	100

Table 5.3: Unintentional poisoning deaths involving pharmaceuticals by age and sex, Australia, 2009–10

Source: AIHW National Mortality Database.

The age-standardised rates for unintentional poisoning deaths involving pharmaceuticals during 2009–10 were highest for residents of the Northern Territory, South Australia and Western Australia which recorded rates of 6.4, 6.2 and 6.1 deaths per 100,000 population, respectively (Table 5.4). Residents of New South Wales recorded the lowest rate of all jurisdictions of 3.1 deaths per 100,000 population.

Table 5.4: Unintentional poisoning deaths involving pharmaceuticals by state or territory of u	isual
residence, Australia, 2009-10	

		State or territory of usual residence						
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	219	178	234	137	97	24	15	13
Per cent	23.9	19.4	25.5	14.9	10.6	2.6	1.6	1.4
Age-standardised rate/ 100,000 population	3.1	3.3	5.4	6.1	6.2	4.8	4.0	6.4

Source: AIHW National Mortality Database.

The age-standardised rate of deaths with this external cause did not vary markedly by remoteness of usual residence (Table 5.5).

	Remoteness of usual residence ^(a)					
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)
Deaths	649	152	83	n.p.	n.p.	903
Per cent	71.9	16.8	9.2	n.p.	n.p.	100
Age-standardised rate/100,000 population ^(c)	4.2	3.8	4.3	n.p.	n.p.	4.2

Table 5.5: Unintentional poisoning deaths involving pharmaceuticals by remoteness of usual residence, Australia, 2009-10

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 14 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Types of pharmaceuticals

More than 67% (n = 615) of the deaths were due to *Poisoning by narcotics and psychodysleptics* [*hallucinogens*] (453 males, 162 females). Of these deaths, 26% (n = 159) were poisoning by heroin, 45% (n = 275) were poisoning by other opioids, and 19% (n = 117) were poisoning by methadone. More than 62% (n = 383) of these deaths were in the age range 25–44.

Almost 37% (n = 334) of the deaths were due to *Poisoning by antiepileptic, sedative-hypnotic and antiparkinsonism drugs* (225 males, 109 females). Of these, 96% (n = 320) were due to poisoning by benzodiazepines. Just over 71% (n = 238) of these deaths were in the age range 20–49.

Just over 30% (n = 281) of the deaths were *Poisoning by psychotropic drugs, not elsewhere classified* (171 males, 110 females). Of these, 68% (n = 191) were poisoning by antidepressants. Almost 76% (n = 213) of these deaths were in the age range 25–54.

5.3 How have unintentional poisoning deaths involving pharmaceuticals changed over time?

Figure 5.1 compares the number of unintentional poisoning by drugs deaths occurring each year with the baseline number of deaths (1,313) in 1999–00. The number of deaths by unintentional poisoning by drugs has been lower than that for the baseline period in all subsequent years. The largest difference occurred in 2001–02 when there were 645 fewer deaths (668 in total) involving unintentional poisoning by drugs. The large drop between 1999–00 and 2001–02 coincides with the end of an epidemic of drug poisoning, mainly poisoning by opiate narcotics (chiefly heroin).



Age-standardised rates of unintentional poisoning deaths involving pharmaceuticals decreased markedly between 1999–00 and 2001–02, from 6.8 deaths per 100,000 population to 3.4 deaths (Figure 5.2). As noted above, this drop coincides with the end of an epidemic of drug poisoning. Between 2001–02 and 2007–08, rates increased by an average of 2.2% per year.



5.4 How have unintentional poisoning deaths involving pharmaceuticals varied by age and sex?

Age-standardised rates for males for unintentional poisoning deaths involving pharmaceuticals decreased markedly between 1999–00 and 2001–02, from 9.7 deaths per 100,000 population to 4.5 deaths (Figure 5.3). Female rates also declined during this period from 4.0 deaths per 100,000 population in 1999–00 to 2.3 deaths in 2001–02. Rates for both males and females were relatively steady for the period after this. Rates for males were consistently more than double those for females.



An examination of the changes in death rates over time by age and sex is shown in Figure 5.4. Age-standardised rates for males were higher than those for females for the first 3 of the age groups shown. For the fourth age group, 65 and over, female rates were a little higher than male rates for nearly all years. There were marked decreases in rates for males aged 15–24 and 25–44 in the first 2 years of the period. Decreases in this period were also seen for females in these age groups, although less marked than for males. In contrast, rates for both males and females aged 45–64 tended to increase over the period.



and sex, Australia, 1999-00 to 2009-10

5.5 How have unintentional poisoning deaths involving pharmaceuticals varied by remoteness?

Rates of unintentional poisoning deaths involving pharmaceuticals were broadly similar across all remoteness areas over the period from 2001–02 to 2009–10 (Figure 5.5). Rates for residents of remote areas, combined, tended to be lower than rates for residents of the less remote areas. However, numbers of deaths in the remote areas (combined here, due to small case numbers) were relatively small and rates are sensitive to small changes in counts.



Figure 5.5: Age-standardised rates of unintentional poisoning deaths involving pharmaceuticals by remoteness of usual residence, Australia, 2001–02 to 2009–10

5.6 How have unintentional poisoning deaths involving pharmaceuticals of Aboriginal and Torres Strait Islander people changed over time?

Age-standardised rates for Aboriginal and Torres Strait Islander people of unintentional poisoning deaths involving pharmaceuticals declined markedly between 1999–00 to 2001–02 before trending upwards from 2003–04 until the end of the period (Figure 5.6).



6 Poisoning, other substances

This chapter provides a summary of all poisoning deaths involving substances other than pharmaceuticals in 2009–10 that are identifiable in the deaths data, a statistical summary of unintentional poisoning deaths involving substances other than pharmaceuticals in that year and a description of trends in unintentional poisoning deaths involving substances other than pharmaceuticals from 1999–00 to 2009–10.

What methods were used?

The criteria given in Section 1.3 were applied and the records that included the following ICD-10 codes were included in this chapter:

• The UCoD was unintentional poisoning by substances other than pharmaceuticals (X45–X49).

or

• The MCoDs included codes for unintentional poisoning by substances other than pharmaceuticals (X45–X49) and for injury (S00–T75 or T79).

or

• The MCoDs included codes for the toxic effects of substances other than pharmaceuticals (T51–T65) and for external causes of unintentional injury (V01–X59).

Suicide and homicide deaths (UCoD X60-Y09) were excluded. The concepts underlying the abbreviations used above are defined in the Glossary.

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 6.1. Further information on methods is provided at Appendix A.

Box 6.1: External causes of poisoning by other substances

Accidental poisoning by and exposure to noxious substances (X40–X49) is the subject of a section of Chapter XX, 'External causes of morbidity and mortality'. The second 5 categories in this section (i.e. X45–X49) refer to poisoning by and exposure to drugs, medicaments and biological substances:

- Accidental poisoning by and exposure to alcohol (X45)
- Accidental poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours (X46)
- Accidental poisoning by and exposure to other gases and vapours (X47)
- Accidental poisoning by and exposure to pesticides (X48)
- Accidental poisoning by and exposure to other and unspecified chemicals and noxious substances (X49).

6.1 Overview of total poisoning deaths involving other substances

Unintentional cases accounted for 59% of all poisoning deaths involving other substances in 2009–10 (Table 6.1). Another 36% of the deaths were by *Intentional self-harm*; they and deaths due to *Assault* or *With undetermined intent* are not included in the remainder of this chapter.

Number of deaths	Percentage of all poisoning, other substances deaths (%)	ICD-10 codes	Terminology in this report	Coverage in this report
366	59.1	UCoD X45–X49; or MCoD X45–X49 and S00–T75, T79 or MCoD T51–T65 and V01–X59	Unintentional poisoning by other substances	Poisoning, other substances (Chapter 6)
221	35.7	UCoD X65–X69; or MCoD X65–X69 and S00–T75, T79	Intentional self- harm, poisoning by other substances	Suicide (Chapter 10)
n.p.	0.3	UCoD X86–X90; or MCoD X86–X90 and S00–T75, T79	Assault, poisoning by other substances	Homicide (Chapter 11)
n.p. ^(a)	4.8	UCoD Y15–Y19; or MCoD Y15–Y19 and S00–T75, T79	Poisoning by other substances, undetermined intent	Undetermined intent (Chapter 2)
619	100.0		Total deaths involving poisoning by other substances	

Table 6.1: All identifiable	poisoning deaths	involving other	substances in 2009-10
	r		

(a) The number of undetermined intent deaths has been suppressed to prevent calculation of the small number of homicide deaths, which was suppressed to comply with a requirement of the Australian Coordinating Registry.

Source: AIHW National Mortality Database.

6.2 How many unintentional poisoning deaths involving other substances were there in 2009–10?

Unintentional poisoning deaths involving other substances accounted for 366 injury deaths in Australia during 2009–10 (Table 6.2). This was 3.4% of all injury deaths for this period. Three times as many male deaths as female deaths in 2009–10 involved unintentional poisoning by other substances.

Indicator	Males	Females	Persons
Deaths	275	91	366
Per cent of all injury deaths	4.2	2.2	3.4
Crude rate per 100,000 population	2.5	0.8	1.7
Age-standardised rate/100,000 population	2.5	0.8	1.7

Table 6.2: Key indicators for unintentional poisoning deaths involving other substances, Australia, 2009–10

Source: AIHW National Mortality Database.

Persons aged 25–64 accounted for 83% of all unintentional poisoning deaths involving other substances (Table 6.3). By contrast, only 44% of all injury deaths were at these ages. The proportion of deaths within each age group was broadly similar for males and females.

 Table 6.3: Unintentional poisoning deaths involving other substances by age, Australia, 2009-10

	Males		Females		Persons	
Age group (years)	Number	%	Number	%	Number	%
0–4	n.p.	n.p.	n.p.	n.p.	6	1.6
5–14	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
15–24	19	6.9	n.p.	n.p.	n.p.	n.p.
25–44	130	47.3	38	41.8	168	45.9
45–64	100	36.4	36	39.6	136	37.2
65+	17	6.2	15	16.5	32	8.7
Total	275	100	91	100	366	100

Source: AIHW National Mortality Database.

The age-standardised rate for unintentional poisoning deaths involving other substances during 2009–10 was highest for residents of the Northern Territory, which recorded a rate of 8.3 deaths per 100,000 population, almost 5 times the national rate of 1.7 deaths per 100,000 population (Table 6.4). New South Wales recorded the lowest rate of all jurisdictions of 1.2 deaths per 100,000 population.

Table 6.4: Unintentional poisoning deaths involving other substances by state or territory of	f usual
residence, Australia, 2009–10	

	State or territory of usual residence							
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	83	76	79	59	35	9	5	20
Per cent	22.7	20.8	21.6	16.1	9.6	2.5	1.4	5.5
Age-standardised rate/ 100,000 population	1.2	1.4	1.8	2.6	2.2	1.8	1.4	8.3

Source: AIHW National Mortality Database.

The rate of unintentional poisoning deaths involving other substances tended to increase with remoteness of usual residence (Table 6.5). The rate for residents of *Remote* areas was 3.5 times the rate for residents of *Major cities*. Numbers were low for both *Remote* and *Very remote* areas.

	Remoteness of usual residence ^(a)								
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)			
Deaths	226	61	48	18	7	360			
Per cent	62.8	16.9	13.3	5.0	1.9				
Age-standardised rate/ 1000,000 population	1.5	1.5	2.4	5.3	3.7				

Table 6.5: Unintentional poisoning deaths involving other substances by remoteness of usual residence, Australia, 2009-10

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 6 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Associated factors

In 2009–10, more than 80% (n = 295) of the deaths included in this chapter were caused by *Toxic effect of alcohol* (224 males, 71 females). Just over 62% (n = 184) of these deaths were in the age range of 25–49. Just under 13% (n = 46) of the deaths were caused by *Toxic effect of other gases, fumes and vapours* (31 males, 15 females) while 4.4% (n = 14) of the deaths were caused by *Toxic effect of carbon monoxide*.

6.3 How have unintentional poisoning deaths involving other substances changed over time?

Figure 6.1 compares the number of unintentional poisoning deaths involving other substances occurring each year with the baseline number of deaths (382) in 1999–00. The number of deaths has been lower than the baseline in every year except 2008–09. The largest difference occurred in 2005–06, when there were 116 fewer deaths.







6.4 How have unintentional poisoning deaths involving other substances varied by age and sex?

Age-standardised rates of male unintentional poisoning deaths involving other substances declined from 3.0 deaths per 100,000 population in 1999–00 to 2.0 in 2005–06 before increasing again (Figure 6.3). Rates were consistently 3 to 4 times as high for males as for females.



An examination of the changes in rates of unintentional poisoning deaths involving other substances over time by age and sex is shown in Figure 6.4. Age-standardised rates for males were markedly higher than female rates across all age groups for all years. (Rates for females aged 15–24, and for both sexes at younger ages, are not shown due to small numbers of deaths.) Rates for those aged 15–24 and 25–44 followed a similar pattern to that for the all-ages trends, declining towards the middle of the decade before increasing. Rates for males aged 45–64 trended upwards overall, while rates for males aged 65 and over trended downwards after a peak in 2002–03. Rates for females in the 2 oldest age groups remained relatively steady.



Figure 6.4: Age-specific rates of unintentional poisoning deaths involving other substances by age and sex, Australia, 1999-00 to 2009-10

6.5 How have unintentional poisoning deaths involving other substances varied by remoteness?

Rates of unintentional poisoning deaths involving other substances were generally higher for residents of *Very remote* areas than for residents of other remoteness areas (Figure 6.5). Rates for residents of the 3 least remote areas were generally similar and varied little over time.

The rate ratio for residents of *Very remote* areas compared with that for residents of *Major cities* varied from 2.5 times as high in 2009–10 to almost 7 times as high in 2005–06. The fluctuation in rate of injury deaths in the *Very remote* areas is partly a reflection of the small population and number of incidents occurring each year.



6.6 How have deaths of Aboriginal and Torres Strait Islander people from unintentional poisoning involving other substances changed over time?

Partly due to relatively small numbers of deaths from unintentional poisoning involving other substances, age-standardised rates for Aboriginal and Torres Strait Islander people fluctuated markedly from year to year for the period from 1999–00 to 2009–10 (Figure 6.6). Overall, there was a moderate upward trend in rates over the period 1999–00 to 2007–08, though this is almost entirely due to the exceptionally high rate in 2006–07, when 36 deaths of Indigenous people were reported for this cause.



7 Falls

This chapter provides a summary of all fall injury deaths in 2009–10 that are identifiable in the deaths data, a statistical summary of unintentional fall injury deaths in that year and a description of trends in unintentional fall injury deaths from 1999–00 to 2009–10.

What methods were used?

The criteria given in Section 1.3 were applied and the records that included the following ICD-10 codes were included in this chapter:

• The UCoD was an unintentional fall (W00–W19).

or

• The UCoD was coded as 'exposure to unspecified factor' (X59) and the MCoDs included a code for a fracture.

or

• The MCoDs included codes for an unintentional fall (W00–W19) and for injury (S00–T75 or T79).

or

• The MCoDs included codes for 'exposure to unspecified factor' (X59) and for a fracture.

The codes for fractures are S02, S12, S22, S32, S42, S52, S62, S72, S82, S92, T02, T08, T10, T12 and T14.2.

Suicide and homicide deaths (UCoD X60-Y09) were excluded. The concepts underlying the abbreviations used above are defined in the Glossary.

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 7.1. Further information on methods is provided in Appendix A and in the companion technical report (AIHW 2015).

Fall-related injury is unique among the external causes presented in this report. First, nearly all deaths of other types of injury are certified by a coroner, while most fall injury deaths are certified by a doctor, except in recent years in Victoria. Second, the overwhelming majority of fall-related deaths occur in old age (when comorbidities are common), whereas other types of injury most commonly occur at much younger ages. These characteristics have important implications for the information available to ABS officers when they assign cause codes to fall-related deaths. Also, a large proportion of fall injury deaths occur in hospitals.

Information supplied to the ABS on doctor-certified deaths commonly includes injury conditions, such as fractures, but often lacks information on the external cause of injury (usually a fall). Irrespective of age at death, information on external cause is more likely to be available to the ABS for coroner-certified deaths. The availability of such information to the ABS increased when, in 2003, it began using the NCIS for some coroner-certified deaths; by 2006, it was using it for all such deaths. The effect of this on coding has varied, as the proportion of fall-related deaths certified by coroners increased during the study period. This was influenced largely by an almost complete transition to coroner-certification for fall injury deaths in Victoria.

The inclusion criteria applied here result in annual numbers of fall injury deaths that are 6% to 15% higher than the number of deaths in hospital among *directly fall-related injury* deaths (criteria as in AIHW 2013). The number of fall injury deaths should be larger than the number of deaths in hospital of directly fall-related injury cases for two reasons. The first reason is that some fall injury deaths occur in places other than hospitals. The second is that some of the deaths in hospital of people with fall-related injuries that do not meet the definition of *directly fall-related injury* may warrant inclusion as fall injury deaths. Rates based on deaths in hospital of people with a directly fall-related injury have a similar trend to the rates of unintentional fall injury death reported in this chapter.

Box 7.1: External causes of falls

The **Falls (W00–W19)** section of Chapter XX, 'External causes of morbidity and mortality' of ICD-10 includes:

- Fall on same level involving ice and snow (W00)
- Fall on same level from slipping, tripping and stumbling (W01)
- Fall involving ice-skates, skis, roller-skates or skateboards (W02)
- Other fall on same level due to collision with, or pushing by, another person (W03)
- Fall while being carried or supported by other persons (W04)
- Fall involving wheelchair (W05)
- Fall involving bed (W06)
- Fall involving chair (W07)
- Fall involving other furniture (W08)
- Fall involving playground equipment (W09)
- Fall on and from stairs and steps (W10)
- Fall on and from ladder (W11)
- Fall on and from scaffolding (W12)
- Fall from, out of or through building or structure (W13)
- Fall from tree (W14)
- Fall from cliff (W15)
- Diving or jumping into water causing injury other than drowning or submersion (W16)
- Other fall from one level to another (W17)
- Other fall on same level (W18)
- Unspecified fall (W19).

7.1 Overview of fall injury deaths

Unintentional fall injury deaths accounted for 97% of all fall injury deaths in 2009–10 (Table 7.1). Falls attributed to *Intentional self-harm* and those with *Undetermined intent* are not included elsewhere in this chapter.

Number of deaths	Percentage of all fall-related deaths (%)	ICD-10 codes	Terminology in this report	Coverage in this report
3,480	96.9	UCoD W00–W19; or UCoD X59 and MCoD fracture; or MCoD W00–W19 and S00–T75, T79 or MCoD X59 and fracture ^(a)	Unintentional falls ^(b)	Falls (Chapter 7)
95	2.6	UCoD X80	Intentional self-harm involving fall	Suicide (Chapter 10)
0	0.0	UCoD Y01	Assault involving fall	Homicide (Chapter 11)
15	0.4	UCoD Y30	Undetermined intent involving fall	(Chapter 2)
3,590	100		Total fall injury deaths	

Table 7.1: Deaths involving falls, 2009-10

(a) The 4 criteria include 1531, 538, 443 and 972 deaths (4 deaths met more than 1 of the criteria).

(b) Falling is part of certain other unintentional external causes: from animal (V80.0; n = 4); into water before drowning (W66, W68, W70; n = 49). These deaths are not included here.

Source: AIHW National Mortality Database.

7.2 How many unintentional fall injury deaths were there in 2009–10?

Unintentional falls were involved in 3,480 injury deaths in Australia during 2009–10 (Table 7.2). This was almost 49% of all female injury deaths and over 22% of all male injury deaths for this period. In 2009–10, unintentional fall injury deaths for females were close to 1.3 times as common as for males, although the age-standardised rate was higher for males.

Table 7 2. Key indica	tors for unintentior	nal fall injury dea	oths Australia 2009–10
Table 7.2. Key mulca	tors for unintention	lai laii ilijuly uea	11115, Australia, 2009=10

Indicator	Males	Females	Persons
Deaths	1,495	1,985	3,480
Per cent of all injury deaths	22.6	48.9	32.6
Crude rate per 100,000 population	13.7	18.0	15.9
Age-standardised rate/100,000 population	14.9	12.3	13.5

Source: AIHW National Mortality Database.

Persons aged 65 and over accounted for over 93% of unintentional fall injury deaths (Table 7.3).

	Males		Females		Persons	
Age group (years)	Number	%	Number	%	Number	%
0–4	n.p.	n.p.	n.p.	n.p.	5	0.1
5–14	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
15–24	24	1.6	n.p.	n.p.	n.p.	n.p.
25–44	30	2.0	11	0.6	41	1.2
45–64	107	7.2	51	2.6	158	4.5
65+	1,331	89.0	1,920	96.7	3,251	93.4
Total	1,495	100	1,985	100	3,480	100



Source: AIHW National Mortality Database.

During 2009–10, the age-standardised rate of unintentional fall injury deaths for residents of the Northern Territory (Table 7.4) was more than double the national rate of 13.5 deaths per 100,000 population. Most other jurisdictions recorded rates either moderately above or moderately below the national rate, with residents of South Australia recording the lowest rate of 10.9 deaths per 100,000 population.

Table 7.4: Unintentional fall injury deaths by state or territory of usual residence, Australia, 2009–10

	State or territory of usual residence							
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	1,141	818	702	399	255	87	55	23
Per cent	32.8	23.5	20.2	11.5	7.3	2.5	1.6	0.7
Age-standardised rate/ 100,000 population ⁾	12.8	12.3	15.2	17.6	10.9	13.1	17.9	30.7

Source: AIHW National Mortality Database.

Age-standardised rates tended to increase with remoteness of usual residence (Table 7.5).

Table 7.5: Unintentional fall injury deaths by remoteness of usual residence, Australia, 2009-10

	Remoteness of usual residence ^(a)								
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)			
Deaths	2,295	765	357	39	11	3,467			
Per cent	66.2	22.1	10.3	1.1	0.3				
Age-standardised rate/ 1000,000 population	13.1	13.6	15.6	16.9	11.7				

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 13 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

7.3 How have unintentional fall injury deaths changed over time?

Figure 7.1 compares the number of unintentional fall injury deaths occurring each year with the baseline number of deaths (2,628) in 1999–00. In every year except 2000–01, the number of fall-related injury deaths was higher than in the baseline year. The largest difference occurred in 2009–10 when there were 852 more unintentional fall injury deaths (3,480 in total).





Over the period from 1999–00 to 2009–10, age-standardised rates of unintentional fall injury deaths remained relatively steady (Figure 7.2). Rates decreased by an average of 0.8% per year between 1999–00 and 2007–08.

7.4 How have unintentional fall injury deaths varied by age and sex?

During the period of interest, age-standardised rates for unintentional fall injury deaths fluctuated a little for both males and females, but with no pronounced trend (Figure 7.3). Rates for males were consistently 15%–20% higher than rates for females.



An examination of changes in fall injury death rates over time by age and sex is shown in Figure 7.4. Age-specific rates for males were higher than female rates for those aged 15–24, 25–44 and 45–64 while for those aged 65 and over, female rates were higher. Rates for males and females in most age groups remained relatively steady over time apart from for males aged 25–44, where there was a distinct downward trend over time.



7.5 How have unintentional fall injury deaths varied by remoteness?

Rates of unintentional fall injury death were generally more similar than for other external causes for residents of all remoteness areas (Figure 7.5). The fluctuation in rates for residents of the *Very remote* region partly reflects the small population and number of incidents occurring each year.



7.6 How have unintentional fall injury deaths of Aboriginal and Torres Strait Islander people changed over time?

Age-standardised rates for Aboriginal and Torres Strait Islander people rose markedly during the first half of the decade, before declining just as markedly between 2004–05 and 2006–07 (Figure 7.6). Changes in rates over time need to be treated with caution due to the low numbers of deaths.


8 Thermal injury

The focus of this chapter is injury deaths related to exposure to smoke, fire and flames or contact with heat and hot substances. For brevity, the injuries resulting from these types of exposures are referred to here as thermal injuries.

The chapter provides a summary of all thermal injury deaths in 2009–10 that are identifiable in the deaths data, a statistical summary of unintentional thermal injury deaths in that year and a description of trends in unintentional thermal injury deaths from 1999–00 to 2009–10.

What methods were used?

The criteria given in Section 1.3 were applied and the records that included the following ICD-10 codes were included in this chapter:

• The UCoD was coded as exposure to smoke, fire and flames or contact with heat and hot substances (X00–X19).

or

- The MCoDs included codes for exposure to smoke, fire and flames or contact with heat and hot substances (X00–X19) and for injury (S00–T75 or T79). or
- The MCoDs included codes for burns (T20–T31) and for external causes of unintentional injury (V01–X59).

Suicide and homicide deaths (UCoD X60–Y09) were excluded. The concepts underlying the abbreviations used above are defined in the Glossary.

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 8.1. Further information on methods is provided at Appendix A.

Box 8.1: External causes of exposure to smoke, fire, heat and hot substances injury

The sections of Chapter XX, 'External causes of morbidity and mortality' concerning unintentional *Exposure to smoke, fire and flames* (X00–X09) and unintentional *Contact with heat and hot substances* (X10–X19) include:

Exposure to smoke, fire and flames (X00-X09)

- Exposure to uncontrolled fire in building or structure (X00)
- Exposure to uncontrolled fire, not in building or structure (X01)
- Exposure to controlled fire in building or structure (X02)
- Exposure to controlled fire, not in building or structure (X03)
- Exposure to ignition of highly flammable material (X04)
- Exposure to ignition or melting of nightwear (X05)
- Exposure to ignition or melting of other clothing and apparel (X06)
- Exposure to other specified smoke, fire and flames (X07)
- Exposure to unspecified smoke, fire and flames (X09)

(continued)

Box 8.1 (continued): External causes of exposure to smoke, fire, heat and hot substances injury

Contact with heat and hot substances (X10–X19)

- Contact with hot drinks, food, fats and cooking oils (X10)
- Contact with hot tap-water (X11)
- Contact with other hot fluids (X12)
- Contact with steam and hot vapours (X13)
- Contact with hot air and gases X14)
- Contact with hot household appliances (X15)
- Contact with hot heating appliances, radiators and pipes (X16)
- Contact with hot engines, machinery and tools (X17)
- Contact with other hot metals (X18)
- Contact with other and unspecified heat and hot substances (X19).

8.1 How many unintentional thermal injury deaths were there in 2009–10?

Unintentional thermal injuries accounted for 96 injury deaths in Australia during 2009–10 (Table 8.1). This was just under 1% of all injury deaths for this period. About 1.7 times as many males as females were fatally injured due this type of injury in 2009–10.

Indicator	Males	Females	Persons
Deaths	60	36	96
Per cent of all injury deaths	0.9	0.9	0.9
Crude rate/100,000 population	0.6	0.3	0.4
Age-standardised rate/100,000 population	0.6	0.3	0.4

Table 8.1: Key indicators for unintentional thermal injury deaths, Australia, 2009-10

Source: AIHW National Mortality Database.

Persons aged 25–44, 45–64 and 65 and over accounted for similar proportions (27%–28%) of all unintentional thermal injury deaths (Table 8.2). For those aged 25–44, the proportion of males was higher than that for females, while for the 2 oldest age groups the proportion of females was higher.

	Males		Females		Persons	
Age group (years)	Number	%	Number	%	Number	%
0-4	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
5–14	n.p.	n.p.	0	0.0	n.p.	n.p.
15–24	n.p.	n.p.	n.p.	n.p.	9	9.4
25–44	19	31.7	7	19.4	26	27.1
45–64	15	25.0	12	33.3	27	28.1
65+	13	21.7	13	36.1	26	27.1
Total	60	100	36	100	96	100

Table 8.2: Unintentional thermal injury deaths, Australia, 2009-10

Source: AIHW National Mortality Database.

During 2009–10, the age-standardised rate for unintentional thermal injury deaths for residents of Western Australia was more than double that of the national rate of 0.4 deaths per 100,000 population (Table 8.3). Most other jurisdictions recorded rates similar to the national rate.

Table 8.3: Unintentional thermal injury deaths by state or territory of usual residence, Australia, 2009–10

	State or territory of usual residence							
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	25	23	17	21	7	n.p.	n.p.	n.p.
Per cent	26.0	24.0	17.7	21.9	7.3	n.p.	n.p.	n.p.
Age-standardised rate/ 100,000 population	0.3	0.4	0.4	0.9	0.4	n.p.	n.p.	n.p.

Source: AIHW National Mortality Database.

There was a tendency for rates to increase with remoteness, although counts for residents of the *Remote* and *Very Remote* areas were too low to be reported (Table 8.4).

Table 8.4: Unintentional thermal injury deaths by remoteness of usual residence, Australia, 2009-10

	Remoteness of usual residence ^(a)						
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)	
Deaths	47	27	15	n.p.	n.p.	95	
Per cent	49.5	28.4	15.8	n.p.	n.p.		
Age-standardised rate/ 1000,000 population	0.3	0.6	0.8	n.p.	n.p.		

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 1 death where remoteness was not reported.

Source: AIHW National Mortality Database.

8.2 How have unintentional thermal injury deaths changed over time?

Figure 8.1 compares the number of thermal injury deaths occurring each year with the baseline number of deaths (148) in 1999–00. The number of deaths has been lower than in the baseline period for every subsequent year except 2002–03, 2004–05 and 2008–09. The spike in 2008-09 reflects the large number of deaths in February 2009, due to bushfires in Victoria.





Age-standardised rates of thermal injury deaths fluctuated, but tended to decrease from 0.8 deaths per 100,000 population in 1999–00 to 0.6 in 2007–08 (Figure 8.2). This represented an average decrease of 3.2% per year over this period.

8.3 How have unintentional thermal injury deaths varied by age and sex?

During the period from 1999–00 to 2007–08, age-standardised rates of thermal injury deaths decreased over time for both males and females (Figure 8.3). For males, rates decreased from 1.1 per 100,000 population in 1999–00 to 0.9 per 100,000 population in 2007–08. For females, rates decreased from 0.5 per 100,000 population in 1999–00 to 0.3 per 100,000 population in 2007–08. As indicated above, the spike in rates in 2008–09 was due to the 2009 Victorian bushfires. Rates for males were consistently more than double those for females.



An examination of changes in thermal injury death rates over time by age and sex is shown in Figure 8.4. Age-specific rates for males were higher than female rates at all ages and in all years. The difference in rates between males and females was most marked at ages 25–44. Small numbers of deaths contribute to fluctuation of rates and necessitated suppression of some series.



1999-00 to 2009-10

8.4 How have unintentional thermal injury deaths varied by remoteness?

Rates of thermal injury deaths were consistently higher for residents of *Remote* and *Very remote* areas combined compared with equivalent rates for residents of all other remoteness (Figure 8.5). The rate ratio for residents of *Very remote* areas compared with that for residents of *Major cities* varied from 4.4 times as high in 2009–10 to almost 7 times as high in 2004–05.

The fluctuation in rate of injury deaths in the combined *Remote* areas of Australia is partly a reflection of the small population and number of incidents occurring each year. However, it also reflects the pattern of deaths due to bushfires: the number varies greatly between years. The peak in the combined *Remote* series in 2004–05 includes the deaths that occurred in the Eyre Peninsula bushfire in January 2005, while the peak in the *Inner regional* series in 2008–09 includes deaths that occurred in the Victorian bushfires in February 2009.



9 Other unintentional injury

This chapter provides a brief overview of deaths in 2009–10 that involved types of unintentional injury not covered in chapters 3 to 8 of this report. Trends are not presented for *Other unintentional injury* overall because it includes deaths due to a diverse range of specific causes. Trends of some types of death included in this chapter were affected markedly by changes in methods of processing mortality data that occurred during the period, which is demonstrated by presenting trends for certain causes. The companion technical report provides further information (AIHW 2015).

What methods were used?

The criteria given in Section 1.3 were applied and the records that included the following ICD-10 codes were included in this chapter:

• The UCoD was a code from the ranges of unintentional external causes of injury that do not form part of the inclusion criteria for other chapters.

or

• The MCoDs included codes from these ranges of external causes of injury and at least one code for injury (S00–T75 or T79).

Deaths with UCoD = X59 (Accidental exposure to unspecified factors) in conjunction with fracture codes are included in Chapter 7, not in this chapter.

Suicide and homicide deaths (UCoD X60-Y09) were excluded. The concepts underlying the abbreviations used above are defined in the Glossary.

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 9.1. Further information on methods is provided at Appendix A.

Box 9.1: External causes of other unintentional injury deaths

Code ranges for **Other unintentional injury** taken from Chapter XX, 'External causes of morbidity and mortality' include the following 7 groups:

- Exposure to inanimate and animate mechanical forces (W20–W64)
- Accidental threats to breathing (W75–W84)
- Exposure to electric current, radiation and extreme ambient air temperature and pressure (W85–W99)
- Contact with venomous animals and plants (X20–X29)
- Exposure to forces of nature (X30–X39)
- Overexertion, travel and privation (X50–X57)
- Accidental exposure to other and unspecified factors (X58–X59)

9.1 How many other unintentional injury deaths were there in 2009–10?

Other unintentional injury accounted for 1,355 injury deaths in Australia during 2009–10 (Table 9.1). This was just under 13% of all injury deaths for this period. There were 1.5 times as many males as females fatally injured due to this type of injury in 2009–10.

Indicator	Males	Females	Persons
Deaths	809	546	1,355
Per cent of all injury deaths	12.2	13.4	12.7
Crude rate/100,000 population	7.4	4.9	6.1
Age-standardised rate/100,000 population	7.7	3.8	5.6

Table 9.1: Key indicators for other unintentional injury deaths, Australia, 2009-10

Source: AIHW National Mortality Database.

9.2 Overview

Table 9.2 shows the mechanisms that were responsible for deaths included in this chapter, with numbers and proportions of deaths in 2009–10.

The most common mechanism was *Inhalation and ingestion of gastric contents, food or other objects causing obstruction of the respiratory tract;* this was a cause for 63% (n = 856) of all deaths in this chapter. Of these 856 deaths, 652 were certified by a doctor and 204 by a coroner. Deaths were heavily concentrated in older age groups, with 638 (75%) of deaths involving this mechanism being persons aged 65 and over.

ICD-10 code	Mechanism	Count	%
W20–W22	Struck against or struck by object	31	2.3
W23	Caught, crushed, jammed or pinched in or between objects	11	0.8
W24	Contact with lifting and transmission devices, nec	n.p.	n.p.
W25–W26	Contact with sharp object (includes sharp glass, knife, sword or dagger)	n.p.	n.p.
W27–W31	Contact with tools or machinery (includes non-powered or powered hand tools, agricultural machinery, powered lawnmower	10	0.7
W32–W34	Unintentional discharge of firearms	7	0.5
W35–W40	Unintentional explosions (includes explosion and rupture of boiler, gas cylinder, pressurised tyre, pipe, hose, firework, and other materials)	5	0.4
W44–W45	Foreign body entering into or through eye or natural orifice, or through skin	n.p.	n.p.
W49	Exposure to other and unspecified inanimate mechanical forces	6	0.4
W50–W52	Struck by or against another person, or crushed, pushed or stepped on by crowd of people	6	0.4
W53–W59	Bitten, struck, stung, crushed or contact with mammals, marine animals, insects or reptiles	10	0.7
W75–W77	Unintentional hanging, suffocation and strangling	28	2.1
W78–W80	Inhalation and ingestion of gastric contents, food or other objects causing obstruction of the respiratory tract	856	63.2
W81–W84	Other threats to breathing (includes confined to, or trapped in a low oxygen environment, asphyxiation, aspiration and suffocation, nec)	23	1.7
W85–W87	Electrocution	25	1.8
W92–W99	Exposure to environmental factors (includes heat or cold of man-made origin and exposure to high and low air pressure)	0	0.0
X20-X29	Contact with venomous animals and plants	n.p.	n.p.
X30–X39	Exposure to forces of nature (includes natural heat or cold, lightning, earthquake, flood, avalanche or landslide)	63	4.6
X50–X57	Overexertion, travel and privation	n.p.	n.p.
X58-X59 ^(a)	Exposure to other or unspecified factors	258	19.0
Total		1,355 ^(b)	

Table 9.2: Major mechanisms of deaths included in the Other unintentional injury cate	gory,
Australia, 2009–10	

(a) Excludes X59 accompanied by MCOD for fracture (these deaths are included in Chapter 7).

(b) The total shown in this table exceeds the total number of deaths because some deaths have been assigned more than 1 external cause code, resulting in death being counted in more than 1 category.

Source: AIHW National Mortality Database.

9.3 Trends for selected mechanisms of injury

Classification of some of the types of deaths included in this chapter varied markedly with the changes in processing of deaths data that occurred in the period covered by this report (see Appendix A). Trends in numbers of deaths involving 3 mechanisms of injury demonstrate this (Figure 9.1). The code ranges charted include deaths by mechanisms that are common in suicide and homicide: hanging, stabbing and shooting. For all 3 mechanisms, there was an increase in numbers of deaths coded as unintentional early in the decade, followed by a sharp drop after 2004–05. The revised processing method applies to all deaths with a year of death of 2005–06 or later and, in that period, few injury deaths with these mechanisms were recorded as being unintentional.

Deaths registered in 2006 provide the most direct indication of the effect of the changes in processing. The first release was processed before changes were introduced and the second release (used when preparing Figure 9.1) afterwards. The numbers of deaths coded to the 3 ranges shown in Figure 9.1 in the first and second release of 2006 data were W76: 179 and 16, W26: 58 and 27, and W32–W34: 56 and 11.



10 Suicide deaths

This chapter provides a brief overview of suicide deaths in 2009–10 and trends in deaths from this cause to 2009–10. Trends in suicide have been the subject of much attention. Recognising the problems caused by its under-identification was the main reason for changing methods for processing causes of death during the period covered by this report (see Appendix A and AIHW 2014).

What methods were used?

The criteria given in Section 1.3 were applied and the records that included the following ICD-10 codes were included in this chapter:

• The UCoD was intentional self-harm (X60–X84).

or

• The MCoDs included codes for intentional self-harm and for injury (S00-T75 or T79).

Few deaths were included by the second criterion (about 4 per year on average). The concepts underlying the abbreviations used above are defined in the Glossary.

The title of the ICD-10 code-block X60–X84 is *Intentional self-harm*. Deaths coded to this range are commonly referred to as *suicide*, a practice followed here, although the scope of inclusion of the code block includes 'purposely self-inflicted poisoning or injury', suicide and attempted suicide. That is, it could include deaths due to intentional self-harm where a fatal outcome was not intended.

An investigation of suicide statistics in Australia, which focused on deaths in 2005, demonstrated use of data from the NCIS to complement data from the ABS cause of death collection (AIHW 2009b). A similar method has been used here to supplement the ABS data (see Appendix A). This is particularly important for deaths registered in 2005 and earlier, since the new methods, introduced by the ABS largely because of problems with identifying and coding suicide, have not been applied to deaths registered before 2006. ABS estimates of suicide for the period since the revised methods were introduced are close to the values obtained by the supplementary method (see Section 10.2).

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 10.1.

Box 10.1: External causes of intentional self-harm (suicide)

The **Intentional self-harm** (X60–X84) section of Chapter XX, 'External causes of morbidity and mortality' includes the following categories:

- Intentional self-poisoning by and exposure to nonopioid analgesics, antipyretics and antirheumatics (X60)
- Intentional self-poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified (X61)
- Intentional self-poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified (X62)

(continued)

Box 10.1 (continued): External causes of intentional self-harm (suicide)

- Intentional self-poisoning by and exposure to other drugs acting on the autonomic nervous system (X63)
- Intentional self-poisoning by and exposure to other and unspecified drugs, medicaments and biological substances (X64)
- Intentional self-poisoning by and exposure to alcohol (X65)
- Intentional self-poisoning by and exposure to organic solvents and halogenated hydrocarbons and their vapours (X66)
- Intentional self-poisoning by and exposure to other gases and vapours (X67)
- Intentional self-poisoning by and exposure to pesticides (X68)
- Intentional self-poisoning by and exposure to other and unspecified chemicals and noxious substances (X69)
- Intentional self-harm by hanging, strangulation and suffocation (X70)
- Intentional self-harm by drowning and submersion (X71)
- Intentional self-harm by handgun discharge (X72)
- Intentional self-harm by rifle, shotgun and larger firearm discharge (X73
- Intentional self-harm by other and unspecified firearm discharge (X74)
- Intentional self-harm by explosive material (X75)
- Intentional self-harm by smoke, fire and flames (X76)
- Intentional self-harm by steam, hot vapours and hot objects (X77)
- Intentional self-harm by sharp object (X78)
- Intentional self-harm by blunt object (X79)
- Intentional self-harm by jumping from a high place (X80)
- Intentional self-harm by jumping or lying before moving object (X81)
- Intentional self-harm by crashing of motor vehicle (X82)
- Intentional self-harm by other specified means (X83)
- Intentional self-harm by unspecified means (X84).

10.1 How many suicides were there in 2009–10?

Suicides accounted for 2,247 injury deaths in Australia during 2009–10, just over 21% of all injury deaths in this period (Table 10.1). There were 3.2 times as many male suicide deaths as female in 2009–10.

Table 10.1: Key	indicators for i	ntentional-self har	n (suicide) dea	ths, Australia, 2009–10
			· · · · ·	

Indicator	Males	Females	Persons
Deaths	1,710	537	2,247
Per cent of all injury deaths	25.9	13.2	21.1
Crude rate/100,000 population	15.7	4.9	10.2
Age-standardised rate/100,000 population	15.6	4.8	10.1

Source: AIHW National Mortality Database.

Persons aged 25–44 and 45–64 accounted for 74% of all suicide deaths (Table 10.2). In contrast, 43% of injury deaths from all causes were in these age ranges. Similar proportions of male and female suicide deaths were in each age group.

	Males		Fem	ales	Pers	Persons	
Age group (years)	Number	%	Number	%	Number	%	
0–4	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	
5–14	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	
15–24	213	12.5	70	13.0	283	12.6	
25–44	677	39.6	203	37.8	880	39.2	
45–64	583	34.1	194	36.1	777	34.6	
65+	234	13.7	68	12.7	302	13.4	
Total	1,710	100	537	100	2,247	100	

Table 10.2: Intentional self-harm (suicide) deaths by age and sex, Australia, 2009-10

Source: AIHW National Mortality Database.

The age-standardised rate for suicides during 2009–10 for residents of the Northern Territory was 1.8 times the national rate of 10.1 deaths per 100,000 population (Table 10.3). Rates for residents of other jurisdictions varied by up to one-third from the national rate. It has been shown for an earlier period that timing of processing of intentional self-harm deaths differed between jurisdictions (AIHW 2009b). The data for deaths in 2009–10 are subject to review and revision and so final jurisdiction-specific rates might differ from those shown here.

Table 10.3: Intentional self-harm (suicide) deaths by state or territory of usual residence, Australia, 2009–10

	State or territory of usual residence							
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	589	515	537	272	184	68	41	41
Per cent	26.2	22.9	23.9	12.1	8.2	3.0	1.8	1.8
Age-standardised rate/ 100,000 population	8.2	9.3	12.1	11.9	11.0	13.4	11.6	18.2

Source: AIHW National Mortality Database.

Age-standardised suicide rates tended to rise with remoteness of usual residence (Table 10.4). The rate for residents of *Very remote* areas was more than 1.7 times the rate for residents of *Major cities*.

Table 10.4: Intentional self-harm (suicide) deaths by remoteness of usual residence, Australia, 2009–10

		Remoteness of usual residence ^(a)							
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)			
Deaths	1,441	474	233	50	29	2,227			
Per cent	64.7	21.3	10.5	2.2	1.3				
Age-standardised rate/ 1000,000 population	9.3	11.3	11.8	15.9	16.5				

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 20 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Mechanisms of suicide

The most frequently recorded mechanism of suicide was hanging, strangulation and suffocation (X70), which accounted for 57% (n = 1,273) of deaths (Table 10.5). This method accounted for 61% (n = 1,037) of male suicide deaths and 44% (n = 236) of female suicide deaths in 2009–10. The proportion of male suicides involving this mechanism was 43% in 1999–2000 and has tended to rise. The proportion of all female suicides involving this mechanism changed little.

The second most frequently recorded type of suicide method was poisoning, which accounted for 24% (n = 542) of suicides in 2009–10. Poisoning was the method used by females in 38% of deaths compared with 20% of male deaths. The use of firearms was much more prominent among male suicides (8%; n = 138) than among female suicides (1.3%; n = 7).

Table 10.5: Mechanism of intentional self-harm (s	suicide) deaths, Australia, 2009–10
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	Males		Fema	ales	Perso	ons
Mechanism of suicide	Count	%	Count	%	Count	%
Hanging, strangulation and suffocation	1,037	60.6	236	43.9	1,273	56.7
Poisoning	339	19.8	203	37.8	542	24.1
Jumping from a high place, or lying before a moving object	105	6.1	58	10.8	163	7.3
Firearms	138	8.1	7	1.3	145	6.5
Cutting, piercing	48	2.8	9	1.7	57	2.5
Drowning and submersion	26	1.5	19	3.5	45	2.0
Smoke, fire and flames, and hot substances	19	1.1	8	1.5	27	1.2
Crashing of motor vehicle	20	1.2	4	0.7	24	1.1
Other specified mechanisms	n.p.	n.p.	n.p.	n.p.	9	0.4
Unspecified mechanisms	n.p.	n.p.	n.p.	n.p.	6	0.3
Total suicides	1,710		537		2,247	

Source: AIHW National Mortality Database.

Table 10.6 lists the type of agent coded for suicide deaths that involved poisoning by drugs or the toxic effects of another type of substance. The most common poisoning agent was *Carbon monoxide*, which was mentioned in more than one-third of suicide deaths with mention of poisoning (n = 191). In relation to drugs, medicaments and biological substances,

the most common poisoning agents leading to death were *Antiepileptic, sedative-hypnotic and antiparkinsonism drugs (n* = 159), *Psychotropic drugs, nec (n* = 143), and *Narcotics and psychodysleptics [hallucinogens] (n* = 101).

Table 10.6: Poisoning-related self-harm (suicide) deaths by type of poisoning agent,	Australia,
2009–10		

Poisoning agent	Number of deaths ^(a)	%
Drugs, medicaments and biological substances		
Antiepileptic, sedative-hypnotic and antiparkinsonism drugs	159	29.3
Psychotropic drugs, nec	143	26.4
Narcotics and psychodysleptics [hallucinogens]	101	18.6
Nonopioid analgesics, antipyretics and antirheumatics	60	11.1
Drugs primarily systemic and haematological agents	18	3.3
Agents primarily acting on smooth and skeletal muscles and the respiratory system	15	2.8
Drugs primarily affecting the autonomic nervous system	11	2.0
Other and unspecified drugs, medicaments and biological agents	79	14.6
Substances chiefly non-medicinal as to source		
Carbon monoxide	191	35.2
Pesticides	9	1.7
Alcohol	7	1.3
Other and unspecified substances	16	3.0
Total number of suicide deaths involving poisoning	542	

(a) The number of suicide deaths with cause codes for the specified types of substance. More than 1 type of substance was reported for some suicide deaths. Hence, the numbers of suicide deaths including codes for the specified types of agent sum to more than the total number of suicide deaths involving poisoning (n = 542), and the agent-specific proportions sum to more than 100%.

Source: AIHW National Mortality Database.

10.2 How have suicides changed over time?

Figure 10.1 compares the number of suicide deaths occurring each year with the baseline number of deaths (2,516) in 1999–00. For every later year, the reported number of suicide deaths has been lower than in 1999–00. The largest difference occurred in 2004–05 when there were 473 fewer suicide deaths than in 1999–00. This apparent trend in counts should be interpreted in the light of the discussion, below, of rates based on supplementary data from the NCIS.



Age-standardised rates of suicide decreased from 13.2 per 100,000 population in 1999–00 to 10.1 per 100,000 population in 2009–10 (Figure 10.2). These data indicate an average decrease in age-standardised rates of 3.2% per year between 1999–00 and 2007–08, the period for which CODURF data are essentially final. The size of this average annual decrease and the shape of the trend should be treated with caution due to issues concerning the completeness of ascertainment, which are outlined in Appendix A and are the subject of another report (AIHW 2009b).

Supplementary estimates, based on NCIS data as at May 2013, indicate a more constant downward trend in age-adjusted rates than the steeper downward trend, followed by an upward trend, indicated by the CODURF data (Figure 10.2). The average annual decrease was 3.4% per year between 2001–02 (the first full year for which national NCIS data were available) and 2007–08.

Further information on the method used to produce the supplementary estimates is provided at Appendix A. Note that, for recent years, when the ABS's revised methods were in use, the supplementary estimates are close to those based on the CODURF data. The difference between the 2 series for earlier years – before the ABS's revised methods were introduced – is consistent with earlier work (AIHW 2009a, 2009b). A previous report of suicide deaths in 2004–05, based on NCIS data as in 2008, gave a case count for that year (n = 2,341) (AIHW 2009a) which is similar to the number underlying the supplementary rate for 2004–05, shown in Figure 10.2 (n = 2,381). The companion technical report provides further information on the effects of changes in methods on estimates of suicide (AIHW 2015).



10.3 How have suicides varied by age and sex?

During the period of interest, age-standardised rates of suicides decreased over time for males while female rates remained relatively steady (Figure 10.3). For males, rates decreased from 21.4 per 100,000 population in 1999–00 to 15.6 per 100,000 population in 2009–10. Rates were consistently 3 to 4 times as high for males as for females.



An examination of changes in suicide rates over time by age and sex is shown in Figure 10.4. Age-standardised rates for males were higher than female rates across all age groups for all years. The differences in rates between males and females was most marked for those aged 25–44, where male rates were over 4 times as high as female rates.



10.4 How have suicides varied by remoteness?

Rates of death due to suicide were consistently higher for residents of *Very remote* areas compared with residents of all other remoteness areas (Figure 10.5). The rate ratio for residents of *Very remote* areas compared with residents of *Major cities* varied from 1.8 times as high in 2009–10 to 3.5 times as high in 2004–05.

The fluctuation in the rates of suicide deaths in the *Very remote* and *Remote* areas of Australia is partly a reflection of the small population and number of incidents occurring each year.



10.5 How have suicides by Aboriginal and Torres Strait Islander people changed over time?

Over the period from 1999–00 to 2009–10, age-standardised rates for Aboriginal and Torres Strait Islander males fluctuated, with weak indications of a downward trend, while rates for females showed a gradual upward trend (Figure 10.6). Rates for males were higher than rates for females across the entire period ranging from 2.7 times as high in 2007–08 to 6.5 times as high in 1999–00.



11 Homicide deaths

This chapter provides a brief overview of homicide deaths in 2009–10 and trends in relation to these to 2009–10. Variation in counts for this cause of death must be interpreted with caution for reasons described in Section 11.2, Appendix A and the companion technical report (Harrison & Henley 2015).

What methods were used?

The criteria given in Section 1.3 were applied and the records that included the following ICD-10 codes were included in this chapter:

- The UCoD was assault (X85–Y09), or legal intervention and operations of war (Y35, Y36).
- The MCoDs included any of these codes and a code for injury (S00–T75 or T79).

Few deaths were included by the second criterion (about 4 per year on average). Similar numbers of deaths due to legal intervention were also included. Very few deaths were attributed to operations of war, reflecting the practice that deaths overseas of members of the Australian armed forces are not normally registered in Australia (AIHW 2015). The concepts underlying the abbreviations used above are defined in the Glossary.

Relevant terms and information regarding the data used in this chapter are summarised in boxes 1.1, 1.2 and 11.1.

Box 11.1: External causes of assault (homicide) injury

The sections of Chapter XX, 'External causes of morbidity and mortality', on Assault (X85–Y09) and Legal intervention and operations of war (Y35–Y36) include the following categories:

Assault (X85–Y09)

- Assault by drugs, medicaments and biological substances (X85)
- Assault by corrosive substance (X86)
- Assault by pesticides (X87)
- Assault by gases and vapours (X88)
- Assault by other specified chemicals and noxious substances (X89)
- Assault by unspecified chemical or noxious substance (X90)
- Assault by hanging, strangulation and suffocation (X91)
- Assault by drowning and submersion (X92)
- Assault by handgun discharge (X93)
- Assault by other and unspecified firearm discharge (X95)
- Assault by explosive material (X96)
- Assault by smoke, fire and flames (X97)
- Assault by steam, hot vapours and hot objects (X98)
- Assault by sharp object (X99)
- Assault by blunt object (Y00)

(continued)

Box 11.1 (continued): External causes of assault (homicide) injury

- Assault by pushing from high place (Y01)
- Assault by pushing or placing victim before moving object (Y02)
- Assault by crashing of motor vehicle (Y03)
- Assault by bodily force (Y04)
- Sexual assault by bodily force (Y05)
- Neglect and abandonment (Y06)
- Other maltreatment syndromes (Y07)
- Assault by other specified means (Y08)
- Assault by unspecified means (Y09)

Legal intervention and operations of war (Y35-Y36)

- Legal intervention (Y35)
- Operations of war (Y36)

11.1 How many homicides were there in 2009–10?

Homicides accounted for 240 injury deaths in Australia during 2009–10 (Table 11.1). This was just over 2% of all injury deaths for this period. There were twice as many male homicide deaths as female homicide deaths in 2009–10.

Indicator	Males	Females	Persons
Deaths	160	80	240
Per cent of all injury deaths	2.4	2.0	2.2
Crude rate/100,000 population	1.5	0.7	1.1
Age-standardised rate/ 100,000 population	1.5	0.7	1.1

Table 11.1: Key indicators for assault (homicide) deaths, Australia, 2009-10

Source: AIHW National Mortality Database.

Deaths of persons aged 25–44 accounted for 46% of homicides during 2009–10 (Table 11.2). In contrast, 23% of all injury deaths occurred in this age range. Compared with male homicide deaths, a smaller proportion of female deaths were at ages 45–64 and a larger proportion were at ages 65 and over.

	Males		Females		Persons	
Age group (years)	Number	%	Number	%	Number	%
0–4	n.p.	n.p.	n.p.	n.p.	7	2.9
5–14	n.p.	n.p.	n.p.	n.p.	10	4.2
15–24	20	12.5	10	12.5	30	12.5
25–44	75	46.9	35	43.8	110	45.8
45–64	46	28.8	13	16.3	59	24.6
65+	12	7.5	12	15.0	24	10.0
Total	160	100	80	100	240	100

Table 11.2: Assault	(homicide)	deaths by ag	e and sex.	Australia.	2009-10
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Source: AIHW National Mortality Database.

The age-standardised rate of homicide deaths during 2009–10 for residents of the Northern Territory was 6.5 times the national rate of 1.1 deaths per 100,000 population (Table 11.3). Rates for residents of other jurisdictions were much closer to the national rate.

		State or territory of usual residence						
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	78	59	38	28	19	n.p.	n.p.	13
Per cent	32.5	24.6	15.8	11.7	7.9	n.p.	n.p.	5.4
Age-standardised rate/ 100,000 population	1.1	1.1	0.9	1.2	1.2	n.p.	n.p.	7.2

Table 11.3: Assault	(homicide) deaths by	y state or territor	y of usual	l residence,	Australia,	2009-10
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Source: AIHW National Mortality Database.

The age-adjusted rates of homicide for residents of *Remote* and *Very remote* areas were about 4 times the rate for residents of *Major cities* (Table 11.4).

Table 11.4: Assault	(homicide)	deaths by	y remoteness of usual	l residence,	Australia, 2009-10
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	Remoteness of usual residence ^(a)								
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)			
Deaths	155	34	26	12	8	235			
Per cent	66.0	14.5	11.1	5.1	3.4				
Age-standardised rate/ 100,000 population	1.0	0.9	1.3	3.8	4.2				

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 5 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Associated factors

Of the 160 male deaths that occurred in 2009–10, 44% (n = 70) involved Assault by a sharp object, 14% (n = 23) involved Assault by bodily force and 12% (n = 19) involved Assault by firearms.

For the 80 female deaths, *Assault by a sharp object* accounted for 38% (n = 30), while 13% (n = 10) involved *Assault by bodily force* and 11% (n = 9) involved *Assault by hanging, strangulation and suffocation.*

11.2 How have homicides changed over time?

Figure 11.1 compares the number of homicide deaths occurring each year with the baseline number of deaths (315) in 1999–00. For every year except 2001–02, the number of homicide deaths has been lower than in the baseline year. The largest difference occurred in 2004–05 when there were 137 fewer homicide deaths (178 in total). This should be interpreted in light of the following comparisons with supplementary sources.



Age-standardised rates of homicide based on the CODURF data decreased from 1.7 per 100,000 population in 2000–01 to 0.9 in 2004–05 before tending to rise in subsequent years (Figure 11.2). Age-adjusted homicide rates based on the ABS data decreased by an average of 9.8% per year from 1999–00 to 2004–05 and by an average rate of 5.5% per year from 1999–00 to 2007–08.

These changes need to be treated with caution due to issues outlined in Appendix A. The authors have previously reported on this, focusing on homicides in 2004–05 (AIHW 2009a). Estimates based on the CODURF data are supplemented here by rates based on 2 other sources of data. Australian Institute of Criminology (AIC) homicide data indicate an average rate of decrease of 5.0% per year between 1999–00 and 2004–05 and of 4.7% per year

between 1999–00 and 2007–08. Data on *homicide and related offences* from the ABS *Recorded Crime – Victims, Australia* publication series (ABS 2000, 2011c) indicated an average rate of decrease of 4.6% per year over a similar period, 1999 to 2007. It should be noted that differences in case definitions and methods between the sources are such that identical rates should not be expected. The main reason for using the supplementary sources is to assess whether the dip in ABS homicide counts, deepest in 2004–05, is evident in other sources. The crime victimisation series shows a nearly linear downward trend with small fluctuations. The AIC homicide series shows a little more fluctuation than the crime victimisation series, with a small dip in 2004–05. Neither supplementary series shows a dip as large as that evident in the CODURF data. All 3 series provide similar estimates for 2007–08, the latest year for which CODURF data are essentially final.



11.3 How have homicides varied by age and sex?

Age-standardised rates of homicides for males were consistently about double the rates for females (Figure 11.3). See Section 11.2 for cautionary notes on trends.



An examination of changes in homicide rates over time by age and sex is shown in Figure 11.4. Age-standardised rates for males were higher than equivalent female rates across all age groups for almost all years. Many of the rates by age, sex and year are based on small numbers of deaths, and this contributes to the large fluctuations.



3. Data underpinning this figure are available in Table B27 at Appendix B.

4. Rates for those aged 0–4 and 5–14 are not shown due to small numbers.

Source: AIHW National Mortality Database.

Figure 11.4: Age-specific rates of assault (homicide) deaths by age and sex, Australia, 1999-00 to 2009-10

11.4 How have homicides varied by remoteness?

Rates of homicide death were consistently higher for residents of *Very remote* areas compared with equivalent rates for all other remoteness areas (Figure 11.5). Rates were also elevated for residents of *Remote* areas in most years, while rates for residents of the 3 least remote areas differed very little.

The year-to-year fluctuation of rates for residents of the *Very remote* and *Remote* areas of Australia is at least partly a reflection of the small population and number of incidents occurring each year.



11.5 How have homicides of Aboriginal and Torres Strait Islander people changed over time?

Age-standardised rates for both Aboriginal and Torres Strait males and females fluctuated markedly from year to year, partly due to relatively low numbers of deaths (Figure 11.6).



Appendix A: Data issues

This appendix provides information on the data used in this report and on issues relevant to interpreting the data. Further information on Australian injury mortality data in the period covered by this report is provided in a companion technical report (AIHW 2015).

Fatal injury data

Most data in this report on fatal injuries are from the AIHW's National Mortality Database. The database comprises CODURF data, which are provided to the AIHW by the Registries of Births, Deaths and Marriages and the NCIS and coded by the ABS. Data are presented according to the year in which each death occurred, rather than year of registration or ABS reference year.

Records that meet the following criteria were included in this report:

• Death occurred between 1 July 1999 to 30 June 2010 inclusive and had been registered by 31 December 2010.

and

• The UCoD was an external cause code in the range V01-Y36.

or

• At least 1 MCoD was an external cause code in the range V01–Y36 and at least 1 other MCOD was a code for injury (S00–T75 or T79).

The codes are from the ICD-10 <apps.who.int/classifications/icd10/browse/2015/en>. The external cause codes are from Chapter XX, 'External causes of morbidity and mortality' and the injury codes are from Chapter XIX, 'Injury, poisoning and certain other consequences of external causes'.

Supplementary data sources

For some external causes of injury, trends in age-standardised rates over time calculated using CODURF mortality data have been compared with trends in rates calculated using supplementary sources of mortality data. These comparisons were made for external causes shown in previous work to have been substantially affected by problems relating to classification (see the section headed 'Coding of deaths data', below).

Transport-related injury

Rates for deaths due to unintentional transport-related injury calculated using CODURF mortality data were compared with rates calculated using data from the website of the road statistics section of the BITRE at
bitre.gov.au/publications/ongoing/road_deaths_
australia_monthly_bulletins.aspx>. This website provides data on road deaths, not total transport injury. The number of transport deaths for each financial year was estimated by multiplying the recorded number of road deaths by a factor obtained by dividing the number of transport deaths in the CODURF data by the number of deaths occurring in traffic (on-road) deaths in the CODURF data for each data year.

Drowning

Rates for deaths involving unintentional drowning were compared with rates calculated using data extracted online from the NCIS at <www.ncis.org.au> as at August 2013 as well as with rates calculated using data extracted from national drowning reports published by the RLSS, which were available at <www.royallifesaving.com.au/facts-and-figures/research-and-reports/drowning-reports>.

All data extracted from the NCIS website were downloaded via Excel spreadsheet and read into Stata for analysis. Duplicate records (that is, records with matching NCIS numbers) were removed before performing analyses. Criteria for selecting drowning-related deaths are given in Table A1.

Table A1: Inclusion and exclusion criteria for drowning-related cases extracted from the NCIS website

Criteria for inclusion	Criteria for exclusion
Case Type at Notification or Case Type at Completion = Death due to External Cause(s)	Case Type at Completion = Death due to Natural Cause(s)
and	or
Mechanism Level 2 = <i>Drowning/near drowning</i>	Intent at Completion = Intentional self-harm; Assault; Legal intervention; Operations of war, civil conflict and acts of terrorism; or Complications of medical or surgical care

Suicide

Rates for deaths due to suicides calculated using CODURF mortality data were compared with rates calculated using data extracted online from the NCIS at <www.ncis.org.au> as at May 2013. All data extracted from the NCIS website were downloaded via Excel spreadsheet and read into Stata for analysis. Duplicate records (that is, records with matching NCIS numbers) were removed before performing analyses. Criteria for selecting suicides are given in Table A2.

Table A2: Inclusion and exclusion criteria for suicide cases extracted from the NCIS website

Criteria for inclusion	Criteria for exclusion
Case Type at Notification or Case Type at Completion = Death due to External Cause(s)	Case Type at Completion = <i>Death due to Natural</i> <i>Cause(s)</i>
and	or
Intent at Notification or Intent at Completion = Intentional self-harm	Intent at Completion = Unintentional; Assault; Legal intervention; Operations of war, civil conflict and acts of terrorism;or Complications of medical or surgical care
or	
Activity code Level 2 = Self-inflicted harm	

Homicide

Rates for deaths due to homicides calculated using CODURF mortality data were compared with rates calculated using case data extracted from the AIC National Homicide Monitoring Program annual reports available at http://www.aic.gov.au/crime_types/violence/homicide.html and from reports of the ABS series Recorded Crime – Victims (ABS cat. no. 4510.0) available at http://www.abs.gov.au.

Coding of deaths data

The coded cause of death information on the CODURFs results from a process in which the ABS obtains data from state and territory death registers which, in turn, obtain information from the doctor or coroner who certifies each death, and from a relative or other person who knew the deceased person. The ABS codes causes of death according to the ICD-10.

If a death was due to an injury, the ICD-10 requires coding of the 'external cause' of the injury, such as a car crash of a particular type. Most injury deaths are certified by a coroner. For these deaths, the ABS seeks additional information required to code external causes from the NCIS, a national electronic repository of data on coroner cases.

Some injury deaths, and most deaths from other causes, are certified by a medical practitioner. In these instances, ABS coders rely on information about causes of death that was entered onto the medical certificate of death and transferred to the ABS via the state or territory Registrar of Births, Deaths and Marriages. Of the deaths included in this report, fall injury death is the type that is most commonly certified by a doctor.

The result of this process is a record in an annual ABS mortality data file that summarises characteristics of the person who died (for example, age, sex and Indigenous status) and characteristics of his or her death (for example, causes, date, place at which the person usually lived).

Certain aspects of the method used by the ABS have differed according to the registration year of deaths during the period covered by this report. The reasons for making the changes, and their nature, have been reported by the ABS (ABS 2009a). The changes are described here because of their potential to affect injury death statistics, including those in this report.

Deaths registered to the end of 2005

Each death was assessed only once by an ABS officer, within about 1 year after the end of the year in which it was registered. For most injury deaths, coronial investigation had ended and information was available through the NCIS by the ABS's cut-off date. For some injury deaths, however, information was lacking in the NCIS when the death was assessed by an ABS officer. This could occur if a coroner was still investigating the death, or if information about it had not been entered into the NCIS. As with all deaths, the ABS applied (ICD) rules when selecting cause codes for these deaths. However, the ABS came to the conclusion that the assignment of cause codes was problematic. The cause code assigned sometimes differed importantly from the cause code that would have been assigned had the data in the NCIS been complete when the ABS ceased coding an annual set of data in order to finalise the file for reporting and release. Deaths due to suicide and homicide were most affected because the records for these causes tended to take longer than others to be finalised in the NCIS. A study focused on suicide deaths in 2004 estimated that ABS data for the same period underestimated suicide by 16% plus an uncertain further proportion due to deaths that had Open status in the NCIS, or had not been entered into the NCIS, when the study was conducted (AIHW 2009a). A study of injury deaths that occurred in the year to 30 June 2005 found that other external causes were also affected; it was concluded that deaths in that year due to transport accidents were under-enumerated in the ABS cause of death data (AIHW 2009a).

Deaths registered in 2006

The initial version of this set of records, released in 2008, was affected in much the same way as the file of deaths registered in 2005. The ABS made a second release of this file in 2012,

coded on the basis of information that was in the NCIS by 2011 (that is, up to 3 years after the cut-off date for the initial release), and applied certain other changes, as described below (ABS 2012). The second release file of 2006 registrations was used in this project.

Deaths registered between 2007 to 2010

The ABS introduced several changes in response to the problems outlined above, which have been applied to deaths registered in 2007 and subsequent years (ABS 2009a). The most important aspect of the changes was to make 3 releases of the data concerning deaths registered in each calendar year: *Preliminary* (released a little over 1 year after the end of the registration year), *Revised* (one year after that) and *Final* (2 years after *Preliminary*). Information that appears in the NCIS too late to be used by the ABS for one1 release can inform later releases, with the result that cause codes for some coroner-certified deaths change between releases. In this report, we used *Final* release data for deaths registered in 2007 and 2008, *Revised* release data for deaths registered in 2009 and *Preliminary* release data for deaths registered in 2010, which were the latest data available when the analysis was undertaken. Also introduced when processing deaths registered in 2007 were changes to coding practice, the most notable being use of the ICD-10 *Undetermined intent* categories for certain deaths for which information in the NCIS might change or become more complete later (ABS 2009a).

Further changes were implemented by the ABS for deaths registered in 2008 and later. For both open and closed coroner cases, more time has been spent investigating part II of the Medical Certificate of Death when information in part I is not sufficient to allow assignment of a specific UCoD code. Also, increased resources have been used and more time spent investigating coroners' reports to identify specific causes of death. This involved making increased use of police reports, toxicology reports, autopsy reports and coroners findings for both open and closed cases to minimise the use of non-specific causes and intents (ABS 2010, 2011a, 2012).

Due to the multiple release process, future reports based on later releases of cause of death data might show different results from those presented in this report. Of the cases included in this report and which have dates of death in 2007-08 or earlier years, much fewer than 1% were based on *Preliminary* or *Revised* CODURF releases. Hence, the ABS revision process will have no more than a very small effect on the data for years of death up to and including 2007-08. In contrast, all of the cases reported that have the year of death in 2009-10 and 57% of those with the year of death in 2008-09 were based on *Preliminary* or *Revised* CODURF releases. Re-analysis of deaths data for those periods when *Final* CODURF releases are available can be expected to produce different results. In particular, some of the deaths assigned cause codes from the *Undetermined intent* block of ICD-10 are likely to be re-coded by the ABS to more specific categories because, with the passage of time between the ABS processing cut-off date for earlier releases and the cut-off date for the *Final* release, additional and more final information will have become available in the NCIS.

Further information on the effects of the matters discussed in this section on estimates of injury mortality are provided in the accompanying technical report (AIHW 2015).

Indigenous status data

For data in the period covered by this report, the ABS and the AIHW have recommended that Indigenous statistics be reported only for jurisdictions with a sufficient level of Indigenous identification (ABS & AIHW 2008; AIHW 2010). Injury death rates for Aboriginal
and Torres Strait Islander people are provided in this report for selected external causes of injury for the period from 1999–00 to 2009–10. Data from 4 jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) were used for this since these were the only jurisdictions for which Indigenous mortality data were considered to be of sufficient quality throughout the whole period. For the period from 2007–08 onwards, Indigenous mortality data from New South Wales have also been considered to be of sufficient quality, and have been included where reporting of data for Indigenous people is restricted to 2009–10. Data were selected on the basis of place of usual residence.

Data coverage

Analyses of Aboriginal and Torres Strait Islander mortality trends must be undertaken with care because of the limited understanding of the ways in which changes in the recording of Indigenous status on death registrations have affected the recorded numbers of deaths (AIHW 2005).

Estimates of the extent to which Indigenous Australians are identified in mortality data ('coverage') have been determined by the ABS for each state and territory by comparing the number of deaths from all causes registered as Indigenous with expected numbers calculated from Census-based population estimates and projections (ABS 2007, 2009c).

Implied coverage of Indigenous status in deaths data from 2002–06 is shown in Table A3, and are based on the 2001 Census. According to this source, implied coverage for the 4 jurisdictions that were included in analyses of trends in Indigenous injury mortality ranged from 51% for Queensland to 90% for the Northern Territory.

Jurisdiction	2002–06 ^(b)
New South Wales	45
Victoria	32
Queensland	51
Western Australia	72
South Australia	62
Northern Territory	90

Table A3: Implied coverage^(a) of Indigenous deaths (%)

(a) The implied coverage of Indigenous deaths is a comparison of the number of deaths from all causes registered as Indigenous with the Census-based estimates and projections of Indigenous deaths.

(b) 2001 Census based.

Note: The implied coverage for Indigeonus deaths for Tasmania and the Australian Capital Territory were not calculated due to small numbers.

The extent of under-identification of Indigenous deaths in death registrations was estimated in the Indigenous Mortality Quality Study, by linking 2006 Census data with deaths registered from 9 August 2006 to 30 June 2007 (ABS 2009c). Indigenous status as recorded in the 2 collections was compared and identification rates were calculated by comparing the number of deaths according to death registrations with the expected number of Indigenous deaths as determined by the Census. Identification rates and their reciprocals are shown in Table A4. Identification rates were less than 1.0, indicating under-identification of Indigenous deaths in death registrations for New South Wales, Queensland and the group

Source: (ABS 2007).

that includes the other jurisdictions (notably in the present context, Victoria and South Australia). The opposite is seen for Western Australia and the Northern Territory, indicating an over-representation of Indigenous deaths in death registrations relative to the Census.

State or territory	Identification rate ^(a)	Adjustment factor ^(b)
New South Wales	0.87	1.15
Queensland	0.94	1.06
Western Australia	1.11	0.90
Northern Territory	1.09	0.92
Other states/territories	0.65	1.54
Australia ^(c)	0.92	1.09

Table A4: Indigenous deaths identification rates by state and territory, Australia

(a) Calculated by dividing the number of Indigenous deaths according to death registrations by the expected number of deaths as determined by the Census.

(b) Calculated as the reciprocal of the identification rate.

(c) Includes all states and territories.

Note: Deaths registered from 9 August 2006 to 30 June 2007.

Source: (ABS 2009c).

The ABS continues to work with state and territory registrars of Births, Deaths and Marriages and other stakeholders to improve the level of identification of Indigenous deaths in each jurisdiction (ABS 2009b, 2013; AIHW 2011).

Late and revised registration of Indigenous deaths

Incomplete and potentially varying completeness of Indigenous identification for registered deaths is not the only reason for variation in the number of Indigenous deaths registered.

Unusual fluctuation in the initially reported number of deaths of Aboriginal and Torres Strait Islander people in Western Australia after the 2006 data year prompted investigation by the ABS and the Western Australian Registry of Births, Deaths and Marriages. This revealed a system error that led to some non-Indigenous deaths being recorded as Aboriginal and/or Torres Strait Islander deaths in 2007 and 2008 and perhaps also in 2009 (ABS 2011b). The Western Australia data used for this report have been corrected by the ABS.

The ABS has reported that a substantial rise in the number of Indigenous deaths registered in Queensland in 2010 was due to the late registration of certain deaths that occurred in earlier years (ABS 2011b). The ABS has recommended that statistical reporting should be undertaken in a way that avoids giving the false impression that Indigenous mortality rose in 2010. The special method recommended by the ABS is not required for this report because data are reported here by year of death, not by year of death registration. The late-registered deaths were included in the unit record files used for the present report.

Weighting of injury deaths

In principle, injury death count and rates values presented in this report could be weighted to allow for imperfect identification of Indigenous status in the mortality data. Weighting has not been applied for reasons given here.

The coverage estimates are for deaths from all causes. Injury deaths differ from most deaths in the way data are collected, which might affect Indigenous identification: most deaths are certified by a doctor while the great majority of injury deaths are reported by police to a coroner. The 2 available sets of coverage estimates refer to the period 2002 to 2006, and to 2006–07, whereas this report covers the period from 1999–00 to 2009–10, for which coverage may be different. Coverage estimates are not available by remoteness area, which is an important variable for this report.

Taken together, these considerations cast doubt on the reliability of the available coverage estimates as weighting factors for the injury deaths reported here.

Population data and the calculation of rates

General population

Rates were calculated using, as the denominator, the estimated resident population (ERP) as at 31 December in the relevant year (for example, 31 December 2006 for 2006–07 data). Where possible, the final release of ERPs was used.

Indigenous population

Rates of injury death of Aboriginal and Torres Strait Islander people are provided in this report for the period from 1999–00 to 2010–11, using data from 4 jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory). Data were selected on the basis of place of usual residence. Restriction of inclusion by jurisdiction reflects assessments of the quality of identification of Indigenous status. The assessments are subject to review and some recent AIHW reports include New South Wales data from 1999 onwards (AIHW 2014).

For Other Australians, population denominators were derived by subtracting the Aboriginal and Torres Strait Islander population from the total Australian ERP (of the states and territories eligible for inclusion) as at 31 December of the relevant year. Current standard practice in AIHW reports is to omit cases where Indigenous status was not stated or unknown.

Rates and change in rates

Directly age-standardised rates were calculated in Stata version 12.1 statistical software (StataCorp 2012) using the –dstdize- command and using the Australian population in 2001 as the standard (ABS 2002). Estimated trends in age-standardised rates were reported as average annual per cent changes obtained using Negative Binomial regression modelling, also performed in Stata.

Quantifying variability

The data presented in this report are subject to 2 types of statistical error: non-random and random. (A third type of statistical error, sampling error, does not apply here because none of the data sources used involved probability sampling.)

Non-random error

Some amount of non-random error is to be expected in administrative data collections such as the AIHW National Mortality Database on which this report relies. For example, nonrandom error could occur if the approach to assigning cause codes to deaths were to differ systematically between jurisdictions or over time. Systems are in place to encourage uniform data collection, and coding and scrutiny of data during analysis includes checking for patterns that might reflect non-random error. Nevertheless, some non-random error remains. Identified or suspected non-random errors large enough to materially affect findings are mentioned in reports (see the section headed 'Coding of deaths data', above).

Random error

The values presented in the report are subject to random error, or variation. Variation is relatively large when the case count is small (especially if fewer than about 10) and small enough to be unimportant in most circumstances when the case count is larger (that is, more than a few tens of cases).

Some of the topics for which results are reported compare groups that vary widely in case count, largely due to differences in population size (for example, the population of New South Wales is more than 30 times as large as the Northern Territory population, and the population of the *Major Cities* remoteness area is nearly 90 times that of the *Very Remote* area). In this situation, year-to-year changes in counts or rates for the smaller population groups may be subject to large random variation. There is potential to misinterpret such fluctuations as meaningful rises or falls in occurrence.

Classification of remoteness area

Remoteness area in this report refers to the place of usual residence of the person who was admitted to hospital. The remoteness areas were specified according to the ABS ASGC. Remoteness categories were defined in a manner based on the Accessibility/Remoteness Index of Australia (ARIA). According to this method, remoteness was an index applicable to any point in Australia, based on road distance from urban centres of 5 sizes. The categories were:

- *Major cities,* with an ARIA index value of 0.0 to 0.2
- *Inner regional*, with an ARIA index value of >0.2 and ≤ 2.4
- *Outer regional,* with an ARIA index value of >2.4 and ≤5.92
- *Remote*, with an ARIA index value of >5.92 and ≤10.53
- *Very remote,* with an average ARIA index value of >10.53.

The period examined in this report is limited to 2001–10 due to changes in the remoteness structure at the time of the 2006 Census (ABS 2006).

These tables were used to assign records to the 5 areas, on the basis of the Statistical Local Area (SLA) of usual residence of the person.

Most SLAs lie entirely within 1 of the 5 areas. If this was so for all SLAs, each record could simply be assigned to the area in which its SLA lies. However, some SLAs overlap 2 or more of the areas. Records with these SLAs were assigned to remoteness areas in proportion to the area-specific distribution of the resident population of the SLA according to the 2001 Census. Following usual AIHW practice, different methods were used to assign records in the 2 data sources.

For deaths, a proportion of each record was assigned to each remoteness area represented in the SLA. The sum of the proportions for 1 of the areas is the overall estimate of deaths in that area. Note that the resulting value is not normally an integer. For the purposes of this report, these values have been rounded to integers for tabulation. However, the unrounded values have been used to calculate other statistics, such as column percentages.

Suppression of small cell values

Cell counts in tables of 1 or 2 deaths have been suppressed, as have rates and proportions derived from them in accordance with the guidelines under which the AIHW receives CODURF data. Values based on small numbers are sometimes difficult to interpret and can tend to identify individuals. Some other small values less than 5 have also been suppressed for these reasons. Where a cell value has been suppressed, but can be calculated from other values, another value has also been suppressed.

Confidentiality and reliability of data

The AIHW operates under a strict privacy regime which has its basis in Section 29 of the *Australian Institute of Health and Welfare Act 1987* (Cwlth) (the AIHW Act) and the *Privacy Act 1988* (Cwlth) (the Privacy Act).

Section 29 of the AIHW Act requires that confidentiality of data relating to persons (living and deceased) and organisations be maintained. The Privacy Act governs confidentiality of information about living individuals.

As well as the protection offered by the AIHW Act and the Privacy Act, personal information held by the AIHW is covered by a range of other Commonwealth, state and territory legislation.

The AIHW is committed to reporting that maximises the value of information released for users, while being statistically reliable and meeting legislative requirements described above. To ensure the confidentiality of its data, the AIHW has a range of policies, protocols and processes in place – the AIHW policy on reporting to manage confidentiality and reliability (the AIHW *Confidentiality policy*) is one important example, as it deals with how data should be reported to ensure confidentiality.

AIHW Confidentiality policy, a summary

The AIHW *Confidentiality policy* contains 7 guidelines to assist those working with data to apply it to their outputs.

Guideline 1

If the data being considered have already been released publicly at the granularity the AIHW intends to release, further confidentialisation is not required.

Guideline 2

Cells in tables where the value of the cell is the same as a row/column/wafer total (that is, all other cells in the row, column or wafer are zero [0]) generally lead to disclosure of an additional attribute. It is AIHW policy that these cells need to be confidentialised unless the attribute that would be disclosed is deemed to be non-sensitive in the context of the data being published.

Guideline 3

Data on organisations must be confidentialised if 1 organisation contributes more than 85% of the total, or 2 organisations more than 90%, unless the attribute that would be disclosed is deemed to be non-sensitive in the context of the data being published or the organisation(s) have given consent to release.

Guideline 4

Guidelines 2 and 3 need to be applied so as to ensure that attribute confidentiality is maintained within tables and across tables within the same release. That is, when assessing whether a cell needs to be confidentialised, consideration needs to be given to whether there are other cells in that table, or other tables in the release, that may require consequential confidentialisation.

Guideline 5

Rates, averages and other statistics based on denominators of less than 100 are usually not reliable and it is AIHW policy that they should generally not be reported.

Guideline 6

If data suppliers or clients require additional suppression rules to be applied to an AIHW release in order to manage confidentiality or reliability, these should be applied. Where such additional rules are applied, they should be described in the release, and it should be noted that this approach is required by the data supplier.

Guideline 7

If a client wishes to be provided with data output (for example, tables) at a more detailed level than any of the above guidelines would allow, they may apply to be provided output against which some or all of the above guidelines are not applied. Provision of this more detailed output would be subject to the client's signing a confidentiality undertaking and agreeing that any publication of information (including in online data cubes) based on output released to them will comply with this policy.

Appendix B: Additional tables

Year of death	All causes	Injury	Per cent injuries
1999–00	128,434	10,360	8.1
2000–01	128,959	10,027	7.8
2001–02	130,323	9,851	7.6
2002–03	132,463	9,939	7.5
2003–04	133,348	9,910	7.4
2004–05	131,376	9,720	7.4
2005–06	134,054	9,963	7.4
2006–07	135,860	10,191	7.5
2007–08	140,687	10,495	7.5
2008–09	143,630	11,223	7.8
2009–10	140,711	10,668	7.6

Table B1: Number of injury deaths as a percentage of all cause mortality, 1999-00 to 2009-10

Source: AIHW National Mortality Database.

Year of death	Count	Change from 1999–00
1999–00	2,039	-
2000–01	2,015	24
2001–02	2,021	18
2002–03	1,893	146
2003–04	1,735	304
2004–05	1,691	348
2005–06	1,769	270
2006–07	1,811	228
2007–08	1,683	356
2008–09	1,669	370
2009–10	1,498	541

Table B2: Change in number of unintentional transport injury deaths from 1999–00 baseline, 1999–00 to 2009–10

Year of death	Count	Change from 1999–00
1999–00	328	-
2000–01	341	(13) ^(a)
2001–02	296	32
2002–03	291	37
2003–04	271	57
2004–05	243	85
2005–06	252	76
2006–07	273	55
2007–08	231	97
2008–09	255	73
2009–10	290	38

Table B3: Change in number of unintentional drowning deaths from 1999–00 baseline, 1999–00 to 2009–10

(a) Brackets indicate differences in counts where the total number of deaths is greater than the count for the baseline year.

Source: AIHW National Mortality Database.

Year of death	Count	Change from 1999–00
1999–00	1,313	-
2000–01	1,072	241
2001–02	668	645
2002–03	684	629
2003–04	829	484
2004–05	746	567
2005–06	700	613
2006–07	777	536
2007–08	914	399
2008–09	944	369
2009–10	917	396

Table B4: Change in number of unintentional poisoning bypharmaceuticals deaths from 1999-00 baseline, 1999-00 to 2009-10

Year of death	Count	Change from 1999–00
1999–00	382	-
2000–01	368	14
2001–02	336	46
2002–03	374	8
2003–04	293	89
2004–05	299	83
2005–06	266	116
2006–07	367	15
2007–08	370	12
2008–09	398	(16) ^(a)
2009–10	366	16

Table B5: Change in number of unintentional poisoning by other substances deaths from 1999–00 baseline, 1999–00 to 2009–10

(a) Brackets indicate differences in counts where the total number of deaths is greater than the count for the baseline year.

Source: AIHW National Mortality Database.

Year of death	Count	Change from 1999–00
1999–00	2,628	-
2000–01	2,568	60
2001–02	2,856	(228)
2002–03	3,018	(390)
2003–04	2,964	(336)
2004–05	2,884	(256)
2005–06	3,080	(452)
2006–07	3,125	(497)
2007–08	3,248	(620)
2008–09	3,457	(829)
2009–10	3,480	(852)

Table B6: Change in number of unintentional fall injury deaths from 1999–00 baseline, 1999–00 to 2009–10

Note: Brackets indicate differences in counts where the total number of deaths is greater than the count for the baseline year.

Year of death	Count	Change from 1999–00
1999–00	148	-
2000–01	129	19
2001–02	135	13
2002–03	175	(27)
2003–04	140	8
2004–05	157	(9)
2005–06	128	20
2006–07	122	26
2007–08	133	15
2008–09	288	(140)
2009–10	96	52

Table B7: Change in number of unintentional thermal injury deaths from 1999–00 baseline, 1999–00 to 2009–10

Note: Brackets indicate differences in counts where the total number of deaths is greater than the count for the baseline year.

Source: AIHW National Mortality Database.

Year of death	Count	Change from 1999–00
1999–00	2,516	-
2000–01	2,414	102
2001–02	2,376	140
2002–03	2,283	233
2003–04	2,195	321
2004–05	2,043	473
2005–06	2,122	394
2006–07	2,226	290
2007–08	2,227	289
2008–09	2,349	167
2009–10	2,247	269

Table B8: Change in number of intentional self-harm (suicide)deaths from 1999-00 baseline, 1999-00 to 2009-10

Year of death	Count	Change from 1999–00
1999–00	315	-
2000–01	287	28
2001–02	334	(19) ^(a)
2002–03	289	26
2003–04	229	86
2004–05	178	137
2005–06	241	74
2006–07	229	86
2007–08	255	60
2008–09	245	70
2009–10	240	75

Table B9: Change in number of assault deaths (homicide) from 1999-00 baseline, 1999-00 to 2009-10

(a) Brackets indicate differences in counts where the total number of deaths is greater than the count for the baseline year.

Source: AIHW National Mortality Database.

Year of death	Males	Females	Persons
1999–2000	76.8	34.5	55.1
2000–2001	73.4	32.5	52.3
2001–2002	69.2	32.2	50.2
2002–2003	68.6	32.1	49.8
2003–2004	67.1	31.6	48.7
2004–2005	64.1	30.2	46.8
2005–2006	63.5	30.8	46.7
2006–2007	63.8	30.3	46.7
2007–2008	63.8	30.9	46.9
2008–2009	66.4	32.3	49.0
2009–2010	62.1	29.7	45.4

Table B10: Age-standardised rates for injury deaths (all causes), by sex, Australia, 1999–00 to 2009–10

Year of death	Males	Females	Persons
1999–2000	15.8	5.8	10.7
2000–2001	15.7	5.4	10.5
2001–2002	15.7	5.1	10.3
2002–2003	14.6	4.7	9.6
2003–2004	12.8	4.6	8.6
2004–2005	12.5	4.2	8.3
2005–2006	13.0	4.2	8.6
2006–2007	13.2	4.2	8.6
2007–2008	11.8	4.0	7.9
2008–2009	11.4	3.9	7.6
2009–2010	10.2	3.3	6.7

Table B11: Age-standardised rates of unintentional transport injury deaths injury, by sex, Australia, 1999–00 to 2009–10

Table B12: Age-standardised rates for unintentional drowning deaths, by sex, Australia, 1999–00 to 2009–10

Year of death	Males	Females	Persons
1999–2000	2.7	0.8	1.7
2000–2001	2.9	0.6	1.8
2001–2002	2.3	0.7	1.5
2002–2003	2.3	0.6	1.5
2003–2004	2.1	0.6	1.4
2004–2005	1.8	0.6	1.2
2005–2006	2.0	0.5	1.2
2006–2007	2.0	0.6	1.3
2007–2008	1.7	0.5	1.1
2008–2009	1.8	0.6	1.2
2009–2010	2.1	0.6	1.3

Year of death	Males	Females	Persons
1999–2000	9.7	4.0	6.8
2000–2001	7.9	3.2	5.5
2001–2002	4.5	2.3	3.4
2002–2003	4.6	2.4	3.5
2003–2004	5.6	2.7	4.2
2004–2005	5.1	2.2	3.7
2005–2006	4.4	2.4	3.4
2006–2007	5.1	2.3	3.7
2007–2008	5.7	2.9	4.3
2008–2009	6.0	2.8	4.4
2009–2010	5.9	2.5	4.2

Table B13: Age-standardised rates for unintentional poisoning by pharmaceuticals deaths, by sex, Australia, 1999–00 to 2009–10

Table B14: Age-standardised^(a) rates for unintentional poisoning by other substances deaths, by sex, Australia, 1999–00 to 2009–10

Year of death	Males	Females	Persons
1999–2000	3.0	1.0	2.0
2000–2001	2.9	1.0	1.9
2001–2002	2.6	0.9	1.7
2002–2003	3.0	0.8	1.9
2003–2004	2.2	0.7	1.5
2004–2005	2.2	0.7	1.5
2005–2006	2.0	0.6	1.3
2006–2007	2.8	0.8	1.7
2007–2008	2.6	0.9	1.7
2008–2009	2.8	0.9	1.8
2009–2010	2.5	0.8	1.7

(a) Age-standardised to the 2001 Australian population (see Appendix A).

Year of death	Males	Females	Persons
1999–2000	15.6	13.5	14.4
2000–2001	15.0	12.4	13.5
2001–2002	15.4	13.6	14.5
2002–2003	16.1	13.9	14.9
2003–2004	15.7	13.1	14.2
2004–2005	14.0	12.7	13.4
2005–2006	14.8	12.8	13.7
2006–2007	14.7	12.3	13.4
2007–2008	14.5	12.4	13.5
2008–2009	15.0	12.9	13.9
2009–2010	14.9	12.3	13.5

Table B15: Age-standardised^(a) rates for unintentional fall injury deaths, by sex, Australia, 1999–00 to 2009–10

(a) Age-standardised to the 2001 Australian population (see Appendix A).

Source: AIHW National Mortality Database.

Table B16: Age-standardised ^(a) rates for unintentional thermal injury deaths,	, by
sex, Australia, 1999-00 to 2009-10	-

Year of death	Males	Females	Persons
1999–2000	1.1	0.5	0.8
2000–2001	0.9	0.4	0.7
2001–2002	1.0	0.4	0.7
2002–2003	1.3	0.5	0.9
2003–2004	0.9	0.5	0.7
2004–2005	1.1	0.5	0.8
2005–2006	0.8	0.4	0.6
2006–2007	0.8	0.3	0.6
2007–2008	0.9	0.3	0.6
2008–2009	1.6	1.0	1.3
2009–2010	0.6	0.3	0.4

(a) Age-standardised to the 2001 Australian population (see Appendix A).

Year of death	Males	Females	Persons
1999–2000	21.4	5.3	13.2
2000–2001	20.0	5.4	12.5
2001–2002	19.8	4.7	12.1
2002–2003	18.3	5.0	11.5
2003–2004	17.6	4.6	10.9
2004–2005	16.2	4.1	10.1
2005–2006	16.0	4.7	10.2
2006–2007	16.5	4.9	10.6
2007–2008	16.3	4.8	10.4
2008–2009	17.1	4.7	10.8
2009–2010	15.6	4.8	10.1

Table B17: Age-standardised^(a) rates for intentional self-harm (suicide) deaths, by sex, Australia, 1999-00 to 2009-10

(a) Age-standardised to the 2001 Australian population (see Appendix A).

Source: AIHW National Mortality Database.

Australia, 1999–00 to 2	009–10	i ucuilo (lioniciuc)	,, ey sex,
Year of death	Males	Females	Persons
1999–2000	2.1	1.1	1.6
2000–2001	1.9	1.1	1.5
2001–2002	2.3	1.1	1.7
2002–2003	2.0	0.9	1.5
2003–2004	1.5	0.8	1.1
2004–2005	1.2	0.6	0.9
2005–2006	1.5	0.9	1.2
2006–2007	1.6	0.6	1.1
2007–2008	1.5	0.9	1.2
2008–2009	1.6	0.7	1.1
2009–2010	1.5	0.7	1.1

Table B18: Age-standardised^(a) rates for assault deaths (homicide), by sex

(a) Age-standardised to the 2001 Australian population (see Appendix A).

	0–4 years		5–14 ye	ears	15–24 y	ears	25–44 y	ears	45–64 years		65+ years		Total	
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Males														
1999–00	127	19.3	114	8.3	1,030	77.7	2,513	86.8	1,208	55.9	1,747	168.6	6,739	76.8
2000–01	94	14.3	104	7.5	939	70.2	2,379	82.0	1,239	55.7	1,750	164.9	6,505	73.4
2001–02	93	14.2	83	6.0	863	63.4	2,088	71.7	1,245	54.5	1,859	170.7	6,231	69.2
2002–03	74	11.3	74	5.3	824	59.6	2,060	70.5	1,273	54.4	1,951	175.2	6,256	68.6
2003–04	72	11.0	82	5.9	742	52.7	1,980	67.6	1,193	49.7	2,137	187.4	6,206	67.1
2004–05	84	12.8	59	4.2	721	50.4	1,900	64.6	1,301	52.9	2,008	171.9	6,073	64.1
2005–06	83	12.4	81	5.8	746	51.2	1,830	61.9	1,316	52.2	2,089	174.4	6,145	63.5
2006–07	76	11.2	73	5.2	739	49.8	1,880	63.1	1,455	56.5	2,129	173.1	6,352	63.8
2007–08	77	11.1	53	3.8	735	48.4	1,889	62.7	1,450	55.0	2,282	180.9	6,486	63.8
2008–09	72	10.0	64	4.6	709	45.6	1,995	64.9	1,638	60.9	2,444	188.3	6,922	66.4
2009–10	68	9.2	58	4.1	642	40.7	1,875	60.1	1,596	58.4	2,369	176.9	6,608	62.1
Females														
1999–00	72	11.5	54	4.1	321	25.1	723	24.7	451	21.1	2,000	151.6	3,621	34.5
2000–01	71	11.4	47	3.6	281	21.8	644	21.9	446	20.3	2,033	151.3	3,522	32.5
2001–02	56	9.0	53	4.0	209	15.9	605	20.5	499	22.0	2,198	160.6	3,620	32.2
2002–03	61	9.8	46	3.5	239	17.9	570	19.3	460	19.7	2,307	165.8	3,683	32.1
2003–04	78	12.5	56	4.2	250	18.5	504	17.0	478	19.9	2,338	165.3	3,704	31.6
2004–05	57	9.2	37	2.8	206	15.0	501	16.9	469	19.0	2,377	165.1	3,647	30.2
2005–06	57	9.0	40	3.0	248	17.7	500	16.8	518	20.4	2,455	167.4	3,818	30.8
2006–07	61	9.5	42	3.2	218	15.3	526	17.6	550	21.1	2,442	163.3	3,839	30.3
2007–08	44	6.7	39	2.9	202	14.0	568	18.8	597	22.4	2,559	167.8	4,009	30.9
2008–09	53	7.8	42	3.2	231	15.7	558	18.1	662	24.3	2,755	176.7	4,301	32.3
2009–10	45	6.5	28	2.1	189	12.7	575	18.4	606	21.8	2,617	163.6	4,060	29.7

Table B19: Age-specific rates of injury deaths (all causes), by sex and age, Australia, 1999-00 to 2009-10

0–4 years		5–14 y	15–24 y	15–24 years 25–44		ears	45–64 y	ears	65+ years		Total			
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Males														
1999–00	25	3.8	62	4.5	402	30.3	518	17.9	260	12.0	211	20.4	1,478	15.8
2000–01	17	2.6	54	3.9	401	30.0	509	17.5	288	13.0	211	19.9	1,480	15.7
2001–02	19	2.9	50	3.6	398	29.3	530	18.2	296	13.0	209	19.2	1,502	15.7
2002–03	21	3.2	38	2.7	375	27.1	514	17.6	291	12.4	177	15.9	1,416	14.6
2003–04	24	3.7	50	3.6	317	22.5	424	14.5	255	10.6	191	16.7	1,261	12.8
2004–05	22	3.4	20	1.4	313	21.9	437	14.9	267	10.9	193	16.5	1,252	12.5
2005–06	18	2.7	43	3.1	344	23.6	481	16.3	251	10.0	182	15.2	1,319	13.0
2006–07	18	2.7	29	2.1	326	22.0	510	17.1	290	11.3	190	15.5	1,363	13.2
2007–08	20	2.9	24	1.7	318	20.9	432	14.3	259	9.8	187	14.8	1,240	11.8
2008–09	17	2.4	26	1.9	290	18.6	435	14.1	279	10.4	185	14.3	1,232	11.4
2009–10	13	1.8	20	1.4	232	14.7	383	12.3	292	10.7	184	13.7	1,124	10.2
Females														
1999–00	20	3.2	28	2.1	124	9.7	144	4.9	110	5.2	135	10.2	561	5.8
2000–01	21	3.4	23	1.8	123	9.5	141	4.8	103	4.7	124	9.2	535	5.4
2001–02	12	1.9	25	1.9	90	6.9	140	4.7	120	5.3	132	9.6	519	5.1
2002–03	16	2.6	23	1.7	120	9.0	113	3.8	93	4.0	112	8.1	477	4.7
2003–04	23	3.7	29	2.2	106	7.8	98	3.3	99	4.1	119	8.4	474	4.6
2004–05	9	1.4	17	1.3	89	6.5	109	3.7	101	4.1	114	7.9	439	4.2
2005–06	8	1.3	24	1.8	105	7.5	119	4.0	94	3.7	100	6.8	450	4.2
2006–07	15	2.3	21	1.6	110	7.7	97	3.2	110	4.2	95	6.4	448	4.2
2007–08	9	1.4	19	1.4	86	6.0	103	3.4	109	4.1	117	7.7	443	4.0
2008–09	10	1.5	15	1.1	114	7.7	108	3.5	86	3.2	104	6.7	437	3.9
2009–10	9	1.3	14	1.1	60	4.0	96	3.1	104	3.7	91	5.7	374	3.3

Table B20: Age-specific rates of unintentional transport injury deaths, by sex and age, Australia, 1999–00 to 2009–10

	0–4 years		5–14 ye	ears	15–24 years		25-44 years		45–64 years		65+ years		Tota	Total	
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	
Males															
1999–00	53	8.1	12	0.9	28	2.1	87	3.0	51	2.4	22	2.1	253	2.7	
2000–01	26	4.0	13	0.9	39	2.9	100	3.4	75	3.4	27	2.5	280	2.9	
2001–02	25	3.8	14	1.0	29	2.1	84	2.9	42	1.8	30	2.8	224	2.3	
2002–03	26	4.0	8	0.6	29	2.1	65	2.2	72	3.1	29	2.6	229	2.3	
2003–04	22	3.4	6	0.4	28	2.0	66	2.3	56	2.3	28	2.5	206	2.1	
2004–05	14	2.1	10	0.7	24	1.7	60	2.0	44	1.8	28	2.4	180	1.8	
2005–06	26	3.9	6	0.4	24	1.6	63	2.1	58	2.3	24	2.0	201	2.0	
2006–07	21	3.1	15	1.1	23	1.5	69	2.3	50	1.9	30	2.4	208	2.0	
2007–08	19	2.7	8	0.6	23	1.5	50	1.7	51	1.9	27	2.1	178	1.7	
2008–09	14	2.0	9	0.6	27	1.7	61	2.0	47	1.7	35	2.7	193	1.8	
2009–10	21	2.9	9	0.6	32	2.0	67	2.1	54	2.0	43	3.2	226	2.1	
Females															
1999–00	15	2.4	n.p.	n.p.	n.p.	n.p.	25	0.9	18	0.8	11	0.8	75	0.8	
2000–01	14	2.2	n.p.	n.p.	n.p.	n.p.	10	0.3	14	0.6	11	0.8	61	0.6	
2001–02	19	3.0	6	0.5	5	0.4	15	0.5	13	0.6	14	1.0	72	0.7	
2002–03	12	1.9	n.p.	n.p.	n.p.	n.p.	12	0.4	22	0.9	7	0.5	62	0.6	
2003–04	15	2.4	n.p.	n.p.	n.p.	n.p.	12	0.4	18	0.8	13	0.9	65	0.6	
2004–05	10	1.6	6	0.5	9	0.7	10	0.3	13	0.5	15	1.0	63	0.6	
2005–06	16	2.5	n.p.	n.p.	n.p.	n.p.	9	0.3	9	0.4	11	0.8	51	0.5	
2006–07	17	2.6	n.p.	n.p.	n.p.	n.p.	10	0.3	17	0.7	10	0.7	65	0.6	
2007–08	9	1.4	n.p.	n.p.	n.p.	n.p.	11	0.4	19	0.7	6	0.4	53	0.5	
2008–09	19	2.8	n.p.	n.p.	n.p.	n.p.	8	0.3	11	0.4	15	1.0	62	0.6	
2009–10	10	1.4	n.p.	n.p.	n.p.	n.p.	15	0.5	16	0.6	17	1.1	64	0.6	

Table B21: Age-specific rates of unintentional drowning injury deaths, by sex and age, Australia, 1999–00 to 2009–10

	0–4 ye	ars	5–14 ye	ears	15–24 y	ears	25–44 y	ears	45–64 y	ears	65+ ye	ars	Tota	ıl
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Males														
1999–00	n.p.	n.p.	n.p.	n.p.	188	14.2	600	20.7	98	4.5	37	3.6	925	9.7
2000–01	n.p.	n.p.	n.p.	n.p.	128	9.6	499	17.2	102	4.6	28	2.6	760	7.9
2001–02	n.p.	n.p.	n.p.	n.p.	66	4.9	261	9.0	84	3.7	21	1.9	434	4.5
2002–03	n.p.	n.p.	n.p.	n.p.	48	3.5	278	9.5	95	4.1	23	2.1	444	4.6
2003–04	n.p.	n.p.	n.p.	n.p.	70	5.0	344	11.7	102	4.2	34	3.0	550	5.6
2004–05	n.p.	n.p.	n.p.	n.p.	39	2.7	300	10.2	138	5.6	28	2.4	508	5.1
2005–06	n.p.	n.p.	n.p.	n.p.	49	3.4	249	8.4	113	4.5	32	2.7	444	4.4
2006–07	n.p.	n.p.	n.p.	n.p.	47	3.2	295	9.9	134	5.2	44	3.6	523	5.1
2007–08	n.p.	n.p.	n.p.	n.p.	51	3.4	361	12.0	145	5.5	33	2.6	590	5.7
2008–09	n.p.	n.p.	n.p.	n.p.	44	2.8	371	12.1	166	6.2	46	3.5	627	6.0
2009–10	n.p.	n.p.	n.p.	n.p.	35	2.2	366	11.7	180	6.6	45	3.4	626	5.9
Females														
1999–00	n.p.	n.p.	n.p.	n.p.	75	5.9	195	6.7	76	3.6	40	3.0	388	4.0
2000–01	n.p.	n.p.	n.p.	n.p.	41	3.2	151	5.1	75	3.4	42	3.1	312	3.2
2001–02	n.p.	n.p.	n.p.	n.p.	25	1.9	116	3.9	60	2.6	31	2.3	234	2.3
2002–03	n.p.	n.p.	n.p.	n.p.	25	1.9	111	3.8	64	2.7	38	2.7	240	2.4
2003–04	n.p.	n.p.	n.p.	n.p.	27	2.0	120	4.1	79	3.3	49	3.5	279	2.7
2004–05	n.p.	n.p.	n.p.	n.p.	15	1.1	100	3.4	72	2.9	51	3.5	238	2.2
2005–06	n.p.	n.p.	n.p.	n.p.	30	2.1	83	2.8	82	3.2	60	4.1	256	2.4
2006–07	n.p.	n.p.	n.p.	n.p.	9	0.6	98	3.3	91	3.5	56	3.7	254	2.3
2007–08	n.p.	n.p.	n.p.	n.p.	23	1.6	127	4.2	110	4.1	63	4.1	324	2.9
2008–09	n.p.	n.p.	n.p.	n.p.	17	1.2	112	3.6	128	4.7	59	3.8	317	2.8
2009–10	n.p.	n.p.	n.p.	n.p.	14	0.9	120	3.8	95	3.4	61	3.8	291	2.5

Table B22: Age-specific rates of unintentional poisoning deaths involving pharmaceuticals, by sex and age, Australia, 1999–00 to 2009–10

	0–4 ye	ars	5–14 ye	ears	15–24 y	ears	25–44 y	ears	45–64 y	ears	65+ ye	ars	Tota	l
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Males														
1999–00	n.p.	n.p.	n.p.	n.p.	33	2.5	150	5.2	63	2.9	25	2.4	281	3.0
2000–01	n.p.	n.p.	n.p.	n.p.	29	2.2	163	5.6	53	2.4	22	2.1	274	2.9
2001–02	n.p.	n.p.	n.p.	n.p.	22	1.6	110	3.8	73	3.2	36	3.3	243	2.6
2002–03	n.p.	n.p.	n.p.	n.p.	20	1.4	136	4.7	77	3.3	48	4.3	288	3.0
2003–04	n.p.	n.p.	n.p.	n.p.	21	1.5	104	3.5	53	2.2	33	2.9	218	2.2
2004–05	n.p.	n.p.	n.p.	n.p.	11	0.8	98	3.3	67	2.7	31	2.7	222	2.2
2005–06	n.p.	n.p.	n.p.	n.p.	24	1.6	80	2.7	66	2.6	27	2.3	202	2.0
2006–07	n.p.	n.p.	n.p.	n.p.	29	2.0	124	4.2	101	3.9	27	2.2	286	2.8
2007–08	n.p.	n.p.	n.p.	n.p.	28	1.8	127	4.2	90	3.4	21	1.7	271	2.6
2008–09	n.p.	n.p.	n.p.	n.p.	22	1.4	130	4.2	107	4.0	29	2.2	296	2.8
2009–10	n.p.	n.p.	n.p.	n.p.	19	1.2	130	4.2	100	3.7	17	1.3	275	2.5
Females														
1999–00	n.p.	n.p.	n.p.	n.p.	7	0.5	43	1.5	28	1.3	20	1.5	101	1.0
2000–01	n.p.	n.p.	n.p.	n.p.	6	0.5	40	1.4	31	1.4	11	0.8	94	1.0
2001–02	n.p.	n.p.	n.p.	n.p.	7	0.5	32	1.1	37	1.6	16	1.2	93	0.9
2002–03	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	38	1.3	26	1.1	18	1.3	86	0.8
2003–04	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	29	1.0	24	1.0	12	0.8	75	0.7
2004–05	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	31	1.0	20	0.8	18	1.3	77	0.7
2005–06	n.p.	n.p.	n.p.	n.p.	10	0.7	16	0.5	20	0.8	16	1.1	64	0.6
2006–07	n.p.	n.p.	n.p.	n.p.	5	0.4	35	1.2	28	1.1	9	0.6	81	0.8
2007–08	n.p.	n.p.	n.p.	n.p.	7	0.5	40	1.3	28	1.1	17	1.1	99	0.9
2008–09	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	27	0.9	48	1.8	21	1.3	102	0.9
2009–10	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	38	1.2	36	1.3	15	0.9	91	0.8

Table B23: Age-specific rates of unintentional poisoning deaths involving other substances, by sex and age, Australia, 1999–00 to 2009–10

	0–4 ye	ars	5–14 ye	ears	15–24 y	ears	25–44 y	ears	45–64 y	ears	65+ ye	ars	Tota	ป
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Males														
1999–00	n.p.	n.p.	n.p.	n.p.	18	1.4	54	1.9	90	4.2	904	87.3	1,070	15.6
2000–01	n.p.	n.p.	n.p.	n.p.	18	1.3	55	1.9	101	4.5	887	83.6	1,067	15.0
2001–02	n.p.	n.p.	n.p.	n.p.	16	1.2	56	1.9	110	4.8	958	88.0	1,147	15.4
2002–03	n.p.	n.p.	n.p.	n.p.	25	1.8	61	2.1	107	4.6	1,037	93.1	1,233	16.1
2003–04	n.p.	n.p.	n.p.	n.p.	16	1.1	53	1.8	87	3.6	1,071	93.9	1,228	15.7
2004–05	n.p.	n.p.	n.p.	n.p.	18	1.3	39	1.3	104	4.2	989	84.7	1,152	14.0
2005–06	n.p.	n.p.	n.p.	n.p.	14	1.0	48	1.6	87	3.5	1,111	92.7	1,266	14.8
2006–07	n.p.	n.p.	n.p.	n.p.	20	1.3	50	1.7	125	4.9	1,129	91.8	1,330	14.7
2007–08	n.p.	n.p.	n.p.	n.p.	15	1.0	37	1.2	120	4.6	1,186	94.0	1,360	14.5
2008–09	n.p.	n.p.	n.p.	n.p.	18	1.2	35	1.1	105	3.9	1,285	99.0	1,446	15.0
2009–10	n.p.	n.p.	n.p.	n.p.	24	1.5	30	1.0	107	3.9	1,331	99.4	1,495	14.9
Females														
1999–00	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	18	0.6	50	2.3	1,480	112.2	1,558	13.5
2000–01	n.p.	n.p.	n.p.	n.p.	6	0.5	7	0.2	32	1.5	1,450	107.9	1,501	12.4
2001–02	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	12	0.4	61	2.7	1,630	119.1	1,709	13.6
2002–03	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	10	0.3	45	1.9	1,722	123.8	1,785	13.9
2003–04	n.p.	n.p.	n.p.	n.p.	5	0.4	11	0.4	48	2.0	1,668	117.9	1,736	13.1
2004–05	n.p.	n.p.	n.p.	n.p.	6	0.4	16	0.5	45	1.8	1,660	115.3	1,732	12.7
2005–06	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	11	0.4	44	1.7	1,756	119.8	1,814	12.8
2006–07	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	11	0.4	48	1.8	1,730	115.7	1,795	12.3
2007–08	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	6	0.2	47	1.8	1,831	120.1	1,888	12.4
2008–09	n.p.	n.p.	n.p.	n.p.	7	0.5	7	0.2	55	2.0	1,941	124.5	2,011	12.9
2009–10	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	11	0.4	51	1.8	1,920	120.0	1,985	12.3

Table B24: Age-specific rates of unintentional fall injury deaths, by sex and age, Australia, 1999-00 to 2009-10

	0–4 ye	ars	5–14 ye	ears	15–24 y	ears	25–44 y	ears	45–64 y	ears	65+ ye	ars	Tota	ป
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Males														
1999–00	n.p.	n.p.	n.p.	n.p.	9	0.7	23	0.8	23	1.1	30	2.9	95	1.1
2000–01	n.p.	n.p.	n.p.	n.p.	13	1.0	19	0.7	20	0.9	23	2.2	83	0.9
2001–02	n.p.	n.p.	n.p.	n.p.	12	0.9	25	0.9	26	1.1	23	2.1	89	1.0
2002–03	n.p.	n.p.	n.p.	n.p.	12	0.9	35	1.2	33	1.4	32	2.9	118	1.3
2003–04	n.p.	n.p.	n.p.	n.p.	5	0.4	25	0.9	20	0.8	27	2.4	85	0.9
2004–05	13	2.0	5	0.4	12	0.8	20	0.7	27	1.1	27	2.3	104	1.1
2005–06	n.p.	n.p.	n.p.	n.p.	13	0.9	26	0.9	16	0.6	21	1.8	80	0.8
2006–07	n.p.	n.p.	n.p.	n.p.	16	1.1	23	0.8	29	1.1	12	1.0	87	0.8
2007–08	n.p.	n.p.	n.p.	n.p.	8	0.5	26	0.9	31	1.2	26	2.1	96	0.9
2008–09	7	1.0	10	0.7	20	1.3	39	1.3	62	2.3	34	2.6	172	1.6
2009–10	n.p.	n.p.	n.p.	n.p.	6	0.4	19	0.6	15	0.5	13	1.0	60	0.6
Females														
1999–00	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	7	0.2	11	0.5	25	1.9	53	0.5
2000–01	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	10	0.3	7	0.3	24	1.8	46	0.4
2001–02	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	11	0.4	12	0.5	20	1.5	46	0.4
2002–03	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	15	0.5	12	0.5	25	1.8	57	0.5
2003–04	7	1.1	6	0.5	n.p.	n.p.	10	0.3	10	0.4	19	1.3	55	0.5
2004–05	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	5	0.2	7	0.3	29	2.0	53	0.5
2005–06	n.p.	n.p.	n.p.	n.p.	11	0.8	6	0.2	6	0.2	23	1.6	48	0.4
2006–07	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	9	0.3	7	0.3	13	0.9	35	0.3
2007–08	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	6	0.2	9	0.3	15	1.0	37	0.3
2008–09	8	1.2	6	0.5	13	0.9	21	0.7	33	1.2	35	2.2	116	1.0
2009–10	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	7	0.2	12	0.4	13	0.8	36	0.3

Table B25: Age-specific rates of unintentional thermal deaths, by sex and age, Australia, 1999-00 to 2009-10

	0–4 ye	ars	5–14 ye	ears	15–24 y	ears	25–44 y	ears	45–64 y	ears	65+ ye	ars	Tota	ıl
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Males														
1999–00	n.a.	n.a.	9	0.7	310	23.4	957	33.0	485	22.4	240	23.2	2,001	21.4
2000–01	n.a.	n.a.	9	0.7	266	19.9	927	32.0	467	21.0	221	20.8	1,890	20.0
2001–02	n.a.	n.a.	n.p.	n.p.	270	19.8	915	31.4	483	21.2	235	21.6	1,904	19.8
2002–03	n.a.	n.a.	6	0.4	251	18.2	842	28.8	455	19.4	223	20.0	1,777	18.3
2003–04	n.a.	n.a.	9	0.6	223	15.9	793	27.1	433	18.0	266	23.3	1,724	17.6
2004–05	n.a.	n.a.	n.p.	n.p.	219	15.3	722	24.6	463	18.8	211	18.1	1,619	16.2
2005–06	n.a.	n.a.	9	0.6	223	15.3	668	22.6	498	19.8	231	19.3	1,629	16.0
2006–07	n.a.	n.a.	10	0.7	239	16.1	695	23.3	540	21.0	223	18.1	1,707	16.5
2007–08	n.a.	n.a.	5	0.4	228	15.0	714	23.7	523	19.9	241	19.1	1,711	16.3
2008–09	n.a.	n.a.	n.p.	n.p.	211	13.6	767	24.9	575	21.4	274	21.1	1,830	17.1
2009–10	n.a.	n.a.	n.p.	n.p.	213	13.5	677	21.7	583	21.3	234	17.5	1,710	15.6
Females														
1999–00	n.a.	n.a.	6	0.5	79	6.2	251	8.6	115	5.4	64	4.9	515	5.3
2000–01	n.a.	n.a.	n.p.	n.p.	73	5.7	227	7.7	146	6.6	77	5.7	524	5.4
2001–02	n.a.	n.a.	7	0.5	49	3.7	224	7.6	133	5.9	59	4.3	472	4.7
2002–03	n.a.	n.a.	n.p.	n.p.	54	4.1	222	7.5	154	6.6	74	5.3	506	5.0
2003–04	n.a.	n.a.	5	0.4	66	4.9	179	6.0	152	6.3	69	4.9	471	4.6
2004–05	n.a.	n.a.	n.p.	n.p.	55	4.0	175	5.9	131	5.3	59	4.1	424	4.1
2005–06	n.a.	n.a.	0	0.0	69	4.9	177	5.9	159	6.3	88	6.0	493	4.7
2006–07	n.a.	n.a.	n.p.	n.p.	63	4.4	209	7.0	167	6.4	76	5.1	519	4.9
2007–08	n.a.	n.a.	n.p.	n.p.	63	4.4	205	6.8	178	6.7	67	4.4	516	4.8
2008–09	n.a.	n.a.	n.p.	n.p.	63	4.3	198	6.4	189	6.9	66	4.2	519	4.7
2009–10	n.a.	n.a.	n.p.	n.p.	70	4.7	203	6.5	194	7.0	68	4.3	537	4.8

 Table B26: Age-specific rates of intentional self-harm (suicide) deaths, by sex and age, Australia, 1999–00 to 2009–10

	0–4 ye	ars	5–14 ye	ears	15–24 y	ears	25–44 y	ears	45–64 y	ears	65+ ye	ars	Tota	l
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
Males														
1999–00	13	2.0	8	0.6	24	1.8	97	3.4	49	2.3	13	1.3	204	2.1
2000–01	n.p.	n.p.	n.p.	n.p.	30	2.2	83	2.9	44	2.0	13	1.2	181	1.9
2001–02	9	1.4	6	0.4	41	3.0	104	3.6	54	2.4	12	1.1	226	2.3
2002–03	6	0.9	5	0.4	36	2.6	100	3.4	39	1.7	10	0.9	196	2.0
2003–04	n.p.	n.p.	n.p.	n.p.	23	1.6	74	2.5	40	1.7	8	0.7	151	1.5
2004–05	n.p.	n.p.	n.p.	n.p.	14	1.0	59	2.0	28	1.1	10	0.9	121	1.2
2005–06	8	1.2	5	0.4	22	1.5	71	2.4	39	1.5	7	0.6	152	1.5
2006–07	n.p.	n.p.	n.p.	n.p.	27	1.8	63	2.1	41	1.6	18	1.5	161	1.6
2007–08	n.p.	n.p.	n.p.	n.p.	28	1.8	62	2.1	47	1.8	7	0.6	160	1.5
2008–09	n.p.	n.p.	n.p.	n.p.	31	2.0	75	2.4	46	1.7	11	0.8	169	1.6
2009–10	n.p.	n.p.	n.p.	n.p.	20	1.3	75	2.4	46	1.7	12	0.9	160	1.5
Females														
1999–00	n.p.	n.p.	n.p.	n.p.	24	1.9	48	1.6	14	0.7	12	0.9	111	1.1
2000–01	n.p.	n.p.	n.p.	n.p.	25	1.9	49	1.7	16	0.7	7	0.5	106	1.1
2001–02	n.p.	n.p.	n.p.	n.p.	17	1.3	48	1.6	23	1.0	10	0.7	108	1.1
2002–03	6	1.0	6	0.5	15	1.1	43	1.5	15	0.6	8	0.6	93	0.9
2003–04	n.p.	n.p.	n.p.	n.p.	17	1.3	28	0.9	15	0.6	9	0.6	78	0.8
2004–05	n.p.	n.p.	n.p.	n.p.	3	0.2	31	1.0	12	0.5	5	0.3	57	0.6
2005–06	n.p.	n.p.	n.p.	n.p.	16	1.1	38	1.3	20	0.8	6	0.4	89	0.9
2006–07	n.p.	n.p.	n.p.	n.p.	10	0.7	33	1.1	7	0.3	13	0.9	68	0.6
2007–08	n.p.	n.p.	n.p.	n.p.	12	0.8	44	1.5	20	0.8	12	0.8	95	0.9
2008–09	n.p.	n.p.	n.p.	n.p.	9	0.6	36	1.2	15	0.6	13	0.8	76	0.7
2009–10	5	0.7	5	0.4	10	0.7	35	1.1	13	0.5	12	0.8	80	0.7

Table B27: Age-specific rates of assault deaths (homicide), by sex and age, Australia, 1999–00 to 2009–10

	Major citi	es	Inner regio	nal	Outer reg	ional	Remo	ote	Very re	mote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	5,787	42.9	2,306	59.6	1,196	65.6	215	78.4	188	124.9
2002–03	5,892	42.8	2,242	56.8	1,285	69.8	197	71.7	170	112.5
2003–04	5,955	42.5	2,261	55.9	1,187	63.8	205	73.1	181	132.7
2004–05	5,682	39.6	2,209	53.3	1,216	64.8	215	77.9	185	132.8
2005–06	5,862	39.8	2,291	54.2	1,224	63.7	210	76.0	162	111.0
2006–07	6,229	41.4	2,281	52.5	1,181	59.7	225	78.0	159	107.3
2007–08	6,510	42.1	2,353	52.5	1,165	58.2	207	70.4	144	90.8
2008–09	6,880	43.4	2,581	56.3	1,274	62.2	213	71.5	150	0.0
2009–10	6,648	40.8	2,398	51.6	1,197	57.4	222	75.2	112	0.0

Table B28: Injury deaths (all causes) - counts and age-standardised rates by remoteness area, Australia, 2001-02 to 2009-10

Table B29: Unintentional transport injury deaths – counts a	nd age-standardised rate by remoteness area,	Australia, 2001-02 to 2009-10
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	Major cit	ies	Inner regio	nal	Outer regio	nal	Rem	ote	Very rem	ote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	961	7.1	596	16.1	285	15.7	71	24.6	52	32.0
2002–03	901	6.5	485	13.0	322	17.6	60	19.5	62	35.6
2003–04	808	5.8	517	13.4	262	14.2	47	15.4	63	37.4
2004–05	794	5.6	444	11.5	278	15.0	57	18.5	63	38.6
2005–06	845	5.8	470	12.1	298	16.1	53	17.7	53	32.3
2006–07	851	5.8	501	12.6	284	14.8	81	26.9	61	36.3
2007–08	802	5.4	446	10.9	283	14.8	58	18.5	47	26.3
2008–09	800	5.2	429	10.4	269	14.1	77	24.3	51	29.1
2009–10	712	4.6	425	10.1	239	11.9	60	19.0	36	20.4

	Major citi	es	Inner regior	nal	Outer region	nal	Remote/Very	remote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	152	1.1	63	1.7	40	2.1	16	3.1
2002–03	144	1.1	67	1.7	47	2.5	13	2.4
2003–04	143	1.0	66	1.7	36	1.9	9	1.8
2004–05	125	0.9	58	1.5	33	1.7	15	3.2
2005–06	128	0.9	59	1.5	34	1.8	10	2.0
2006–07	147	1.0	50	1.2	36	1.8	17	3.8
2007–08	130	0.9	45	1.1	27	1.3	15	2.8
2008–09	129	0.9	46	1.1	40	1.9	18	3.5
2009–10	161	1.1	61	1.4	43	2.1	14	2.7

Table B30: Unintentional drowning deaths - counts and age-standardised rate by remoteness area, Australia, 2001-02 to 2009-10

	Major citi	es	Inner region	al	Outer region	al	Remote/Very r	emote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	485	3.6	108	3.0	54	3.0	12	2.3
2002–03	507	0.0	108	0.0	52	0.0	4	0.8
2003–04	633	0.0	124	0.0	37	0.0	9	1.9
2004–05	496	3.6	125	3.0	76	3.0	13	3.0
2005–06	471	3.7	151	3.0	54	2.9	6	1.2
2006–07	572	4.5	130	3.4	61	2.0	9	1.8
2007–08	678	3.5	152	3.3	54	4.1	15	3.0
2008–09	684	3.3	172	3.9	66	3.0	12	2.6
2009–10	649	3.9	152	3.4	83	3.2	19	3.7

Table B31: Unintentional poisoning deaths involving pharmaceuticals – counts and age-standardised rates by remoteness area year, Australia, 2001–02 to 2009–10

Table B32: Unintentional poisoning deaths involving other substances - cou	ints age-standardised rate by remoteness area, Australia, 2001-	-02 to 2009-
10		

	Major cit	ies	Inner regio	nal	Outer region	nal	Remo	ote	Very remo	ote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	200	1.5	67	1.8	37	2.0	11	3.4	11	6.5
2002–03	247	1.8	69	1.8	32	1.7	7	2.5	13	8.2
2003–04	179	1.3	52	1.3	40	2.1	5	1.5	8	4.6
2004–05	188	1.3	56	1.4	28	1.5	8	2.6	8	4.9
2005–06	147	1.0	58	1.4	31	1.7	6	2.1	12	6.9
2006–07	218	1.5	67	1.7	44	2.4	13	4.0	15	8.7
2007–08	232	1.6	69	1.7	42	2.2	15	4.5	8	4.3
2008–09	226	1.5	87	2.1	50	2.4	16	5.0	9	5.8
2009–10	226	1.5	61	1.5	48	2.4	18	5.3	7	3.7

Table B33: Unintentional fall injury deaths – counts and age-standardised rate by remoteness area and year, Australia, 2001–02 to 2009–10

	Major citi	es	Inner regio	nal	Outer regio	nal	Rem	ote	Very rem	ote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	1,777	13.2	686	16.3	332	18.5	32	16.0	18	24.5
2002–03	1,880	13.6	696	16.0	378	20.6	37	17.6	14	17.2
2003–04	1,888	13.2	680	15.1	330	17.9	33	16.0	22	34.1
2004–05	1,825	12.4	642	13.7	325	17.1	38	18.9	13	17.8
2005–06	1,947	12.7	712	14.5	338	17.0	40	18.9	13	18.1
2006–07	2,018	12.7	732	14.4	314	15.1	36	15.1	13	15.8
2007–08	2,116	12.9	741	13.9	339	15.9	35	14.9	8	6.0
2008–09	2,245	13.2	801	14.6	353	16.0	28	12.4	13	17.8
2009–10	2,295	13.1	765	13.6	357	15.6	39	16.9	11	11.7

	Major citi	es	Inner region	al	Outer region	al	Remote/Very F	Remote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	66	0.5	32	0.8	25	1.3	11	2.6
2002–03	109	0.8	35	0.9	21	1.1	8	1.8
2003–04	64	0.5	32	0.8	27	1.4	12	2.5
2004–05	74	0.5	36	0.8	20	1.0	23	5.3
2005–06	59	0.4	36	0.9	23	1.2	7	2.0
2006–07	61	0.4	27	0.7	25	1.3	9	2.0
2007–08	63	0.4	35	0.8	20	1.0	11	2.1
2008–09	105	0.7	143	3.3	20	0.9	13	2.4
2009–10	47	0.3	27	0.6	15	0.8	6	1.3

Table B34: Unintentional thermal injury deaths - counts and age-standardised rates by remoteness area, Australia, 2001-02 to 2009-10

Table B35: Intentional self-harm (suicide) deaths – counts and age-standardised rates by remoteness area, Australia, $2001-02$ to $2009-10$	ness area, Australia, 2001–02 to 2009–10
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	Major citi	es	Inner regio	nal	Outer regio	nal	Rem	ote	Very rem	ote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	1,420	10.5	534	14.5	281	15.3	57	18.9	55	30.9
2002–03	1,411	10.3	514	13.8	261	14.3	41	13.4	35	19.8
2003–04	1,351	9.7	456	12.2	272	14.8	58	19.0	43	26.8
2004–05	1,198	8.5	468	12.3	257	13.8	42	13.4	45	29.5
2005–06	1,273	8.9	463	11.8	251	13.3	54	17.6	43	24.1
2006–07	1,407	9.6	442	11.2	273	14.3	51	16.6	37	23.6
2007–08	1,442	9.7	440	10.9	238	12.3	57	18.4	41	24.4
2008–09	1,486	9.8	502	12.1	272	13.9	36	11.4	33	20.5
2009–10	1,441	9.3	474	11.3	233	11.8	50	15.9	29	16.5

	Major citi	ies	Inner regior	nal	Outer regior	nal	Remo	ote	Very rem	ote
Year of death	Count	Rate	Count	Rate	Count	Rate	Count	Rate	Count	Rate
2001–02	190	1.4	51	1.4	41	2.2	15	4.9	22	11.7
2002–03	162	1.2	61	1.7	32	1.8	13	4.1	11	6.2
2003–04	151	1.1	32	0.9	20	1.1	9	2.9	13	7.6
2004–05	100	0.7	36	0.9	19	1.0	6	1.8	12	6.8
2005–06	142	1.0	42	1.1	19	1.0	13	4.1	18	10.2
2006–07	140	1.0	33	0.9	27	1.4	12	3.9	10	5.5
2007–08	158	1.1	50	1.3	25	1.3	4	1.2	13	7.3
2008–09	146	1.0	45	1.1	29	1.5	11	3.4	10	5.6
2009–10	155	1.0	34	0.9	26	1.3	12	3.8	8	4.2

Table B36: Assault (homicide) deaths – counts and age-standardised rates by remoteness area, Australia, 2001–02 to 2009–10

_	Indigenous Australians		Other Australia	ans
Year of death	Count	Rate	Count	Rate
1999–00	276	132.3	3,761	56.1
2000–01	245	108.4	3,681	53.8
2001–02	289	126.7	3,569	51.0
2002–03	267	122.1	3,703	51.7
2003–04	248	124.5	3,701	50.5
2004–05	282	149.3	3,591	47.7
2005–06	290	122.8	3,660	47.1
2006–07	291	120.9	3,781	47.4
2007–08	283	109.2	4,055	49.3
2008–09	287	120.5	4,291	50.7
2009–10	232	93.4	4,221	48.1

Table B37: Injury deaths (all causes) – counts and age-standardised rates for Indigenous Australians and Other Australians, Australia, 1999–00 to 2009–10

Note: Data are for Queensland, Western Australia, South Australian and the Northern Territory.

Source: AIHW National Mortality Database.

	Males		Females	
Year of death	Count	Rate	Count	Rate
1999–00	38	36.6	20	14.5
2000–01	42	37.0	13	10.1
2001–02	45	37.4	32	26.2
2002–03	53	40.0	26	21.2
2003–04	46	38.2	19	11.6
2004–05	54	53.5	20	16.7
2005–06	49	38.6	26	20.7
2006–07	63	45.6	25	20.0
2007–08	63	43.7	25	17.8
2008–09	52	33.9	31	22.1
2009–10	35	23.7	18	12.6

Table B38: Unintentional transport injury deaths – counts and age-standardised rates for Indigenous Australians by sex, Australia, 1999–00 to 2009–10

Note: Data are for Queensland, Western Australia, South Australian and the Northern Territory.

Table B39: Unintentional drowning deaths – counts and age-standardised rates for Indigenous Australians, Australia, 1999–00 to 2009–10

Year of death	Count	Rate
1999–00	17	6.2
2000–01	13	5.4
2001–02	11	3.8
2002–03	6	2.5
2003–04	6	2.4
2004–05	15	5.5
2005–06	13	3.7
2006–07	10	3.1
2007–08	8	2.0
2008–09	11	3.3
2009–10	13	4.5

Note: Data are for Queensland, Western Australia, South Australian and the Northern Territory.

Source: AIHW National Mortality Database.

Table B40: Unintentional poisoning by pharmaceuticals
deaths – counts and age-standardised rates for Indigenous
Australians, Australia, 1999-00 to 2009-10

Year of death	Count	Rate
1999–00	19	6.5
2000–01	17	5.9
2001–02	11	3.4
2002–03	7	3.0
2003–04	8	2.8
2004–05	11	5.3
2005–06	13	4.5
2006–07	11	4.6
2007–08	15	6.0
2008–09	22	7.7
2009–10	25	8.8

Note: Data are for Queensland, Western Australia, South Australian and the Northern Territory.

Table B41: Unintentional poisoning by other substances deaths – counts and age-standardised rates for Indigenous Australians, Australia, 1999–00 to 2009–10

Year of death	Count	Rate
1999–00	17	6.6
2000–01	13	4.3
2001–02	20	8.4
2002–03	14	6.8
2003–04	11	3.3
2004–05	13	4.7
2005–06	19	7.0
2006–07	36	13.7
2007–08	20	6.1
2008–09	24	8.6
2009–10	23	8.6

Note: Data are for Queensland, Western Australia, South Australian and the Northern Territory.

Source: AIHW National Mortality Database.

Table B42: Unintentional fall injury deaths – counts and age-standardised rates for Indigenous Australians, Australia, 1999–00 to 2009–10

Year of death	Count	Rate
1999–00	10	15.0
2000–01	10	11.2
2001–02	15	16.3
2002–03	16	20.0
2003–04	21	33.5
2004–05	26	36.6
2005–06	21	21.3
2006–07	20	15.8
2007–08	19	16.9
2008–09	15	18.7
2009–10	17	19.8

Note: Data are for Queensland, Western Australia, South Australian and the Northern Territory.

	Ма	les	Female	es
Year of death	Count	Rate	Count	Rate
1999–00	64	48.6	12	7.5
2000–01	61	44.0	12	7.8
2001–02	65	50.5	17	10.3
2002–03	60	43.5	15	9.5
2003–04	54	36.4	12	7.3
2004–05	60	40.3	15	9.4
2005–06	73	46.6	16	8.3
2006–07	69	53.3	19	11.2
2007–08	62	36.0	21	13.5
2008–09	55	30.7	20	11.2
2009–10	51	37.9	24	13.5

Table B43: Intentional self-harm (suicide) deaths – counts and age-standardised rates for Indigenous Australians by sex, Australia, 1999–00 to 2009–10

Note: Data are for Queensland, Western Australia, South Australian and the Northern Territory.

Source: AIHW National Mortality Database.

	М	ales	F	emales
Year of death	Count	Rate	Count	Rate
1999–00	17	18.4	18	15.6
2000–01	14	11.3	17	13.2
2001–02	23	20.4	19	12.4
2002–03	21	15.0	11	8.3
2003–04	12	8.6	7	5.5
2004–05	9	7.1	10	7.6
2005–06	20	16.8	12	7.6
2006–07	13	10.5	15	9.7
2007–08	14	10.1	18	12.6
2008–09	12	9.1	13	8.9
2009–10	13	10.4	8	5.1

Table B44: Assault (homicide) deaths – counts and age-standardised rates for Indigenous Australians by sex, Australia, 1999–00 to 2009–10

Note: Data are for Queensland, Western Australia, South Australian and the Northern Territory.

Appendix C: Road injury deaths

This appendix presents additional summary statistics for unintentional transport injury deaths in 2009–10 that were due to events that occurred in traffic. The deaths included here are a subset of the unintentional transport injury deaths presented in Chapter 3. They are, as nearly as ICD-10 allows, equivalent to 'road injury deaths', as reported by road safety agencies and that term is used here.

Case selection

Restriction of unintentional transport injury deaths to those due to road injury required use of the following selection criteria:

The UCoD is classified to ICD-10 (WHO 1992) external cause codes in the ranges V02–V04 (.1,.9), V09.2, V12–V14 (.3–.9), V19 (.4–.6), V20–V28 (.3–.9), V29 (.4–.9), V30–V39 (.4–.9), V40–V49 (.4–.9), V50–V59 (.4–.9), V60–V69 (.4–.9), V70–V79 (.4–.9), V81.1, V82.1, V83–V86 (.3–.5) V87 (.0–.8), V89.2 of Chapter XX, 'External causes of morbidity and mortality'.

or

At least 1 MCoD is classified to external cause codes in the ranges V02-V04 (.1,.9), V09.2, V12-V14 (.3-.9), V19 (.4-.6), V20-V28 (.3-.9), V29 (.4-.9), V30-V39 (.4-.9), V40-V49 (.4-.9), V50-V59 (.4-.9), V60-V69 (.4-.9), V70-V79 (.4-.9), V81.1, V82.1, V83-V86 (.3-.5) V87 (.0-.8), V89.2.

and

• At least 1 MCoD is classified to diagnosis codes in the range S00–T75 or T79 (injury).

How many road injury deaths were there in 2009–10?

Road injuries accounted for 1,290 injury deaths in Australia during 2009–10 (Table 3.5). This was just over 12% of all injury deaths for this period. In 2009–10, road injury deaths were close to 3 times as frequent for males as for females.

Indicator	Males	Females	Persons
Deaths	948	342	1,290
Per cent of all injury deaths	14.3	8.4	12.1
Age-standardised rate/100,000 population	8.7	3.0	5.8

Table C1: Key indicators for unintentional road injury deaths, Australia, 2009-10

Source: AIHW National Mortality Database.

Persons in the 25–44 and 45–64 age groups accounted for almost one-third (33.0%) and over one-quarter (25.2%) of all road injury deaths, respectively (Table 3.2). The proportions of deaths within age groups was broadly similar for males and females, although males were proportionally higher than females in the 15–24 age range, while females were proportionally higher than males in the 65 and over age range.

	Males		Females		Persons		
Age group (years)	Number	%	Number	%	Number	%	
0–4	10	1.1	6	1.8	16	1.2	
5–14	15	1.6	13	3.8	28	2.2	
15–24	206	21.7	58	17.0	264	20.5	
25–44	334	35.2	90	26.3	424	32.9	
45–64	232	24.5	93	27.2	325	25.2	
65+	151	15.9	82	24.0	233	18.1	
Total	948	100	342	100	1,290	100	

Table C2: Unintentional road injury deaths by age and sex, Australia, 2009-10

Source: AIHW National Mortality Database.

The age-standardised rate for road injury deaths during 2009–10 for residents of the Northern Territory was more than double that of the national rate of 5.8 deaths per 100,000 population (Table 3.7). Most other jurisdictions recorded rates either moderately above or moderately below the national rate.

Table C3: Unintentional road injury	deaths by state or territory	of usual residence, Austral	ia,
2009-10			

	State or territory of usual residence							
Indicators	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Deaths	342	290	284	173	115	35	21	30
Per cent	26.5	22.5	22.0	13.4	8.9	2.7	1.6	2.3
Age-standardised rate/ 100,000 population	4.7	5.1	6.5	7.6	7	6.7	5.7	12.9

Source: AIHW National Mortality Database.

The number and rate of road injury deaths varied with remoteness of usual residence (Table 3.8). The age-standardised rate of deaths increased with increasing remoteness of residence, with the rate for residents of *Very remote* areas being more than 4.5 times the rate for residents of *Major cities*.

Table C4: Unintentional motor vehicle traffic injury deaths by remoteness of usual residence, Australia, 2009–10

	Remoteness of usual residence ^(a)							
Indicators	Major cities	Inner regional	Outer regional	Remote	Very remote	Total ^(b)		
Deaths	615	376	201	52	31	1,275		
Per cent	48.2	29.5	15.8	4.1	2.4			
Age-standardised rate/ 1000,000 population	3.9	9.0	10.1	16.6	17.9			

(a) Remoteness of usual residence (ASGC areas).

(b) Excludes 15 deaths where remoteness was not reported.
Glossary

Age-standardisation: A set of techniques used to remove, as far as possible, the effects of differences in age when comparing 2 or more populations.

External cause: An environmental event, circumstance or condition as a cause of injury, poisoning and other adverse effect.

International Classification of Diseases and Related Health Conditions (ICD): The World Health Organization's internationally accepted classification of diseases and related health conditions.

Multiple cause of death (MCoD): A code representing any disease, condition or external cause recorded on the death certificate or other source of information used when coding causes of death.

Underlying cause of death (UCoD): For deaths due to injuries, a code representing the external cause of the injury that initiated the train of morbid events leading directly to a person's death, according to information available to the coder and selected from all recorded causes according to a set of ICD rules.

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Related publication

The following AIHW publication relating to injury mortality might also be of interest:

• AIHW: Pointer S 2013. Trends in hospitalised injury, Australia, 1999–00 to 2010–11. Injury research and statistics series no. 86. Cat. no. INJCAT 162. Canberra: AIHW.

This report focuses on trends in deaths due to injury and poisoning that occurred over the period 1999–00 to 2009–10 and shows that:

- The age-standardised rate of injury deaths decreased by an average of 3% per year between 1999–00 and 2004–05 and changed little after that.
- Rates of injury deaths involving transport injury, drowning, thermal injury, suicide and homicide, tended to decline from 1999–00 to 2007–08, while rates of poisoning deaths involving pharmaceuticals fell sharply to 2001–02 before rising again.
- Rates for Aboriginal and Torres Strait Islander people were 2 to 3 times as high as rates for Other Australians over the period from 1999–00 to 2007–08.