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Trends in injury deaths, Australia

1999–00 to 2014–15

AIHW

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Injury Research and Statistics Series
Number 112

Trends in injury deaths, Australia

1999–00 to 2014–15

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Contents

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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
ASGS	Australian Statistical Geography Standard
BITRE	Bureau of Infrastructure, Transport and Regional Economics
CODURF	Cause of Death Unit Record File
ICD-10	International Classification of Diseases and Related Health Problems, 10th revision
IRSD	Index of Relative Socio-economic Disadvantage
MCoD	multiple causes of death
NCIS	National Coronial Information System
NMD	AIHW National Mortality Database
NPHP	National Public Health Partnership
RLSS	Royal Life Saving Society
SEIFA	Socio-Economic Indexes for Areas
SLA	statistical local area
UCoD	underlying cause of death
WHO	World Health Organization

Symbols

n.e.c.	not elsewhere classified
p	P-value
. .	not applicable
≤	less than or equal to
>	greater than

Summary

This report describes trends in the occurrence of injury deaths in Australia from 1 July 1999 to 30 June 2015 and provides a summary of injury deaths in 2014–15. The information is based on all causes of death recorded on death certificates.

Injury deaths in 2014–15

Injury was recorded as a cause of 12,647 deaths in 2014–15 in Australia, corresponding to an age-standardised rate of 48 deaths per 100,000 population (males 64, females 33).

Rates were highest in the oldest age group: 196 and 183 per 100,000 for men and women aged 65 and older. Rates for males were much higher than for females except in children aged 0–4 and those aged 65 and over. At ages 15–24, the rates for males and females were 35 and 15 per 100,000, respectively.

The age-standardised injury death rate for residents of the Northern Territory—85 deaths per 100,000 population—was 1.8 times the national rate. The age-standardised injury death rate increased with increasing remoteness of place of residence: the rate for residents of *Remote* areas (88 deaths per 100,000) was more than 2 times the rate for residents of *Major cities* (43 per 100,000). The age-standardised rate of injury death also increased with socioeconomic disadvantage. The rate for residents in areas classified as *Most disadvantaged* areas was 1.4 times the rate for residents in areas classified as *Least disadvantaged*.

The 2 main causes of injury deaths in 2014–15 were *Unintentional falls* (37%; 4,718 deaths) and *Suicide* (23%, 2,926 deaths). Almost 95% (4,465) of fall-related injury deaths occurred at ages 65 and older. There were 3.2 times as many male suicides (2,226) as female (700).

Trends in injury deaths

The age-standardised rate of injury deaths decreased from 55.4 deaths per 100,000 in 1999–00 to 47.2 deaths per 100,000 in 2004–05 and changed little after that. The number of injury deaths varied, but was around 10,000 per year during this period.

Rates of injury deaths declined from 1999–00 to 2014–15, by an average of 3.9% per year for transport-related injury, 2.8% for drowning and 2.6% for homicide. Rates of poisoning deaths involving pharmaceuticals fell sharply to 2001–02, then rose to 2014–15, particularly for men and women in the 45–64 age group. Rates of fall-related injury deaths, poisoning deaths involving substances other than pharmaceuticals and thermal-related injury deaths did not show a significant trend, despite a large peak in thermal injury deaths in 2008–09.

Analysis of changes in rates over time for some causes of injury was complicated, due to changes in the way that causes have been recorded and classified over recent years.

Trends in injury deaths of Indigenous Australians

Age-standardised injury death rates for Aboriginal and Torres Strait Islander people fluctuated, but did not change significantly over the period from 2001–02 to 2014–15. Rates declined for transport injury and rose for cases involving pharmaceuticals. Rates for Aboriginal and Torres Strait Islander people were generally at least twice as high as rates for non-Indigenous 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 2015, by year of death. It also provides a summary of injury mortality in 2014–15. Two reports presenting data in a similar way on hospitalised injury have been published (AIHW: Pointer 2013, 2015).

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

Injury is the subject of 3 national prevention plans: the National Injury Prevention and Safety Promotion Plan: 2004–2014 (NPHP 2005a); the National Aboriginal and Torres Strait Islander Safety Promotion Strategy (NPHP 2005b) and the National Falls Prevention for Older People Plan: 2004 Onwards (NPHP 2005c).

1.1 Structure of this report

The topics addressed in the report are:

- an overview of injury deaths in 2014–15
- trends in injury deaths and death rates, overall and for deaths involving major external causes of injury.

Chapter 2 presents an 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 ABS (Australian Bureau of Statistics) mortality data collection, which underlies the AIHW (Australian Institute of Health and Welfare) National Mortality Database; other data sources used in the report; and notes on the presentation of data, the population estimates used to calculate population rates and analysis methods. Additional information on data sources, validity and methods and the effects of changes made to the recording and classification of cause of death information have previously been reported for the period from 1999 to 2010 (AIHW: Harrison & Henley 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 2014–15 which 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 are reported?
- How many injury deaths were there in 2014–15?
- How have injury deaths changed over time?
- How have injury deaths varied by age and sex?
- How have injury deaths varied by place 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 each chapter are accompanied by footnotes referring readers to statistical tables in 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 (CODURF) for ABS reference years 1999 to 2015. CODURF data are provided to the AIHW by the Registries of Births, Deaths and Marriages and the National Coronial Information System (NCIS) and are coded by the ABS. The data are maintained by the AIHW in the National Mortality Database (NMD). Underlying cause of death (UCoD) and multiple causes 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 date of death registration, and is also less susceptible to fluctuation because of variations in time from death to registration. 'Years' are the 12-month periods ending on 30 June.

The ABS now releases 3 versions of CODURF—*Preliminary*, *Revised* and *Final*—as part of its revision process to update coroner-certified deaths as new information becomes available on the cause of death. The cause codes assigned to injury deaths can change between releases. The revision process and its implications for the data used in this report are discussed further in Appendix A.

When analysis was undertaken for this report, *Final* release data were available for none of the deaths that occurred in 2013–14 and 2014–15 and for only 43% of those in 2012–13. Values for these years could change a little due to later revisions of cause of death data by the ABS, and triangle markers have been used distinguish these values in trend graphs. Data for over 99% of the injury deaths that occurred in earlier years was either *Final*, or predated the introduction of the ABS revision process, and so these values are not expected to change.

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, 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 in Appendix A.

Which deaths were included?

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

- the death occurred between 1 July 1999 and 30 June 2015 and had been registered by 31 December 2015, 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 WHO International Classification of Diseases, 10th revision (WHO 2016). The code range V01–Y36 includes all unintentional (accidental) deaths, intentional self-harm (suicide), homicide and deaths where intent remained undetermined. This code range also 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 Box 1.1, Box 1.2, and the Glossary of terms.

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. The **multiple causes of death** (MCoD) code is a code representing a disease, condition or external cause recorded on the death certificate. For injury deaths, the **underlying cause of death** (UCoD) code is a code representing the external cause of the injury which 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 cause that led directly to the death (the UCoD)
- the causes that gave rise to the underlying cause of death
- 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 10th revision of the International Classification of Diseases (ICD-10), which includes a chapter for injury and another for external causes of injuries and other conditions. Rules that form part of the ICD determine which cause should be coded as the UCoD.

Box 1.2: 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, Western Australia, South Australia and the Northern Territory. For recent years, data for New South Wales are also adequate, and have been included in reporting of Indigenous injury in 2014–15. Appendix A provides further information.

Supplementary tables

The data underpinning the figures in the body of the report are provided in a supplementary table spreadsheet, which is accessible online at the AIHW website at the page from which the report can be downloaded. Each tab within the spreadsheet contains the data for 1 figure and the name of the tab corresponds to the figure number within the report. (For example, worksheet tab Table SF2.3 corresponds to Figure 2.3 in the report.)

The spreadsheet also contains some tables that correspond not to figures in the report but to data which are mentioned in the text of the report. These worksheet tabs are named 'Table S.1', 'Table S.2' and so on.

2 Overview of injury deaths

This chapter provides a brief overview of injury deaths in 2014–15 and trends to 2014–15. The selection criteria given in Section 1.3 were applied.

2.1 What is the profile of injury deaths in 2014–15?

Injury was recorded as a cause of 12,647 deaths in 2014–15 in Australia, which is 8.1% of all deaths (Table 2.1). For 9,774 of these deaths (6,280 males and 3,494 females, representing 6.3% of deaths due to all causes and 77% of all injury deaths), the UCoD code assigned to the death was from the 'External causes' chapter of ICD-10.

Table 2.1: Key indicators for injury deaths, by sex, Australia, 2014–15

Indicator	Males	Females	Persons
Injury deaths	7,627	5,020	12,647
Crude rate (deaths per 100,000 population)	64.9	42.3	53.5
Age-standardised rate (deaths per 100,000 population)	64.1	32.6	48.0

Source: AIHW National Mortality Database.

Age and sex

Just on 42% of male injury deaths and over two-thirds (68%) 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 2014–15 were highest for men and women aged 65 and over. Rates for males were higher than for females in every age group, especially at ages 25–44 (Supplementary Table SF2.3).

Table 2.2: Injury deaths, by age, by sex, Australia, 2014–15

	Males		Females		Persons	
Age group	Number	%	Number	%	Number	%
0–4	47	0.6	41	0.8	88	0.7
5–14	64	0.8	43	0.9	107	0.8
15–24	567	7.4	226	4.5	793	6.3
25–44	1,986	26.0	618	12.3	2,604	20.6
45–64	1,762	23.1	659	13.1	2,421	19.1
65+	3,201	42.0	3,433	68.4	6,634	52.5
Total	**7,627**	**100.0**	**5,020**	**100.0**	**12,647**	**100.0**

Source: AIHW National Mortality Database.

State or territory of usual residence

Residents of the Northern Territory had the highest age-standardised injury mortality rate, at 84.8 deaths per 100,000 population, which was 1.8 times the national rate (Table 2.3). Most of the other jurisdictions recorded rates over—or close to—the national rate, with residents of Victoria recording the lowest rate at 43.3 deaths per 100,000 population.

Table 2.3: Injury deaths, by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	3,885	2,940	2,711	1,487	949	332	172	170
Percentage	30.7	23.2	21.4	11.8	7.5	2.6	1.4	1.3
Age-standardised rate (deaths per 100,000 population)	44.4	43.3	54.3	55.9	45.8	54.4	44.4	84.8

Note: Excludes 1 case assigned to *Other Territories.*

Source: AIHW National Mortality Database.

Remoteness of usual residence

Age-standardised rates of injury death increased with increasing remoteness (Table 2.4). The rate for residents of *Very remote* areas (88.1 deaths per 100,000 population) was more than 2 times the rate for residents of *Major cities* (42.9 deaths per 100,000 population).

Table 2.4: Injury deaths, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[(a)]					
Indicator	**Major cities**	**Inner regional**	**Outer regional**	**Remote**	**Very remote**	**Total[(b)]**
Deaths	7,967	2,783	1,406	220	152	12,528
Percentage	63.6	22.2	11.2	1.8	1.2	
Age-standardised rate (deaths per 100,000 population)	42.9	55.8	61.5	71.4	88.1	

(a) Derived using the ASGS classification.

(b) Excludes 119 deaths where remoteness was not available.

Source: AIHW National Mortality Database.

Socioeconomic status

The age-standardised rate of injury death increased with socioeconomic disadvantage (Table 2.5). The rate for residents of the areas classified as *Most disadvantaged* (56.0 deaths per 100,000 population) was 1.4 times the rate for residents in areas classified as *Least disadvantaged* (38.8 deaths per 100,000 population).

Table 2.5: Injury deaths, by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	**Most disadvantaged**	**Second most disadvantaged**	**Middle**	**Second least disadvantaged**	**Least disadvantaged**
Deaths	2,979	2,807	2,556	2,169	2,016
Percentage	23.8	22.4	20.4	17.3	16.1
Age-standardised rate (deaths per 100,000 population)	56.0	51.8	48.6	42.6	38.8

Note: Excludes 120 deaths where SEIFA quintile 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 twice the rate for non-Indigenous Australians (Table 2.6).

Table 2.6: Key indicators for injury deaths, Indigenous Australians and non-Indigenous Australians, by sex, Australia[(a)], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Deaths	274	146	420	5,255	3,440	8,695
Age-standardised rate (deaths per 100,000 population)	116.0	75.3	96.9	63.5	32.1	47.5
Rate ratio[(b)]	1.8	2.3	2.0	. .	. .	. .
Rate difference[(c)]	52.5	43.2	49.4	. .	. .	. .

(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.2.

(b) Rate ratios are standardised rates for Indigenous males, females and persons, divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons, minus standardised rates for non-Indigenous males, females and persons.

Source: AIHW National Mortality Database.

There were marked differences between Aboriginal and Torres Strait Islander people and non-Indigenous Australians in terms of the proportions of injury deaths occurring in each age group (Table 2.7). For Aboriginal and Torres Strait Islander people aged 25–44, 46% and 32% of injury deaths occurred for men and women, respectively, compared with 26% and 12% for non-Indigenous Australian men and women. Conversely, the proportions of injury deaths of Aboriginal and Torres Strait Islander men and women at 65 and older were much lower than equivalent proportions for non-Indigenous Australians.

Table 2.7: Injury deaths, Indigenous Australians and non-Indigenous Australians, by age, by sex, Australia[(a)], 2014–15

	Indigenous Australians		Non-Indigenous Australians	
	Number	**%**	**Number**	**%**
Males				
0–4	6	2.2	33	0.6
5–14	15	5.5	37	0.7
15–24	47	17.2	369	7.0
25–44	125	45.6	1,349	25.7
45–64	63	23.0	1,250	23.8
65+	18	6.6	2,217	42.2
Total	**274**	**100.0**	**5,255**	**100.0**

(continued)

Table 2.7 (continued): Injury deaths, Indigenous Australians and non-Indigenous Australians, by age, by sex, Australia[(a)], 2014–15

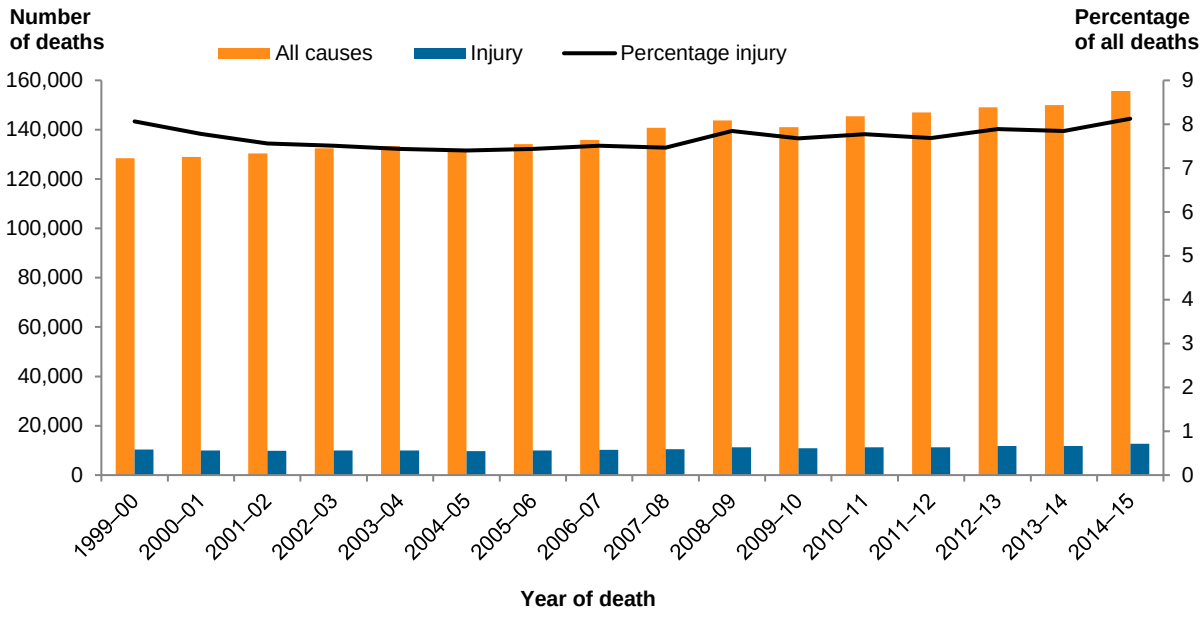
	Indigenous Australians		Non-Indigenous Australians	
	Number	%	Number	%
Females				
0–4	7	4.8	28	0.8
5–14	9	6.2	28	0.8
15–24	26	17.8	145	4.2
25–44	47	32.2	415	12.1
45–64	31	21.2	460	13.4
65+	26	17.8	2,364	68.7
Total	**146**	**100.0**	**3,440**	**100.0**

(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.2.

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).



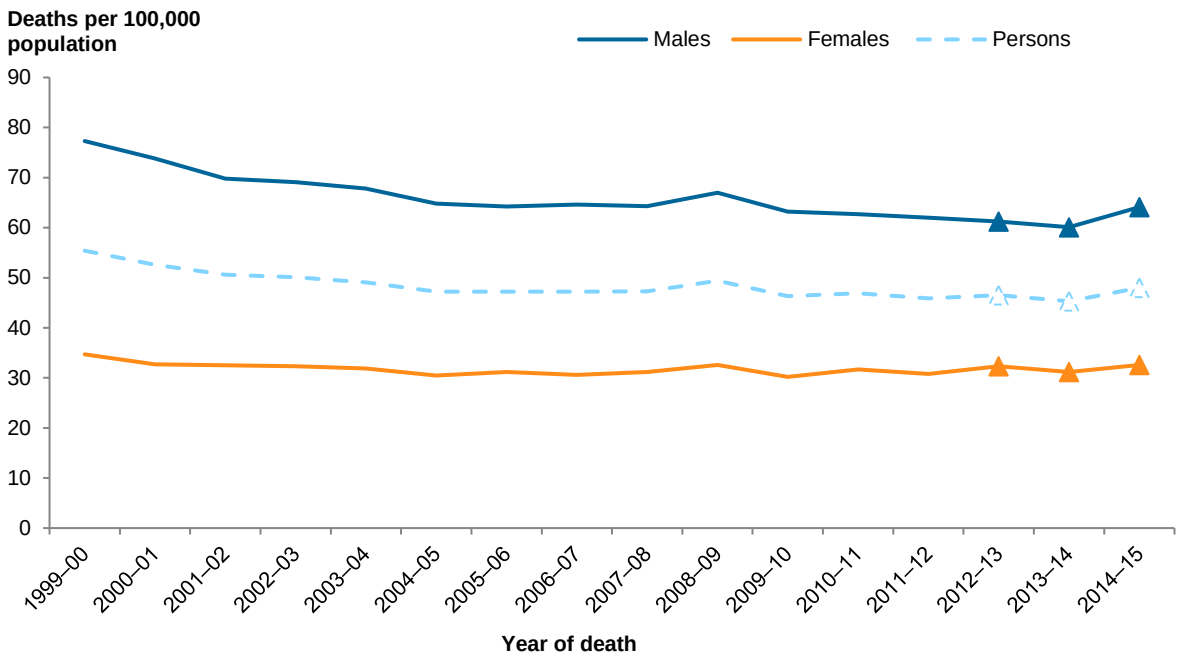
Note: Data underpinning this figure are available in the supplementary table spreadsheet Table SF2.1.

Source: AIHW National Mortality Database.

Figure 2.1: Number of deaths from injury and deaths from all causes, Australia, 1999–00 to 2014–15

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

Age-standardised rates of injury deaths decreased from 55.4 to 47.2 per 100,000 population between 1999–00 and 2004–05, with little change in more recent years (Figure 2.2). Rates for both males and females also tended to decline from the start of the reported period until 2004–05 and remained relatively steady thereafter. Age-standardised rates for males were consistently more than double the rates for females.



Notes

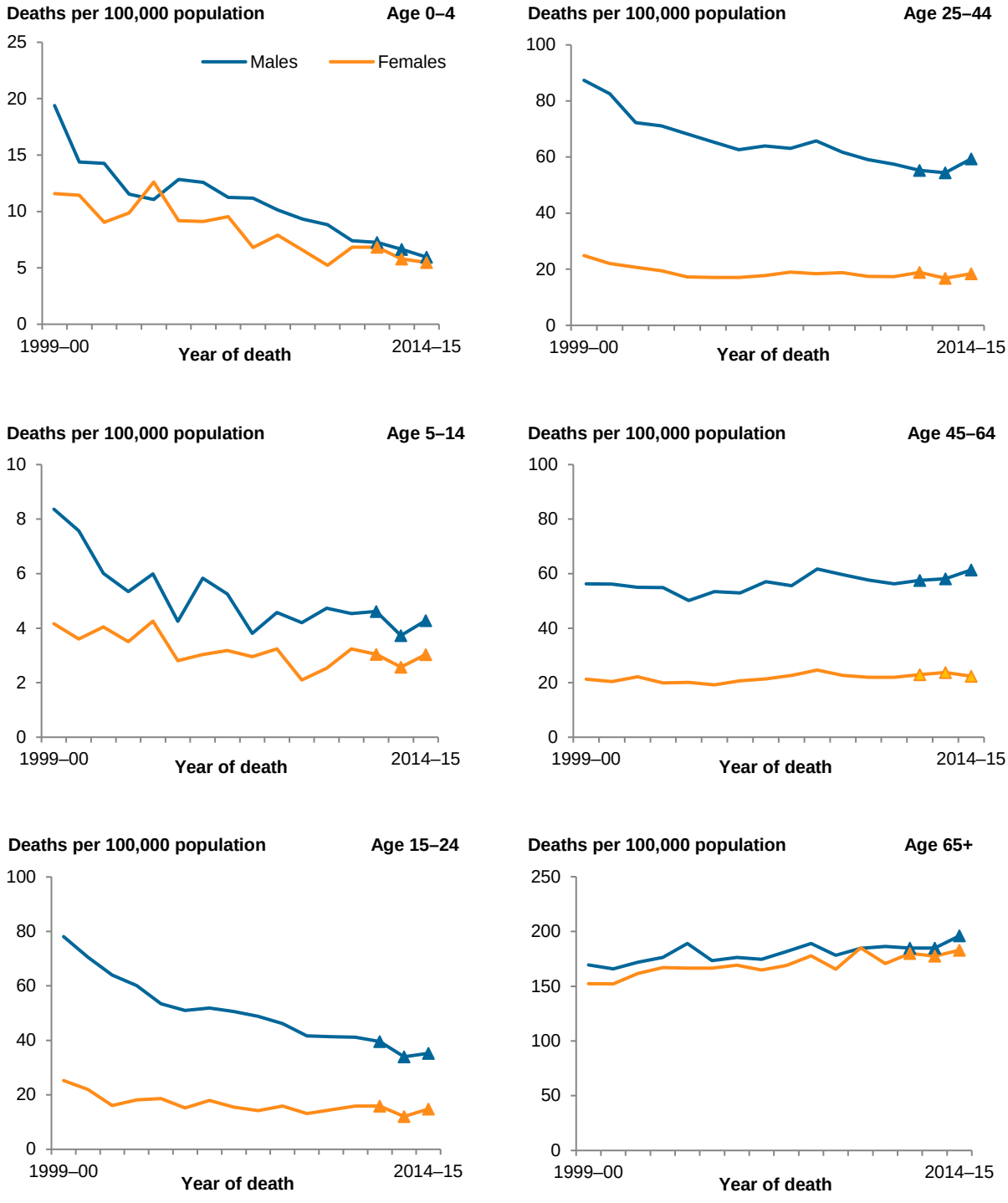
1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF2.2.

Source: AIHW National Mortality Database.

Figure 2.2: Age-standardised rates of injury deaths, by sex, Australia, 1999–00 to 2014–15

Changes over time in injury death rates, by age as well as by sex, are shown in Figure 2.3. In nearly all instances, 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.



Notes

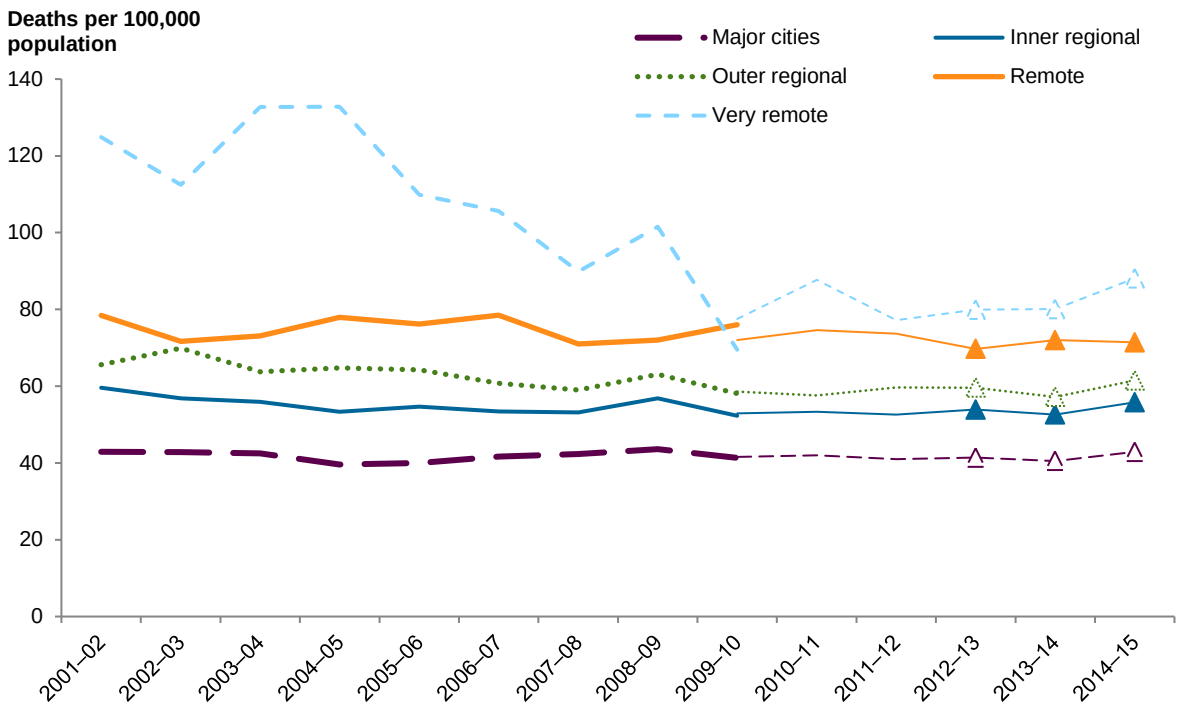
1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF2.3.

Source: AIHW National Mortality Database.

Figure 2.3: Age-specific rates of injury deaths, by age, by sex, Australia, 1999–00 to 2014–15

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

Rates of injury deaths rose with remoteness of place of usual residence and were higher for residents of *Very remote* areas than for residents of other remoteness areas (Figure 2.4). There was a downward trend in rates for residents of *Very remote* areas between 2001–02 and 2009–10, after which rates remained relatively steady. Rates for the residents of the other 4 remoteness areas remained relatively steady over time.



Notes

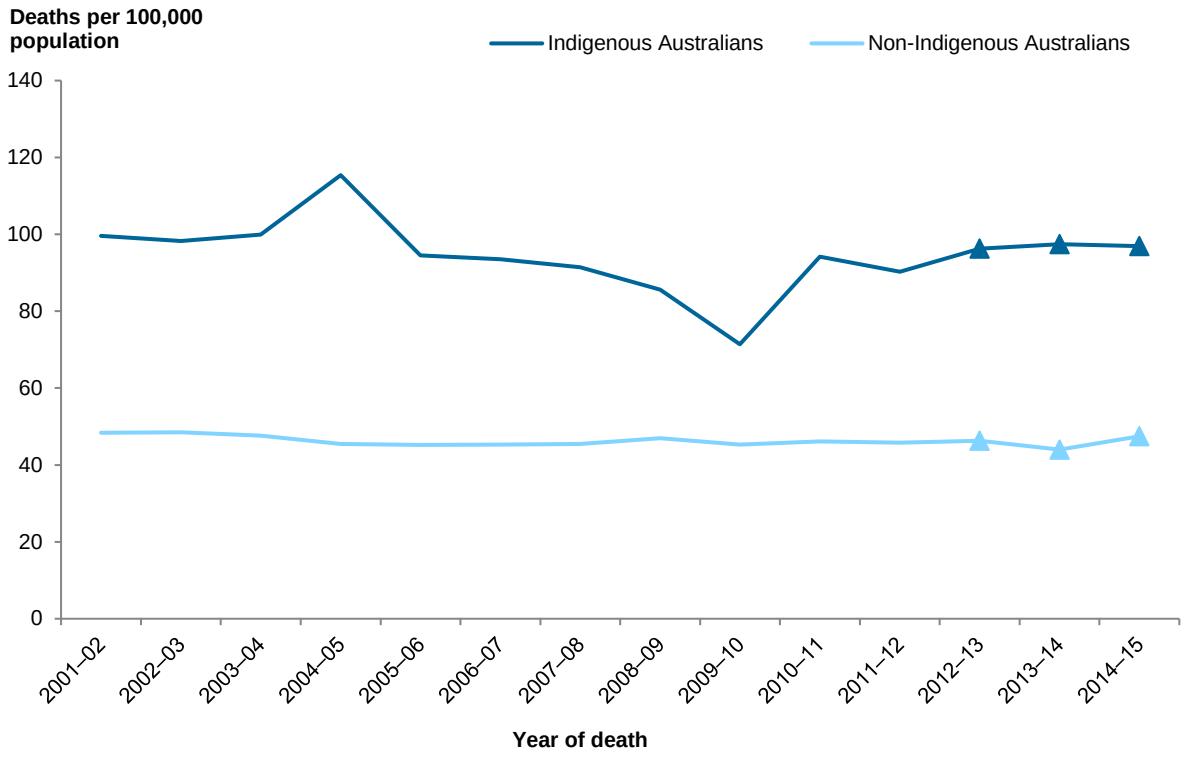
1. Data for 1999–00 and 2000–01 were unavailable.
2. Thick lines are ASGC-based, while thin lines are ASGS-based.
3. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
4. Data underpinning this figure are available in the supplementary table spreadsheet Table SF2.4.

Source: AIHW National Mortality Database.

Figure 2.4: Age-standardised rates of injury deaths, by remoteness of usual residence, Australia, 2001–02 to 2014–15

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

Except for 2009–10, age-standardised rates of injury deaths for Aboriginal and Torres Strait Islander people were consistently at least twice as high as rates for non-Indigenous Australians during the period from 2001–02 to 2014–15 (Figure 2.5). Despite some fluctuations, rates for Aboriginal and Torres Strait Islander people did not change significantly over this period, while rates for non-Indigenous Australians remained relatively steady over time.



Notes

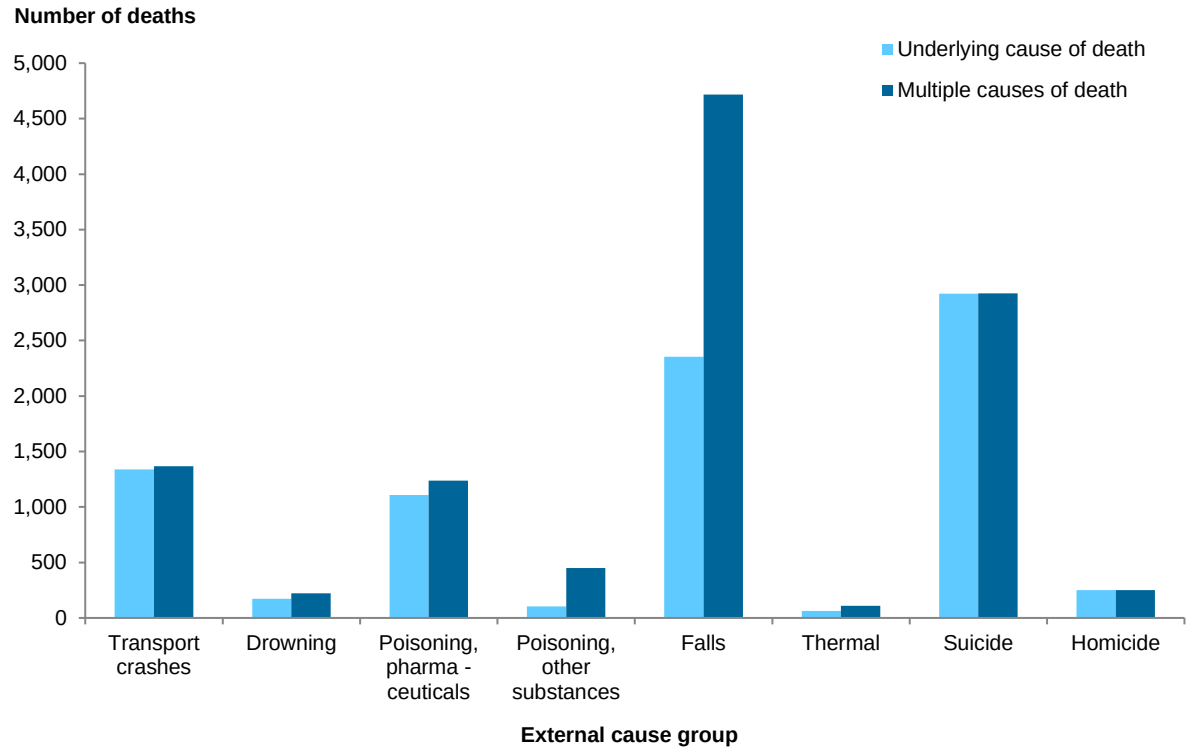
1. Data are for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, the 5 jurisdictions for which recording of Indigenous status was considered to be of adequate quality throughout the study period. These 5 jurisdictions represent close to 89% of the total Indigenous population.
2. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information).
3. Data underpinning this figure are available in the supplementary table spreadsheet Table SF2.5.

Source: AIHW National Mortality Database.

Figure 2.5: Age-standardised rates of injury deaths, Indigenous Australians and non-Indigenous Australians, Australia, 2001–02 to 2014–15

2.6 Effect of including multiple causes of death (MCoD) codes in case selection

When multiple causes of death codes (MCoD) are added to UCoD codes in case inclusion data for 2014–15, we see a marked increase in counts for fall-related deaths and deaths involving poisoning by substances other than pharmaceuticals (Figure 2.6). There were less marked increases in counts for other external cause groups, and little difference in counts for suicides and homicides. Patterns were similar for the other years covered in this report. The data elsewhere in this report do include MCoD codes and therefore should be interpreted in the light of this information.



Source: AIHW National Mortality Database.

Figure 2.6: Comparison of deaths for underlying cause of death codes and multiple causes of death codes, by external cause group, Australia, 2014–15

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

All injury deaths

Changes in the age-standardised rates of injury for major external causes over the period from 1999–00 to 2014–15 are summarised in Table 2.8. Although counts for 2012–13 to 2014–15 are subject to revision, there are relatively small differences between unrevised and revised counts for most major external cause groups for deaths registered in 2012 and after (see Appendix C.) 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 declined from 1999–00 to 2014–15, by 3.9% per year for transport injury, 2.8% per year for drowning and 2.6% for homicide. Rates of poisoning deaths involving pharmaceuticals fell sharply to 2001–02, then rose by 2.4% per year to 2014–15. Rates of fall injury deaths, poisoning deaths involving other substances, and thermal injury deaths did not show a significant trend, despite a large peak in thermal injury deaths in 2008–09 as a result of the 2009 Victorian bushfires. Rates of suicide deaths declined to 2004–05 and remained relatively steady thereafter.

Table 2.8: Trends in age-standardised rates of external cause groups for injury deaths, Australia, 1999–00 to 2014–15

External cause	Trend	Percentage change per year[a]	Percentage of all injury deaths 2014–15[b]	Comments
Unintentional injuries				
Transport	↓	–3.9[c]	10.8	
Drowning	↓	–2.8[c]	1.8	
Poisoning, pharmaceuticals	~[d]	2.4 (2001–02 to 2014–15)	9.8	Declined to 2001–02 then rose
Poisoning, other substances	~[d]		3.6	
Falls	↔[e]		37.3	
Smoke, fire, heat and hot substances	~[d]		0.9	Large peak in 2008–09
Intentional injuries				
Intentional self-harm (suicide)	↔[e]		23.1	Declined to 2004–05 then rose
Homicide	↓	–2.6	2.0	

(a) Average annual change for the period 1999–00 to 2014–15 unless another period is specified.

(b) Percentage does not add to 100% as deaths due to *Other unintentional injury* are not included.

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

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

(e) Average percentage change per year did not differ significantly from zero ($p \geq 0.05$).

Source: AIHW National Mortality Database.

Changes in Aboriginal and Torres Strait Islander injury deaths

Changes in age-standardised rates of injury for major external causes for Aboriginal and Torres Strait Islander peoples over the period from 2001–02 to 2014–15 are summarised in Table 2.9.

Over this period, rates of injury deaths declined by 3.0% per year for transport injury and rose by 6.4% per year for poisoning deaths involving pharmaceuticals. Rates for all other external causes either did not change significantly over this period, or had annual case counts which were too small for any meaningful change in rates over time to be calculated.

Table 2.9: Trends in age-standardised rates of external cause groups for injury deaths for Aboriginal and Torres Strait Islander peoples, Australia, 2001–02 to 2014–15

External cause	Trend	Percentage change per year	Percentage of Indigenous injury deaths 2014–15[a]
Unintentional injuries			
Transport	↓	3.0%	19.8
Drowning[c]			2.1
Poisoning, pharmaceuticals	↑	6.4%	11.9
Poisoning, other substances	↔[b]		6.9
Falls	↔[b]		8.6
Smoke, fire, heat and hot substances[c]			0.7
Intentional injuries			
Intentional self-harm (suicide)	↔[b]		33.1
Homicide	↔[b]		9.8

(a) Percentage does not add to 100% as deaths due to *Other unintentional injury* are not included.

(b) Average percentage change per year did not differ significantly from zero ($p \geq 0.05$).

(c) Annual cases counts were too small for meaningful change in rates over time to be calculated.

Source: AIHW National Mortality Database.

3 Transport crashes

This chapter provides a brief overview of unintentional (accidental) transport injury deaths in 2014–15 and trends in these injury deaths to 2014–15.

Summary statistics for unintentional transport injury deaths in 2014–15 that involved motor vehicle traffic are provided in Appendix C.

3.1 What methods were used?

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

- the UCoD was *Transport accident* (V01–V99); or
- the MCoD 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 here 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 in 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).

3.2 Overview of transport injury deaths

Although most transport injury deaths are unintentional, some are found to be suicides or homicides. The NMD data on injury deaths in 2014–15 available for use in this report also include 14 deaths involving the crashing of a motor vehicle where intent remained undetermined (although intent might be determined for some or all of these deaths in *Final* release ABS data). These suicide, homicide and 'undetermined intent' deaths are not included in this chapter.

Table 3.1 summarises all of the transport-related injury deaths in 2014–15 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 just over 96% of all transport injury deaths in 2014–15.

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

Table 3.1: All identifiable transport injury deaths in 2014–15

Number of deaths in 2014–15	Percentage of all transport-related injury deaths in 2014–15	ICD-10 codes	Terminology in this report	Coverage in this report
1,367	96.1%	UCoD V01–V99; or MCoD V01–V99 and S00–T75, T79	Unintentional transport injury	Transport crashes (Chapter 3)
31	2.2%	UCoD X82; or MCoD X82 and S00–T75, T79	Intentional self-harm by crashing of motor vehicle	Suicide (Chapter 10)
10	0.7%	UCoD Y03; or MCoD Y03 and S00–T75, T79	Assault by crashing of motor vehicle	Homicide (Chapter 11)
14	1.0%	UCoD Y32; or MCoD Y32 and S00–T75, T79	Crashing of motor vehicle, undetermined intent	Undetermined intent (Chapter 2)
1,422	100.0%		Total transport-related deaths	

Source: AIHW National Mortality Database.

Over 94% (1,291) of deaths due to unintentional transport injury involved land transport (Table 3.2). Of these, almost 88% (1,130) involved accidents occurring in an on-road setting.

Table 3.2: Unintentional transport injury deaths, by setting, Australia, 2014–15

	Land transport			
Indicator	On-road deaths	Off-road deaths	Unspecified[a]	Other[b]
Deaths	1,130	129	32	76
Percentage of all unintentional transport injury deaths	82.7	9.4	2.3	5.6
Age-standardised rate (deaths per 100,000 population)	4.7	0.5	0.1	0.3

(a) Land transport deaths unspecified as to whether they occurred in an on-road or off-road setting.

(b) Includes water, air and space transport-related deaths.

3.3 How many deaths due to unintentional transport injury were there in 2014–15?

Transport injuries accounted for 1,367 unintentional injury deaths in Australia during 2014–15 (Table 3.3). This was about 11% of all injury deaths in this period. In 2014–15, unintentional transport injury deaths were 2.6 times as common for males as for females.

Table 3.3: Key indicators for unintentional transport injury deaths, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	988	379	1,367
Percentage of all injury deaths	13.0	7.5	10.8
Crude rate (deaths per 100,000 population)	8.4	3.2	5.8
Age-standardised rate (deaths per 100,000 population)	8.3	3.0	5.6

Source: AIHW National Mortality Database.

Age and sex

Almost 30% of all transport injury deaths occurred at ages 25–44 and over 25% at ages 65 and over (Table 3.4). For all age groups except for the oldest, the proportion of deaths from transport injury was greater than for all injury deaths combined (Table 2.2). The proportion of transport injury deaths occurring within each age group was broadly similar for both males and females.

Population-based rates in 2014–15 were highest for males aged 15–24 (14.6 per 100,000 population) and males aged 65 and over (15.8 per 100,000 population). With the exception of children aged 0–4, rates for males were higher than for females at every age (Supplementary Table SF3.3).

Table 3.4: Unintentional transport injury deaths, by age, by sex, Australia, 2014–15

	Males		Females		Persons	
Age group	Number	%	Number	%	Number	%
0–4	11	1.1	14	3.7	25	1.8
5–14	30	3.0	11	2.9	41	3.0
15–24	169	17.1	75	19.8	244	17.8
25–44	313	31.7	93	24.5	406	29.7
45–64	232	23.5	71	18.7	303	22.2
65+	233	23.6	115	30.3	348	25.5
Total	**988**	**100.0**	**379**	**100.0**	**1,367**	**100.0**

Source: AIHW National Mortality Database.

State or territory of usual residence

The age-standardised rate for transport-related injury deaths during 2014–15 for residents of the Northern Territory was almost 3 times the national rate of 5.6 deaths per 100,000 population (Table 3.5). Queensland, Western Australia, South Australia and Tasmania all recorded rates above the national rate, while the Australian Capital Territory recorded the lowest rate of 2.4 deaths per 100,000 population.

Table 3.5: Unintentional transport injury deaths, by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	362	305	276	205	125	42	10	42
Percentage	26.5	22.3	20.2	15.0	9.1	3.1	0.7	3.1
Age-standardised rate/100,000 population	4.6	5.6	5.8	7.8	7.1	7.7	2.4	16.6

Source: AIHW National Mortality Database.

Remoteness of usual residence

The rate of transport-related injury deaths increased with greater remoteness of usual residence (Table 3.6). The rate of transport-related injury deaths for residents of *Very remote* areas was 6.7 times the rate for residents of *Major cities*.

Table 3.6: Unintentional transport injury deaths, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[a]					
Indicator	**Major cities**	**Inner regional**	**Outer regional**	**Remote**	**Very remote**	**Total[b]**
Deaths	611	396	233	54	48	1,342
Percentage	45.5	29.5	17.4	4.0	3.6	
Age-standardised rate (deaths per 100,000 population)	3.5	9.1	11.2	17.5	23.6	

(a) Derived using the ASGS classification.

(b) Excludes 25 deaths where remoteness was not available.

Source: AIHW National Mortality Database.

Socioeconomic status

The age-standardised rate of injury death tended to increase with socioeconomic disadvantage (Table 3.7). The rate for residents of areas classified as *Most disadvantaged* (7.5 deaths per 100,000 population) was 2.1 times the rate for residents of areas classified as *Least disadvantaged* (3.6 deaths per 100,000 population).

Table 3.7: Unintentional transport injury deaths, by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	Most disadvantaged	Second most disadvantaged	Middle	Second least disadvantaged	Least disadvantaged
Deaths	361	309	301	196	175
Percentage	26.9	23.0	22.4	14.6	13.0
Age-standardised rate/100,000 population	7.5	6.2	6.2	4.0	3.6

Note: Excludes 25 deaths where SEIFA quintile was not reported.

Source: AIHW National Mortality Database.

Aboriginal and Torres Strait Islander people

The age-standardised unintentional transport injury death rate for Aboriginal and Torres Strait Islander people was 2.7 times the rate for non-Indigenous Australians (Table 3.8).

Table 3.8: Key indicators for unintentional transport injury deaths, Indigenous Australians and non-Indigenous Australians, Australia[(a)], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	Males	Females	Persons	Males	Females	Persons
Deaths	56	27	83	662	256	918
Age-standardised rate/100,000 population	22.3	8.4	15.0	8.1	3	5.5
Rate ratio[(b)]	2.7	2.8	2.7	. .	. .	. .
Rate difference[(c)]	14.2	5.4	9.5	. .	. .	. .

(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.2.

(b) Rate ratios are standardised rates for Indigenous males, females and persons divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons minus standardised rates for non-Indigenous males, females and persons.

Source: AIHW National Mortality Database.

Small case numbers for Aboriginal and Torres Strait Islander people made comparisons with non-Indigenous Australians difficult in terms of the proportions of unintentional transport injury deaths occurring in each age group (Table 3.9). Of note, is that the proportions of injury deaths of Aboriginal and Torres Strait Islander men and women at 65 and older were much lower than equivalent proportions for non-Indigenous men and women.

Table 3.9: Unintentional transport injury deaths, Indigenous Australians and non-Indigenous Australians, by age, by sex, Australia[(a)], 2014–15

	Indigenous Australians		Non-Indigenous Australians	
	Number	%	Number	%
Males				
0–4	2	3.6	6	0.9
5–14	4	7.1	20	3.0
15–24	9	16.1	106	16.0
25–44	26	46.4	213	32.2
45–64	12	21.4	158	23.9
65+	3	5.4	159	24.0
Total	**56**	**100.0**	**662**	**100.0**
Females				
0–4	3	11.1	9	3.5
5–14	3	11.1	7	2.7
15–24	6	22.2	53	20.7
25–44	11	40.7	62	24.2
45–64	4	14.8	49	19.1
65+	0	0.0	76	29.7
Total	**27**	**100.0**	**256**	**100.0**

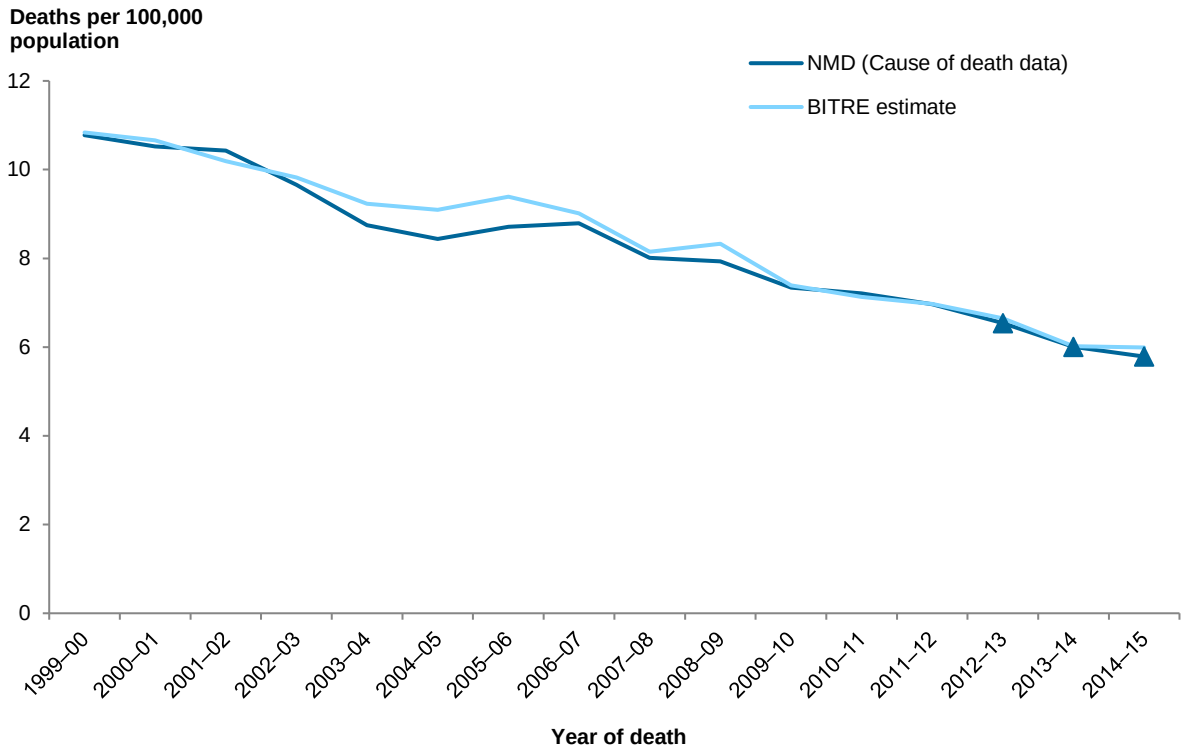
(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.3.

Source: AIHW National Mortality Database.

3.4 How have unintentional transport injury deaths changed over time?

Crude rates of deaths from transport crashes decreased from 10.8 deaths per 100,000 population in 1999–00 to 5.8 in 2014–15 (Figure 3.1). NMD data indicate an average rate of decrease of 3.9% per year between 1999–00 and 2014–15. 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 Transport and Regional Economics (BITRE), also indicate an average rate of decrease of 3.9% per year between 1999–00 and 2014–15, with less fluctuation of trend in the mid-2000s.

Crude rates were calculated for NMD data to allow better comparability with the BITRE estimates and because there was little difference between crude and adjusted rates for the NMD data.



Notes

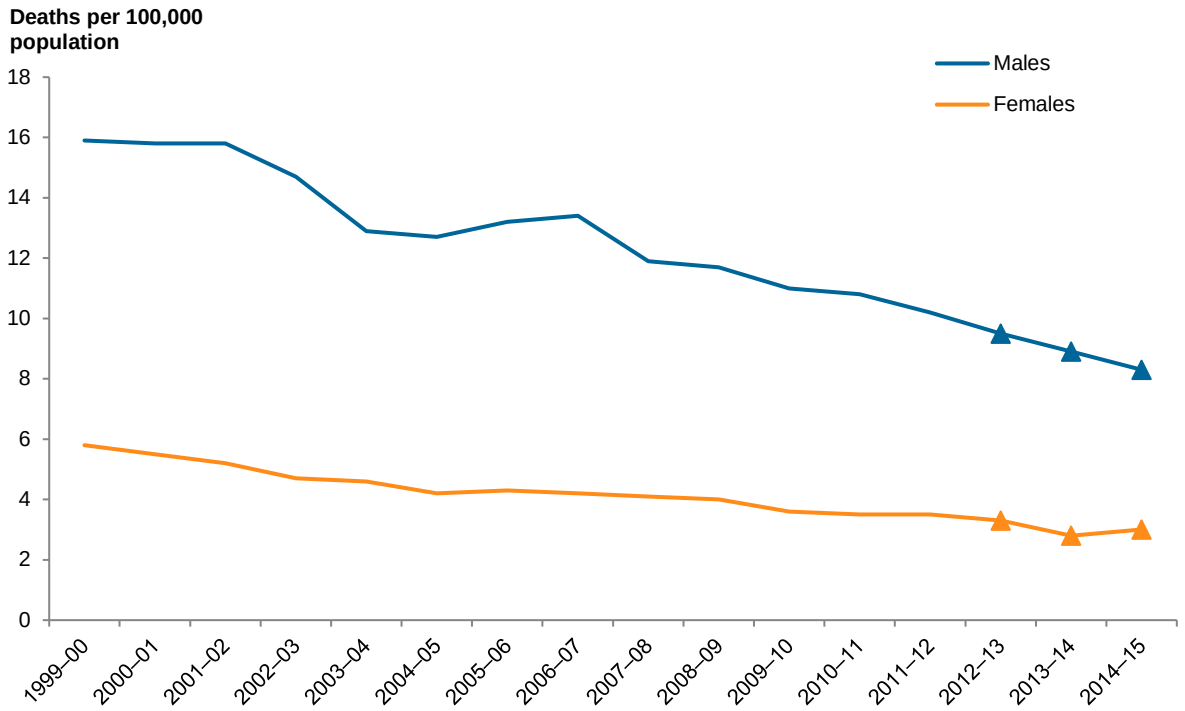
1. Values for the last 3 years of NMD-based rates, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF3.1.
3. Estimate based on BITRE data is based on crude rates. See Appendix A for method.

Sources: AIHW National Mortality Database; Bureau of Infrastructure, Transport and Regional Economics (BITRE).

Figure 3.1: Crude rates of unintentional transport injury deaths, Australia, 1999–00 to 2014–15

3.5 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 3.2). For males, rates decreased by an average of 3.6% per year over the period from 1999–00 to 2014–15, while for females, rates decreased by an average of 4.1% per year over the same period. Rates were consistently about 3 times as high for males as for females.



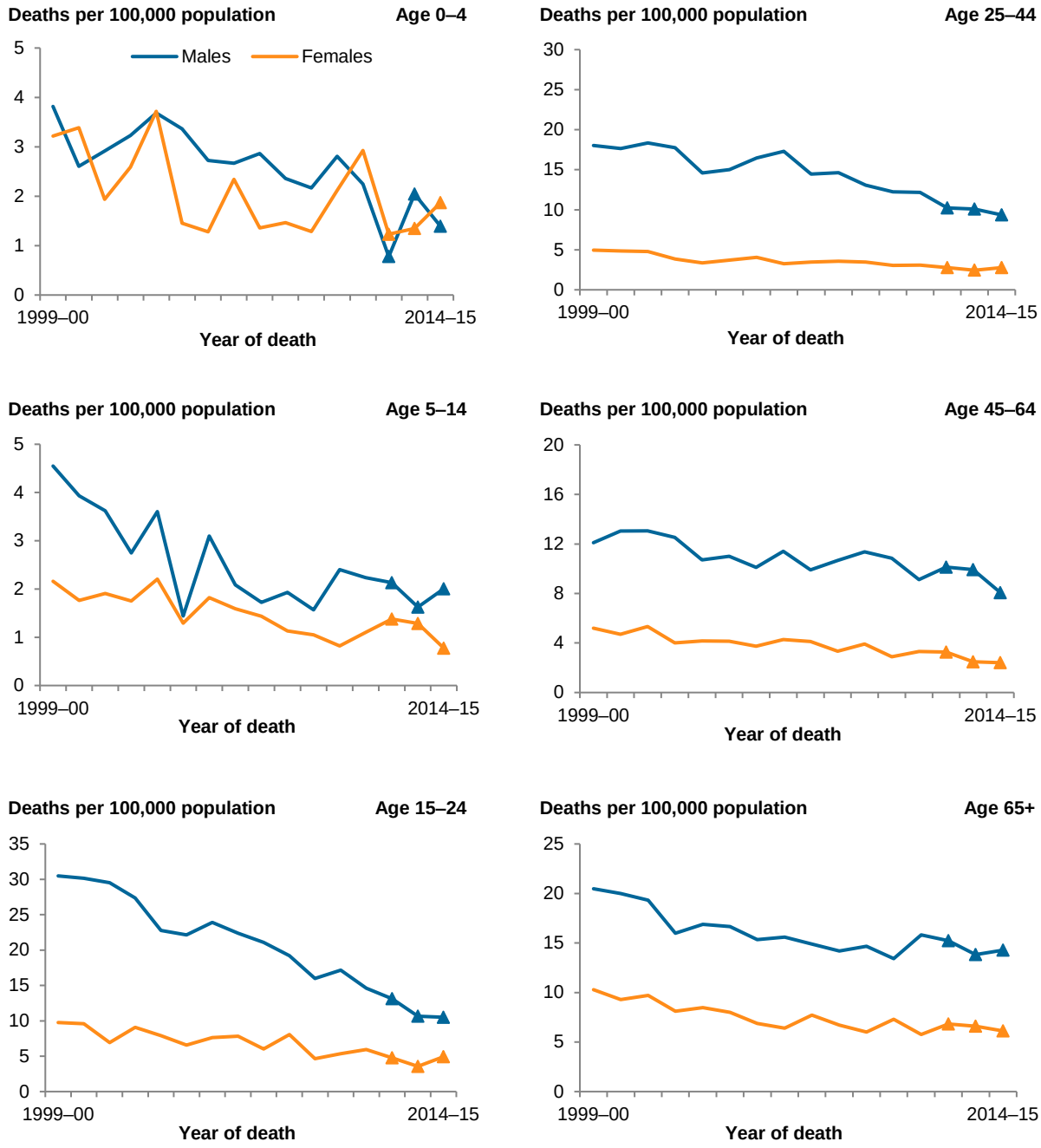
Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF3.2.

Source: AIHW National Mortality Database.

Figure 3.2: Age-standardised rates of unintentional transport injury deaths, by sex, Australia, 1999–00 to 2014–15

Figure 3.3 shows changes in rates of transport-related injury deaths over time, by age and by sex. Age-specific rates for males were higher than for females across all age groups for all years, except in a couple of years where numbers of deaths were low for young children aged 0–4. The differences in rates between males and females was most marked at ages 25–44, when male rates were consistently more than 4 times as high as for females. Rates generally tended to decline over time (with fluctuations), for both males and females. The least decline occurred for age group 45–64.



Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF3.3.

Source: AIHW National Mortality Database.

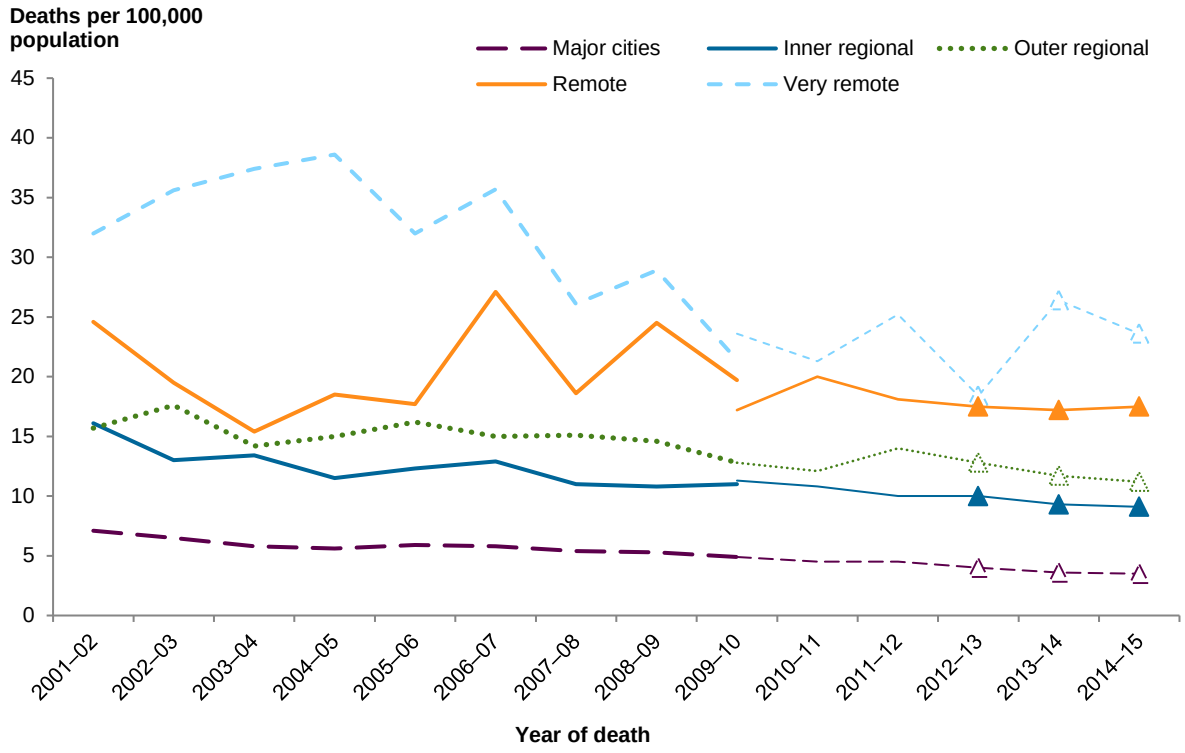
Figure 3.3: Age-specific rates of unintentional transport injury deaths, by age, by sex, Australia, 1999–00 to 2014–15

3.6 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 3.4). Rates for residents of *Very remote* areas were consistently 5 to 7 times as high as rates for residents of *Major cities.* Rates for all 5 remoteness zones tended to decrease over the period from 2000–01 to 2014–15.

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

In 2009–10, the only year for which both ASGC-based and ASGS-based rates are shown, the ASGC-based rates were higher than the ASGS-based rates in *Remote* areas, while for *Very remote* areas, the ASGS-based rates were higher.



Notes

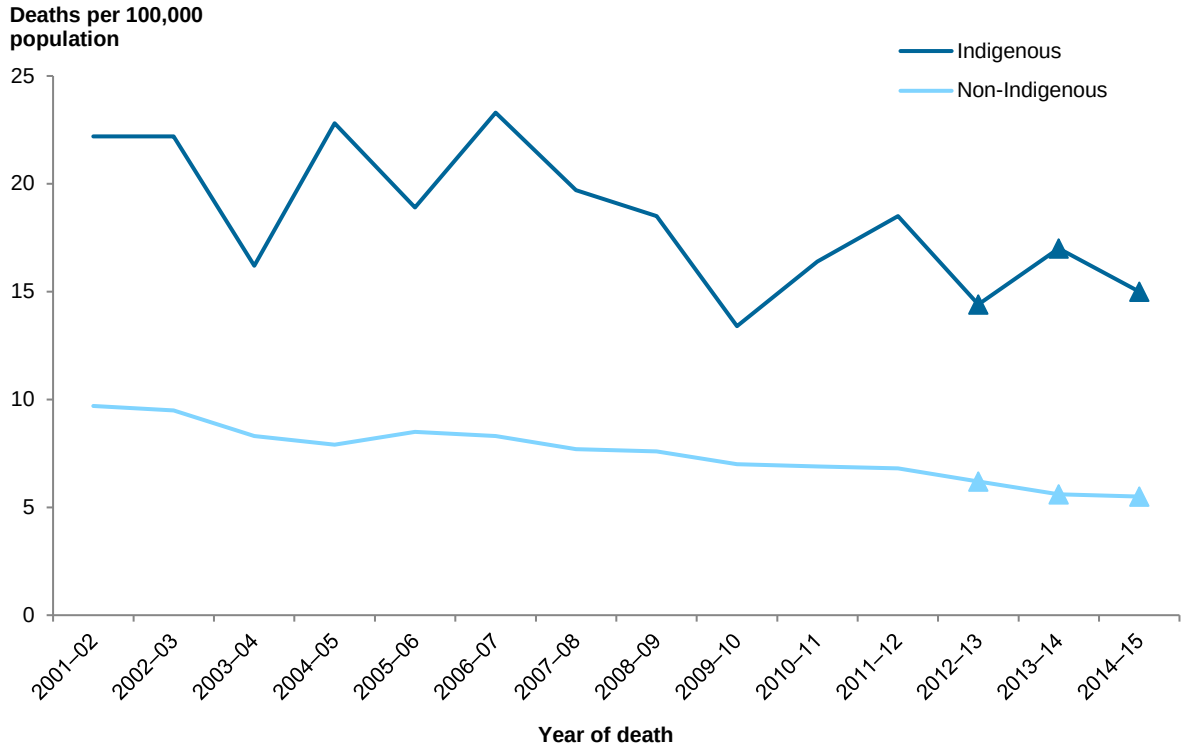
1. Data for 1999–00 and 2000–01 were unavailable.
2. Thick lines are ASGC-based, while thin lines are ASGS-based.
3. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
4. Data underpinning this figure are available in the supplementary table spreadsheet Table SF3.4.

Source: AIHW National Mortality Database.

Figure 3.4: Age-standardised rates of unintentional transport injury deaths, by remoteness of usual residence, Australia, 2001–02 to 2014–15

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

Age-standardised rates of transport-related injury deaths decreased over time for both Aboriginal and Torres Strait Islander peoples and for non-Indigenous Australians (Figure 3.5). For Aboriginal and Torres Strait Islander peoples, rates decreased by an average of 3.0% per year over the period from 1999–00 to 2014–15, while for non-Indigenous Australians, rates decreased by an average of 3.9% per year over the same period. Rates were consistently about 2 to 3 times as high for Aboriginal and Torres Strait Islander peoples as for non-Indigenous Australians.



Notes

1. Data are for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, the 5 jurisdictions for which recording of Indigenous status was considered to be of adequate quality throughout the study period. These 5 jurisdictions represent close to 89% of the total Indigenous population.
2. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
3. Data underpinning this figure are available in the supplementary table spreadsheet Table SF3.5.

Source: AIHW National Mortality Database.

Figure 3.5: Age-standardised rates of unintentional transport injury deaths, Indigenous and non-Indigenous Australians, Australia, 2001–02 to 2014–15

4 Drowning

This chapter provides a summary of all drowning deaths in 2014–15 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 2014–15.

4.1 What methods were used?

The criteria given in Section 1.3 were applied and 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 here 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 in 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* of ICD-10 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).

4.2 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 of the drowning deaths in 2014–15 that can be identified by means of the ICD-coded cause of death data.

Unintentional drowning deaths, the subject of this chapter, accounted for almost three-quarters (75%) of all drowning deaths in 2014–15. 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.

Table 4.1: All identifiable drowning deaths in 2014–15

Number of deaths in 2014–15	Percentage of all drowning deaths in 2014–15	ICD-10 codes	Terminology in this report	Coverage in this report
223	74.6%	UCoD W65–W74; or MCoD S00–T75, T79 and W65–W74; or MCoD T75.1 and V01–X59	Unintentional drowning[(a)]	Drowning (Chapter 4)
49	16.4%	MCoD X60–X84 and MCoD T75.1	Intentional self-harm by drowning and submersion	Suicide (Chapter 10)
2	0.7%	MCoD X85–Y09 and MCoD T75.1	Assault by drowning and submersion	Homicide (Chapter 11)
25	8.4%	MCoD Y10–Y34 and MCoD T75.1	Drowning and submersion, undetermined intent	Undetermined intent (Chapter 2)
299	100.0%		Total drowning deaths	

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

4.3 How many unintentional drowning deaths were there in 2014–15?

Unintentional drowning deaths numbered 223 in Australia in 2014–15 (Table 4.2). This was 1.8% of all injury deaths in this period. About 4 times as many males as females drowned in 2014–15.

Table 4.2: Key indicators for unintentional drowning deaths, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	178	45	223
Percentage of all injury deaths	2.3	0.9	1.8
Crude rate (deaths per 100,000 population)	1.5	0.4	0.9
Age-standardised rate (deaths per 100,000 population)	1.5	0.4	0.9

Source: AIHW National Mortality Database.

Age and sex

Drowning tends to occur at younger ages than injury from most other causes: 53% of drowning deaths occurred at ages younger than 45 (compared with 28% of all injury deaths) and 11% occurred at ages 0–4 (compared with 0.7% of all injury deaths) (Table 4.3).

Table 4.3: Unintentional drowning deaths, by age, by sex, Australia, 2014–15

	Males		Females		Persons	
Age group	**Number**	**%**	**Number**	**%**	**Number**	**%**
0–4	14	7.9	11	24.4	25	11.2
5–14	7	3.9	2	4.4	9	4.0
15–24	19	10.7	3	6.7	22	9.9
25–44	54	30.3	9	20.0	63	28.3
45–64	45	25.3	11	24.4	56	25.1
65+	39	21.9	9	20.0	48	21.5
Total	**178**	**100.0**	**45**	**100.0**	**223**	**100.0**

Source: AIHW National Mortality Database.

State or territory of usual residence

Age-standardised rates for drowning deaths during 2014–15 for all jurisdictions except for Victoria, Western Australia and the Australian Capital Territory were above the national rate of 0.9 deaths per 100,00 population (Table 4.4). Rates for Western Australia were the same as the national rate, while Victoria and the Australian Capital Territory both recorded a rate of 0.5 deaths per 100,00 population. These observations must be treated with some caution because relatively small counts in the Northern Territory and the other less-populated jurisdictions can cause rates to fluctuate markedly from year to year.

Table 4.4: Unintentional drowning deaths, by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	77	32	61	24	17	6	2	4
Percentage	34.5	14.3	27.4	10.8	7.6	2.7	0.9	1.8
Age-standardised rate/100,000 population	1.0	0.5	1.3	0.9	1.0	1.1	0.5	1.5

Source: AIHW National Mortality Database.

Remoteness of usual residence

The age-standardised rate of drowning deaths tended to increase with increasing remoteness, with the rate of drowning deaths among residents of *Remote* areas almost 3.5 times the rate for residents of *Major cities* (Table 4.5). These observations should be treated with some caution due to the small counts in *Remote* and *Very remote* areas which can result in marked year-to-year variability in rates in these areas.

Table 4.5: Unintentional drowning deaths by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[a]					
Indicator	Major cities	Inner regional	Outer regional	Remote	Very remote	Total[b]
Deaths	118	48	30	8	2	206
Percentage	57.3	23.4	14.4	3.7	1.2	
Age-standardised rate/100,000 population	0.7	1.1	1.4	2.4	0.8	

(a) Derived using the ASGS classification.

(b) Excludes 17 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Socioeconomic status

The age-standardised rate of unintentional drowning death increased with the level of socioeconomic disadvantage. The rate for residents of areas classified as *Most disadvantaged* (1.3 deaths per 100,000 population) was 2.6 times the rate for residents of areas classified as *Least disadvantaged* (0.5 deaths per 100,000 population).

Table 4.6: Unintentional drowning deaths by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	Most disadvantaged	Second most disadvantaged	Middle	Second least disadvantaged	Least disadvantaged
Deaths	60	49	43	31	23
Percentage	26.9	22.0	19.3	13.9	10.3
Age-standardised rate (deaths per 100,000 population)	1.3	1.0	0.9	0.7	0.5

Note: Excludes 17 deaths where SEIFA quintile was not reported.

Source: AIHW National Mortality Database.

Aboriginal and Torres Strait Islander people

The age-standardised unintentional drowning death rate for Aboriginal and Torres Strait Islander people was 1.3 times the rate for non-Indigenous Australians (Table 4.7). This observation must be treated with caution due the small counts involved.

Table 4.7: Key indicators for unintentional drowning deaths, Indigenous Australians and non-Indigenous Australians, Australia[a], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	Males	Females	Persons	Males	Females	Persons
Deaths	8	1	9	130	41	171
Age-standardised rate/100,000 population	2.5	0.2	1.3	1.6	0.5	1.0
Rate ratio[b]	1.6	0.4	1.3	. .	. .	. .
Rate difference[c]	0.9	–0.3	0.3	. .	. .	. .

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

(b) Rate ratios are standardised rates for Indigenous males, females and persons divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons minus standardised rates for non-Indigenous males, females and persons.

Source: AIHW National Mortality Database.

Associated factors

Drowning in natural bodies of water

A total of 109 (49%) 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 (90 or 83%). In 71 (65%) of drowning deaths involving natural bodies of water, the person drowned while already in the water, while for the remaining 38 (35%), drowning occurred after the person fell into a body of natural water.

Drowning in bathtub

A total of 12 (5%) of drowning deaths occurred in a bathtub. In most instances, the person drowned while already in a bathtub, while in a small number of instances the person drowned after a fall into the bathtub.

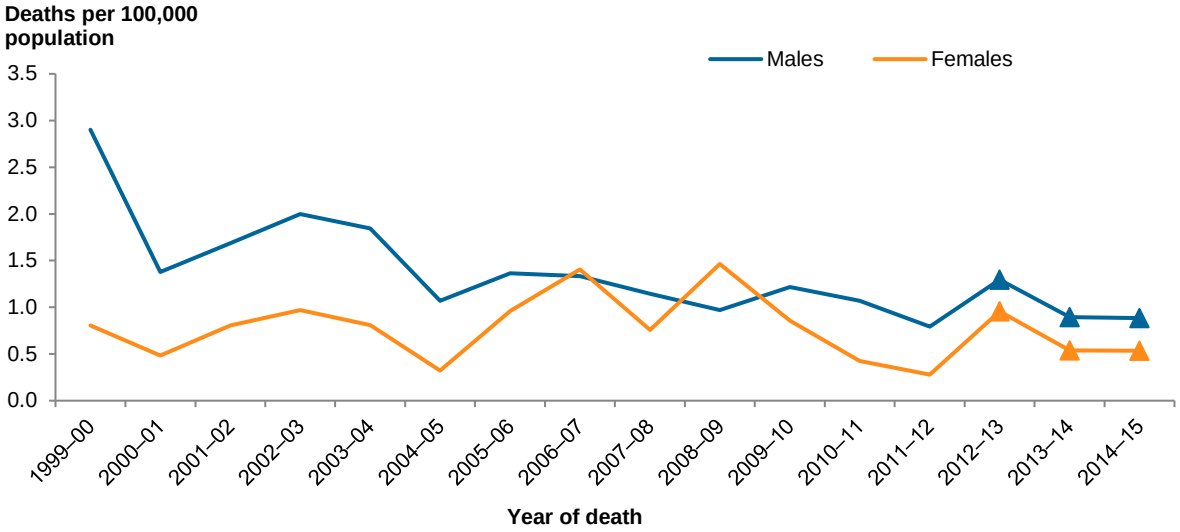
Transport-related drowning

A total of 31 (14%) of unintentional drowning deaths were related to transport and so are included in Chapter 3. In nearly all instances, these deaths were males. In 16 of these deaths (52%), drowning was caused by an accident to a watercraft (for example, an overturning or sinking boat, falling or jumping from a burning ship, and so forth). In another 10 (32%) of 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 forth).

Drowning in swimming pools

In 27 (12%) of deaths, the drowning occurred in a swimming pool. A total of 11 (41%) of these deaths involved children aged under 5. Across nearly all ages, male drowning deaths were more frequent (21 or 70%) than female (6 or 30%). In 16 (59%) of these deaths, the deceased person was already in the swimming pool, while for 11 (41%) of these deaths, drowning occurred after the person fell into the 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 boys and girls aged 0–4 fluctuated over the period due to small case numbers and have remained below 1.5 deaths per 100,000 population for both sexes since 2004–05 (Figure 4.1). In 2014–15, the rate of death by drowning in a swimming pool for children aged 0–4 was 0.7 deaths per 100,000 population.



Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF4.1.

Source: AIHW National Mortality Database.

Figure 4.1: Age-specific rates of unintentional drowning deaths in swimming pools in children aged 0–4, Australia, 1999–00 to 2014–15

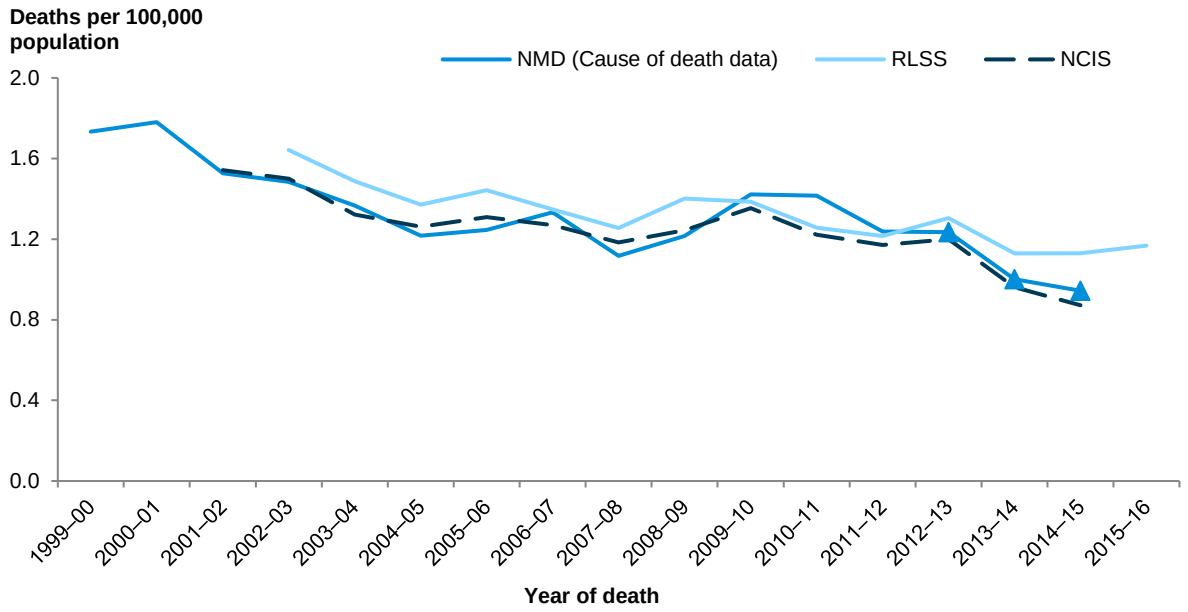
4.4 How have unintentional drowning deaths changed over time?

Crude rates of drowning deaths decreased from 1.7 deaths per 100,000 population in 1999–00 to 1.1 in 2007–08 (Figure 4.2). This decrease represented an average decline of 5.3% per year over this period. Rates rose again between 2007–08 and 2009–10 before dropping back to 0.9 by 2014–15. Over the entire period from 1999–00 to 2014–15, there was an average decline in rates of 2.8% per year. However, it should be noted that rates for 2012–13 and 2014–15 are subject to review and revision.

Estimates based on NMD 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 4.5% per year between 2002–03 and 2007–08 and a rate of decrease of 2.3% per year between 2002–03 and 2014–15. Estimates based on NCIS data, as at March 2017, indicate an average annual decrease of 4.0% per year between 2001–02 (the first full year for which national NCIS data were available) and 2007–08, and a decrease of 2.9% per year between 2001–02 and 2014–15.

It should be noted that differences in case definitions and methods between sources, particularly between the NMD 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 in Appendix A.

Crude rates were calculated for NMD data to allow better comparability with the RLSS and NCIS-based estimates and because there was little difference between crude and adjusted rates for the NMD data.



Notes

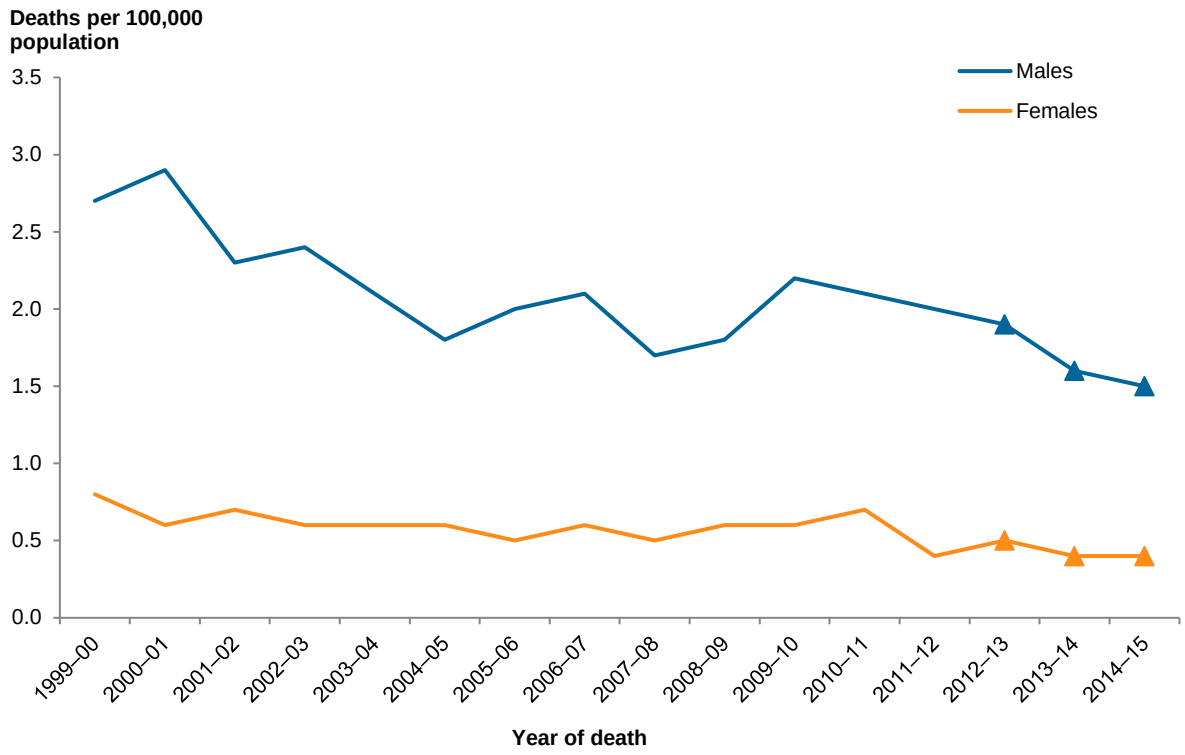
1. Values for the last 3 years of NMD-based rates, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF4.2.

Source: AIHW National Mortality Database; Royal Life Saving Society (RLSS); National Coronial Information System (NCIS).

Figure 4.2: Crude rates of unintentional drowning deaths, Australia, 1999–00 to 2014–15

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

During the period from 1999–00 to 2014–15, age-standardised rates of drowning deaths for males declined by an average of 2.7% per year, while rates for females declined by an average of 3.1% per year (Figure 4.3). Rates were consistently 3 to 5 times as high for males as for females.



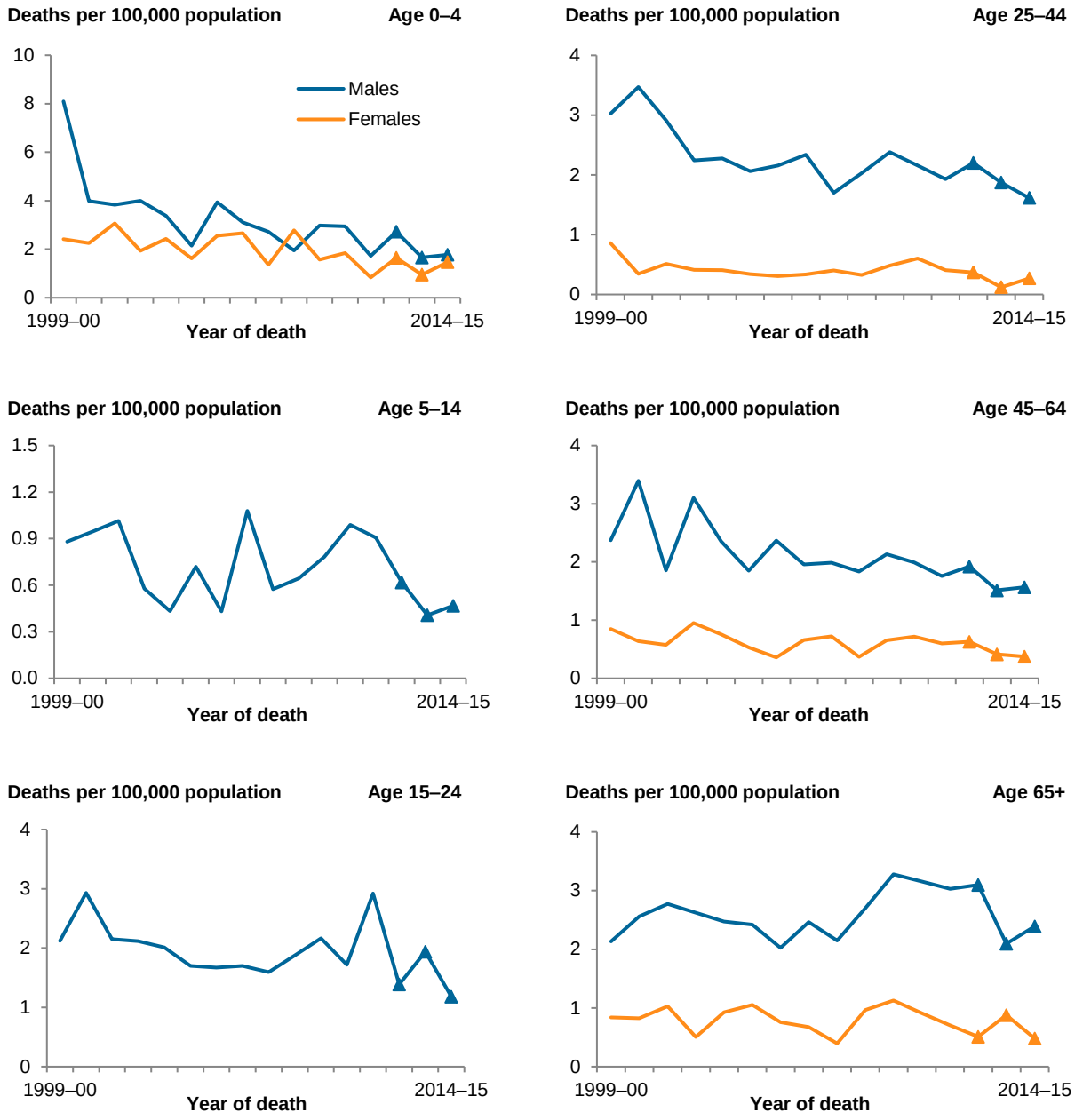
Notes

1. Values for the last 3 years of NMD-based rates, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF4.3.

Source: AIHW National Mortality Database.

Figure 4.3: Age-standardised rates of unintentional drowning deaths, by sex, Australia, 1999–00 to 2014–15

Figure 4.4 shows changes in drowning death rates over time, by age and by sex. 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 consistently more than 4 times as high as female rates. For males in most age groups, rates declined from early in the period. Rates for boys aged 5–14 fluctuated markedly over time, due to relatively small case counts. Rates for females tended to remain relatively steady throughout the period in all age groups.



Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF4.4.
3. Rates for girls aged 5–14 and females aged 15–24 are not shown, due to small numbers.

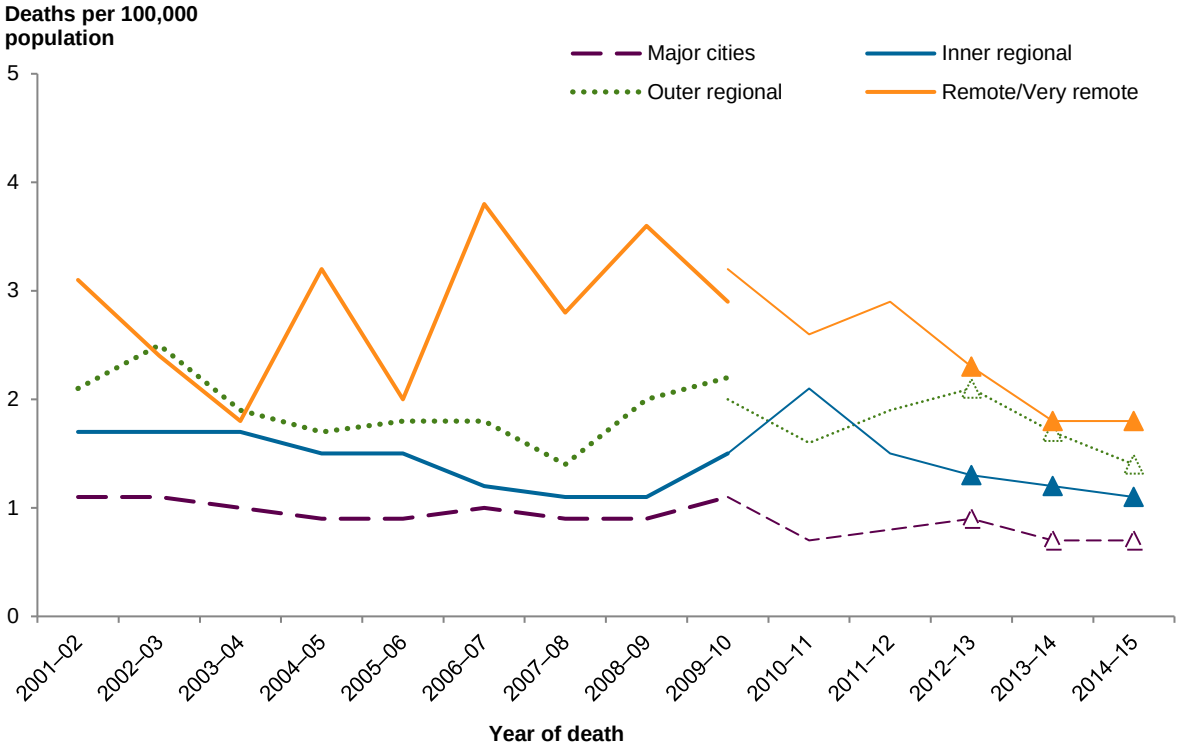
Source: AIHW National Mortality Database.

Figure 4.4: Age-specific rates of unintentional drowning deaths, by age, by sex, Australia, 1999–00 to 2014–15

4.6 How have unintentional drowning deaths varied by remoteness?

Rates for *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 consistently higher than rates for residents of less remote areas (Figure 4.5)—and consistently 2 to 4 times as high as rates for residents of *Major cities.* The fluctuation in rate of drowning deaths in the combined *Remote* areas of Australia is partly a reflection of the small population and number of deaths occurring each year.

In 2009–10, the only year for which both ASGC-based and ASGS-based rates are shown, ASGC-based rates for residents of *Outer regional* areas were higher than the ASGS-based rates, while for combined *Remote/Very remote* areas, the ASGS-based rates were higher.



Notes

1. Data for 1999–00 and 2000–01 were unavailable.
2. The rates for *Remote* and *Very remote* areas are combined due to small counts.
3. The thick lines are ASGC-based, while the thin lines are ASGS-based.
4. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
5. Data underpinning this figure are available in the supplementary table spreadsheet Table SF4.5.

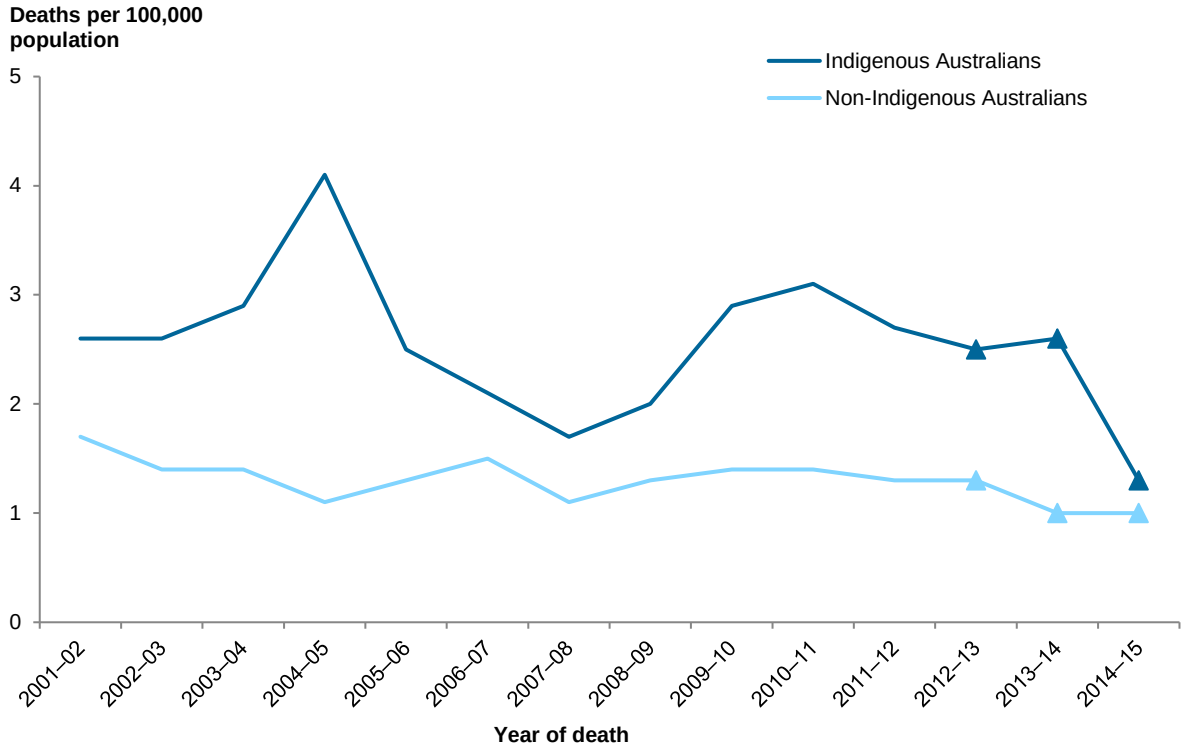
Source: AIHW National Mortality Database.

Figure 4.5: Age-standardised rates of unintentional drowning deaths, by remoteness of usual residence, Australia, 2001–02 to 2014–15

4.7 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 markedly from year to year for the period from 1999–00 to 2014–15, at least partly because even small changes in the annual number of deaths (which were between 10 and 20 per year) have a substantial effect on the rates (Figure 4.6). Overall, there was little evidence of an overall trend in rates over this period, though the low rate in 2014–15 is welcome. Rates for non-Indigenous Australians declined by an average of 2.1% per year over the period of interest.

Rates for Aboriginal and Torres Strait Islander people were generally 1.5 to 2.5 times as high as rates for non-Indigenous Australians over the period of interest.



Notes

1. Data are for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, the 5 jurisdictions for which recording of Indigenous status was considered to be of adequate quality throughout the study period. These 5 jurisdictions represent close to 89% of the total Indigenous population.
2. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
3. Data underpinning this figure are available in the supplementary table spreadsheet Table SF4.6.

Source: AIHW National Mortality Database.

Figure 4.6: Age-standardised rates of unintentional drowning deaths, Indigenous Australians and non-Indigenous Australians, Australia, 2001–02 to 2014–15

5 Poisoning, pharmaceuticals

This chapter provides a summary of all poisoning deaths involving pharmaceuticals in 2014–15 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 2014–15.

5.1 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 *Toxic effects of pharmaceuticals* (T36–T50) and for *Unintended external cause of injury* (V01–X59).

Suicide and homicide deaths (UCoD X60–Y09) were excluded. The concepts underlying the abbreviations used here 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 in 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* of ICD-10. 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).

5.2 Overview of total poisoning by pharmaceuticals

In 2014–15, unintentional poisoning deaths involving pharmaceuticals accounted for 67% 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.

Counts of deaths involving poisoning by pharmaceuticals included in this report will differ from those published by the ABS. This is because the ABS inclusion criteria selects cases only on the basis of underlying cause of death (UCoD) codes, and include codes for mental and behavioural disorders (F11–F16, F19) as well as a code for *Abuse of non-dependence-producing substances* (F55).

Table 5.1: All identifiable poisoning deaths involving pharmaceuticals in 2014–15

Number of deaths in 2014–15	Percentage of all poisoning by drugs deaths in 2014–15	ICD-10 codes	Terminology in this report	Coverage in this report
1,237	67.4%	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)
494	26.9%	UCoD X60–X64; or MCoD X60–X64 and S00–T75, T79	Intentional self-harm by drug poisoning	Suicide (Chapter 10)
0	0.0%	UCoD X85; or MCoD X85 and S00–T75, T79	Assault by drug poisoning	Homicide (Chapter 11)
104	5.7%	UCoD Y10–Y14; or MCoD Y10–Y14 and S00–T75, T79	Drug poisoning, undetermined intent	Undetermined intent (Chapter 2)
1,835	100.0%		Total deaths involving poisoning by drugs	

Note: 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.

5.3 How many unintentional poisoning deaths involving pharmaceuticals were there in 2014–15?

Unintentional poisoning involving pharmaceuticals accounted for 1,237 injury deaths in Australia during 2014–15 (Table 5.2). This was 9.8% of all injury deaths for this period. *Unintentional poisoning deaths involving pharmaceuticals* were over twice as numerous for males as females.

Table 5.2: Key indicators for unintentional poisoning deaths involving pharmaceuticals, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	839	398	1,237
Percentage of all injury deaths	11.0	7.9	9.8
Crude rate (deaths per 100,000 population)	7.1	3.4	5.2
Age-standardised rate (deaths per 100,000 population)	7.4	3.3	5.3

Source: AIHW National Mortality Database.

Age and sex

Persons aged 25–44 and 45–64 accounted for 50% and 38%, respectively, of all *Unintentional poisoning deaths involving pharmaceuticals* (Table 5.3). By comparison, 21% and 19% of all injury deaths were at these ages.

The proportions of deaths within age groups were broadly similar for both males and females.

Table 5.3: Unintentional poisoning deaths involving pharmaceuticals, by age, by sex, Australia, 2014–15

	Males		Females		Persons	
Age group	Number	%	Number	%	Number	%
0–4	1	0.1	0	0.0	1	0.1
5–14	0	0.0	1	0.3	1	0.1
15–24	37	4.4	13	3.3	50	4.0
25–44	459	54.7	164	41.2	623	50.4
45–64	298	35.5	175	44.0	473	38.2
65+	44	5.2	45	11.3	89	7.2
Total	**839**	**100.0**	**398**	**100.0**	**1,237**	**100.0**

Source: AIHW National Mortality Database.

State or territory of usual residence

The age-standardised rates for *Unintentional poisoning deaths involving pharmaceuticals* during 2014–15 were highest for residents of Western Australia and New South Wales, which recorded rates above the national rate, at 6.9 and 5.8 deaths per 100,000 population, respectively (Table 5.4). Residents of the Northern Territory recorded the lowest rate of all jurisdictions, with 2.8 deaths per 100,000 population.

Table 5.4: Unintentional poisoning deaths involving pharmaceuticals, by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	432	279	237	176	63	25	17	7
Percentage	34.9	22.6	19.2	14.2	5.1	2.0	1.4	0.6
Age-standardised rate (deaths per 100,000 population)	5.8	4.8	5.2	6.9	3.7	5.0	4.4	2.8

Source: AIHW National Mortality Database.

Remoteness of usual residence

The number and age-standardised rate of *Unintentional poisoning deaths involving pharmaceuticals* varied with the remoteness of the person's usual place of residence (Table 5.5). Rates for residents of *Inner regional* and *Remote* areas were above the national rate of 5.3 deaths per 100,000 population, while residents of *Very remote* areas recorded the lowest rate, at 3.8 deaths per 100,000 population. However, due to small case numbers in *Remote* and *Very remote* areas, this result should be treated with caution.

Table 5.5: Unintentional poisoning deaths involving pharmaceuticals, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[a]					
Indicator	**Major cities**	**Inner regional**	**Outer regional**	**Remote**	**Very remote**	**Total[b]**
Deaths	862	236	100	18	8	1,224
Percentage	70.4	19.3	8.2	1.5	0.7	
Age-standardised rate/100,000 population	5.2	5.9	4.9	5.7	3.8	

(a) Derived using the ASGS classification.

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

Source: AIHW National Mortality Database.

Socioeconomic status

The age-standardised rate for *Unintentional poisoning deaths involving pharmaceuticals* increased with socioeconomic disadvantage (Table 5.6). The rate for residents of areas classified as *Most disadvantaged* (7.1 deaths per 100,000 population) was more than twice the rate for residents of areas classified as *Least disadvantaged* (3.2 per 100,000 population).

Table 5.6: Unintentional poisoning deaths involving pharmaceuticals, by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	Most disadvantaged	Second most disadvantaged	Middle	Second least disadvantaged	Least disadvantaged
Deaths	309	292	246	224	153
Percentage	25.0	23.6	19.9	18.1	12.4
Age-standardised rate/100,000 population	7.1	6.4	5.3	4.7	3.2

Note: Excludes 13 deaths where SEIFA quintile was not reported.

Source: AIHW National Mortality Database.

Aboriginal and Torres Strait Islander people

The age-standardised rate of *Unintentional poisoning deaths involving pharmaceuticals* for Aboriginal and Torres Strait Islander people was 1.8 times the rate for non-Indigenous Australians (Table 5.7).

Table 5.7: Key indicators for unintentional poisoning deaths involving pharmaceuticals, Indigenous Australians and non-Indigenous Australians, Australia[(a)], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	Males	Females	Persons	Males	Females	Persons
Deaths	33	17	50	571	279	850
Age-standardised rate/100,000 population	12.8	6.8	9.8	7.3	3.4	5.3
Rate ratio[(b)]	1.8	2.0	1.8	. .	. .	. .
Rate difference[(c)]	5.5	3.4	4.5	. .	. .	. .

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

(b) Rate ratios are standardised rates for Indigenous males, females and persons, divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons, minus standardised rates for non-Indigenous males, females and persons.

Source: AIHW National Mortality Database.

Types of pharmaceuticals

Almost 71% (876) of *Unintentional poisoning deaths involving pharmaceuticals* involved *Poisoning by narcotics and psychodysleptics [hallucinogens]* (620 males, 256 females). Of these deaths, 26% (225) were *Poisoning by heroin*, 43% (376) were *Poisoning by other opioids*, and 24% (178) were *Poisoning by methadone*. More than 63% (552) of these deaths were in the age range 30–49.

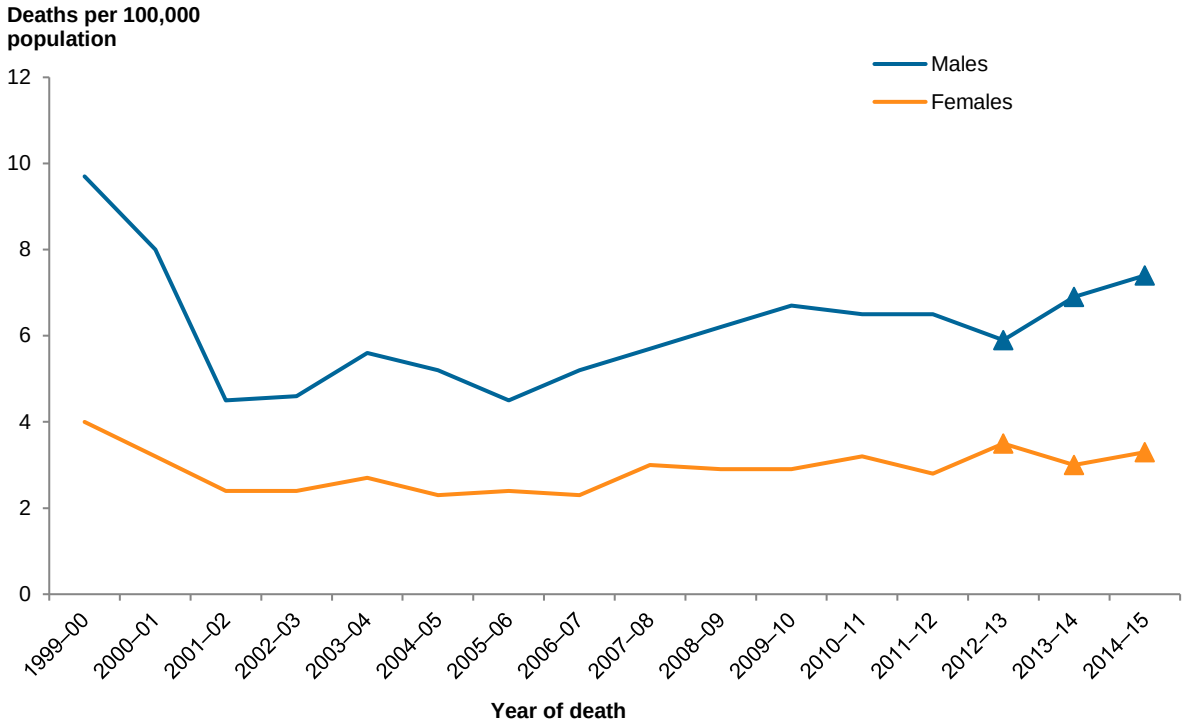
More than 43% (538) of the deaths involved *Poisoning by psychotropic drugs, not elsewhere classified* (342 males, 196 females). Of these, 51% (274) were *Poisoning by antidepressants*. Almost 72% (197) of these deaths were in the age range 30–54.

More than 36% (450) of the deaths involved *Poisoning by antiepileptic, sedative-hypnotic and antiparkinsonism drugs* (299 males, 151 females). Of these deaths, 97% (436) involved *Poisoning by benzodiazepines*. Just over 77% (346) of these deaths were in the age range 30–54.

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

Age-standardised rates for *Unintentional poisoning deaths involving pharmaceuticals* decreased dramatically between 1999–00 and 2001–02, from 6.9 to 3.4 deaths per 100,000 population (Figure 5.1). A similar pattern was seen for both males and females. The large drop between 1999–00 and 2001–02 was most likely due to a reduction in the supply of opiate narcotics (chiefly heroin) with an abrupt onset in all Australian jurisdictions in early 2001 (Degenhardt et al. 2006). Rates increased by an annual average of 2.4% per year between 2001–02 and 2014–15.

Rates for males were at their lowest between 2001–02 and 2005–06 and increased in the latter half of the period reaching a rate of 7.4 deaths per 100,000 population in 2014–15. Rates for females were at their lowest between 2001–02 and 2006–07, rising in 2007–08 and remaining relatively steady thereafter. Rates for males were consistently 2 to 2.5 times as high as the rates for females over the period 1999–00 to 2014–15.



Notes

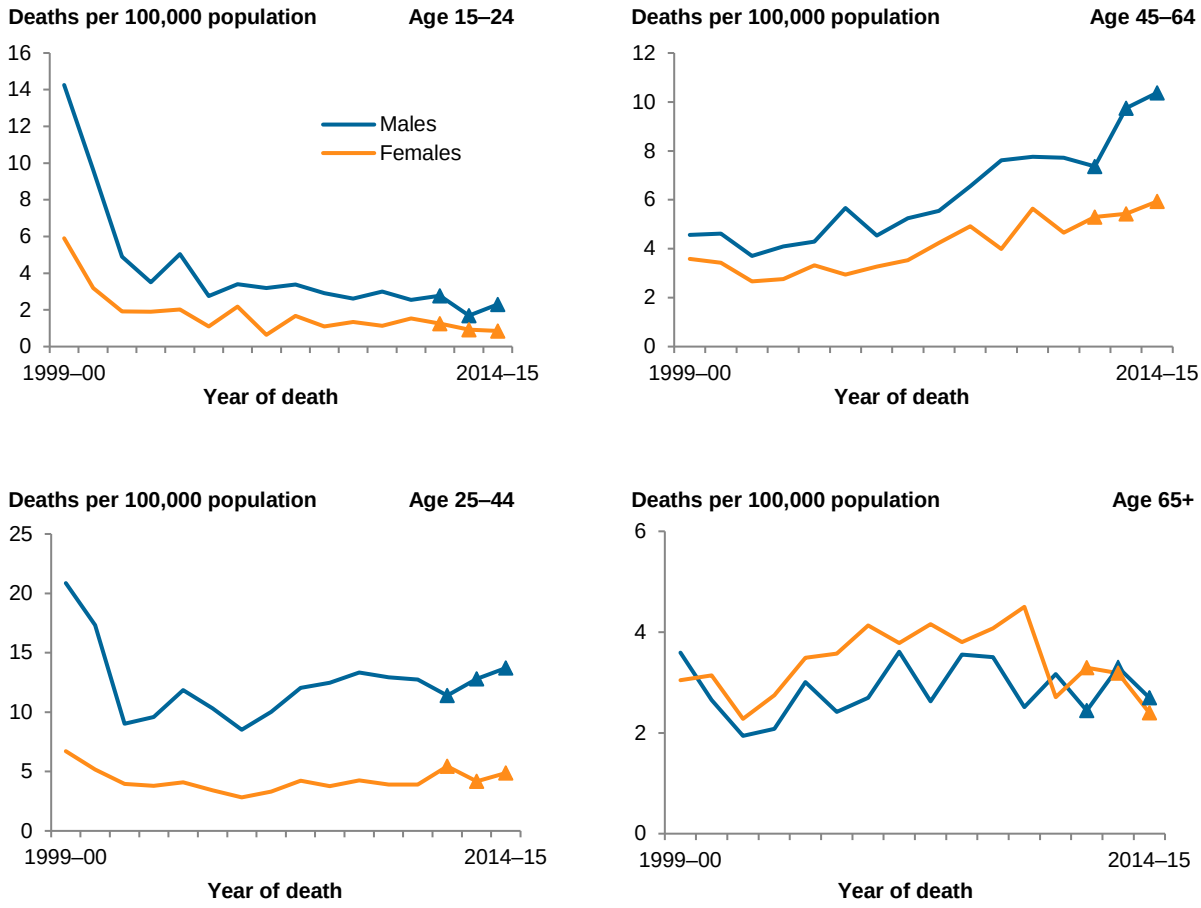
1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF4.3.

Source: AIHW National Mortality Database.

Figure 5.1: Age-standardised rates of unintentional poisoning deaths involving pharmaceuticals, by sex, Australia, 1999–00 to 2014–15

Figure 5.2 shows changes in age-standardised rates for *Unintentional poisoning deaths involving pharmaceuticals* over time, by age and by sex. Rates for males were higher than female rates for the first 3 of the age groups shown. For the fourth age group, 65 and older, rates for men were about the same as rates for women.

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. By contrast, rates for both men and women aged 45–64 increased over the period from 2001–02 to 2014–15.



Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF5.2.
3. Rates for children aged 0–4 and 5–14 are not shown, due to small numbers.

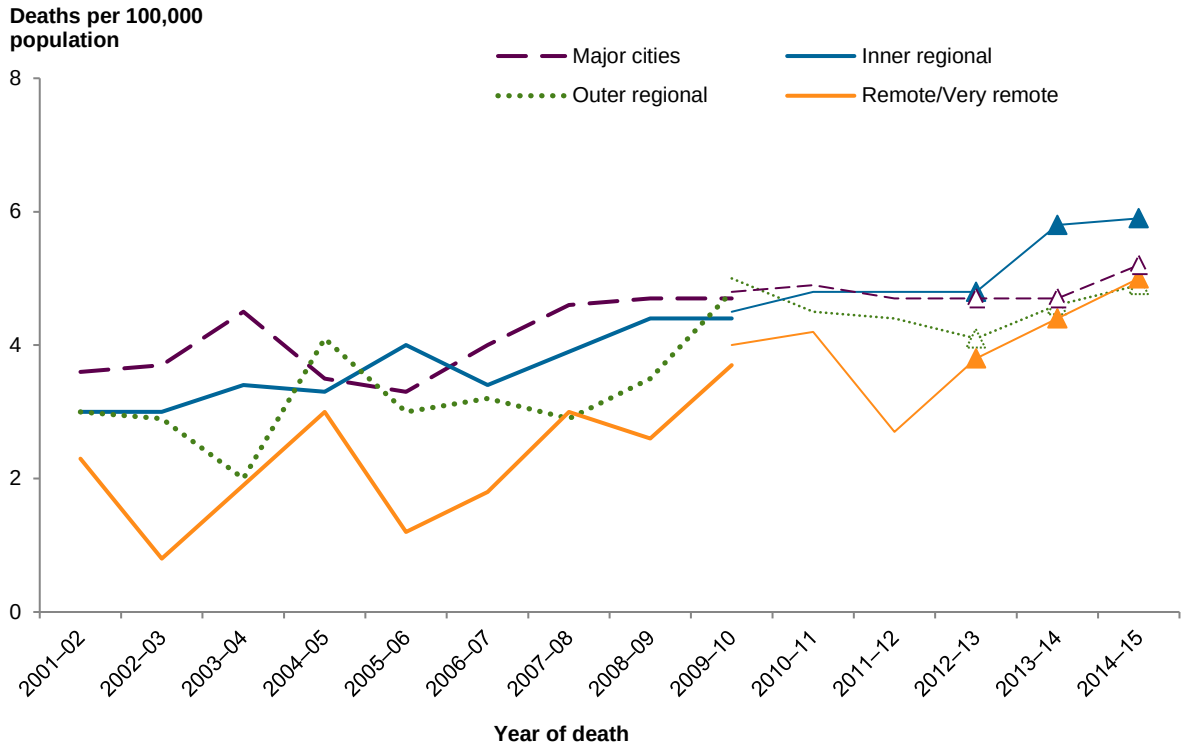
Source: AIHW National Mortality Database.

Figure 5.2: Age-specific rates of unintentional poisoning deaths involving pharmaceuticals, by age, by sex, Australia, 1999–00 to 2014–15

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 2014–15 (Figure 5.3). Rates for residents of *Remote* and *Very remote* areas, (combined here due to small case numbers), tended to be lower than rates for residents of less remote areas. Rates in the combined *Remote* areas were sensitive to small changes in the annual number of cases.

In 2009–10, the only year for which both ASGC-based and ASGS-based rates are shown, ASGS-based rates were higher than the ASGC-based rates in *Outer regional* and *Remote/Very remote* areas.



Notes

1. Data for 1999–00 and 2000–01 were unavailable.
2. The rates for *Remote* and *Very remote* areas are combined, due to small counts.
3. The thick lines are ASGC-based, while the thin lines are ASGS-based.
4. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
5. Data underpinning this figure are available in the supplementary table spreadsheet Table SF5.3.

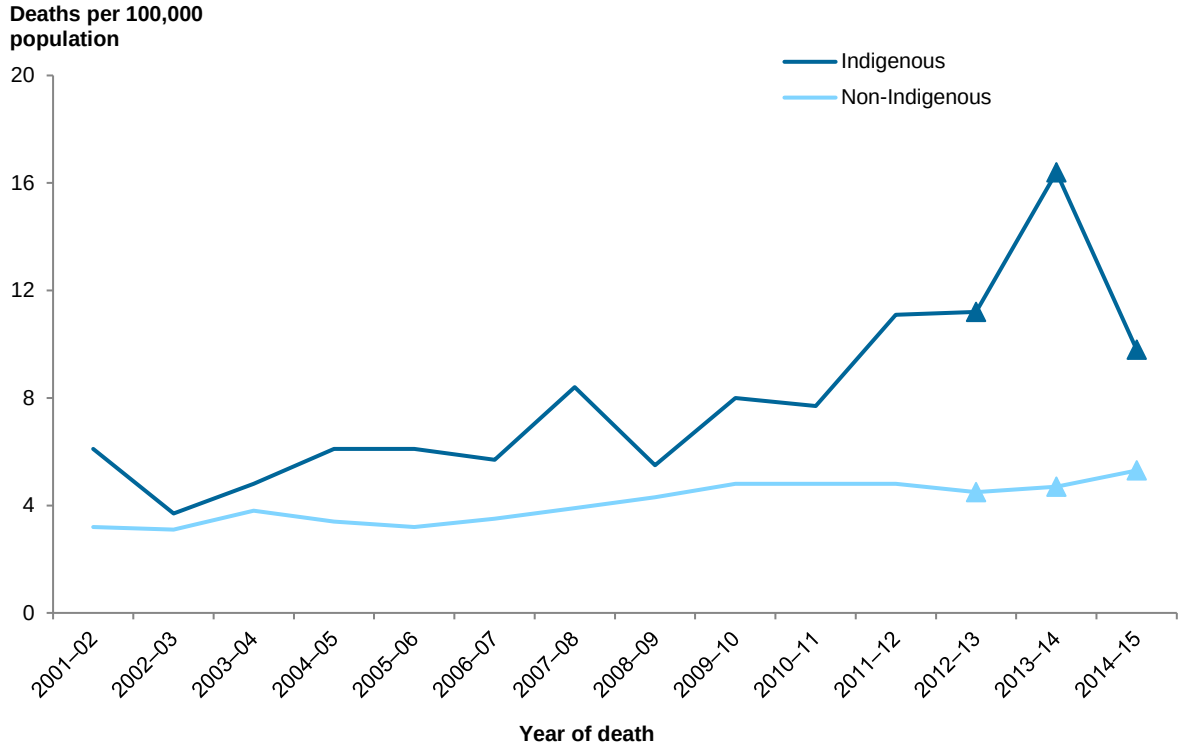
Source: AIHW National Mortality Database.

Figure 5.3: Age-standardised rates of unintentional poisoning deaths involving pharmaceuticals, by remoteness of usual residence, Australia, 2001–02 to 2014–15

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

Age-standardised rates of *Unintentional poisoning deaths involving pharmaceuticals* for Aboriginal and Torres Strait Islander peoples increased by an average of 6.4% per year between 2001–02 and 2014–15 (Figure 5.4). Over the same period, rates for non-Indigenous Australians increased by an average of 3.3% per year.

Rates for Aboriginal and Torres Strait Islander peoples varied between 1.2 to 3.5 times as high as rates for non-Indigenous Australians over this period.



Notes

1. Data are for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, the 5 jurisdictions for which recording of Indigenous status was considered to be of adequate quality throughout the study period. These 5 jurisdictions represent close to 89% of the total Indigenous population.
2. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
3. Data underpinning this figure are available in the supplementary table spreadsheet Table SF5.4.

Source: AIHW National Mortality Database.

Figure 5.4: Age-standardised rates of unintentional poisoning deaths involving pharmaceuticals, Indigenous Australians and non-Indigenous Australians, Australia, 2001–02 to 2014–15

6 Poisoning, other substances

This chapter provides a summary of all poisoning deaths involving substances other than pharmaceuticals in 2014–15 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 2014–15.

6.1 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 *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 here 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 in 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* of ICD-10. The second set of categories in this section refer to poisoning by and exposure to drugs, medicaments and biological substances (X45–X49):

- 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).

6.2 Overview of total poisoning deaths involving other substances

Unintentional cases accounted for 60% of all poisoning deaths involving other substances in 2014–15 (Table 6.1). Another 38% of the deaths were by intentional self-harm; these and deaths due to *Assault* or with *Undetermined intent* are not included in the remainder of this chapter.

Table 6.1: All identifiable poisoning deaths involving other substances in 2014–15

Number of deaths in 2014–15	Percentage of all poisoning, other substances deaths in 2014–15	ICD-10 codes	Terminology in this report	Coverage in this report
449	59.8%	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)
282	37.5%	UCoD X65–X69; or MCoD X65–X69 and S00–T75, T79	Intentional self-harm, poisoning by other substances	Suicide (Chapter 10)
2	0.3%	UCoD X86–X90; or MCoD X86–X90 and S00–T75, T79	Assault, poisoning by other substances	Homicide (Chapter 11)
18	2.4%	UCoD Y15–Y19; or MCoD Y15–Y19 and S00–T75, T79	Poisoning by other substances, undetermined intent	Undetermined intent (Chapter 2)
751	100.0%		Total deaths involving poisoning by other substances	

Note: 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.

6.3 How many unintentional poisoning deaths involving other substances were there in 2014–15?

Unintentional poisoning deaths involving other substances accounted for 449 injury deaths in Australia during 2014–15 (Table 6.2). This was 3.6% of all injury deaths for this period. Almost 2.7 times as many male deaths as female deaths in 2014–15 involved unintentional poisoning by other substances.

Table 6.2: Key indicators for unintentional poisoning deaths involving other substances, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	326	123	449
Percentage of all injury deaths	4.3	2.5	3.6
Crude rate (deaths per 100,000 population)	2.8	1.0	1.9
Age-standardised rate (deaths per 100,000 population)	2.8	1.0	1.9

Source: AIHW National Mortality Database.

Age and sex

Persons aged 25–64 accounted for 74% of all *Unintentional poisoning deaths involving other substances* (Table 6.3). By contrast, just 40% of all *Injury* deaths were at these ages. The proportion of deaths was similar for males and females across all age groups.

Table 6.3: Unintentional poisoning deaths involving other substances, by age, Australia, 2014–15

	Males		Females		Persons	
Age group	Number	%	Number	%	Number	%
0–4	0	0.0	0	0.0	0	0.0
5–14	1	0.3	1	0.8	2	0.4
15–24	12	3.7	6	4.9	18	4.0
25–44	120	36.8	46	37.4	166	37.0
45–64	118	36.2	50	40.7	168	37.4
65+	75	23.0	20	16.3	95	21.2
Total	**326**	**100.0**	**123**	**100.0**	**449**	**100.0**

Source: AIHW National Mortality Database.

State of territory of usual residence

The age-standardised rate for *Unintentional poisoning deaths involving other substances* during 2014–15 was highest for residents of the Northern Territory, which recorded a rate of 10.2 deaths per 100,000 population—over 5 times the national rate of 1.9 deaths per 100,000 population (Table 6.4). All other jurisdictions recorded a rate similar to or below the national rate.

Table 6.4: Unintentional poisoning deaths involving other substances, by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	153	90	81	59	25	11	4	25
Percentage	34.1	20.0	18.0	13.1	5.6	2.4	0.9	5.6
Age-standardised rate (deaths per 100,000 population)	2.0	1.5	1.7	2.3	1.4	2.1	1.0	10.2

Source: AIHW National Mortality Database.

Remoteness of usual residence

The rate of *Unintentional poisoning deaths involving other substances* increased with remoteness of usual residence (Table 6.5). The rate for residents of *Remote* areas was 4.6 times the rate for residents of *Major cities*.

Table 6.5: Unintentional poisoning deaths involving other substances, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[(a)]					
Indicator	**Major cities**	**Inner regional**	**Outer regional**	**Remote**	**Very remote**	**Total[(b)]**
Deaths	268	91	53	17	15	444
Percentage	60.4	20.4	11.9	3.9	3.4	
Age-standardised rate (deaths per 100,000 population)	1.6	2.1	2.4	5.0	7.3	

(a) Derived using the ASGS classification.

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

Source: AIHW National Mortality Database.

Socioeconomic status

The rate of *Unintentional poisoning deaths involving other substances* increased with the level of socioeconomic disadvantage of the person's usual place of residence (Table 6.6). The rate for residents of areas classified as *Most disadvantaged* (2.5 deaths per 100,000 population) was more than twice the rate for residents of areas classified as *Least disadvantaged* (1.1 per 100,000 population).

Table 6.6: Unintentional poisoning deaths involving other substances, by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	**Most disadvantaged**	**Second most disadvantaged**	**Middle**	**Second most advantaged**	**Most advantaged**
Deaths	118	115	85	73	53
Percentage	26.3	25.6	18.9	16.3	11.8
Age-standardised rate (deaths per 100,000 population)	2.5	2.4	1.7	1.5	1.1

Note: Excludes 5 deaths where SEIFA quintile was not reported.

Source: AIHW National Mortality Database.

Aboriginal and Torres Strait Islander people

The age-standardised rate for *Unintentional poisoning deaths involving other substances* for Aboriginal and Torres Strait Islander people was 3.2 times the rate for non-Indigenous Australians (Table 6.7).

Table 6.7: Key indicators for unintentional poisoning deaths involving other substances, Indigenous Australians and non-Indigenous Australians, Australia[(a)], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Deaths	22	7	29	224	89	313
Age-standardised rate (deaths per 100,000 population)	9.2	3	6.1	2.7	1.1	1.9
Rate ratio[(b)]	3.4	2.7	3.2	. .	. .	. .
Rate difference[(c)]	6.5	1.9	4.2	. .	. .	. .

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

(b) Rate ratios are standardised rates for Indigenous males, females and persons divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons minus standardised rates for non-Indigenous males, females and persons.

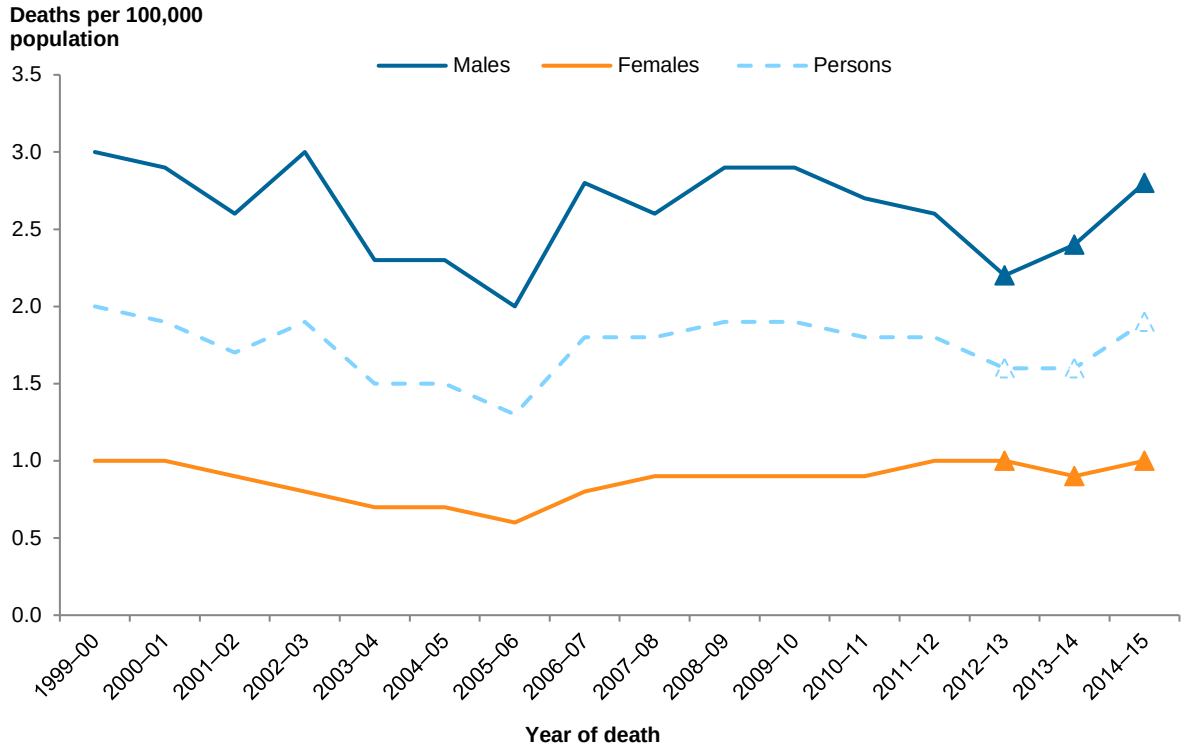
Source: AIHW National Mortality Database.

Associated factors

In 2014–15, more than 76% (343) of the *Unintentional poisoning deaths involving other substances* involved the *Toxic effect of alcohol* (239 males, 104 females). Almost 78% (266) of these deaths were in the age range 30–59. Just over 6% (28) of the deaths involved the *Toxic effect of other gases, fumes and vapours* (19 males, 9 females) and almost 6% (25) of the deaths involved the *Toxic effect of carbon monoxide*.

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

Age-standardised rates of *Unintentional poisoning deaths involving other substances* fluctuated over much of the period of interest ranging from 1.3 deaths per 100,000 in 2005–06 to 2.0 deaths per 100,000 in 1999–00 (Figure 6.1). Rates were generally higher towards the latter part of the period. Rates were consistently 2.5 to 3.5 times as high for males as for females.



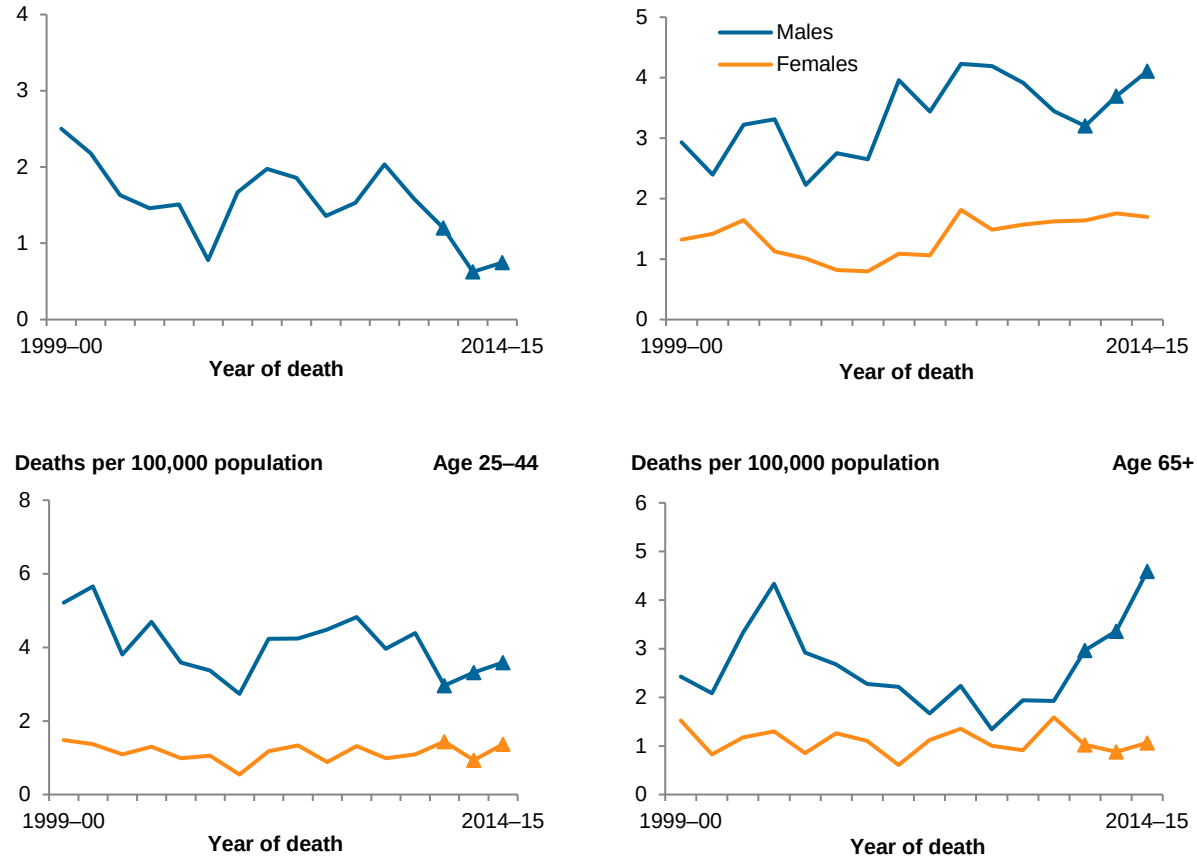
Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure is available in the supplementary table spreadsheet Table SF6.1.

Source: AIHW National Mortality Database.

Figure 6.1: Age-standardised rates of unintentional poisoning deaths involving other substances, by sex, Australia, 1999–00 to 2014–15

Figure 6.2 shows changes in rates of *Unintentional poisoning deaths involving other substances* over time, by age and by sex. Age-standardised rates for males were markedly higher than rates for females across all age groups, for nearly 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 males aged 15–24 and 25–44 followed a similar pattern, declining towards the middle of the decade before increasing and then declining again at the end of the period. Rates for men aged 45–64 trended upwards overall, while rates for men aged 65 and over trended downwards after a peak in 2002–03, then rose sharply again towards the end of the period. Rates for women in the 3 oldest age groups remained relatively steady, despite some fluctuation.



Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF6.2.
3. Rates for children aged 0–4 and 5–14, as well as rates for females aged 15–24, are not shown, due to small numbers.

Source: AIHW National Mortality Database.

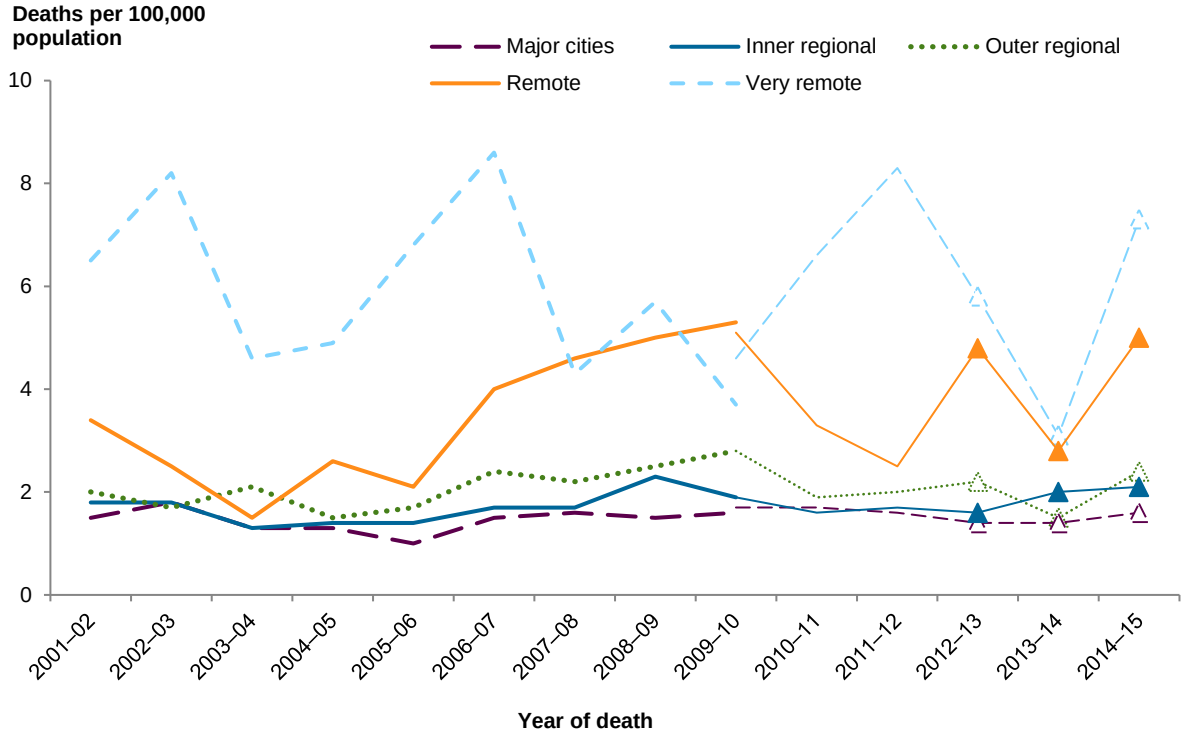
Figure 6.2: Age-specific rates of unintentional poisoning deaths involving other substances, by age, by sex, Australia, 1999–00 to 2014–15

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 6.3). Rates for residents of the 3 least remote areas were generally similar and varied little over time.

Rates for residents of *Very remote* areas were consistently 2 to 7 times as high as rates for residents of *Major cities.* The fluctuation in rates in *Very remote* areas—and to some degree in the *Remote* areas—is partly a reflection of the small population and number of deaths occurring each year.

In 2009–10, the only year for which both ASGC-based and ASGS-based rates are shown, ASGS-based rates were higher than ASGC-based rates in *Very remote* areas.



Notes

1. Data for 1999–00 and 2000–01 were unavailable.
2. Thick lines are ASGC-based, while thin lines are ASGS-based.
3. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of death data by the ABS. (See Appendix A for more information.)
4. Data underpinning this figure are available in the supplementary table spreadsheet Table SF6.3.

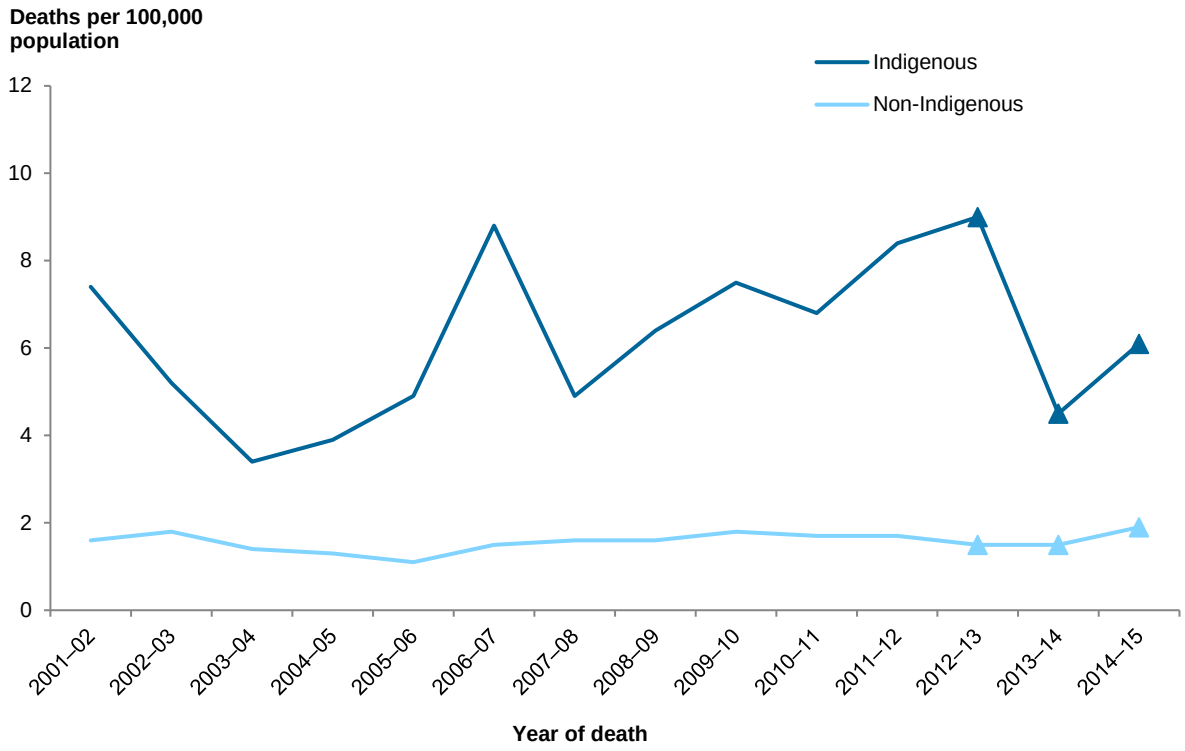
Source: AIHW National Mortality Database.

Figure 6.3: Age-standardised rates of unintentional poisoning deaths involving other substances, by remoteness of usual residence, Australia, 2001–02 to 2014–15

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

Age-standardised rates of *Unintentional poisoning deaths involving other substances* for Aboriginal and Torres Strait Islander people fluctuated markedly from year to year over the period from 2001–02 to 2014–15 (Figure 6.4). By contrast, rates for non-Indigenous Australians remained relatively steady over the same period, partly reflecting the larger numbers of cases.

Rates for Aboriginal and Torres Strait Islander people were 3 to 6 times as high as rates for non-Indigenous Australians over most of the period from 2001–02 to 2014–15.



Notes

1. Data are for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, the 5 jurisdictions for which recording of Indigenous status was considered to be of adequate quality throughout the study period. These 5 jurisdictions represent close to 89% of the total Indigenous population.
2. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
3. Data underpinning this figure are available in the supplementary table spreadsheet Table SF6.4.

Source: AIHW National Mortality Database.

Figure 6.4: Age-standardised rates of unintentional poisoning deaths involving other substances, Indigenous Australians and non-Indigenous Australians, Australia, 2001–02 to 2014–15

7 Falls

This chapter provides a summary of all fall injury deaths in 2014–15 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 2014–15.

7.1 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 *Fracture*; or
- the MCoDs included codes for *Unintentional fall* (W00–W19) and for *Injury* (S00–T75 or T79); or
- MCoDs included codes for *Exposure to unspecified factor* (X59) and for *Fracture*.

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

These criteria are the same as in previous reports (AIHW: Henley & Harrison 2009, 2015). Deaths with UCoD X59 and a fracture code as MCoD have been included routinely when reporting fall injury mortality because of indications that most involve falls (Kreisfeld & Harrison 2005). The 2 criteria which use an X59 code in combination with a fracture code accounted for 41% (1,599) of fall injury deaths reported for 2011–12. For almost 98% of deaths chosen by these criteria, the person was aged 65 and over and for over two-thirds (67%) the person was aged 85 and over. Almost three-quarters of these deaths (73%) included a fracture of femur as an MCoD.

It is possible that some of the deaths included using the X59 code in combination with a fracture code may not be fall-related. However, the inclusion of these 2 criteria provide a more accurate estimate of fall injury deaths than if they were excluded. For further background, see the sections on falls in previous reports (AIHW: Harrison & Henley 2015; AIHW: Henley & Harrison 2015).

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 and 7.1. Further information on methods is provided in Appendix A and from a previously published report covering the period from 1999 to 2010 (AIHW: Harrison & Henley 2015).

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).

7.2 Overview of fall injury deaths

Unintentional fall injury deaths accounted for 96% of all fall injury deaths in 2014–15 (Table 7.1). Falls attributed to *Intentional self-harm*, *Assault* and those with *Undetermined intent* are not included elsewhere in this chapter.

Table 7.1: Deaths involving falls, 2014–15

Number of deaths in 2014–15	Percentage of all fall-related deaths in 2014–15	ICD-10 codes	Terminology in this report	Coverage in this report
4,718	96.3%	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)
121	2.5%	UCoD X80	Intentional self-harm involving fall	Suicide (Chapter 10)
1	0.0%	UCoD Y01	Assault involving fall	Homicide (Chapter 11)
7	0.1%	UCoD Y30	Undetermined intent involving fall	(Chapter 2)
4	0.1%	UCoD V80.0	Fall from animal or animal-drawn vehicle	Transport crashes (Chapter 3)
0	0.0%	UCoD V81.5 or V81.6	Fall in or from railway train	Transport crashes (Chapter 3)
49	1.0%	UCoD W66, W68 or W70	Drowning following fall into bathtub, swimming pool or natural water	Drowning (Chapter 4)
4,900	**100.0%**		**Total fall injury deaths**	

(a) The 4 criteria include 2,353, 645, 636 and 1,091 deaths, respectively (7 deaths met more than 1 of the criteria).

Source: AIHW National Mortality Database.

7.3 How many unintentional fall injury deaths were there in 2014–15?

Unintentional falls were involved in 4,718 injury deaths in Australia during 2014–15 (Table 7.2). This was over 53% of all female injury deaths and nearly 27% of all male injury deaths for this period. In 2014–15, *Unintentional fall* injury deaths for females were close to 1.3 times the number of deaths for males, although the age-standardised rate was higher for males.

Table 7.2: Key indicators for unintentional fall injury deaths, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	2,039	2,679	4,718
Percentage of all injury deaths	26.7	53.4	37.3
Crude rate (deaths per 100,000 population)	17.4	22.6	20.0
Age-standardised rate (deaths per 100,000 population)	16.8	14.6	15.6

Source: AIHW National Mortality Database.

Age and sex

Persons aged 65 and older accounted for almost 95% of *Unintentional fall* injury deaths (Table 7.3).

Table 7.3: Unintentional fall injury deaths, by age, Australia, 2014–15

	Males		Females		Persons	
Age group	**Number**	**%**	**Number**	**%**	**Number**	**%**
0–4	0	0.0	2	0.1	2	0.0
5–14	0	0.0	1	0.0	1	0.0
15–24	16	0.8	1	0.0	17	0.4
25–44	30	1.5	11	0.4	41	0.9
45–64	135	6.6	57	2.1	192	4.1
65+	1,858	91.1	2,607	97.3	4,465	94.6
Total	**2,039**	**100.0**	**2,679**	**100.0**	**4,718**	**100.0**

Source: AIHW National Mortality Database.

State or territory of usual residence

During 2014–15, the age-standardised rate of *Unintentional fall* injury deaths for residents of the Northern Territory was more than 1.8 times the national rate of 15.6 deaths per 100,000 population (Table 7.4). Most other jurisdictions recorded rates close to or above the national rate, except for residents of New South Wales and South Australia, which recorded the lowest rate, at 12.2 deaths per 100,000 population.

Table 7.4: Unintentional fall injury deaths, by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	1,471	1,267	933	495	335	120	67	30
Percentage	31.2	26.9	19.8	10.5	7.1	2.5	1.4	0.6
Age-standardised rate (deaths per 100,000 population)	14.1	16.3	17.3	18.0	12.2	16.0	17.6	28.8

Source: AIHW National Mortality Database.

Remoteness of usual residence

Age-standardised rates of *Unintentional fall* injury deaths in 2014–15 were similar across all 5 remoteness zones (Table 7.5).

Table 7.5: Unintentional fall injury deaths, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[a]					
Indicator	**Major cities**	**Inner regional**	**Outer regional**	**Remote**	**Very remote**	**Total[b]**
Deaths	3157	1039	448	46	20	4,710
Percentage	67.0	22.1	9.5	1.0	0.4	
Age-standardised rate/100,000 population	15.3	16.2	16.3	16.2	17.6	

(a) Derived using the ASGS classification.

(b) Excludes 9 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Socioeconomic status

Age-standardised rates of *Unintentional fall* injury deaths in 2014–15 did not vary markedly with socioeconomic status (Table 7.6).

Table 7.6: Unintentional fall injury deaths involving other substances, by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	**Most disadvantaged**	**Second most disadvantaged**	**Middle**	**Second least disadvantaged**	**Least disadvantaged**
Deaths	1,037	1,042	921	830	879
Percentage	22.0	22.1	19.5	17.6	18.6
Age-standardised rate/100,000 population	15.6	15.9	15.3	15.3	15.7

Note: Excludes 9 deaths where SEIFA quintile was not reported.

Source: AIHW National Mortality Database.

Aboriginal and Torres Strait Islander people

The age-standardised rate for *Unintentional fall* injury deaths for Aboriginal and Torres Strait Islander people was 1.5 times the rate for non-Indigenous Australians (Table 7.7).

Table 7.7: Key indicators for unintentional fall injury deaths, Indigenous Australians and non-Indigenous Australians, Australia[(a)], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Deaths	14	22	36	1,374	1,829	3,203
Age-standardised rate (deaths per 100,000 population)	13.0	28.2	22.6	16.1	14.1	15.1
Rate ratio[(b)]	0.8	2.0	1.5	. .	. .	. .
Rate difference[(c)]	–3.1	14.1	7.5	. .	. .	. .

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

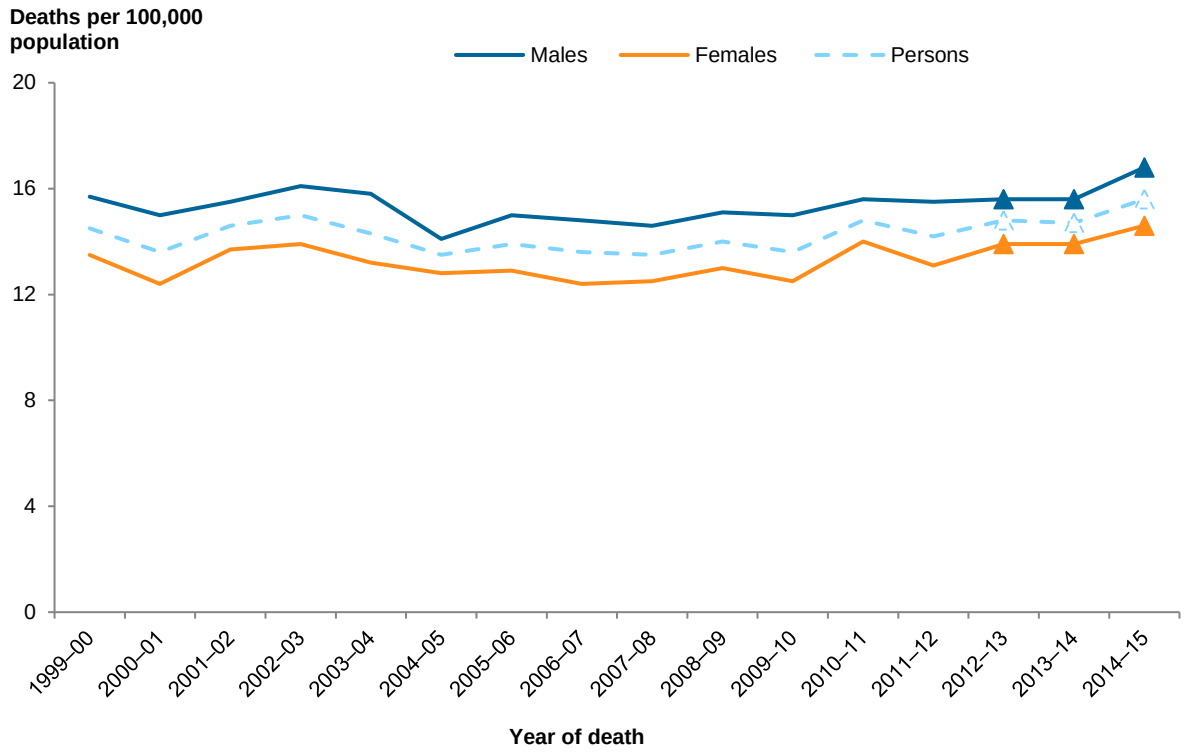
(b) Rate ratios are standardised rates for Indigenous males, females and persons divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons minus standardised rates for non-Indigenous males, females and persons.

Source: AIHW National Mortality Database.

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

Over the period from 1999–00 to 2014–15, age-standardised rates for *Unintentional fall* injury deaths remained relatively steady (Figure 7.1). Rates fluctuated a little for both males and females over this period, but with no apparent trend. Rates for males were consistently 1.1 to 1.25 times as high as rates for females.



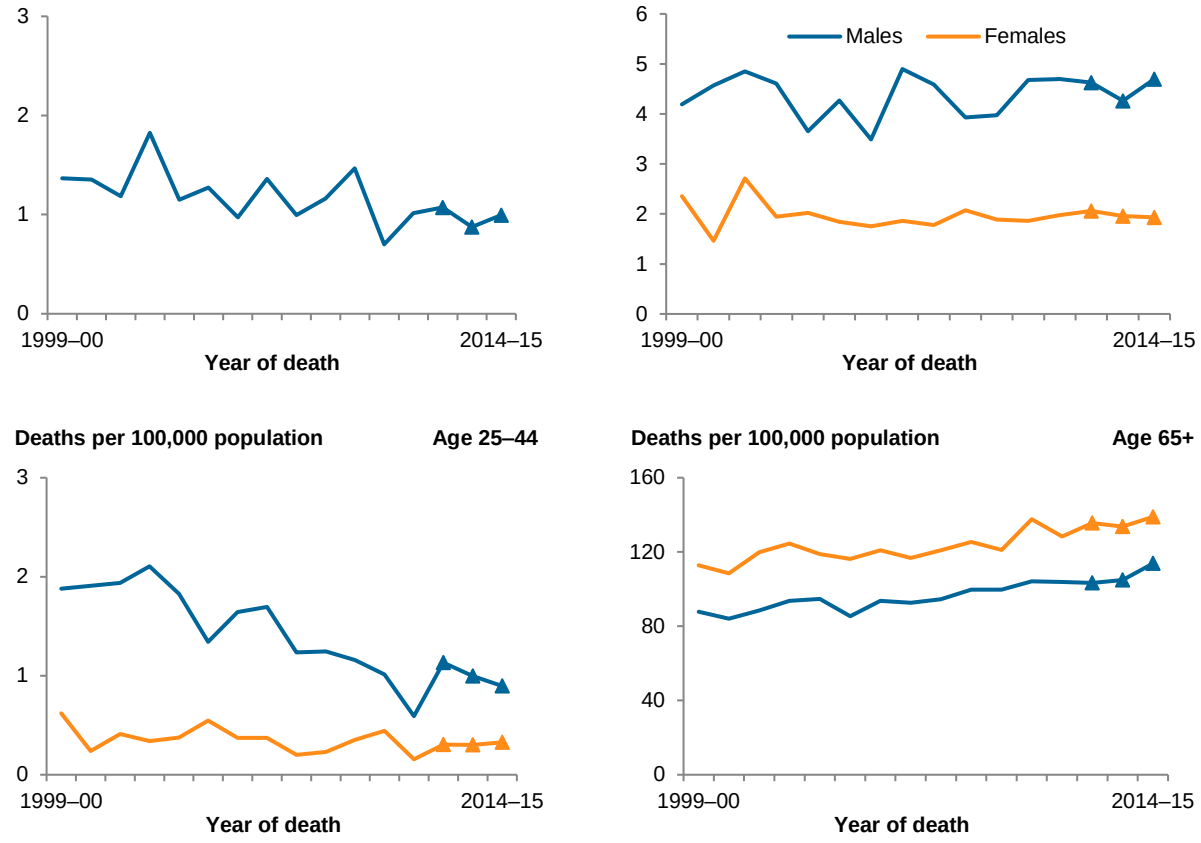
Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF7.1.

Source: AIHW National Mortality Database.

Figure 7.1: Age-standardised rates of unintentional fall injury deaths, by sex, Australia, 1999–00 to 2014–15

Figure 7.2 shows changes in fall injury death rates over time, by age and by sex.
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 older, rates for women were higher. Rates for males and females in the 3 youngest age groups remained relatively steady over time, apart from men aged 25–44, for whom there was a distinct downward trend over time. Rates for both men and women aged 65 and older increased over time.



Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF7.2.
3. Rates for children aged 0–4 and 5–14, as well as rates for females aged 15–24, are not shown, due to small numbers.

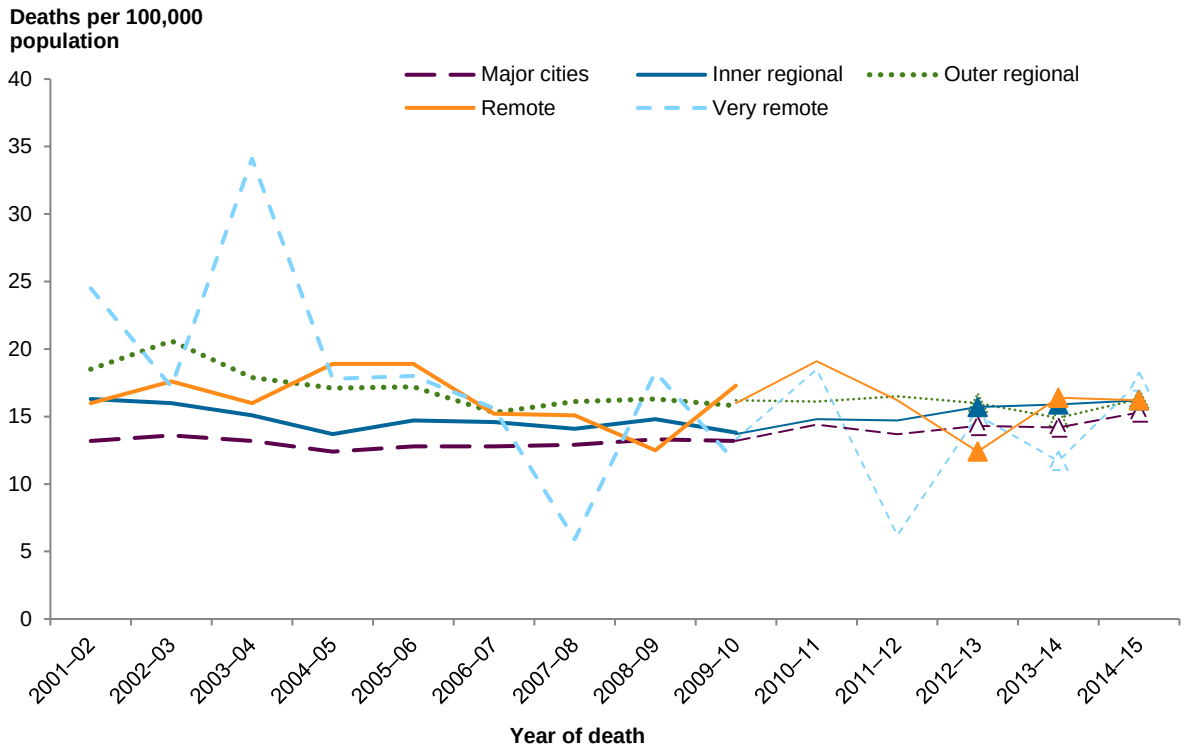
Source: AIHW National Mortality Database.

Figure 7.2: Age-specific rates of unintentional fall injury deaths, by age, by sex, Australia, 1999–00 to 2014–15

7.5 How have unintentional fall injury deaths varied by remoteness?

Rates of *Unintentional fall* injury death were generally more similar for residents of all remoteness areas (Figure 7.3) than is the case for other external causes. The fluctuation in rate for residents of *Very remote* regions partly reflects the small population and number of deaths occurring each year.

In 2009–10, the only year for which both ASGC-based and ASGS-based rates are shown, the ASGC-based rate for *Remote* areas was higher than the ASGS-based rate, while for *Very remote* areas, the ASGS-based rate was higher.



Notes

1. Data for 1999–00 and 2000–01 were unavailable.
2. Thick lines are ASGC-based, while thin lines are ASGS-based.
3. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of death data by the ABS. (See Appendix A for more information.)
4. Data underpinning this figure are available in the supplementary table spreadsheet Table SF7.3.

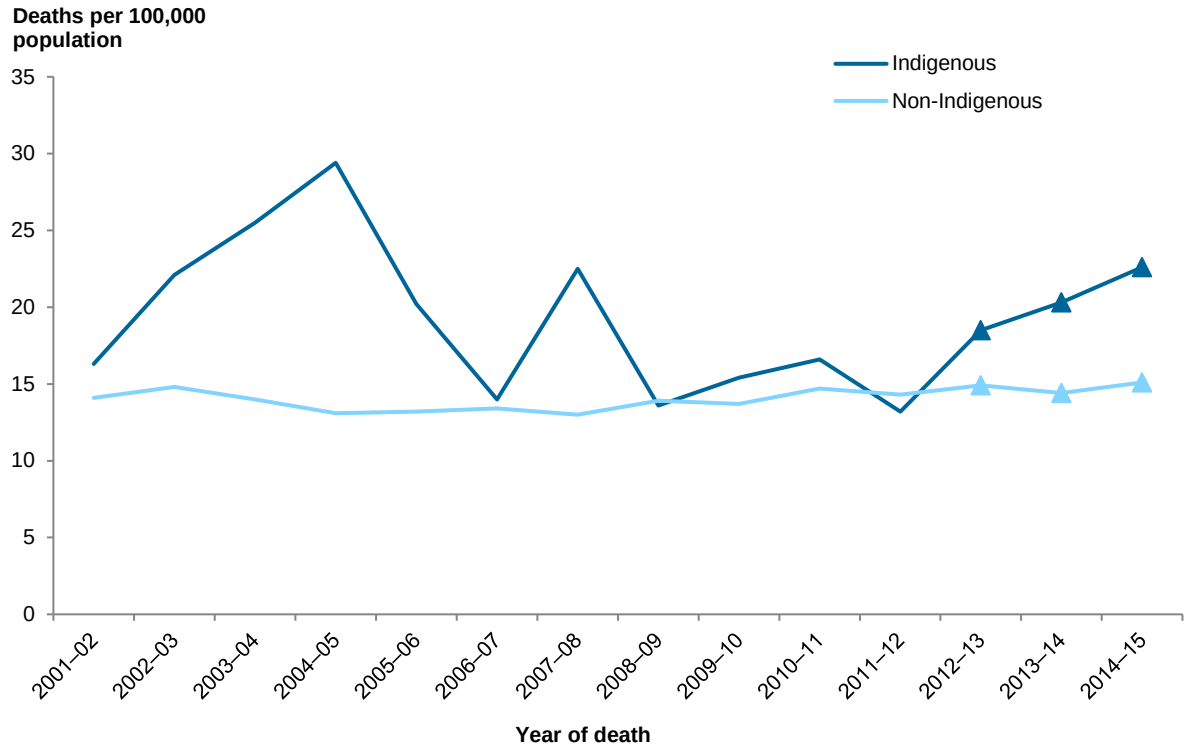
Source: AIHW National Mortality Database.

Figure 7.3: Age-standardised rates of unintentional fall injury deaths, by remoteness of usual residence, Australia, 2001–02 to 2014–15

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

Age-standardised rates of *Unintentional fall* injury for Aboriginal and Torres Strait Islander peoples fluctuated markedly over the period from 2001–02 to 2014–15 (Figure 7.4). These rates varied from 1 to 2 times the rates for non-Indigenous Australians over this period.

Changes in rates for Aboriginal and Torres Strait Islander peoples over time need to be treated with caution, due to the low numbers of deaths annually.



Notes

1. Data are for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, the 5 jurisdictions for which recording of Indigenous status was considered to be of adequate quality throughout the study period. These 5 jurisdictions represent close to 89% of the total Indigenous population.
2. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
3. Data underpinning this figure are available in the supplementary table spreadsheet Table SF7.4.

Source: AIHW National Mortality Database.

Figure 7.4: Age-standardised rates of unintentional fall injury deaths, Indigenous Australians and non-Indigenous Australians, Australia, 2001–02 to 2014–15

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 2014–15 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 2014–15.

8.1 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 here 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 in Appendix A.

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

The sections of Chapter XX *External causes of morbidity and mortality* of ICD-10 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 injury due to 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).

8.2 How many unintentional thermal injury deaths were there in 2014–15?

Unintentional thermal injuries accounted for 109 injury deaths in Australia during 2014–15 (Table 8.1). This was 0.9% of all injury deaths for this period. About twice as many males as females were fatally injured due to this type of injury in 2014–15.

Table 8.1: Key indicators for unintentional thermal injury deaths, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	72	37	109
Percentage of all injury deaths	0.9	0.7	0.9
Crude rate (deaths per 100,000 population)	0.6	0.3	0.5
Age-standardised rate (deaths per 100,000 population)	0.6	0.3	0.4

Source: AIHW National Mortality Database.

Age and sex

Persons aged 65 and older accounted for over 42% of all *Unintentional thermal injury* deaths in 2014–15 (Table 8.2). The proportion of male deaths was proportionally higher than female deaths in the 3 youngest age groups.

Table 8.2: Unintentional thermal injury deaths, Australia, 2014–15

	Males		Females		Persons	
Age group	**Number**	**%**	**Number**	**%**	**Number**	**%**
0–4	1	1.4	0	0.0	1	0.9
5–14	4	5.6	0	0.0	4	3.7
15–24	9	12.5	1	2.7	10	9.2
25–44	16	22.2	8	21.6	24	22.0
45–64	17	23.6	7	18.9	24	22.0
65+	25	34.7	21	56.8	46	42.2
Total	**72**	**100.0**	**37**	**100.0**	**109**	**100.0**

Source: AIHW National Mortality Database.

State of territory of usual residence

During 2014–15, age-standardised rates for *Unintentional thermal injury* deaths for residents of the Northern Territory and South Australia were, respectively, 2 times and 3 times as high as the national rate of 0.4 deaths per 100,000 population (Table 8.3). However, these outcomes need to be treated with caution, as even small variation in the case numbers in these jurisdictions can lead to proportionately large variability in rates from year to year. The more populous jurisdictions recorded rates similar to the national rate.

Table 8.3: Unintentional thermal injury deaths, by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	31	26	22	8	14	4	1	3
Percentage	28.4	23.9	20.2	7.3	12.8	3.7	0.9	2.8
Age-standardised rate (deaths per 100,000 population)	0.4	0.4	0.5	0.3	0.8	0.5	0.2	1.2

Source: AIHW National Mortality Database.

Remoteness of usual residence

Age-standardised rates for *Unintentional thermal injury* were higher in *Inner regional* and *Outer regional* areas, compared with *Major cities* (Table 8.4). Rates for the 2 most remote areas are difficult to interpret, because they are sensitive to even small variation in the case numbers.

Table 8.4: Unintentional thermal injury deaths, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[a]					
Indicator	Major cities	Inner regional	Outer regional	Remote	Very remote	Total[b]
Deaths	54	27	22	2	0	105
Percentage	51.8	25.3	21.0	1.9	0.0	
Age-standardised rate/100,000 population	0.3	0.5	1.0	0.6	0.0	

(a) Derived using ASGS classification.

(b) Excludes 4 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Socioeconomic status

The age-standardised death rate tended to increase with socioeconomic disadvantage (Table 8.5). The rate for residents of areas classified as *Most disadvantaged* (0.6 deaths per 100,000 population) was 3 times the rate for residents of areas classified as *Least disadvantaged* (0.2 per 100,000 population). Comparison of rates between SEIFA quintiles should be treated with caution, due to the relatively small numbers of deaths involved.

Table 8.5: Unintentional thermal injury deaths involving other substances, by socioeconomic status, Australia, 2014–15

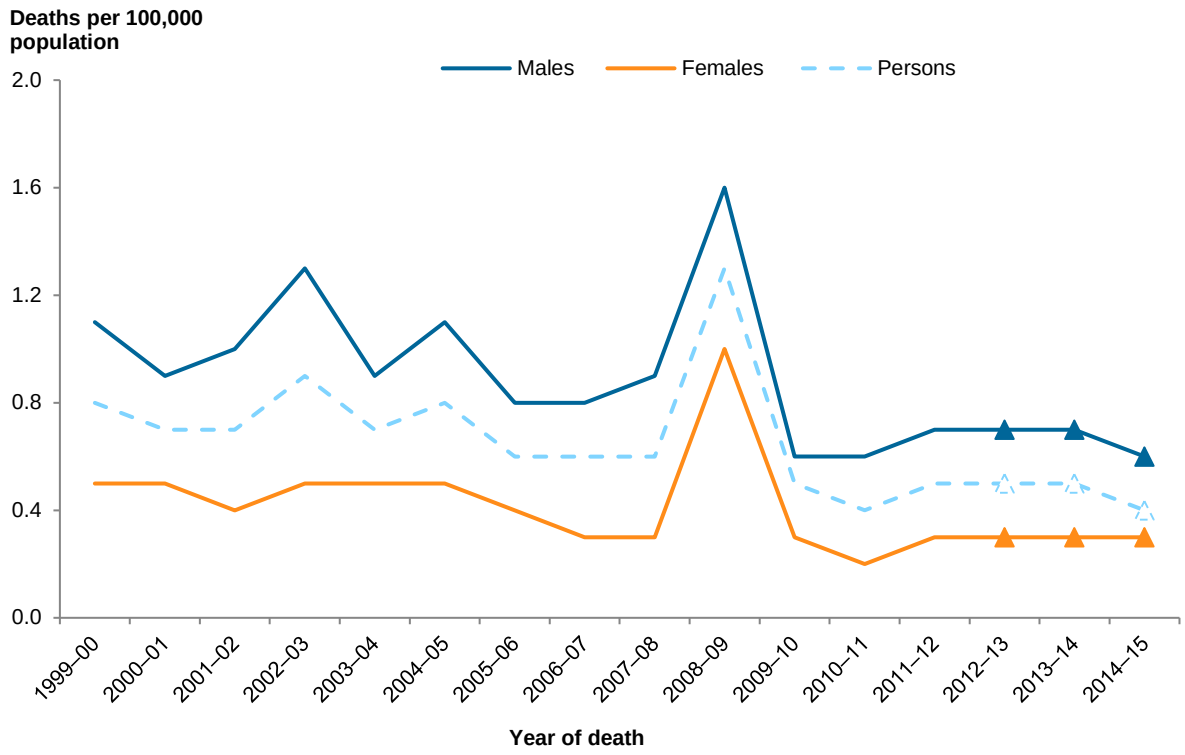
	SEIFA quintiles				
Indicator	Most disadvantaged	Second most disadvantaged	Middle	Second least disadvantaged	Least disadvantaged
Deaths	32	29	18	16	10
Percentage	29.4	26.6	16.5	14.7	9.2
Age-standardised rate (deaths per 100,000 population)	0.6	0.6	0.3	0.3	0.2

Note: Excludes 4 deaths where SEIFA quintile was not reported.

Source: AIHW National Mortality Database.

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

Age-standardised rates of thermal injury deaths fluctuated, but tended to decrease over time, with the exception of a spike in 2008–09 as a result of the 2009 Victorian bushfires (Figure 8.1). Despite some fluctuations, similar patterns in rates were seen for both males and females. Rates for males were consistently 2 to 3 times those of female rates.



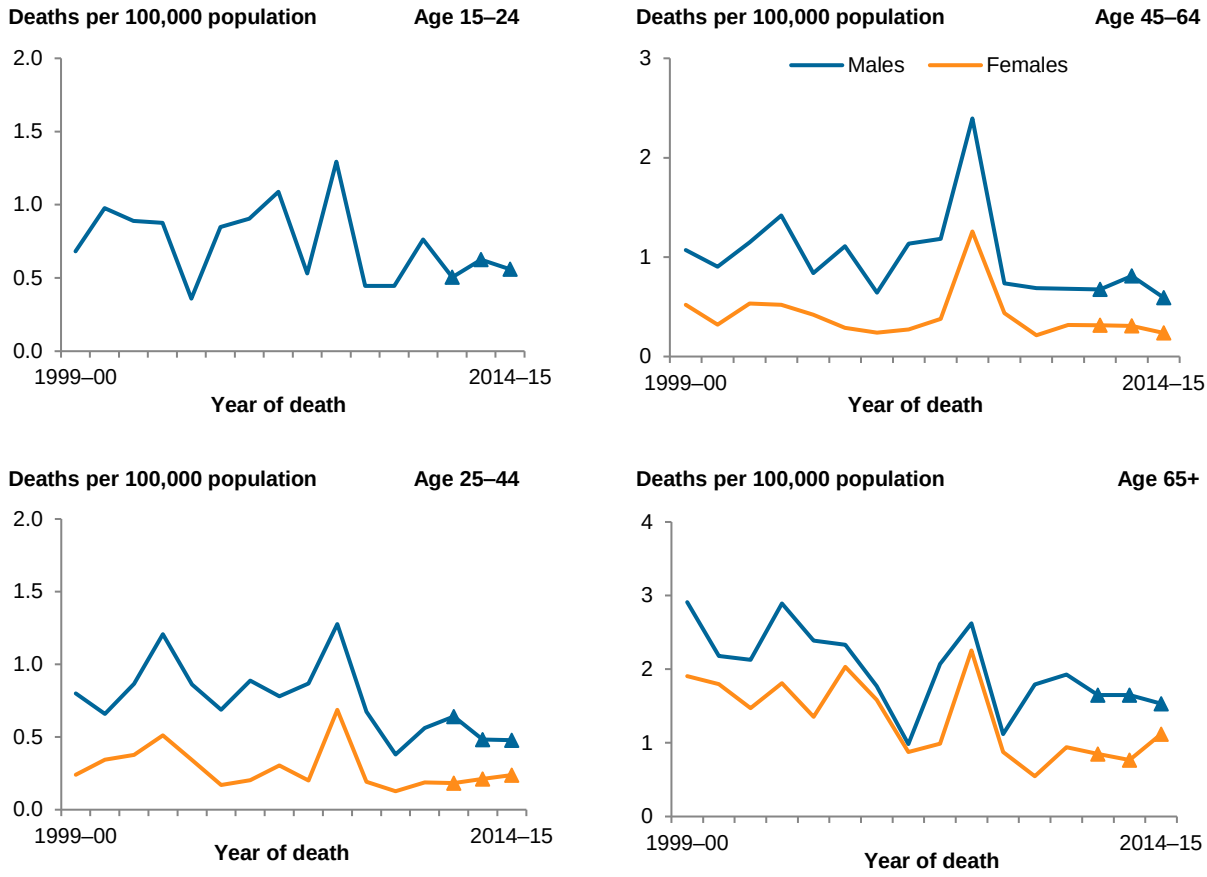
Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF8.1.

Source: AIHW National Mortality Database.

Figure 8.1: Age-standardised rates of unintentional thermal injury deaths, by sex, Australia, 1999–00 to 2014–15

Figure 8.2 shows changes in thermal injury death rates over time, by age and by sex. Age-specific rates for males were higher than female rates at all ages and in all years. The peak in rates in 2008–09 due to the 2009 Victorian bushfires was most prominent in those aged 45–64. 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.



Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF8.2.
3. Rates for children aged 0–4 and 5–14, as well as rates for females aged 15–24, are not shown, due to small numbers.

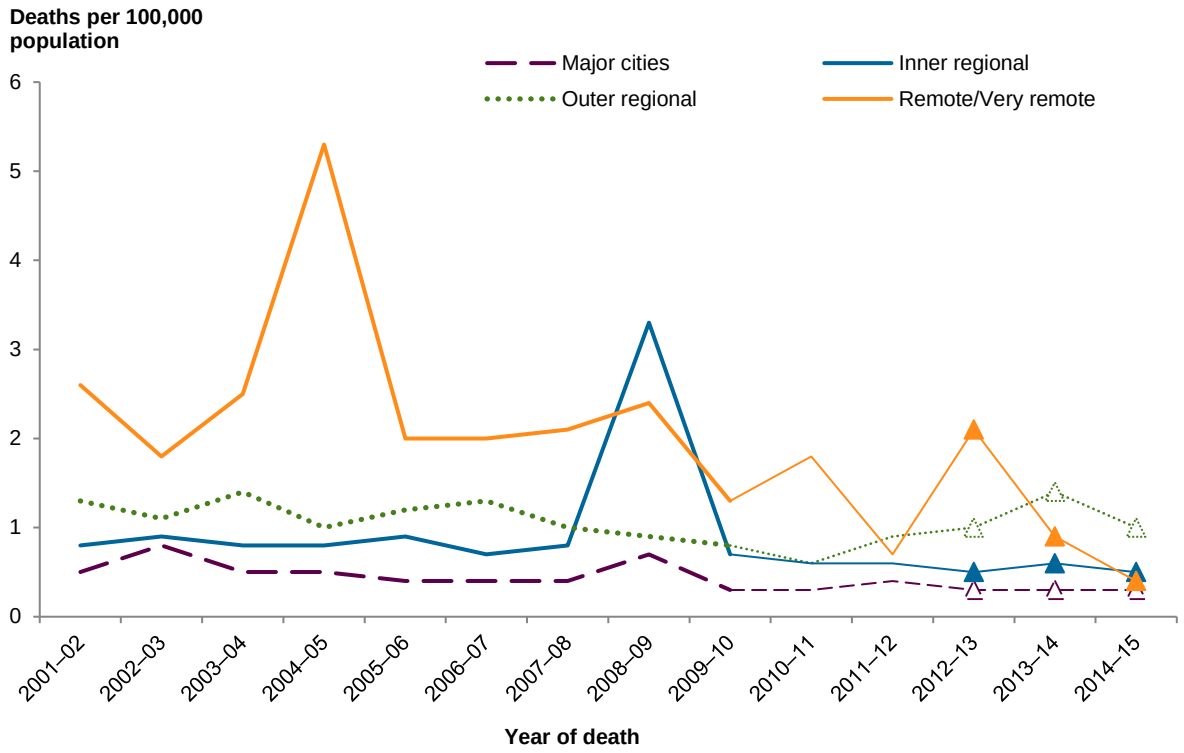
Source: AIHW National Mortality Database.

Figure 8.2: Age-specific rates of unintentional thermal injury deaths, by age, by sex, Australia, 1999–00 to 2014–15

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 rates for residents of all other remoteness areas (Figure 8.3). Notably, the rates for all remoteness zones were similar for 2014–15.

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 *Remote/Very remote* series in 2004–05 includes the deaths that occurred in the Eyre Peninsula fire 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.



Notes

1. Data for 1999–00 and 2000–01 were unavailable.
2. The rates for *Remote* and *Very remote* areas are combined, due to small counts.
3. The thick lines are ASGC-based, while the thin lines are ASGS-based.
4. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
5. Data underpinning this figure are available in the supplementary table spreadsheet Table SF8.3.

Source: AIHW National Mortality Database.

Figure 8.3: Age-standardised rates of unintentional thermal injury deaths, by remoteness of usual residence, Australia, 2001–02 to 2014–15

9 Other unintentional injury

This chapter provides a brief overview of deaths in 2014–15 that involved types of unintentional injury not covered in Chapters 3 to 8 of this report. Trends are not presented for cases included in this section because it includes deaths due to a diverse range of specific causes. Trends of some types of death included in this chapter were also affected markedly by changes in methods of processing mortality data that occurred during the period, which is demonstrated by presenting trends for certain causes. Further information for the period from 1999 to 2010 has previously been reported (AIHW: Harrison & Henley 2015).

9.1 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 *Unintentional external causes of injury* that does not form part of the inclusion criteria for other chapters; or
- the MCoDs included codes from *Unintentional external causes of injury* that does not form part of the inclusion criteria for other chapters and at least 1 code for *Injury* (S00–T75 or T79).

Codes within *External causes of injury* treated as inclusion criteria for this chapter are *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), and *Accidental exposure to other and unspecified factors* (X58–X59). All deaths with UCoD = X59 (*Accidental exposure to unspecified factors*) in conjunction with fracture codes are included in Chapter 7 Falls and not in this chapter.

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

9.2 How many Other unintentional injury deaths were there in 2014–15?

Other unintentional injury accounted for 1,693 injury deaths in Australia during 2014–15 (Table 9.1). This was more than 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 2014–15.

Table 9.1: Key indicators for Other unintentional injury deaths, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	1,010	683	1,693
Percentage of all injury deaths	13.2	13.6	13.4
Crude rate (deaths per 100,000 population)	8.6	5.8	7.2
Age-standardised rate (deaths per 100,000 population)	8.3	4.3	6.2

Source: AIHW National Mortality Database.

9.3 Overview

Table 9.2 shows the mechanisms that were responsible for deaths included in this chapter, with numbers and proportions of deaths in 2014–15.

The most common mechanism was *Inhalation and ingestion of gastric contents, food or other objects causing obstruction of the respiratory tract*, which was a cause for 62% (1,045) of all deaths in this chapter. Of these deaths, 801 (77%) were certified by a doctor and the remainder were certified by a coroner. Deaths were heavily concentrated in older age groups, with 835 (80%) of deaths involving this mechanism being persons aged 65 and over.

Table 9.2: Major mechanisms of deaths included in the Other unintentional injury category, Australia, 2014–15

ICD-10 codes	Mechanism	Count[(a)]	%
W20–W22	Struck against or struck by object	32	1.9
W23	Caught, crushed, jammed or pinched in or between objects	30	1.8
W24	Contact with lifting and transmission devices, n.e.c.	2	0.1
W25–W26	Contact with sharp object (includes sharp glass, knife, sword or dagger)	6	0.4
W27–W31	Contact with tools or machinery (includes non-powered or powered hand tools, agricultural machinery, powered lawnmower	8	0.5
W32–W34	Unintentional discharge of firearms	2	0.1
W35–W40	Unintentional explosions (includes explosion and rupture of boiler, gas cylinder, pressurised tyre, pipe, hose, firework, and other materials)	10	0.6
W41–W43	Exposure to high-pressure jet, noise or vibration	0	0.0
W44–W45	Foreign body entering into or through eye or natural orifice, or through skin	4	0.2
W49	Exposure to other and unspecified inanimate mechanical forces	1	0.1
W50–W52	Struck by or against another person, or crushed, pushed or steeped on by crowd of people	8	0.5
W53–W59	Bitten, struck, stung, crushed or contact with mammals, marine animals, insects or reptiles	12	0.7
W64	Exposure to other and unspecified animate mechanical forces	1	0.1
W75–W77	Unintentional hanging, suffocation and strangling	15	0.9
W78–W80	Inhalation and ingestion of gastric contents, food or other objects causing obstruction of the respiratory tract	1,045	61.7
W81–W84	Other threats to breathing (includes trapped in a low oxygen environment, asphyxiation, aspiration and suffocation, n.e.c.)	16	0.9
W85–W87	Electrocution	8	0.5
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

(continued)

Table 9.2 (continued): Major mechanisms of deaths included in the Other unintentional injury category, Australia, 2014–15

ICD-10 codes	Mechanism	Count[(a)]	%
X20–X29	Contact with venomous animals and plants	5	0.3
X30–X39	Exposure to forces of nature (includes natural heat and cold, lightning, earthquake, flood, avalanche or landslide)	44	2.6
X50–X57	Overexertion, travel and privation	7	0.4
X58–X59[(b)]	Exposure to other and unspecified factors	447	26.4
Total		**1,693**	

(a) The total count of the individual mechanisms 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.

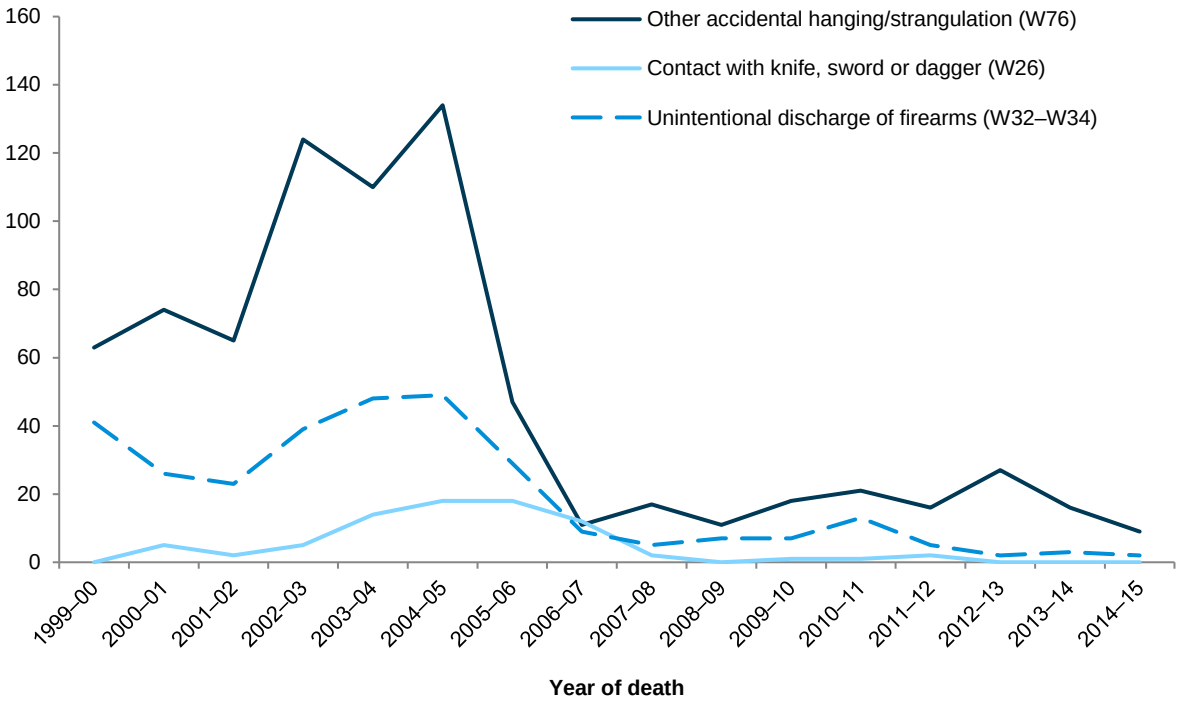
(b) Excludes X59 accompanied by MCoD for fracture (these deaths are included in Chapter 7).

Source: AIHW National Mortality Database.

9.4 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 codes 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 applied to all deaths with a year of death 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 introduction of the changes and the second release (used when preparing Figure 9.1) was processed after introduction of the changes. The numbers of deaths coded to the 3 mechanisms shown in the Figure 9.1 in the first and second release of 2006 data were W76 *Other accidental hanging and strangulation*: 179 and 16; W26 *Contact with knife sword or dagger*: 58 and 27; and W32–W34 *Unintentional discharge of firearms*: 56 and 11.



Note: Data underpinning this figure are available in the supplementary table spreadsheet Table SF9.1.

Source: AIHW National Mortality Database.

Figure 9.1: Number of deaths involving mechanisms commonly associated with suicide and homicide, and recorded as unintentional, Australia, 1999–00 to 2014–15

Firearm-related deaths

There were 308 unintentional firearm-related deaths in the period from 1999–00 to 2014–15, of which only 26 (8.4%) were females (see Table S.1 in supplementary tables). In the period prior to the introduction of the ABS revision process (1999–00 to 2004–05), there was an average of about 38 deaths annually, while in the period following the change in process (2006–07 to 2014–15) there was an average of about 6 deaths annually (all males)—suggesting that, after the change, firearm-related deaths were more likely to be assigned as an intentional cause of death.

10 Suicide deaths

This chapter provides a brief overview of suicide deaths in 2014–15 and trends in deaths from this cause to 2014–15. Trends in suicide have been the subject of much attention and the recognition of problems resulting in under-identification was the main reason for the introduction of the ABS revisions process and other changes that were made during the period covered by this report (see Appendix A and AIHW: Harrison & Henley 2014).

10.1 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 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.

Data from the NCIS were used to supplement the data from the ABS. That is particularly important for the period before the introduction by the ABS of improved methods for recording suicide deaths, which were fully implemented for deaths registered in 2008 and have been used since then. The revised methods solved a problem which had resulted in under-enumeration of suicide deaths (AIHW: Harrison et. al. 2009). The revised methods were applied by the ABS to deaths registered in 2006 but not to deaths registered before 2006. We used a method modelled on the one used by the ABS for deaths registered in 2008 and later to identify intentional self-harm deaths from the NCIS (see Appendix A and AIHW: Henley & Harrison 2015) We applied that method to the entire period for which NCIS data are available (2001 onwards).

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* of ICD-10 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).

10.2 How many suicides were there in 2014–15?

Suicides accounted for 2,926 injury deaths in Australia during 2014–15, just over 23% of all injury deaths in this period (Table 10.1). There were 3.2 times as many suicide deaths of males as of females in 2014–15.

Table 10.1: Key indicators for intentional self-harm (suicide) deaths, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	2,226	700	2,926
Percentage of all injury deaths	29.2	13.9	23.1
Crude rate (deaths per 100,000 population)	18.9	5.9	12.4
Age-standardised rate (deaths per 100,000 population)	18.8	5.9	12.2

Source: AIHW National Mortality Database.

Age and sex

Persons aged 25–44 and 45–64 accounted for over 71% of all suicide deaths (Table 10.2). By contrast, 40% of injury deaths from all causes were in this age range. Similar proportions of male and female suicide deaths were found in each age group.

Table 10.2: Intentional self-harm (suicide) deaths, by age, by sex, Australia, 2014–15

	Males		Females		Persons	
Age group	Number	%	Number	%	Number	%
0–4	0	0.0	0	0.0	0	0.0
5–14	7	0.3	12	1.7	19	0.6
15–24	269	12.1	111	15.9	380	13.0
25–44	866	38.9	253	36.1	1119	38.2
45–64	746	33.5	226	32.3	972	33.2
65+	338	15.2	98	14.0	436	14.9
Total	**2,226**	**100.0**	**700**	**100.0**	**2,926**	**100.0**

Source: AIHW National Mortality Database.

State of territory of residence

The age-standardised rate for suicides during 2014–15 for residents of the Northern Territory was more than 1.6 times the national rate of 12.2 deaths per 100,000 population (Table 10.3). Rates for residents of other jurisdictions were similar to or above the national rate, apart from New South Wales and Victoria, where rates were below the national rate. It has been shown for an earlier period that timing of processing of intentional self-harm deaths differed between jurisdictions (AIHW: Henley & Harrison 2009). The data for deaths in 2014–15 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, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	805	620	718	369	230	86	48	50
Percentage	27.5	21.2	24.5	12.6	7.9	2.9	1.6	1.7
Age-standardised rate (deaths per 100,000 population)	10.5	10.2	15.1	14.2	13.2	16.1	12.1	19.2

Source: AIHW National Mortality Database.

Remoteness of usual residence

Age-standardised suicide rates increased with the degree of remoteness of usual residence, although rates for the *Remote* and *Very remote* areas were similar. (Table 10.4). The rate for residents of *Remote* areas was more than 1.9 times the rate for residents of *Major cities*.

Table 10.4: Intentional self-harm (suicide) deaths, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[a]					
Indicator	**Major cities**	**Inner regional**	**Outer regional**	**Remote**	**Very remote**	**Total[b]**
Deaths	1,814	634	353	65	37	2,903
Percentage	62.5	21.8	12.2	2.2	1.3	
Age-standardised rate (deaths per 100,000 population)	10.7	15.2	17.5	20.5	19.8	

(a) Derived using the ASGS classification.

(b) Excludes 23 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Socioeconomic status

The age-standardised rate of suicide increased with socioeconomic disadvantage (Table 10.5). The rate for residents of areas classified as *Most disadvantaged* (12.7 deaths per 100,000 population) was more than 1.5 times the rate for residents of areas classified as *Most advantaged* (8.2 per 100,000 population).

Table 10.5: Intentional self-harm (suicide) deaths, by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	**Most disadvantaged**	**Second most disadvantaged**	**Middle**	**Second least disadvantaged**	**Least disadvantaged**
Deaths	657	651	626	520	448
Percentage	22.5	22.2	21.4	17.8	15.3
Age-standardised rate (deaths per 100,000 population)	14.2	13.7	13.0	10.8	9.2

Note: Excludes 23 deaths where SEIFA quintile was not reported.

Aboriginal and Torres Strait Islander people

The age-standardised suicide rate for Aboriginal and Torres Strait Islander people was almost twice the rate for non-Indigenous Australians (Table 10.6).

Table 10.6: Key indicators for intentional self-harm (suicide) deaths, Indigenous Australians and non-Indigenous Australians, Australia[a], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Deaths	102	37	139	1,535	473	2,008
Age-standardised rate/100,000 population	34.9	11.8	23.1	18.8	5.8	12.2
Rate ratio[b]	1.9	2.0	1.9	. .	. .	. .
Rate difference[c]	16.1	6.0	10.9	. .	. .	. .

(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.2.

(b) Rate ratios are standardised rates for Indigenous males, females and persons, divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons, minus standardised rates for non-Indigenous males, females and persons.

Source: AIHW National Mortality Database.

There were marked differences between Aboriginal and Torres Strait Islander people and non-Indigenous Australians in terms of the proportions of suicides occurring in each age group (Table 10.7). For Aboriginal and Torres Strait Islander peoples, 82% of suicides occurred for those aged 15–44, compared with 50% for non-Indigenous Australians. Conversely, there were only 2 suicide deaths of Aboriginal and Torres Strait Islander peoples aged 65 and older, whereas 15% (305) of suicide deaths for non-Indigenous Australians were for people aged over 65.

Table 10.7: Intentional self-harm (suicide) deaths, Indigenous Australians and non-Indigenous Australians, by age, by sex, Australia[(a)], 2014–15

	Indigenous Australians		Non-Indigenous Australians	
	Number	%	Number	%
Males				
0–4	0	0.0	0	0.0
5–14	4	3.9	1	0.1
15–24	30	29.4	168	10.9
25–44	53	52.0	598	39.0
45–64	13	12.7	533	34.7
65+	2	2.0	235	15.3
Total	**102**	**100.0**	**1,535**	**100.0**
Females				
0–4	0	0.0	0	0.0
5–14	1	2.7	7	1.5
15–24	13	35.1	70	14.8
25–44	18	48.6	166	35.1
45–64	5	13.5	160	33.8
65+	0	0.0	70	14.8
Total	**37**	**100.0**	**473**	**100.0**

(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.2.

Source: AIHW National Mortality Database.

Mechanisms of suicide

The most frequently recorded mechanism of suicide in 2014–15 was *Hanging, strangulation and suffocation*, which accounted for 57% (1,670) of deaths (Table 10.8). This method accounted for 59% (1,312) of male suicide deaths and 51% (358) of female suicide deaths. The proportion of male and female suicides involving this mechanism were 43% and 37%, respectively, in 1999–2000 and proportions for both sexes have tended to rise since then.

The second most frequently recorded type of suicide method was *Poisoning*, which accounted for 23% (661) of suicides in 2014–15. Poisoning was the method used by females in 33% of deaths, compared with 19% of male deaths. The use of firearms was much more prominent among male suicides (7.5%; 168 deaths) than among female suicides (0.4%; 3 deaths).

Table 10.8: Mechanism of intentional self-harm (suicide) deaths, Australia, 2014–15

	Males		Females		Persons	
Mechanism of suicide	**Count**	**%**	**Count**	**%**	**Count**	**%**
Hanging, strangulation and suffocation	1,312	58.9	358	51.1	1,670	57.1
Poisoning	429	19.3	232	33.1	661	22.6
Jumping from a high place, or lying before a moving object	155	7.0	62	8.9	217	7.4
Firearms	168	7.5	3	0.4	171	5.8
Cutting, piercing	62	2.8	15	2.1	77	2.6
Drowning and submersion	26	1.2	12	1.7	38	1.3
Crashing of motor vehicle	27	1.2	4	0.6	31	1.1
Smoke, fire and flames, and hot substances	20	0.9	8	1.1	28	1.0
Other specified mechanisms	14	0.6	0	0.0	14	0.5
Unspecified mechanisms	13	0.6	6	0.9	19	0.6
Total suicides	**2,226**	**100.0**	**700**	**100.0**	**2,926**	**100.0**

Source: AIHW National Mortality Database.

Table 10.9 lists the type of poisoning agent coded for suicide deaths that involved poisoning by drugs or the toxic effects of substances chiefly non-medicinal as to source. The most common poisoning agents leading to death were *Antiepileptic, sedative-hypnotic and antiparkinsonism drugs,* which were involved in 35% (233) of deaths. Of deaths involving this class of drugs, 68% (159) involved the use of benzodiazepines and 28% (65) involved the use of barbiturates. Other classes of drugs commonly leading to death were *Narcotics and psychodysleptics [hallucinogens]* (189 deaths) and *Psychotropic drugs, n.e.c.* (181 deaths). Of deaths involving the latter class of drugs, 77% (140) involved the use of antidepressants.

The most common poisoning agent for substances chiefly non-medicinal as to source was carbon monoxide, which was involved in 27% (177) of poisoning-related suicide deaths.

Table 10.9: Poisoning-related self-harm (suicide) deaths, by type of poisoning agent, Australia, 2014–15

Poisoning agent	No. of deaths	%
Drugs, medicaments and biological substances		
Antiepileptic, sedative-hypnotic and antiparkinsonism drugs	233	35.2
Narcotics and psychodysleptics [hallucinogens]	189	28.6
Psychotropic drugs, n.e.c.	181	27.4
Nonopioid analgesics, antipyretics and antirheumatics	65	9.8
Drugs primarily affecting the autonomic nervous system	29	4.4
Diuretics and other unspecified drugs, medicaments and biological substances	22	3.3
Primarily systemic and haematological agents, n.e.c.	22	3.3
Hormones and their synthetic substitutes and antagonists, n.e.c.	15	2.3
Agents primarily affecting the cardiovascular system	14	2.1
Other and unspecified drugs, medicaments and biological agents	16	2.4
Substances chiefly non-medicinal as to source		
Carbon monoxide	177	26.8
Alcohol	71	10.7
Other gases, fumes and vapours	20	3.0
Pesticides	7	1.1
Other and unspecified	14	2.1
Total number of poisoning suicide deaths	**661**	

Note: More than 1 type of poisoning agent was reported for some suicide deaths and so 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 (661 deaths) and the agent-specific proportions sum to more than 100%.

Source: AIHW National Mortality Database.

10.3 How have suicides changed over time?

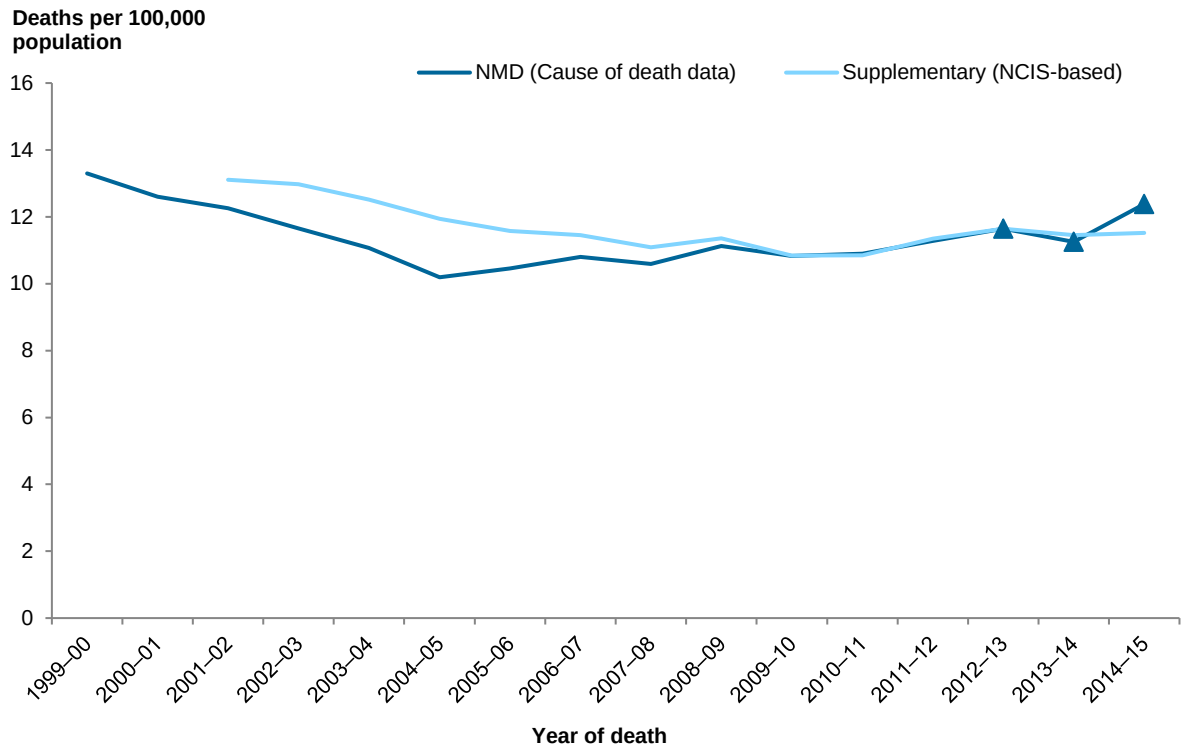
Age-standardised rates of suicide, based on data from the NMD, decreased from 13.3 per 100,000 population in 1999–00 to 10.2 in 2004–05 and remained relatively steady thereafter (Figure 10.1).

Supplementary estimates, based on NCIS data as at March 2017, indicate a more constant downward trend in age-standardised rates of suicide for the period for which data are reported (2001–02 to 2014–15; Figure 10.2). Further information on the method used to produce the supplementary estimates is provided in Appendix A.

For years from 2007 onwards, when the ABS's improved methods for recording suicide deaths were in use, the supplementary estimates have been close to those based on the NMD data. Rates based on NMD data were stable in the period 2007–08 to 2013–14, ranging from 10.6 to 11.6 deaths per 100,000 population. A higher rate was present in 2014–15: 12.4 deaths per 100,000 population.

The difference between the 2 series for earlier years, before introduction of the ABS's revised methods, is consistent with earlier work (AIHW: Henley & Harrison 2009; AIHW: Harrison et al. 2009). A previous report of suicide deaths in 2004–05, based on NCIS data as in 2008, gave a case count of 2,341 deaths for that year (AIHW: Henley & Harrison 2009), which is similar to case count used to calculate the supplementary rate for 2004–05, shown in Figure 10.1 (2,395).

Further information on the effects of changes in methods on estimates of suicide for the period from 1999 to 2010 has previously been reported (AIHW: Harrison & Henley 2015).



Notes

1. Values for the last 3 years of NMD-based rates, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF10.1.

Source: AIHW National Mortality Database; National Coronial Information System (NCIS).

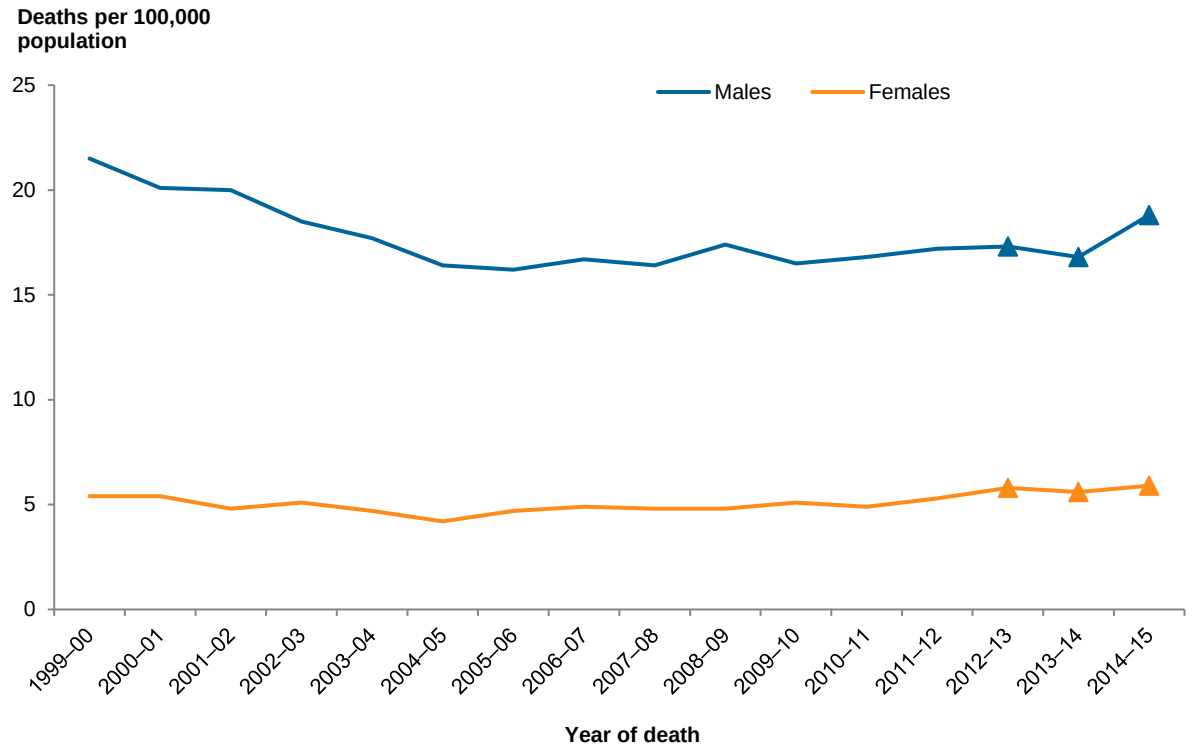
Figure 10.1: Age-standardised rates of intentional self-harm (suicide) deaths for Cause of death (NMD) data and Supplementary (NCIS-based) data, Australia, 1999–00 to 2014–15

Firearm-related suicides

There were 2,976 firearm-related suicides in the period from 1999–00 to 2014–15, of which 154 (5.2%) were females (see supplementary table spreadsheet Table S.1). In the period following the introduction of the ABS' revisions process (that is, from 2006–07 onwards), the number of annual firearm-related suicides were more likely to be higher than the number of suicides that would have been recorded using the pre-revisions processes. Reasons for these higher numbers are detailed in Appendix A of this report and have previously been reported for the period from 1999 to 2010 (AIHW: Harrison & Henley 2015). Long-term trends for firearm-related suicides have previously been reported (AIHW: Henley & Harrison 2014).

10.4 How have suicides varied by age and sex?

During the period of interest, age-standardised rates of suicides decreased over time for males, while rates for females remained relatively steady (Figure 10.2). Rates for males decreased from 21.5 per 100,000 population in 1999–00 to 16.4 per 100,000 population in 2004–05 and remained relatively steady thereafter. Rates were consistently 3 to 4 times as high for males as for females.



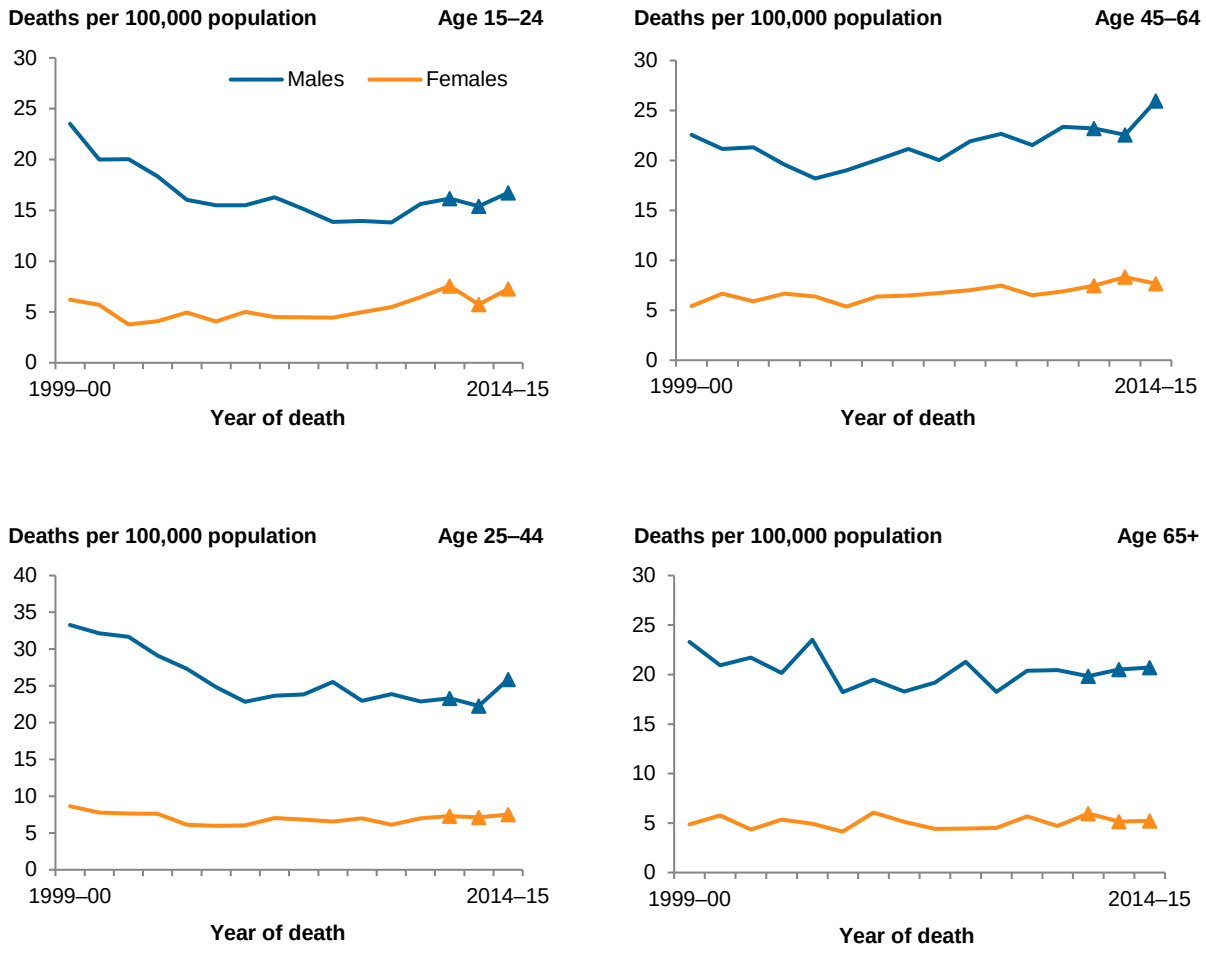
Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF10.2.

Source: AIHW National Mortality Database.

Figure 10.2: Age-standardised rates of intentional self-harm (suicide) deaths, by sex, Australia, 1999–00 to 2014–15

Figure 10.3 shows changes in suicide rates over time, by age and by sex. Age-standardised rates for males were markedly higher than rates for females across all age groups for all years. Rates for males aged 15–24 and 25–44 declined markedly in the first half of the period of interest, while rates for females were relatively steady across all age groups. The suicide death rate for males rose to 18.8 per 100,000 in 2014–15.



Notes

1. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of the cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF10.3.
3. Rates for children aged 0–4 and 5–14 are not shown, due to small numbers.

Source: AIHW National Mortality Database.

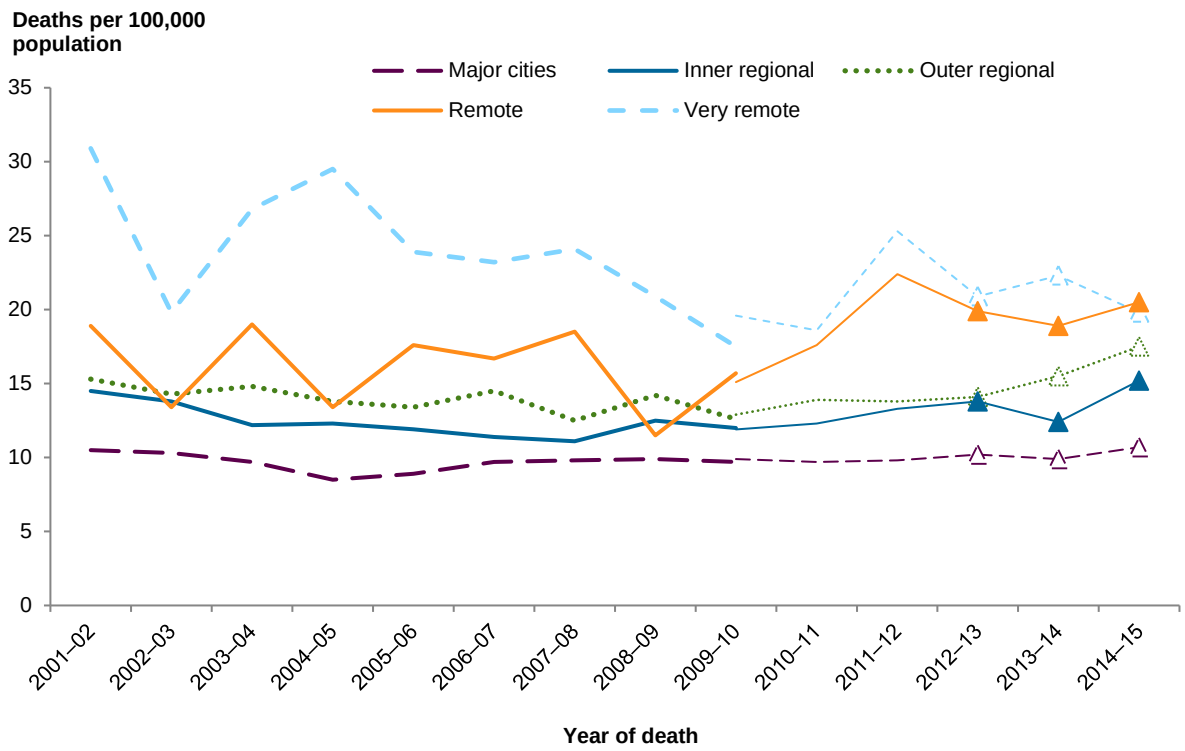
Figure 10.3: Age-specific rates of intentional self-harm (suicide) deaths, by age, by sex, Australia, 1999–00 to 2014–15

10.5 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 over the period from 2001–02 to 2014–15 (Figure 10.4). Rates for residents of *Very remote* areas were consistently 2 to 3 times as high as rates for residents of *Major cities* over this period.

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 deaths occurring each year.

In 2009–10, the only year for which both ASGC-based and ASGS-based rates are shown, the ASGS-based rate was higher than the ASGC-based rate for *Very remote* areas.



Notes

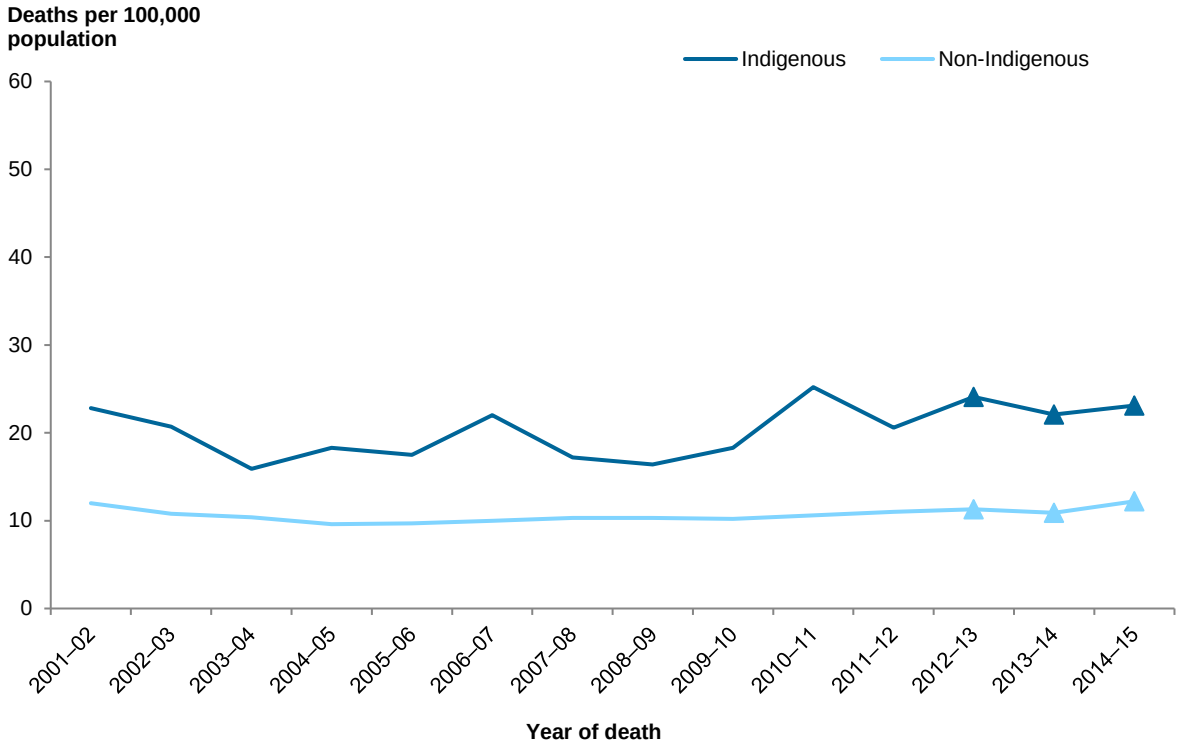
1. Data for 1999–00 and 2000–01 were unavailable.
2. Thick lines are ASGC-based, while thin lines are ASGS-based.
3. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of death data by the ABS. (See Appendix A for more information.)
4. Data underpinning this figure are available in the supplementary table spreadsheet Table SF10.4.

Source: AIHW National Mortality Database.

Figure 10.4: Age-standardised rates of intentional self-harm (suicide) deaths, by remoteness of usual residence, Australia, 2001–02 to 2014–15

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

Age-standardised rates for Aboriginal and Torres Strait Islander peoples fluctuated to some degree over the period from 2001–02 to 2014–15, without evidence of a significant trend (Figure 10.5). Rates for Aboriginal and Torres Strait Islander peoples were consistently 1.5 to 2.5 times the rates for non-Indigenous Australians over this period.



Notes

1. Data are for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, the 5 jurisdictions for which recording of Indigenous status was considered to be of adequate quality throughout the study period. These 5 jurisdictions represent close to 89% of the total Indigenous population.
2. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
3. Data underpinning this figure are available in the supplementary table spreadsheet Table SF10.5.

Source: AIHW National Mortality Database.

Figure 10.5: Age-standardised rates of intentional self-harm (suicide) deaths, Indigenous Australians and non-Indigenous Australians, Australia, 2001–02 to 2014–15

11 Homicide deaths

This chapter provides a brief overview of homicide deaths in 2014–15 and trends in relation to these to 2014–15. Variation in counts for this cause of death must be interpreted with caution, for reasons described in Section 11.3, Appendix A and as previously reported for the period from 1999 to 2010 (AIHW: Harrison & Henley 2015).

11.1 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); or
- 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). 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 Australian armed forces are not normally registered in Australia (AIHW: Harrison & Henley 2015). The concepts underlying the abbreviations used here 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* of ICD-10 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)

(continued)

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

- Assault by steam, hot vapours and hot objects (X98)
- Assault by sharp object (X99)
- Assault by blunt object (Y00)
- 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).

11.2 How many homicides were there in 2014–15?

Homicides accounted for 252 injury deaths in Australia during 2014–15 (Table 11.1). This was 2% of all injury deaths for this period. There were 2.5 times as many homicide deaths of males as of females in this period.

Table 11.1: Key indicators for assault (homicide) deaths, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	179	73	252
Percentage of all injury deaths	2.3	1.5	2.0
Crude rate (deaths per 100,000 population)	1.5	0.6	1.1
Age-standardised rate (deaths per 100,000 population)	1.5	0.6	1.1

Source: AIHW National Mortality Database.

Age and sex

Deaths of persons aged 25–44 accounted for 46% of homicides during 2014–15 (Table 11.2). By contrast, 21% of all injury deaths occurred in this age range. The age pattern of these deaths (peaking in the age groups 25–44 and 45–64) was similar.

Table 11.2: Assault (homicide) deaths, by age, by sex, Australia, 2014–15

	Males		Females		Persons	
Age group	**Number**	**%**	**Number**	**%**	**Number**	**%**
0–4	7	3.9	2	2.7	9	3.6
5–14	7	3.9	7	9.6	14	5.6
15–24	17	9.5	9	12.3	26	10.3
25–44	82	45.8	33	45.2	115	45.6
45–64	51	28.5	17	23.3	68	27.0
65+	15	8.4	5	6.8	20	7.9
Total	**179**	**100.0**	**73**	**100.0**	**252**	**100.0**

Source: AIHW National Mortality Database.

State or territory of usual residence

The age-standardised rate of homicide deaths during 2014–15 for residents of the Northern Territory was 5.7 times the national rate of 1.1 deaths per 100,000 population (Table 11.3). Rates for residents of other jurisdictions were generally close to the national rate.

Table 11.3: Assault (homicide) deaths, by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	67	51	57	31	19	6	5	16
Percentage	26.6	20.2	22.6	12.3	7.5	2.4	2.0	6.3
Age-standardised rate (deaths per 100,000 population)	0.9	0.9	1.2	1.2	1.2	1.4	1.2	6.3

Source: AIHW National Mortality Database.

Remoteness of usual residence

The age-standardised rates of homicide increased with the level of remoteness. The rate for residents of *Very remote* areas was 7 times the rate for residents of *Major cities* (Table 11.4). However the numbers of cases in these areas were not very large and even modest variations in small annual case numbers have noteworthy effects on rates.

Table 11.4: Assault (homicide) deaths, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[(a)]					
Indicator	**Major cities**	**Inner regional**	**Outer regional**	**Remote**	**Very remote**	**Total[(b)]**
Deaths	148	40	36	9	14	247
Percentage	59.9	16.2	14.7	3.5	5.7	
Age-standardised rate (deaths per 100,000 population)	0.9	1.0	1.8	2.5	6.3	

(a) Derived using the ASGS classification.

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

Source: AIHW National Mortality Database.

Socioeconomic status

The age-standardised rate of homicide increased with socioeconomic disadvantage (Table 11.5). The rate for residents of areas classified as *Most disadvantaged* (2.1 deaths per 100,000 population) was 4.2 times the rate for residents of areas classified as *Least disadvantaged* (0.5 per 100,000 population).

Table 11.5: Assault (homicide) deaths, by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	Most disadvantaged	Second most disadvantaged	Middle	Second least disadvantaged	Least disadvantaged
Deaths	94	53	49	27	24
Percentage	37.3	21.0	19.4	10.7	9.5
Age-standardised rate (deaths per 100,000 population)	2.1	1.2	1.0	0.6	0.5

Note: Excludes 5 deaths where SEIFA quintile was not reported.

Aboriginal and Torres Strait Islander people

The age-standardised homicide rate for Aboriginal and Torres Strait Islander people was more than 7 times the rate for non-Indigenous Australians (Table 11.6).

Table 11.6: Key indicators for assault (homicide) deaths, Indigenous Australians and non-Indigenous Australians, Australia[(a)], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	Males	Females	Persons	Males	Females	Persons
Deaths	24	17	41	111	37	148
Age-standardised rate (deaths per 100,000 population)	8.0	5.4	6.7	1.4	0.5	0.9
Rate ratio[(b)]	5.7	10.8	7.4	. .	. .	. .
Rate difference[(c)]	6.6	4.9	5.8	. .	. .	. .

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

(b) Rate ratios are standardised rates for Indigenous males, females and persons divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons minus standardised rates for non-Indigenous males, females and persons.

Source: AIHW National Mortality Database.

Associated factors

Of the 179 male homicide deaths which occurred in 2014–15, 37% (67) involved *Assault by a sharp object*, 18% (33) involved *Assault by bodily force* and 15% (26) involved *Assault by firearms*.

Of the 73 female homicide deaths which occurred in 2014–15, 33% (24) involved *Assault by a sharp object*, 16% (12) involved *Assault by bodily force* and 11% (8) involved *Assault by firearms*.

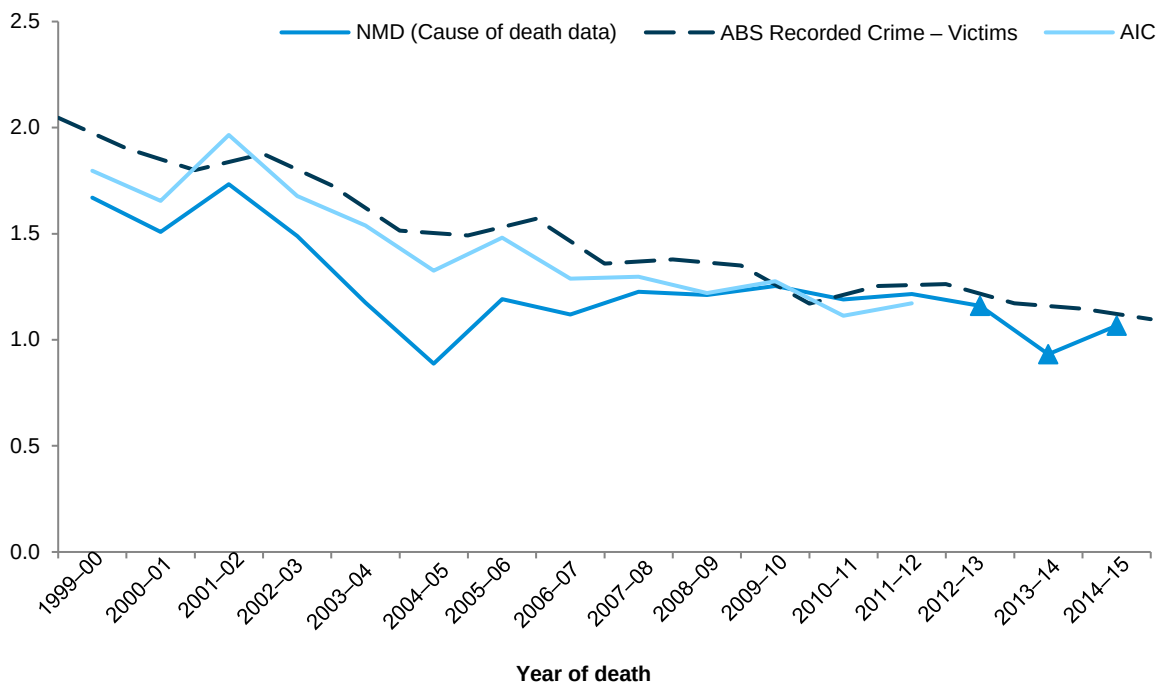
11.3 How have homicides changed over time?

Crude rates of homicide based on the NMD data decreased from 1.7 per 100,000 population in 2000–01 to 0.9 in 2004–05 before rising to 1.2 in 2005–06 and remaining steady thereafter (Figure 11.1). Rates based on these data decreased by an average of 10.7% per year from 1999–00 to 2004–05 and by an average rate of 2.6% per year from 1999–00 to 2014–15.

These changes need to be treated with caution, due to issues related to revisions in ABS processing of death registration data outlined in Appendix A. Changes in the revision process have been previously reported, focusing on homicides in 2004–05 (AIHW: Henley & Harrison 2009). Estimates based on the NMD 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 5.2% per year between 1999–00 and 2004–05 and a decrease of 4.1% per year between 1999–00 and 2011–12. Data on 'homicide and related offences' from the ABS *Recorded crime – victims, Australia* publication series (ABS 2000 to 2016) indicated an average rate of decrease of 3.8% per year over a similar period, 1999 to 2015. 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. ABS *Recorded crime – victims, Australia* publication series shows a nearly linear downward trend with small fluctuations. The AIC homicide series shows a little more fluctuation than the ABS *Recorded crime – victims* series, with a small dip in 2004–05. Neither supplementary series shows a dip as large as that evident in the NMD data. All 3 series provide similar estimates for 2011–12, the latest year for which NMD data were essentially final at the time of writing, as well as the latest year for which AIC homicide data were available.

Crude rates were calculated for NMD data to allow better comparability with the ABS *Recorded crime* and AIC-based estimates, and because there was little difference between crude and adjusted rates for the NMD data.



Notes

1. Values for the last 3 years of NMD rates based on cause of death data, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary data spreadsheet Table SF11.1.

Source: AIHW National Mortality Database; Australian Institute of Criminology (AIC); Recorded Crime – Victims, Australia (ABS cat. no 4510.0).

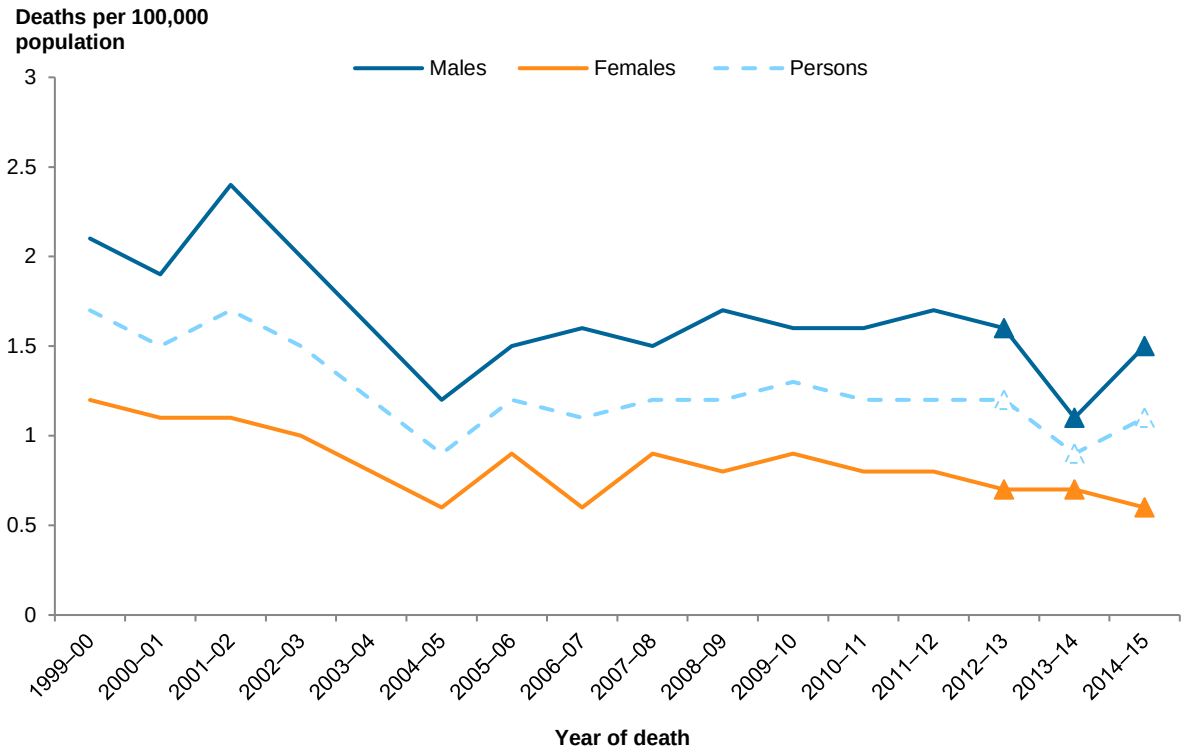
Figure 11.1: Crude rates of assault (homicide) deaths, Australia, 1999–00 to 2014–15

Firearm-related homicides

There were 588 firearm-related homicides in the period from 1999–00 to 2014–15, of which 154 (26%) were females (see supplementary table spreadsheet Table S.1). In the period following the introduction of the ABS' revisions process (that is, 2006–07 onwards), the number of annual firearms–related deaths were more likely to be higher than the number of deaths that would have been recorded using the pre-revisions processes. Reasons for these higher numbers are detailed in Appendix A of this report and have previously been reported for the period from 1999 to 2010 (AIHW: Harrison & Henley 2015).

11.4 How have homicides varied by age and sex?

Age-standardised rates of homicides for males were consistently 1.5 to 2.5 times the rates for females (Figure 11.2). (See Section 11.3 for cautionary notes on trends.) Rates for both males and females declined between 1999–00 and 2004–05 and were relatively steady thereafter.



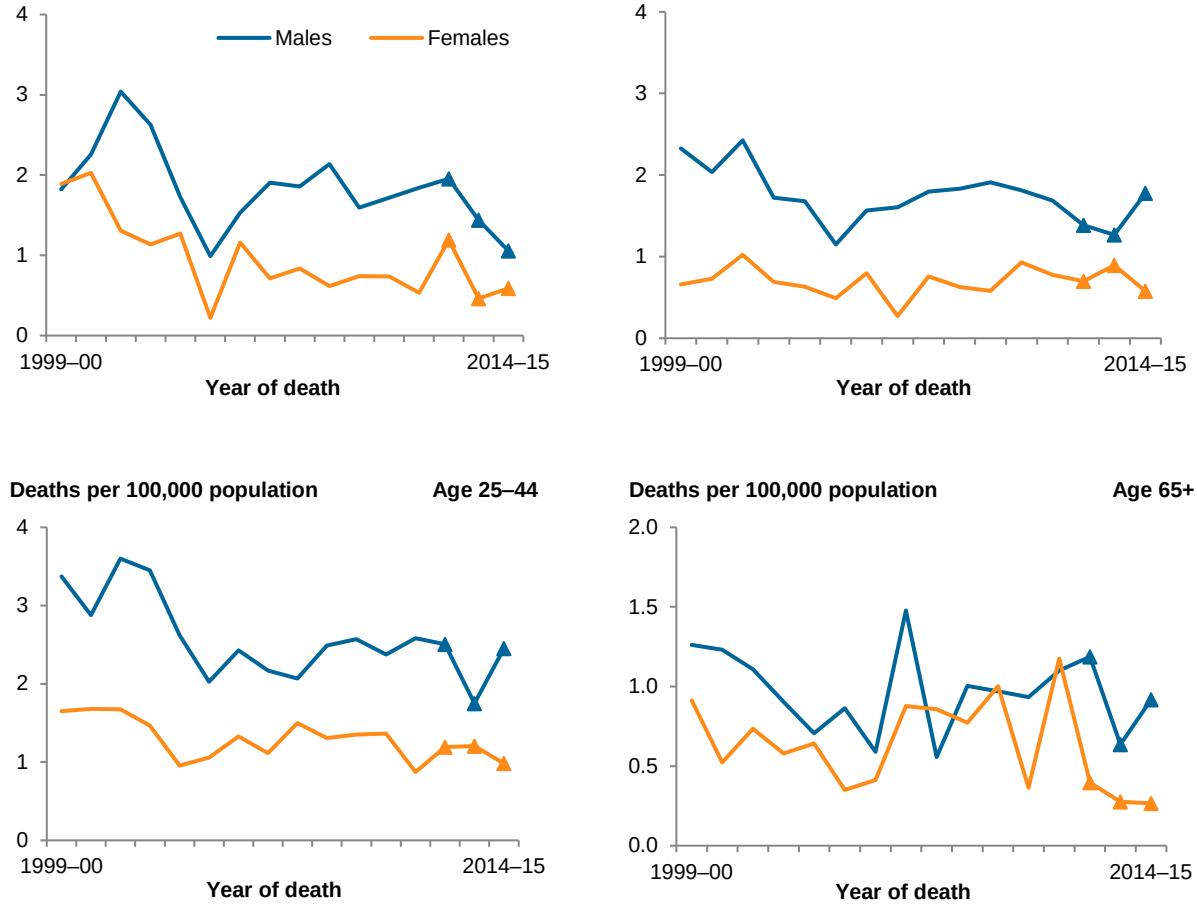
Notes

1. Values for the last 3 years, shown by triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF11.2.

Source: AIHW National Mortality Database.

Figure 11.2: Age-standardised rates of assault (homicide) deaths, by sex, Australia, 1999–00 to 2014–15

Figure 11.3 shows changes in homicide rates over time by age and by sex. Age-standardised rates for males were higher than for females 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.



Notes

1. Values for the last 3 years, shown by triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
2. Data underpinning this figure are available in the supplementary table spreadsheet Table SF11.3.
3. Rates for children aged 0–4 and 5–14 are not shown, due to small numbers.

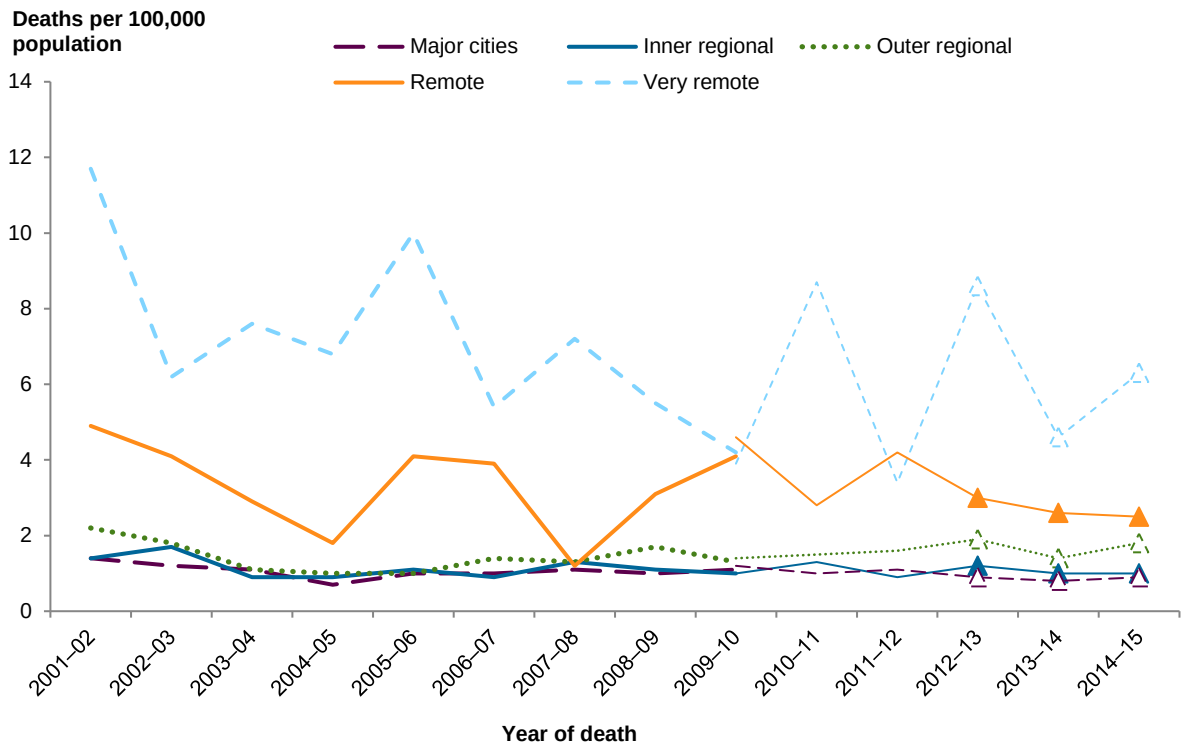
Source: AIHW National Mortality Database.

Figure 11.3: Age-specific rates of intentional assault (homicide) deaths, by age, by sex, Australia, 1999–00 to 2014–15

11.5 How have homicides varied by remoteness?

Rates of homicide death were consistently higher for residents of *Very remote* areas, compared with all other remoteness areas (Figure 11.4). 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 *Very remote* and *Remote* areas of Australia is at least partly a reflection of the small population and number of incidents occurring each year.



Notes

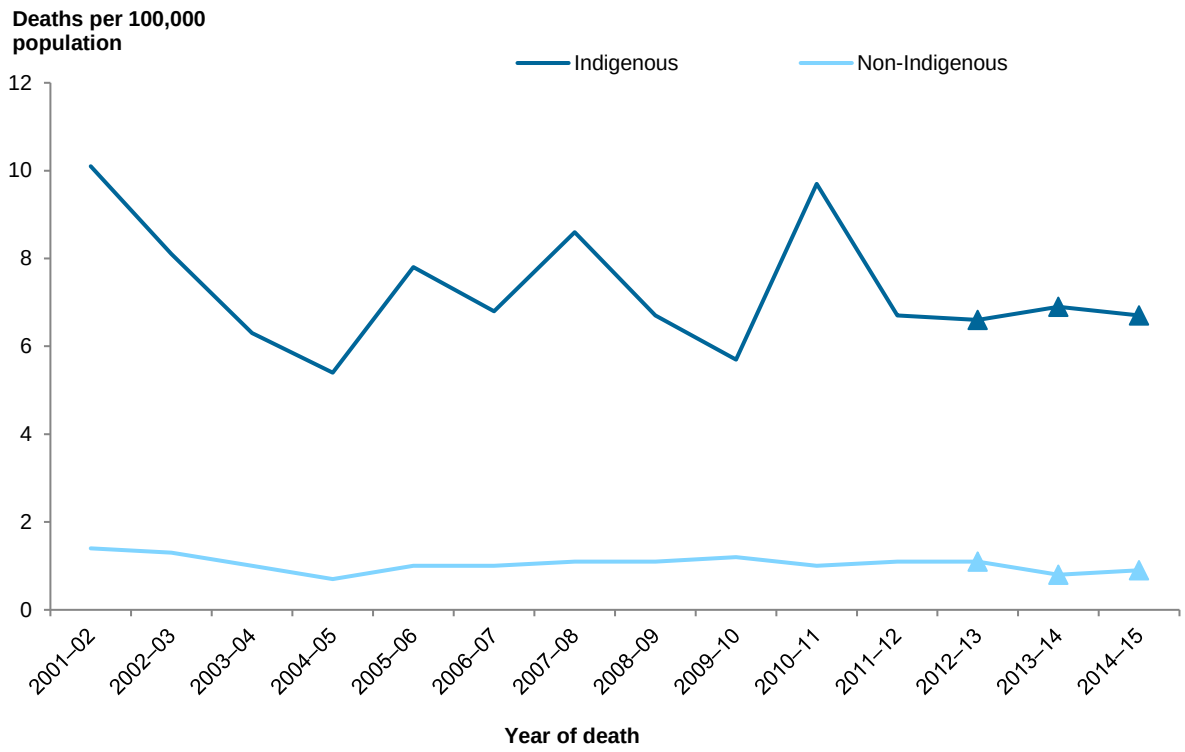
1. Data for 1999–00 and 2000–01 were unavailable.
2. Thick lines are ASGC-based, while thin lines are ASGS-based.
3. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of death data by the ABS. (See Appendix A for more information.)
4. Data underpinning this figure are available in the supplementary table spreadsheet Table SF11.4.

Source: AIHW National Mortality Database.

Figure 11.4: Age-standardised rates of assault (homicide) deaths, by remoteness of usual residence, Australia, 2001–02 to 2014–15

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

Rates of homicide death for Aboriginal and Torres Strait Islander peoples fluctuated over the period from 2001–02 to 2014–15, although no trend was evident (Figure 11.5). These rates were consistently 6 to 8 times higher than rates for non-Indigenous Australians over this period.



Notes

1. Data are for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory, the 5 jurisdictions for which recording of Indigenous status was considered to be of adequate quality throughout the study period. These 5 jurisdictions represent close to 89% of the total Indigenous population.
2. Values for the last 3 years, shown as triangles, could change marginally due to later revisions of cause of death data by the ABS. (See Appendix A for more information.)
3. Data underpinning this figure are available in the supplementary table spreadsheet Table SF11.5.

Source: AIHW National Mortality Database.

Figure 11.5: Age-standardised rates of assault (homicide) deaths, Indigenous Australians and non-Indigenous Australians, Australia, 2001–02 to 2014–15

Appendix A: Data information and issues

This appendix provides information on the data used in the report and on issues relevant to interpreting the data. Further information on Australian injury mortality data for the period from 1999 to 2010 has previously been reported (AIHW: Harrison & Henley 2015).

Fatal injury data

Most data in this report on fatal injuries are from the AIHW National Mortality Database (NMD). The NMD comprises CODURF data, which are provided to the AIHW by the Registries of Births, Deaths and Marriages and the NCIS and include cause of death coded by the ABS.

Data are presented according to the financial year in which each death occurred, rather than the calendar year in which the death was registered. There are 2 main reasons why the data are presented in this manner. Firstly, presenting data by year of occurrence provides a more meaningful interpretation of data in comparison to presenting data by year of registration, where cases can be registered at a time significantly later (in some cases years later) than when death occurred. Secondly, reporting by financial year is in line with AIHW reports on injury morbidity, enabling deaths and hospitalisations to be compared for the same period.

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

- deaths that occurred on 1 July 1999 to 30 June 2015 and had been registered by 31 December 2015; 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 WHO International Statistical Classification of Diseases and Related Health Problems, 10th revision (WHO 2016). 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*.

Box A.1: Multiple causes of death (MCoD)

Box 1.1 provided standard definitions of the terms underlying cause of death (UCoD) and multiple causes of death (MCoD) codes. MCoD codes in this report relate to the causes of death that contributed to death and may or may not have been related to the underlying cause. For example, an elderly person may fall and fracture their hip. This person's advanced age, frailty and perhaps other comorbid conditions may limit their capacity to tolerate injury, leading to their death. In this instance, this record would most likely be assigned an UCoD of an external cause code for fall (W00–W19) and a MCoD code for hip injury (S72). In another example, an elderly person might suffer a heart attack that results in a fall and subsequently a hip fracture. As with the first example, a combination of factors may lead to death. In this instance, this record would most likely be assigned an UCoD code for acute myocardial infarction (I21) and a MCoD of an external cause code for fall (W00–W19) and a MCoD code for hip injury (S72). Both of these cases would be included in this report because the first example meets the second of the criteria listed above while the second example meets the third criterion.

Supplementary data sources

For some external causes of injury, trends in age-standardised rates over time calculated using NMD 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 significantly affected by problems relating to classification (see 'Coding of Deaths Data').

Transport-related injury

Rates for deaths due to unintentional transport-related injury calculated using NMD mortality data were compared with rates calculated using data extracted from the Australian Road Deaths Database in March 2017, available from the website of the Bureau of Infrastructure, Transport and Regional Economics (BITRE) at <bitre.gov.au/statistics/safety/fatal_road_crash_database.aspx>. This website provides data on road deaths, but 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 NMD data by the number of deaths occurring in traffic (on-road) deaths in the NMD 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 March 2017, as well as rates calculated using data extracted from national drowning reports published by the Royal Life Saving Society of Australia, 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 spreadsheets and read into Stata for analysis. Duplicate records (that is, records with matching NCIS numbers) were removed prior to 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[(a)] notification or Case type completion) = Death due to external cause(s) ***and*** Mechanism level 2 = Drowning/near drowning.	Case type completion = Death due to natural cause(s) ***or*** 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.

(a) Case type indicates whether a death was due to natural, external or unknown causes, or if the body was never recovered.

Suicide

Rates for deaths due to suicides calculated using NMD mortality data were compared with rates calculated using data extracted online from the National Coronial Information System (NCIS) at <www.ncis.org.au> as of March 2017. All data extracted from the NCIS website were downloaded via Excel spread sheets 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[(a)] notification or Case type completion = Death due to external cause(s) ***and*** Intent notification or Intent completion = Intentional self-harm) **or** Activity code level 2 = Self-inflicted harm.	Case type completion = Death due to natural cause(s) **or** Intent completion = Unintentional, Assault, Legal intervention, Operations of war, civil conflict and acts of terrorism or Complications of medical or surgical care.

(a) Case type indicates whether a death was due to natural, external or unknown causes or the body was never recovered.

Homicide

Rates for deaths due to homicides calculated using NMD mortality data were compared with rates calculated using case data extracted from the Australian Institute of Criminology (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 ABS obtains deaths registration data from the state and territory death registers, which, in turn, obtain information from the doctor or coroner who certifies each death.

The ABS codes causes of death according to the 10th revision of the International Classification of Diseases (ICD-10) and, after de-identification, creates the Cause of Death Unit Record File (CODURF). Most of the coding is done using an automated coding system (currently Iris).

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 as the underlying cause of death (UCoD). Most injury deaths are certified by a coroner. For these deaths, the ABS seeks additional information required to code external causes from the NCIS.

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 death certificate. Of the deaths included in this report, the most common type of injury in doctor-certified deaths is ‘fall’.

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 and 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 2009). The changes are described here because of their potential to affect injury death statistics, including those in this report.

Changes in death registrations over time

Deaths registered to end of 2005

- Each death was assessed 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 NCIS by the ABS's cut-off date.
- For some injury deaths, however, information was lacking in the NCIS when the death was assessed. This could occur if a coroner was still investigating the death, or if information about it had not been entered into the NCIS.
- The cause code assigned sometimes differed importantly from the cause code that would have been assigned had the data in 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 NCIS.
- It has been found that suicide deaths were under-enumerated in the ABS cause of death data for 2004 (AIHW: Harrison et al. 2009) and transport-related deaths were under-enumerated in the ABS cause of death data for 2004–05 (AIHW: Henley & Harrison 2009).

Deaths registered in 2006

- The initial version, 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, and applied like those described in the next section (ABS 2012a).
- The second release file of 2006 registrations was used in this project.

Deaths registered in 2007 to 2015

- 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 2009).
- The most important change 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* (1 year after that) and *Final* (2 years after *Preliminary*).
- 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, 2012a).

In this report, we used *Final* release data for deaths registered from 2007 to 2012, *Revised* release data for deaths registered in 2013 and *Preliminary* release data for deaths registered in 2014 and 2015, which were the latest data available when analysis was undertaken.

Due to the multiple release process, future reports based on later releases of cause of death data might show different results to those presented in this report.

The ABS revision process will have no more than a very small effect on the data for years of death up to and including 2011–12 (Table A.3). By contrast, all of the cases reported that have year of death of 2013–14 and 2014–15, and 57% of those with year of death 2012–13, 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.

Table A3: Percentage of injury deaths, by ABS CODURF release, by financial year of death

	ABS CODURF release		
Financial year of death	**% Preliminary**	**% Revised**	**% Final**
2014–15	100	0	0
2013–14	60.9	39.1	0
2012–13	0.6	56.8	42.6
2011–12	0.2	0.5	99.3
1999–00 to 2010–11	0.1	0.1	99.9

Appendix C compares counts for *Preliminary*, *Revised* and *Final* releases of CODURF data for all injury deaths and for a number of external causes of injury.

Further information on effects of the matters discussed in this section on estimates of injury mortality for the period from 1999 to 2010 has previously been reported (AIHW: Harrison & Henley 2015; AIHW: Henley & Harrison 2015).

Indigenous status data

Although the identification of Indigenous Australians in deaths data is incomplete in all state and territory registration systems, 5 jurisdictions (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory) have been assessed by the ABS and AIHW as having adequate identification from at least 2001 onwards (AIHW 2014). Hence, trends data in this report in relation to Indigenous Australians are presented from 2001–02 to 2014–15. Mortality data for these 5 jurisdictions should not be assumed to represent the experience in other jurisdictions. Data for these 5 jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.

Late and revised registration of Indigenous deaths

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 2011a). 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.

Adjustment of injury deaths

The extent of under-identification of Indigenous deaths in death registrations has been estimated in the ABS Census Data Enhancement Indigenous Mortality Quality Study, by linking 2011 Census data with deaths registered from 10 August 2011 to 27 September 2012 (ABS 2013b). The methodology described in this report has been used as a basis for adjusting for under-identification of Indigenous deaths in some reports.

Indigenous injury deaths in this report are as reported and have not been adjusted for under-dentification for 2 main reasons:

- The coverage estimates are for deaths from all causes. Injury deaths differ from most deaths in the way data are collected, which might affect the number of deaths recorded as Indigenous: most deaths are certified by a doctor, while the great majority of injury deaths are reported by police to a coroner. No adjustment factors are specific to coroner-certified deaths (or injury deaths).
- Comparable adjustment factors are not available for years before 2011–12, due to differences in the methodology used. This report covers the period to 1999–00 to 2014–15, for which coverage of Indigenous deaths is likely to vary.

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 2001–02 to 2014–15, using data from 5 jurisdictions (New South Wales, 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 non-Indigenous Australians, population denominators were derived by subtracting the Aboriginal and Torres Strait Islander population from the total Australian estimated resident population (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 using the Australian population in 2001 as the standard (ABS 2002). Estimated trends in age-standardised rates were reported as average annual percentage changes obtained using negative binomial regression modelling, 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 NMD on which this report relies. For example, non-random 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.

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 less 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 *Major cities* remoteness areas is nearly 90 times that of *Very remote* areas). 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 died. The remoteness areas for the years 1999–00 to 2009–10 were specified according to the ABS Australian Standard Geographical Classification (ASGC), while remoteness areas for the years 2009–10 to 2014–15 were specified according to the ABS Australian Statistical Geography Standard (ASGS).

Australian Standard Geographical Classification (ASGC)

Australia can be divided into several regions based on their distance from urban centres. This is considered to determine the range and types of services available. In this report, remoteness area refers to the place of usual residence of the person who died, assigned on the basis of the reported statistical local area (SLA) of residence.

Remoteness categories were defined in a manner based on the Accessibility/Remoteness Index of Australia (ARIA). According to this method, remoteness is an index applicable to any point in Australia, based on road distance from urban centres of 5 sizes. The reported areas are defined as the following ranges of the index:

- *Major cities* (for example, Sydney, Geelong, Gold Coast): ARIA index 0 to 0.2
- *Inner regional* (for example, Hobart, Ballarat, Coffs Harbour): ARIA index >0.2 and ≤2.4
- *Outer regional* (for example, Darwin, Cairns, Coonabarabran): ARIA index >2.4 and ≤5.92
- *Remote* (for example, Alice Springs, Broome, Strahan): ARIA index of >5.92 and ≤10.53
- *Very remote* (for example, Coober Pedy, Longreach, Exmouth): ARIA index >10.53.

Most SLAs lie entirely within 1 of the 5 areas. If this was so for all SLAs, then 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 2006 Census. Each record in the set having a particular SLA code was randomly assigned to 1 or other of the remoteness areas present in it, in proportion to the resident population of that SLA.

Australian Statistical Geography Standard (ASGS)

The ASGS is a hierarchical classification system of geographical regions and consists of a number of interrelated structures. The ASGS brings all the regions for which the ABS publishes statistics within the one framework and has been used by the ABS for the collection and dissemination of geographically classified statistics from 1 July 2011. It provides a common framework of statistical geography and enables the production of statistics that are comparable and can be spatially integrated.

Australian Statistical Geography Standard (ASGS) volume 1—main structure and greater capital city statistical areas (ABS 2010) is the first in a series of volumes that detail the various structures and regions of the ASGS. Its purpose is to outline the conceptual basis of the regions of the main structure and of the greater capital city statistical areas, and their relationship to each other. This product contains several elements, including the ASGS manual, maps, codes and names and the digital boundaries current for the ASGS Edition 2011 (date of effect 1 July 2011). The digital boundaries for Volume 1 of the ASGS are the spatial units for the main structure and the Greater Capital City Statistical Areas. These spatial units are:

- Mesh Blocks (MB)
- Statistical Area Level 1 (SA1)
- Statistical Area Level 2 (SA2)
- Statistical Area Level 3 (SA3)
- Statistical Area Level 4 (SA4)
- Greater Capital City Statistical Areas (GCCSA)
- State and Territory (S/T).

Each case is allocated to 1 of 5 remoteness areas on the basis of the place of usual residence of the person who died, according to Statistical Area Level 2 (SA2). Most SA2s lie entirely within 1 of the 5 areas. If this was so for all SA2s, then each record could simply be assigned to the area in which its SA2 lies. However, some SA2s overlap 2 or more of the

areas. Records with these SA2s were assigned to remoteness areas in proportion to the area-specific distribution of the resident population of the SA2 according to the 2011 Census. For death registrations, each record in the set having a particular SA2 code was assigned to 1 or other of the areas probabilistically, in proportion to the resident population of that SA2. The resulting values are integers. A SA2 to remoteness area map can be found at the ABS website (ABS 2012b).

Socioeconomic status

Data on socioeconomic status (SES) groups are defined using the ABS's Socio-Economic Indexes for Areas 2011: SEIFA 2011 (ABS 2013a).

The SEIFA 2011 data are generated by the ABS using a combination of 2011 Census data such as income, education, health problems/disability, access to internet, occupation/ unemployment, wealth and living conditions, dwellings without motor vehicles, rent paid, mortgage repayments, and dwelling size. Composite scores are averaged across all people living in areas and defined for areas based on the Census collection districts. However, they are also compiled for higher levels of aggregation. The SEIFAs are described in detail on the ABS website <http://www.abs.gov.au/websitedbs/censushome.nsf/home/seifa>.

The SEIFA Index of Relative Socio-economic Disadvantage (IRSD) is one of the ABS's SEIFA indexes. The relative disadvantage scores indicate the collective SES of the people living in an area, with reference to the situation and standards applying in the wider community at a given point in time. A relatively disadvantaged area is likely to have a high proportion of relatively disadvantaged people. However, such an area is also likely to contain people who are not disadvantaged, as well as people who are relatively advantaged.

Mortality rates by SES were generated by the AIHW using the IRSD scores for the SA2 of usual residence of the person who died. The '1—Lowest' group represents the areas containing the 20% of the national population with the most disadvantage, and the '5—Highest' group represents the areas containing the 20% of the national population with the least disadvantage. These SES groups do not necessarily represent 20% of the population in each state or territory.

The following labels for each socioeconomic group have been used throughout this report:

Label	Socioeconomic status group
1—Lowest	Most disadvantaged
2	Second most disadvantaged
3	Middle
4	Second least disadvantaged
5—Highest	Least disadvantaged.

Errors, inconsistencies and uncertainties

Due to rounding, the sum of the percentages in tables may not equal 100%.

Confidentiality and reliability of data

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

It is AIHW policy that if the data being considered have already been released publicly at the granularity 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) 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

It is AIHW policy that 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

It is AIHW policy that 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 as to whether there are other cells in that table, or other tables in the release, which 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

It is AIHW policy that, if data suppliers or clients require additional suppression rules be applied to an AIHW release in order to manage confidentiality or reliability, then 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

It is AIHW policy that, 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, then 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 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: Transport deaths: motor vehicle traffic

This appendix presents additional summary statistics for unintentional transport injury deaths in 2014–15 that were due to events that occurred in traffic. The deaths included here are a sub-set of the unintentional transport injury deaths presented in Chapter 3.

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 2016 external cause codes in the ranges V02–V04 (.1), V09.2, V09.3, V12–V14 (.4–.6), V19 (.4–.6, .9), V20–V28 (.4–.9), V29 (.4–.6, .9), V30–V38 (.5–.9), V39 (.4–.6, .9) V40–V48 (.5–.9), V49 (.4–.6, .9), V50–V58 (.5–.9), V59 (.4–.6, .9), V60–V68 (.5–.9), V69 (.4–.6, .9) V70–V78 (.5–.9), V79 (.4–.6, .9), V81.1, V82.1, V82.9, V83–V86 (.0–.3) V87, V89.2 or V89.3 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), V09.2, V09.3, V12–V14 (.4–.6), V19 (.4–.6, .9), V20–V28 (.4–.9), V29 (.4–.6, .9), V30–V38 (.5–.9), V39 (.4–.6, .9) V40–V48 (.5–.9), V49 (.4–.6, .9), V50–V58 (.5–.9), V59 (.4–.6, .9), V60–V68 (.5–.9), V69 (.4–.6, .9) V70–V78 (.5–.9), V79 (.4–.6 .9), V81.1, V82.1, V82.9, V83–V86 (.0–.3) V87, V89.2 or V89.3 or at least 1 multiple cause of death (MCoD) is classified to diagnosis codes in the range S00–T75 or T79 (Injury).

How many deaths due to unintentional motor vehicle traffic injury were there in 2014–15?

Motor vehicle traffic injuries accounted for 1,132 injury deaths in Australia during 2014–15 (Table B1). This was 9% of all injury deaths for this period. In 2014–15, motor vehicle traffic injury deaths were 2.4 times as common for males as for females.

Table B1: Key indicators for unintentional motor vehicle traffic injury deaths, Australia, 2014–15

Indicator	Males	Females	Persons
Deaths	795	337	1,132
Percentage of all injury deaths	10.4	6.7	9.0
Age-standardised rate/100,000 population	6.7	2.7	4.7

Source: AIHW National Mortality Database.

Age and sex

Persons aged 25–44 accounted for just over 30% of all unintentional motor vehicle traffic injury deaths while persons aged 65 and older accounted for almost one-quarter (24%) of this type of death (Table B2). The proportion of deaths within each age group was broadly similar for males and females.

Table B2: Unintentional motor vehicle traffic injury deaths, by age, by sex, Australia, 2014–15

	Males		Females		Persons	
Age group	**Number**	**%**	**Number**	**%**	**Number**	**%**
0–4	7	0.9	10	3.0	17	1.5
5–14	22	2.8	9	2.7	31	2.7
15–24	155	19.5	72	21.4	227	20.1
25–44	259	32.6	82	24.3	341	30.1
45–64	179	22.5	65	19.3	244	21.6
65+	173	21.8	99	29.4	272	24.0
Total	**795**	**100.0**	**337**	**100.0**	**1,132**	**100.0**

Source: AIHW National Mortality Database.

State or territory of usual residence

The age-standardised rate for unintentional motor vehicle traffic injury deaths during 2014–15 for residents of the Northern Territory was more than 3 times that of the national rate of 4.7 deaths per 100,000 population (Table B3). Residents of Western Australia recorded the second highest rate, of 6.5 deaths per 100,000 population, while residents of the Australian Capital Territory recorded the lowest rate, of 2.4 deaths per 100,000 population.

Table B3: Unintentional motor vehicle traffic injury deaths by state or territory of usual residence, Australia, 2014–15

	State or territory of usual residence							
Indicator	**NSW**	**Vic**	**Qld**	**WA**	**SA**	**Tas**	**ACT**	**NT**
Deaths	295	259	229	172	101	29	10	37
Percentage	26.1	22.9	20.2	15.2	8.9	2.6	0.9	3.3
Age-standardised rate (deaths per 100,000 population)	3.7	4.2	4.8	6.5	5.8	5.2	2.4	14.5

Source: AIHW National Mortality Database.

Remoteness of usual residence

The age-standardised rate of unintentional motor vehicle traffic injury deaths increased with increasing remoteness of residence (Table B4). The rate for residents of *Very remote* areas was 6.4 times the rate for residents of *Major cities*.

Table B4: Unintentional motor vehicle traffic injury deaths, by remoteness of usual residence, Australia, 2014–15

	Remoteness of usual residence[a]					
Indicator	Major cities	Inner regional	Outer regional	Remote	Very remote	Total[b]
Deaths	523	314	192	42	39	1,109
Percentage	47.1	28.3	17.3	3.7	3.5	
Age-standardised rate (deaths per 100,000 population)	3.0	7.4	9.4	12.8	19.3	

(a) Derived using the ASGS classification.

(b) Excludes 23 deaths where remoteness was not reported.

Source: AIHW National Mortality Database.

Socioeconomic status

The age-standardised rate of unintentional motor vehicle traffic injury deaths tended to increase with socioeconomic disadvantage (Table B5). The rate for residents of areas classified as *Most disadvantaged* (6.3 deaths per 100,000 population) was 2.1 times the rate for residents of areas classified as *Least disadvantaged* (3.0 per 100,000 population).

Table B5: Unintentional motor vehicle traffic injury deaths, by socioeconomic status, Australia, 2014–15

	SEIFA quintiles				
Indicator	Most disadvantaged	Second most disadvantaged	Middle	Second least disadvantaged	Least disadvantaged
Deaths	303	252	245	165	144
Percentage	26.8	22.3	21.6	14.6	12.7
Age-standardised rate (deaths per 100,000 population)	6.3	5.1	5.1	3.4	3.0

Note: Excludes 23 deaths where SEIFA quintile was not reported.

Source: AIHW National Mortality Database.

Aboriginal and Torres Strait Islander people

The age-standardised unintentional transport injury death rate for Aboriginal and Torres Strait Islander people was almost 3 times the rate for non-Indigenous Australians (Table B6).

Table B6: Key indicators for unintentional motor vehicle traffic injury deaths, Indigenous Australians and non-Indigenous Australians, Australia[(a)], 2014–15

	Indigenous Australians			Non-Indigenous Australians		
Indicator	**Males**	**Females**	**Persons**	**Males**	**Females**	**Persons**
Deaths	50	21	71	525	230	755
Age-standardised rate (deaths per 100,000 population)	20.1	6.3	12.9	6.4	2.7	4.5
Rate ratio[(b)]	3.1	2.3	2.9			
Rate difference[(c)]	13.7	3.6	8.4			

(a) Includes data for New South Wales, Queensland, Western Australia, South Australia and the Northern Territory. See Box 1.2.

(b) Rate ratios are standardised rates for Indigenous males, females and persons divided by standardised rates for non-Indigenous males, females and persons.

(c) Rate differences are standardised rates for Indigenous males, females and persons minus standardised rates for non-Indigenous males, females and persons.

Source: AIHW National Mortality Database.

Differences between Aboriginal and Torres Strait Islander people and non-Indigenous Australians, in terms of the proportions of unintentional transport injury deaths occurring in each age group, were difficult to interpret due to small case numbers in some age groups (Table B7). Notably, the proportions of injury deaths of Aboriginal and Torres Strait Islander males and females aged 65 and older were much lower than equivalent proportions for non-Indigenous Australians.

Table B7: Unintentional motor vehicle traffic injury deaths, by age, by sex, Indigenous Australians and non-Indigenous Australians, Australia[(a)], 2014–15

	Indigenous Australians		Non-Indigenous Australians	
	Number	**%**	**Number**	**%**
Males				
0–4	2	4.0	2	0.4
5–14	3	6.0	15	2.9
15–24	8	16.0	99	18.9
25–44	23	46.0	175	33.3
45–64	11	22.0	118	22.5
65+	3	6.0	116	22.1
Total	**50**	**100.0**	**525**	**100.0**
Females				
0–4	2	9.5	6	2.6
5–14	3	14.3	5	2.2
15–24	5	23.8	51	22.2
25–44	7	33.3	58	25.2
45–64	4	19.0	44	19.1
65+	0	0.0	66	28.7
Total	**21**	**100.0**	**230**	**100.0**

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

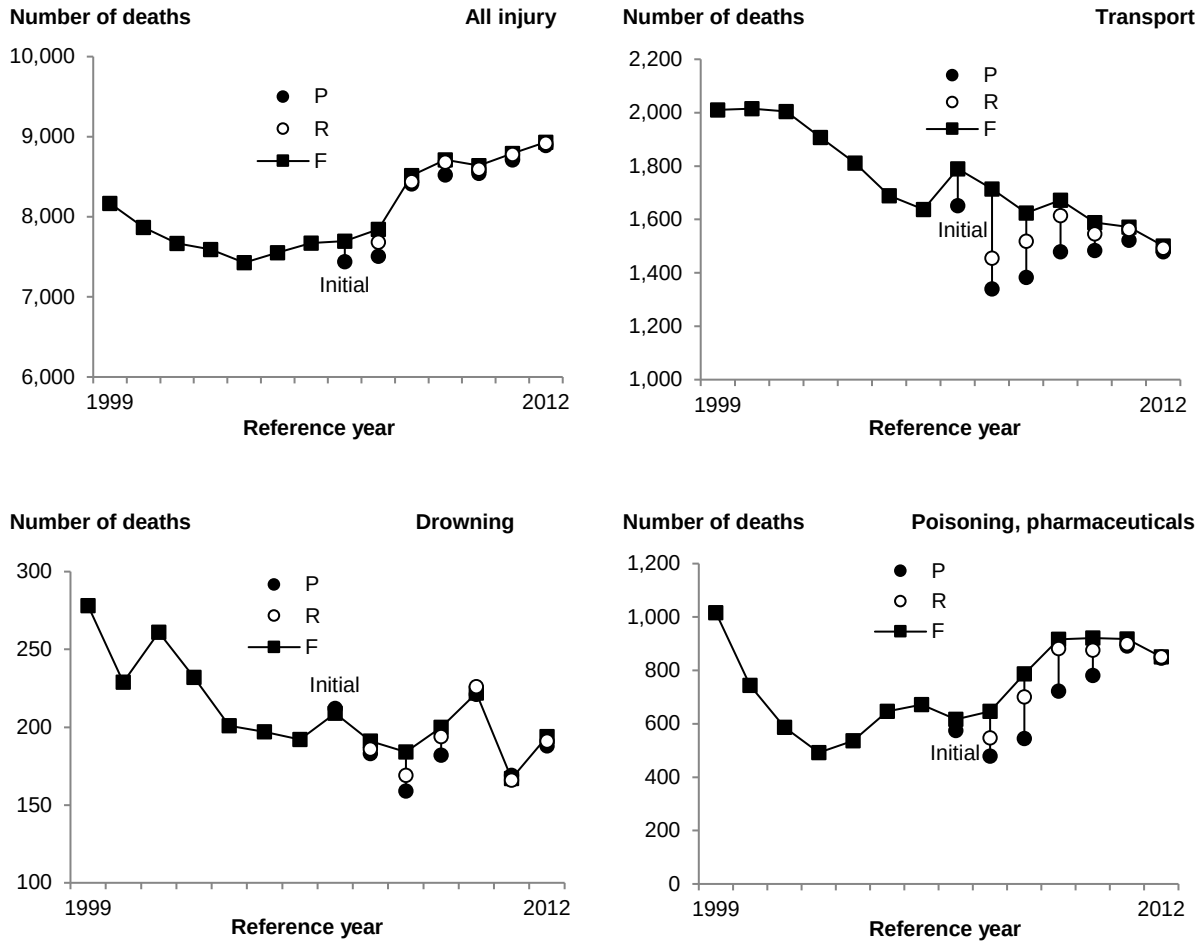
Source: AIHW National Mortality Database.

Appendix C: Injury death counts by reference year and ABS release

As described in Appendix A, the ABS has released more than one version of the Cause of Death Unit Record File (CODURF) for data years 2006 and later. Changed coding in later releases reflects the additional information that becomes available for some deaths, most often reflecting completion of coronial investigation and reporting of deaths. This appendix provides a summary of case counts in each release for all external causes of injury, and for each of the major groups of external causes that are the subject of chapters in this report.

For reference years 1999 to 2005, only a single version of the mortality data was released by the ABS. For reference year 2006, *Initial* and *Final* releases of data were made. For more recent reference years, the ABS has made 3 releases: *Preliminary*, *Revised* and *Final*. All 3 releases of data were available for reference years 2007 to 2012. The reference year is usually the year in which a death is registered and when the registration data were received by the ABS. In some instances, a reference year file may include deaths registered in years prior to the reference year, but not received by the ABS until the reference year or the first quarter of the subsequent year. For further information about reference year, refer to the 'Explanatory notes' of the ABS report *Causes of death, Australia, 2013* (ABS 2015).

Figure C1 shows counts for all injury and selected causes of injury by CODURF releases for ABS reference years 1999 to 2012. The difference between the *Preliminary* and *Final* counts for unintentional transport injuries fell from 375 in 2007 to 22 in 2012, while this difference for *Unintentional poisoning by pharmaceuticals* fell from 242 in 2008 to 4 in 2012. These outcomes suggest that *Preliminary* counts in the years towards the end of the period more accurately reflect true counts. Differences between *Preliminary* and *Final* counts for *All injury* and *Unintentional drowning* were less pronounced.

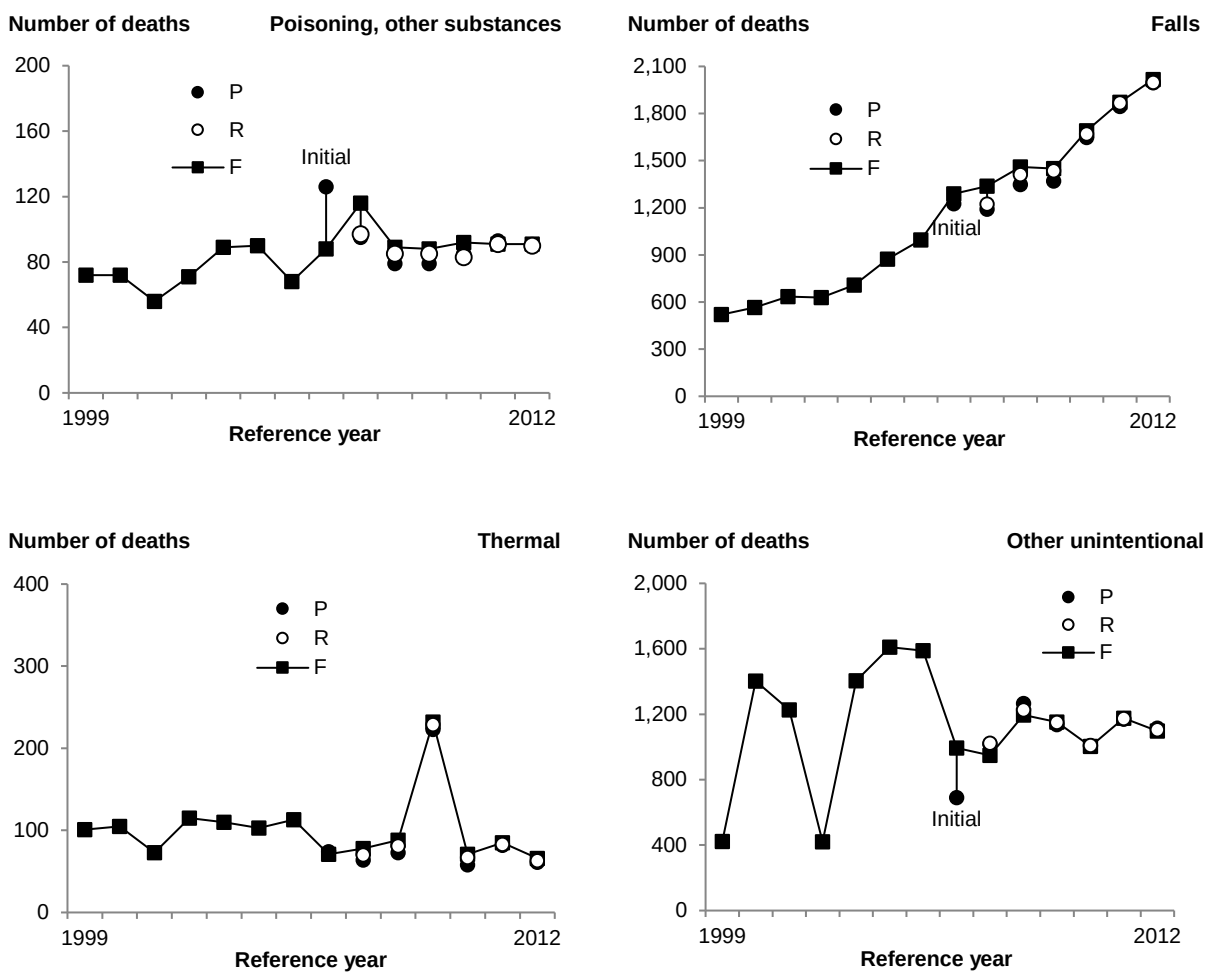


Note: Periods are reference years. P = Preliminary CODURF; R = Revised CODURF; F = Final CODURF. The first 2006 CODURF is referred to as the Initial release.

Source: ABS 2000 to 2014.

Figure C1: Counts of injury deaths for All injury, Unintentional transport injury, Unintentional drowning and Unintentional poisoning involving pharmaceuticals, by reference year and CODURF release, Australia, 1999 to 2012

Figure C2 shows counts for selected causes of injury by CODURF releases for ABS reference years 1999 to 2012. Generally, differences between *Preliminary* and *Final* counts were not pronounced for the 4 external cause categories shown in this figure. Notable differences between the *Initial* and *Final* counts in 2006 were seen for unintentional poisoning by other substances and other unintentional causes of injury.

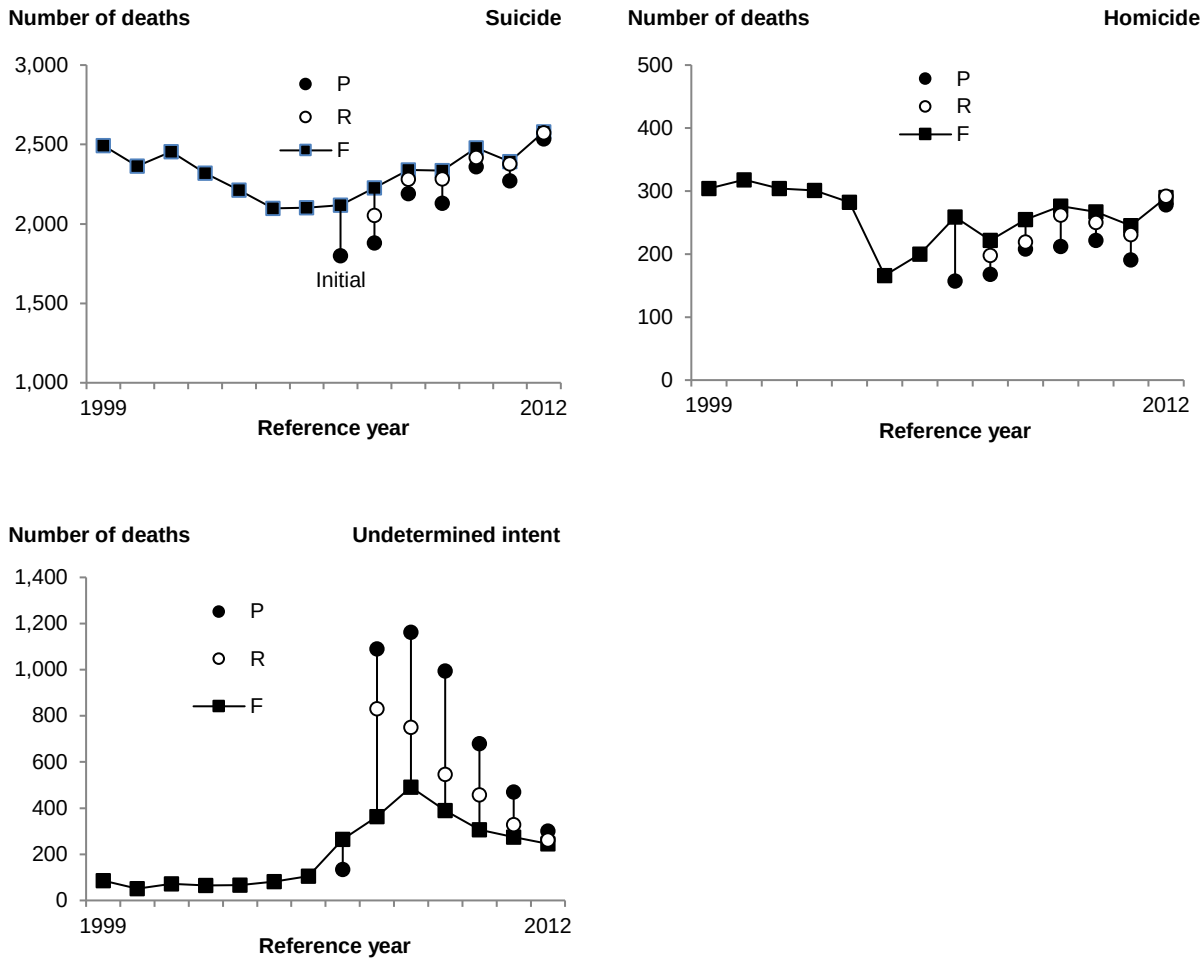


Note: Periods are reference years. P = Preliminary CODURF; R = Revised CODURF; F =Final CODURF. The first 2006 CODURF is referred to as the Initial release.

Source: ABS 2000 to 2014.

Figure C2: Counts of injury deaths for Poisoning involving other substances, Unintentional fall injury, Unintentional thermal injury and Other unintentional injury, by reference year and CODURF release, Australia, 1999 to 2012

Figure C3 shows counts for selected causes of injury by CODURF releases for ABS reference years 1999 to 2012. The difference between the *Preliminary* and *Final* counts for deaths where intent was undetermined fell from 727 in 2007 to 55 in 2012, suggesting cases in the *Preliminary* release of data registered in the years towards the end of the period were more likely to be assigned to a more specific external cause of injury. The difference between the *Preliminary* and *Final* counts for suicide fell from 347 in 2007 to 45 in 2012, while the difference between the *Preliminary* and *Final* counts for homicide fell from 54 in 2011 to 12 in 2012.



Note: Periods are reference years. P = Preliminary CODURF; R = Revised CODURF; F = Final CODURF. The first 2006 CODURF is referred to as the Initial release.

Source: ABS 2000 to 2014.

Figure C3: Counts of injury deaths for Suicide, Homicide and Undetermined intent, by reference year and CODURF release, Australia, 1999 to 2012

Table C1 shows counts by major external cause groups at *Final* release for deaths registered in 2012 which were assigned a non-injury UCoD code at the time of the *Preliminary* release and which were subsequently reassigned an injury UCoD code at the time of the *Final* release.

Almost 36% (23) of these deaths were assigned an UCoD code for *Poisoning by pharmaceuticals* at the time of the *Final* release, while 64% (41) were assigned an UCoD code of R99 *Other ill-defined and unspecified causes of mortality* at the time of the *Preliminary* release.

Table C1: Counts by major external cause group at Final release for deaths assigned a non-injury UCoD code in Preliminary release and an injury[a] UCoD code in Final release, Australia, 2012

Major external cause group (Final release)	Count	%
Transportation	6	9.4
Drowning	5	7.8
Poisoning, pharmaceuticals	23	35.9
Poisoning, other substances	1	1.6
Falls	6	9.4
Fires/burns/scalds	1	1.6
Other unintentional	5	7.8
Intentional, self-inflicted	6	9.4
Intentional, inflicted by another	5	7.8
Undetermined intent	6	9.4
Total	**64**[b]	**100.0**

(a) 'Injury' defined as deaths assigned an UCoD code in the range V01–Y36.

(b) Includes 41 deaths assigned an UCoD code of R99 in *Preliminary* release.

Table C2 shows counts by major external cause groups at *Preliminary* release for deaths registered in 2012 which were assigned an injury UCoD code at the time of the *Preliminary* release and which were subsequently reassigned a non-injury UCoD code at the time of the *Final* release.

Almost 43% (9) of these deaths were assigned an UCoD code for *Undetermined intent* at the time of the *Preliminary* release, while 52% (11) were assigned an UCoD code of R99 *Other ill-defined and unspecified causes of mortality* at the time of the *Final* release.

Table C2: Counts by major group at Preliminary release for deaths assigned an injury[a] UCoD code in Preliminary release and a non-injury UCoD code in Final release, Australia, 2012

Major external cause group (Preliminary release)	Count	%
Drowning	1	4.8
Poisoning, pharmaceuticals	2	9.5
Poisoning, other substances	2	9.5
Falls	1	4.8
Other unintentional	3	14.3
Intentional, self-inflicted	1	4.8
Intentional, inflicted by another	2	9.5
Undetermined intent	9	42.9
Total	**21**[b]	**100.0**

(a) 'Injury' defined as deaths assigned an UCoD code in the range V01–Y36.

(b) Includes 11 deaths assigned an UCoD code of R99 in *Final* release.

Glossary

Aboriginal or Torres Strait Islander: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander. See also **Indigenous**.

age-standardisation: A method of removing the influence of age when comparing populations with different age structures. This is usually necessary because the rates of many diseases vary strongly (usually increasing) with age. The age structures of the different populations are converted to the same 'standard' structure, and then the disease rates that would have occurred with that structure are calculated and compared.

associated causes of death: All causes listed on the death certificate, other than the **underlying cause of death**. They include the immediate cause, any intervening causes, and conditions which contributed to the death but were not related to the disease or condition causing the death.

cause of death: From information reported on the medical certificate of cause of death, each death is classified by the underlying cause of death according to rules and conventions of the 10th revision of the International Classification of Diseases and Related Health Problems. The underlying cause is defined as the disease that initiated the train of events leading directly to death. Deaths from injury or poisoning are classified according to the circumstances of the fatal injury, rather than to the nature of the injury. See also **underlying cause of death**.

crude death rate: The number of deaths in a given period divided by the size of the corresponding population (typically expressed per 1,000 or per 100,000 population).

external cause: The term used in disease classification to refer to an event or circumstance in a person's external environment that is regarded as a cause of injury or poisoning.

Index of Relative Socio-economic Disadvantage: One of the set of **Socio-Economic Indexes for Areas** for ranking the average socioeconomic conditions of the population in an area. It summarises attributes of the population such as low income, low educational attainment, high unemployment and jobs in relatively unskilled occupations.

Indigenous: A person of Aboriginal and/or Torres Strait Islander descent who identifies as an Aboriginal and/or Torres Strait Islander. See also **Aboriginal or Torres Strait Islander**.

International Statistical Classification of Diseases and Related Health Problems: The World Health Organization's internationally accepted classification of death and disease. The 10th revision (ICD-10) is currently in use.

multiple causes of death: All causes listed on the death certificate. This includes the **underlying cause of death** and all **associated causes of death**.

population estimates: Official population numbers compiled by the Australian Bureau of Statistics at both state and territory and statistical local area (SLA) levels by age and by sex, at 30 June each year. These estimates allow comparisons to be made between geographical areas of differing population sizes and age structures.

P-value: The probability that an observed difference has arisen by chance alone when the null hypothesis is true. By convention, a P-value of 0.05 or less is usually considered statistically significant because the difference it relates to would occur by chance alone only 1 in 20 times or less often.

remoteness classification: Each state and territory is divided into several regions based on their relative accessibility to goods and services (such as general practitioners, hospitals and specialist care), as measured by road distance. These regions are based on the Accessibility/Remoteness Index of Australia (ARIA) and defined as Remoteness Areas by either the Australian Standard Geographical Classification (before 2011) or the Australian Statistical Geographical Standard (from 2011 onwards) in each Census year.

socio-economic status: An indication of how 'well off' a person or group is. In this report, socioeconomic status is mostly reported using the **Socio-Economic Indexes for Areas,** typically for 5 groups, from the most disadvantaged (worst off) to the least disadvantaged (best off).

Socio-Economic Indexes for Areas: A set of indexes, created from Census data, that aim to represent the socioeconomic status of Australian communities and identify areas of advantage and disadvantage. The index value reflects the overall or average level of disadvantage of the population of an area; it does not show how individuals living in the same area differ from each other in their socioeconomic status. This report uses the **Index of Relative Socio-economic Disadvantage**.

underlying cause of death: The disease or injury which initiated the train of morbid events leading directly to a person's death or the circumstances of the accident or violence which produced the fatal injury.

usual residence: Refers to the area of the address at which the deceased lived or intended to live, for 6 months or more prior to death.

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This report focuses on trends in deaths due to injury and poisoning that occurred over the period 1999–00 to 2014–15. The age-standardised rate of injury deaths decreased from 55.4 to 47.2 deaths per 100,000 between 1999–00 and 2004–05 and changed little after that. Rates for Aboriginal and Torres Strait Islander people were generally at least twice as high as rates for non-Indigenous Australians over the period from 2001–02 to 2014–15.

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