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Hospitalised injury among Aboriginal and Torres Strait Islander people

2011–12 to 2015–16

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AIHW



Australian Government

**Australian Institute of
Health and Welfare**

Injury Research and Statistics Series

Number 118

Hospitalised injury among Aboriginal and Torres Strait Islander people

2011–12 to 2015–16

Australian Institute of Health and Welfare
Canberra

Cat. no. INJCAT 198

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This publication is part of the Australian Institute of Health and Welfare's Injury research and statistics series. A complete list of the Institute's publications is available from the Institute's website www.aihw.gov.au.

ISSN 2205-510X (PDF)

ISSN 1444-3791 (Print)

ISBN 978-1-76054-492-8 (PDF)

ISBN 978-1-76054-493-5 (Print)

Suggested citation

AIHW: Pointer SC 2019. Hospitalised injury among Aboriginal and Torres Strait Islander people, 2011–12 to 2015–16. Injury research and statistics series no. 118. Cat. no. INJCAT 198. Canberra: AIHW.

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Published by the Australian Institute of Health and Welfare

This publication is printed in accordance with ISO 14001 (Environmental Management Systems) and ISO 9001 (Quality Management Systems). The paper is sourced from sustainably managed certified forests.



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Summary

This report provides updated statistics on hospitalisations among Aboriginal and Torres Strait Islander people due to injury. The report highlights specific areas of disadvantage in comparison with non-Indigenous people with respect to the types and causes of injury requiring hospitalisation.

Over the 5-year period 2011–12 to 2015–16, just over 115,000 Indigenous people were hospitalised as a result of an injury at an average of 23,000 cases per year. Indigenous males (56%) were more frequently hospitalised than females because of an injury. Age-standardised rates of injury were much higher overall among Indigenous Australians (3,596 per 100,000 population) compared with non-Indigenous Australians (1,874 per 100,000 population) and the rate of injury among Indigenous females was twice that of non-Indigenous females.

Nature of injury

Indigenous people (27%) sustained a greater proportion of injuries to the head than non-Indigenous people (18%). The rate of injury to the head for Indigenous females was 12 times that of non-Indigenous females (119 cases per 100,000). Among Indigenous males aged 25–44, the rate of injury to the head was 4 times that of non-Indigenous males (316 cases per 100,000) of the same age.

Remoteness of usual residence

The proportion of Indigenous people hospitalised as a result of an injury was higher in *Inner and outer regional* and *Remote and very remote* areas than in *Major cities*. Although rates of hospitalisation due to injury increased with increasing remoteness for both Indigenous and non-Indigenous people, the rates of injury were higher in each remoteness zone for Indigenous people compared with non-Indigenous people. The rate of injury among Indigenous people (5,808 cases per 100,000) in *Remote and very remote* areas was more than twice that of non-Indigenous people (2,410 cases per 100,000).

Causes of injury

For Indigenous people, the top 3 causes of injury by proportion were *Assaults* (25%), *Falls* (22%) and *Exposure to inanimate mechanical forces* (14%), which includes events such as being unintentionally struck, crushed and contacted by objects. After adjusting for the size of the Indigenous population, the leading cause of hospitalisation due to injury among Indigenous people was *Falls* (981 cases per 100,000 population) followed by *Assaults* (875) and *Exposure to inanimate mechanical forces* (430).

Compared with Indigenous males, Indigenous females were more likely to experience an injury due to *Assault*. For Indigenous males and females the head was the most common body part injured. Among Indigenous males a fracture was the most common outcome of an *Assault*, whereas an open wound was more common for Indigenous females. *Assault by bodily force* perpetrated by a family member was common for both Indigenous males and females.

Introduction

The aim of this report is to provide information about hospitalisations due to injury among Aboriginal and Torres Strait Islander people in Australia. Injury is a significant health issue for Aboriginal and Torres Strait Islander people (AIHW: Pointer 2018a; Ivers et al. 2008), and rates of injury for specific causes can be many times those of the non-Indigenous population (AIHW 2016a, 2016b).

Burden-of-disease estimates for the Aboriginal and Torres Strait Islander population have identified injury as a major cause of non-fatal burden in Indigenous males and females (AIHW 2016b). Overall, injury was ranked as the fourth leading disease group for Indigenous males, accounting for 7% of the non-fatal burden compared with 3% for Indigenous females. Males lost about 2.5 times as many healthy years due to injuries as females.

In order to fully understand injury within an Indigenous context, several issues need to be taken into consideration, including: disruption to culture; environmental and lifestyle variables; socioeconomic disadvantage; geographical isolation; increased road usage; exposure to hazardous environments; substance use; violence; social and familial dysfunction; risky behaviour; risky home environments; and limited access to health and social support services (NPHP 2005).

In Australia, the Aboriginal and Torres Strait Islander Health Performance Framework (HPF) monitors progress in Indigenous Australian health outcomes, health system performance and broader determinants of health (AIHW 2017a). The Aboriginal and Torres Strait Islander HPF was developed to support a comprehensive and coordinated effort across and beyond the health sector to take into account the complex and interrelated factors that contribute to health outcomes experienced by Aboriginal and Torres Strait Islander Australians.

Among the measures contained in the Aboriginal and Torres Strait Islander HPF are several relevant to injury. In the most recent Aboriginal and Torres Strait Islander HPF report (AIHW 2017a) concerns were raised about injury within the Tier 1 Health Status and Outcomes measures. Injury was identified as the second most common reason (after dialysis) for hospital admissions for Indigenous Australians and was 1.8 times the rate of injury hospitalisations for non-Indigenous people (AIHW 2017a). In addition, the age range at which injury hospitalisations peaked was 25–45 for Indigenous people and had a greater impact on the young and middle-aged when compared with non-Indigenous people.

In the most recent report on hospitalisations due to injury released by the AIHW covering the financial year 2014–15, rates of injury among Indigenous people (3,593 cases per 100,000) were found to be twice those of non-Indigenous people (1,922 cases per 100,000) (AIHW: Pointer 2018a). The report identified several causes of injury where the rate of hospitalisation for Indigenous people was 2 to 3 times as high as for non-Indigenous people, with rates of injury hospitalisations due to Assault 13 times as high. The *Family, domestic and sexual violence in Australia* report (AIHW 2018) found similar high rates of hospitalisation due to Assault among Indigenous people in 2014–15, particularly for Indigenous women.

This report provides updated statistics on hospitalisations due to injury among Aboriginal and Torres Strait Islander people. The report highlights specific areas of disadvantage in comparison with non-Indigenous people with respect to the types and causes of injury hospitalisation.

Structure of this report

The report consists of 2 chapters. Chapter 1 makes use of hospital data to provide an overview of all injury-related hospitalisations among Indigenous people and highlight specific areas of disadvantage in comparison with non-Indigenous people. Chapter 2 provides a more in depth analysis of the areas of disadvantage identified in Chapter 1.

The broad topics in this report are:

- an overview of hospitalisations due to injury among Aboriginal and Torres Strait Islander people in the period 2011–12 to 2015–16
- an examination of specific external causes of injury hospitalisations and significant conditions resulting from injury among Aboriginal and Torres Strait Islander people.

‘Appendix A: Data issues’ provides summary information on the National Hospital Morbidity Database (NHMD), notes on the presentation of data, the population estimates used to calculate population rates, and analysis methods.

Generally, summary tables and figures are placed immediately below the discussion in related text. Where appropriate, tables and figures within the report are accompanied by footnotes referring readers to supplementary statistical tables available for download from the AIHW website. Further information about the methods used in this report can be found in ‘Appendix A: Data issues’.

Methods

This report uses data covering the years 1 July 2011 to 30 June 2016 to provide information on hospitalisations due to injury among Aboriginal and Torres Strait Islander people in Australia. Five years of data have been aggregated because the numbers of injuries due to some external causes are small for single years.

This period also corresponds with the recommendation from the AIHW that data for all jurisdictions are used in analysis of Indigenous hospitalisation rates from 2010–11 onwards (see Box 1.2).

This report only includes those Indigenous and non-Indigenous people who were admitted to a hospital as a result of their injuries. It does not include injury cases that were treated in an emergency department without being admitted, presentations to general practitioners or other non-hospital-based treatment facilities. Detailed selection criteria for records, and data terms and definitions on injury hospitalisations are provided in the following sections.

What data are reported?

The data are presented by:

- age
- sex
- external cause of injury
- diagnosis
- remoteness of the patient’s area of usual residence.

Selection criteria for records, and data terms and definitions

This report uses data from the NHMD covering the years 1 July 2011 to 30 June 2016.

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

- hospital separations occurring in Australia from 1 July 2011 to 30 June 2016
- principal diagnosis in the ICD-10-AM range S00–T75 or T79 using Chapter XIX *Injury, poisoning and certain other consequences of external causes* codes
- diagnosis is anything other than Z50 recorded in any diagnosis field
- mode of admission was not a transfer from another acute hospital (see 'Appendix A: Data issues' for details).

Additional information

Important terms relating to the data used in this report are summarised in boxes 1.1, 1.2, and 1.3. Further information on data and methods is provided in 'Appendix A: Data issues'.

In tables and charts, unless stated otherwise:

- the patient's age is calculated at the date of admission
- in tables by age group and sex, separations for which age and sex were not reported were included in totals
- rates were age-standardised as detailed in 'Appendix A: Data issues'
- in some tables and charts, rates are accompanied by a rate ratio. The rate ratio is equal to the rate for Indigenous people divided by the rate for non-Indigenous people. If the rate ratio is greater than 1, then the rate for the category for Indigenous people was higher than the rate for non-Indigenous people. In all charts, rate ratios are plotted on a logarithmic scale.

All sections on specific external causes have used this methodology, supplemented by additional selection criteria for the specific external cause.

Population data

Rates for Indigenous people were calculated using as denominators values from the Australian Bureau of Statistics Series B experimental population estimates and projections of the Indigenous population, based on the 2011 Census (ABS 2014).

Population estimates for non-Indigenous Australians were obtained by subtracting Indigenous population estimates from corresponding estimates of the usually resident population.

Case data were cumulated for the 5-year period ending 30 June 2016 to reduce the impact of small case numbers. Corresponding population denominators were calculated by linear interpolation of adjacent estimates for 30 June to obtain estimates for 31 December, then adding values for the 5 years 2011 to 2016, inclusive.

Box 1.1: Summary of terms relating to hospitalisations due to injury

Statistics on admitted patients are compiled when an **admitted patient** (a patient who undergoes a hospital's formal admission process) completes an episode of admitted patient care and 'separates' from the hospital. This is because most of the data on the use of hospitals by admitted patients are based on information provided at the end of the patients' episodes of care, rather than at the beginning.

Separation is the term used to refer to the episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute care to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care by being discharged, dying, transferring to another hospital or changing type of care.

The **principal diagnosis** is the diagnosis established after study to be chiefly responsible for occasioning the patient's episode of admitted patient care.

An **external cause** is defined as the environmental event, circumstance or condition that was the cause of injury or poisoning. Whenever a patient has a principal or additional diagnosis of an injury or poisoning, an external cause code should be recorded.

The **injury separation records** included in this report are those that have a principal diagnosis code in the ICD-10-AM range S00–T75 or T79. Whenever a patient has a principal or additional diagnosis of an injury or poisoning, an external cause code should be recorded. This includes records where the main reason for the episode in hospital was a recent injury, such as a fracture, laceration or burn to any part of the body, or poisoning. It also includes a small number of episodes mainly due to complications of surgical and medical care or due to sequelae (late effects) present a year or more after injury, or other late effects.

Injury cases are estimated as the number of injury separations, less those records where the mode of admission was 'inward transfer'. Inward transfers are omitted to reduce over-counting.

The criteria for injury cases retain a small number of records with a first external cause code that is invalid or refers to a sequela or complication of care. These cases are reported as 'other or missing' in tables of external causes.

Box 1.2: Indigenous reporting

In this report, the terms 'Indigenous' and 'non-Indigenous' are used to refer to persons identified as such in Australian hospital separations data and population data collections. Separations for which Indigenous status was 'not stated' have been excluded from the analyses. There were 37,311 cases in the period 2011–12 to 2015–16 with Indigenous status recorded as 'not stated'.

From 2010–11 onwards, Indigenous status information within hospital separations data from all jurisdictions were of sufficient quality for statistical reporting purposes (AIHW 2013). An AIHW study found that an estimated 88% of Indigenous patients were correctly identified in Australian public hospital admission records in 2011–12.

The report recommends that the data for all jurisdictions are used in analysis of Indigenous hospitalisation rates, and for hospitalisations in total in national analyses of Indigenous admitted patient care for data from 2010–11 onwards.

Further information is available in 'Appendix A: Data issues'.

Box 1.3: Ascertainment of intentional self-harm

According to inclusion notes in ICD-10-AM, cases should be assigned codes in the range X60–X84 if they are purposely self-inflicted poisoning or injury, suicide or attempted suicide (NCCH 2010). Determining whether an injury was due to *Intentional self-harm* is not always straightforward. Cases may appear to be *Intentional self-harm*, but inconclusiveness of available information may preclude them being coded as such. In this situation, the case can be coded to an ‘undetermined intent’ category (for example, Y30 *Falling, jumping or pushed from a high place, undetermined intent* or Y32 *Crashing of motor vehicle, undetermined intent*). It is possible that, through the coding process, some types of injury may be more readily attributed to *Intentional self-harm* than others; for example, ‘*Intentional self-harm by hanging*’ as opposed to ‘falling from a building structure’ (for example, W13, out of a window, bridge or roof).

Some patients may choose not to disclose that their injuries resulted from *Intentional self-harm*, or may be unable to do so due to the nature of the injuries, or because their motives were ambiguous.

In very young children, ascertaining whether an injury was due to *Intentional self-harm* can be difficult and may involve a parent or caregiver’s perception of the intent. Ability to form an intention to inflict self-harm and to understand the implications of doing so requires a degree of maturation that is absent in infancy and early childhood. It is not possible to differentiate between acts of self-injury and acts of self-harm with suicidal intent within the NHMD, but it is likely that an unknown proportion of cases of *Intentional self-harm* in late childhood and at older ages are self-injurious in nature rather than suicidal in intent. The age at which self-inflicted acts can be interpreted as *Intentional self-harm* is not well-defined and is the subject of debate. Such sources of uncertainty about the assignment of intent limit the certainty of any estimates of *Intentional self-harm* based on routine hospital data. For these reasons, cases of *Intentional self-harm* are not presented in individual age groups younger than 10 years.

In addition, in this report, due to the small numbers of cases of *Intentional self-harm* among Indigenous children, cases are aggregated and reported as 0 to 14 years only.

1 Overview

This section provides an overview of the number and type of injuries requiring hospitalisation of Indigenous people in Australia over a 5-year period. The results are presented as 5-year aggregates unless otherwise indicated.

Age and sex

Over the 5-year period, 115,021 hospitalisations of Indigenous people were identified as being the result of an injury, at an average of about 23,000 cases per year (Table 1.1). More Indigenous males (56%) than females were hospitalised because of an injury. Age-standardised rates of hospitalisation due to injury were much higher overall among Indigenous Australians (3,596 per 100,000 population) compared with non-Indigenous Australians (1,874 per 100,000 population). Rates of hospitalisation due to injury among Indigenous females were twice those of non-Indigenous females.

Table 1.1: Hospitalisations due to injury, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
Hospitalised injury (number of cases)	64,085	50,935	115,021	1,226,153	976,183	2,202,357
Annual average (5 years)	12,817	10,187	23,004	245,231	195,237	440,471
Age-standardised rate (cases per 100,000 population) for the 5-year period	3,897	3,276	3,596	2,185	1,537	1,874

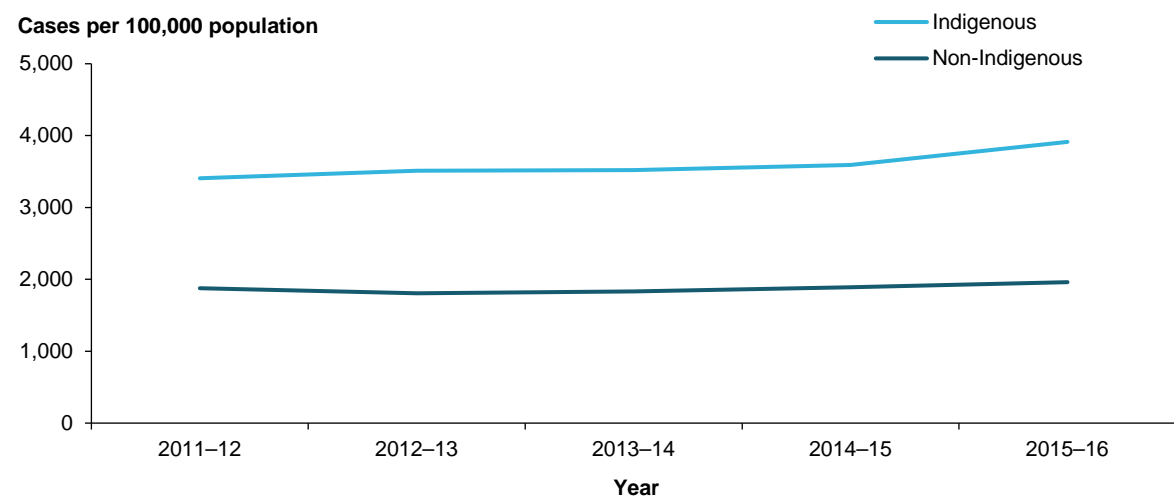
The number of hospitalisations due to injury among Indigenous people increased in each of the 5 years examined, as did the number for non-Indigenous people (Table 1.2).

Table 1.2: Number of hospitalisations due to injury, by year and Indigenous status, Australia, 2011–16

Age group (years)	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
2011–12	11,754	9,336	21,090	240,228	184,582	424,815
2012–13	12,640	9,637	22,277	233,600	183,389	416,992
2013–14	12,696	9,981	22,677	239,743	191,393	431,138
2014–15	12,880	10,299	23,180	249,587	202,900	452,489
2015–16	14,116	11,682	25,798	262,995	213,919	476,923
Total	64,086	50,935	115,022	1,226,153	976,183	2,202,357

When adjusted by age, the rate of hospitalisations due to injury among Indigenous Australians has also increased since the beginning of the period from 3,407 cases per 100,000 in 2011–12 to 3,913 cases per 100,000 in 2015–16 (Figure 1.1).

Figure 1.1: Age-standardised rates of hospitalisation due to injury, by year and Indigenous status, Australia, 2011–16

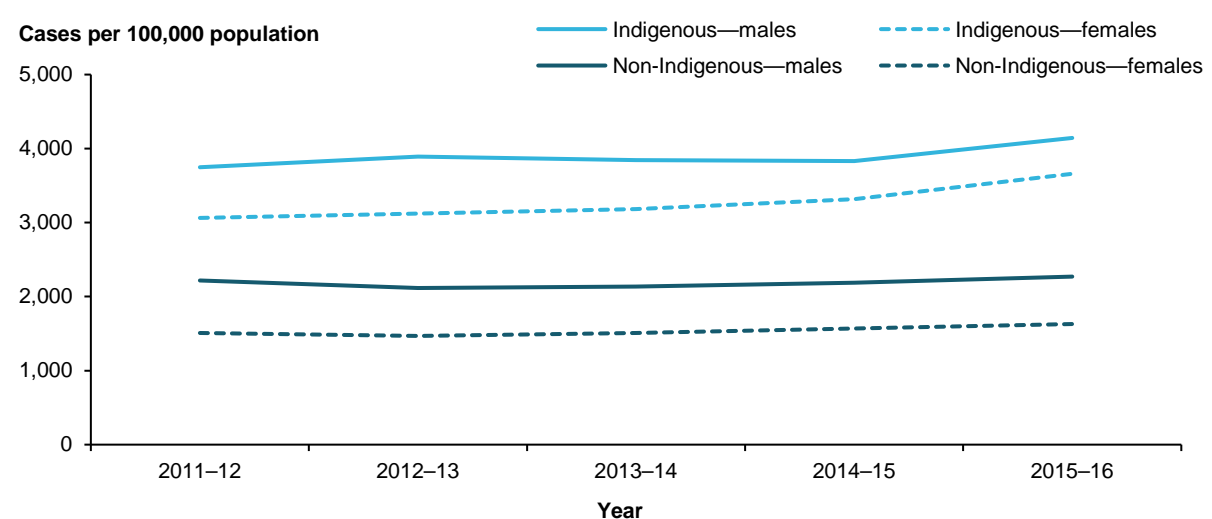


Note: Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.

Age-standardised rates of hospitalisation due to injury among Indigenous and non-Indigenous Australians by sex are shown in Figure 1.2. Rates for Indigenous males and females were higher than those for non-Indigenous males and females over the period. The rate ratio of Indigenous to non-Indigenous male cases was, on average, 1.8:1 and for female cases 2.1:1 over the period.

Rates of hospitalisation due to injury of Indigenous males and females increased over the period, rising more rapidly in later years. A similar rise was not seen for non-Indigenous Australians. The highest rates of injury over the period were for Indigenous males and females in the most recent year (2015–16): 4,144 and 3,659 cases per 100,000 population, respectively.

Figure 1.2: Age-standardised rates of hospitalisation due to injury, by year, by sex, and Indigenous status, Australia, 2011–16



Note: Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.

Table 1.3 presents the distribution of hospitalisations due to injury by age and sex. For Indigenous people the largest proportion of cases occurred at ages 25–44 for both men (36%) and women (40%). For both men and women, a small proportion of injuries occurred in Indigenous people aged 65+.

Compared with their non-Indigenous counterparts, the distribution of hospitalisations due to injury was very different for Indigenous males and females. For males, the proportion of injury cases among younger age groups was much higher in Indigenous people. At 25–44 years, the proportion of injuries among Indigenous men (36%) was 8% higher than among non-Indigenous men (28%). In contrast, the proportion of injury cases among men aged 65+ was just 3% for Indigenous men compared with 20% for non-Indigenous men. The differences were more pronounced for Indigenous females, with 40% of hospitalisations due to injury occurring among women aged 25–44 compared with just 16% among non-Indigenous women of the same age. The proportion of injury cases among Indigenous women aged 65+ was just 5% compared with 44% among non-Indigenous women.

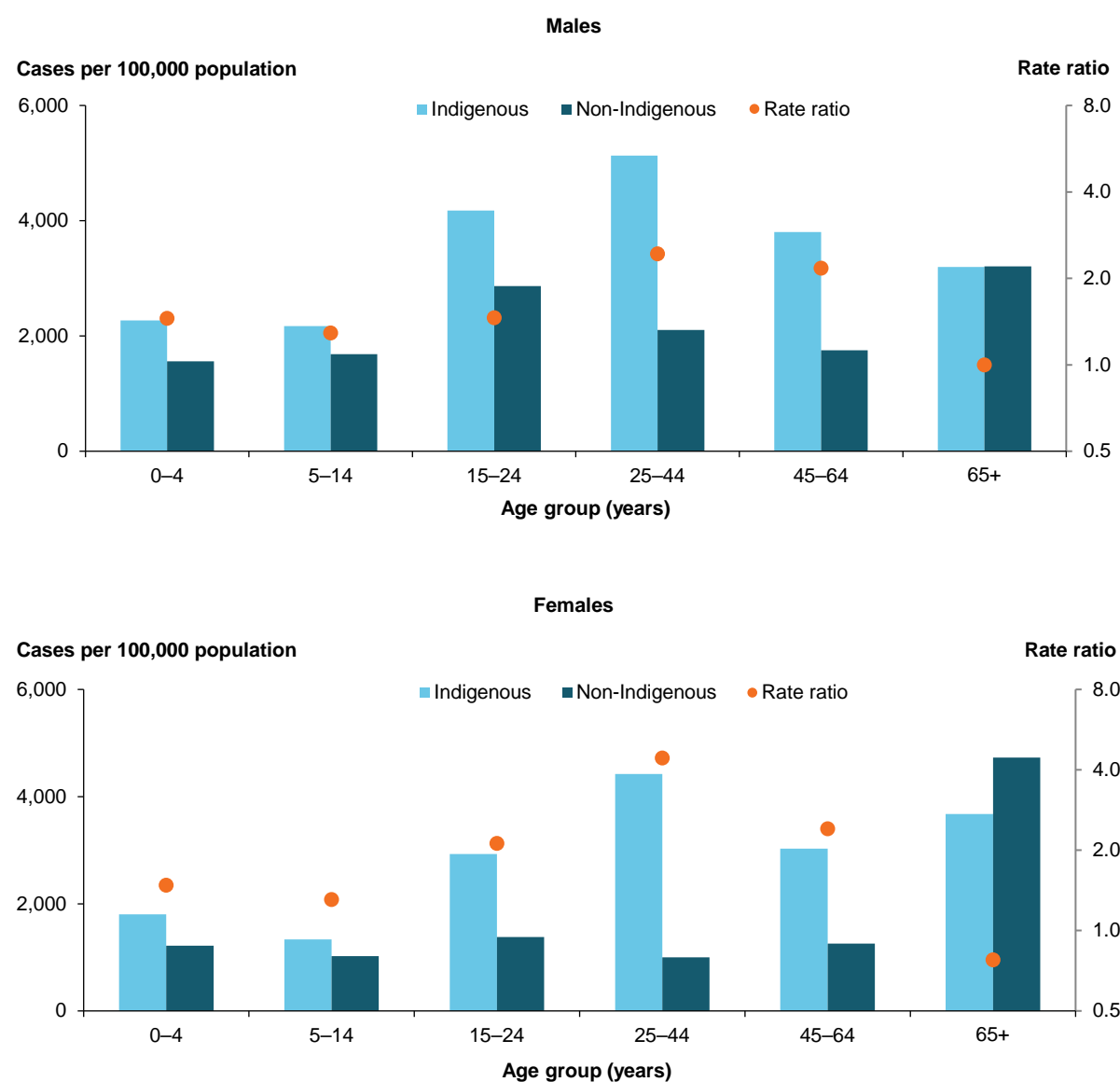
Table 1.3: Hospitalisations due to injury, by age, by sex and Indigenous status, Australia, 2011–16

Age group	Indigenous		Non-Indigenous	
	Number	%	Number	%
Males				
0–4	4,896	7.6	57,550	4.7
5–14	8,877	13.9	117,243	9.6
15–24	15,383	24.0	218,259	17.8
25–44	22,943	35.8	338,288	27.6
45–64	10,080	15.7	244,458	19.9
65+	1,906	3.0	250,351	20.4
Total	64,085	100	1,226,153	100
Females				
0–4	3,718	7.3	42,454	4.3
5–14	5,249	10.3	67,495	6.9
15–24	10,228	20.1	99,739	10.2
25–44	20,421	40.1	160,500	16.4
45–64	8,647	17.0	179,308	18.4
65+	2,672	5.2	426,686	43.7
Total	50,935	100	976,183	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

For Indigenous males, the highest rate of hospitalisations due to injury occurred in the 25–44 year age group (5,130 cases per 100,000, compared with 2,105 cases per 100,000 for non-Indigenous males) (Figure 1.3). The rate ratio for Indigenous and non-Indigenous men was also the largest in this age group (2.4:1). Similarly, for Indigenous females, the highest rate of hospitalisations due to injury occurred in the 25–44 year age group (4,422 cases per 100,000, compared with just 998 cases per 100,000 among non-Indigenous females in the same age group, equating to a rate ratio of 4.4:1).

Figure 1.3: Age-specific rates of hospitalisation due to injury, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.

Nature of injury

An injury can be described in terms of the part of the body that sustained the injury, such as the head or arm, and the type of injury that occurred, such as a fracture or an open wound. This section examines the body part injured and type of injury sustained among Indigenous people hospitalised because of an injury.

Body part injured

Indigenous people hospitalised as a result of an injury sustain a greater proportion of injuries to the head (27%) than non-Indigenous people (18%) (Table 1.4). The only other notable difference between Indigenous and non-Indigenous people is a smaller proportion of Indigenous people with injuries to the hip and thigh, 4% and 9%, respectively.

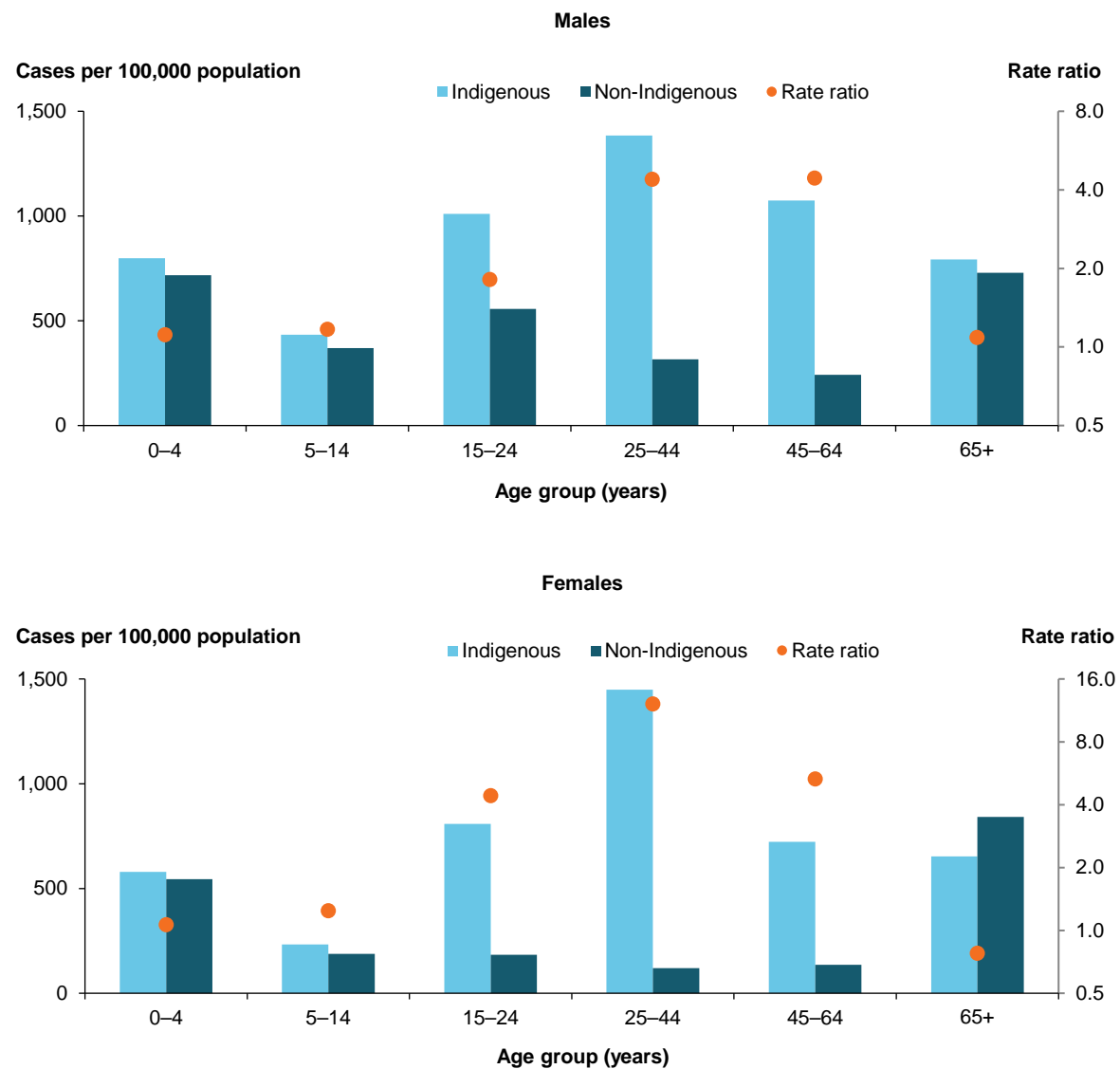
Table 1.4: Body region injured, by Indigenous status, Australia, 2011–16

Body region injured	Indigenous		Non-Indigenous	
	Number	%	Number	%
Head	30,891	26.9	395,223	17.9
Neck	2,521	2.2	50,572	2.3
Thorax	4,755	4.1	103,356	4.7
Abdomen, lower back, lumbar spine and pelvis	5,346	4.6	142,262	6.5
Shoulder and upper arm	5,293	4.6	162,566	7.4
Elbow and forearm	10,876	9.5	221,907	10.1
Wrist and hand	15,354	13.3	296,530	13.5
Hip and thigh	4,073	3.5	189,567	8.6
Knee and lower leg	10,335	9	266,994	12.1
Ankle and foot	5,677	4.9	85,807	3.9
Other, multiple and incompletely specified body regions	5,938	5.2	83,856	3.8
Injuries not described in terms of body region	13,963	12.1	203,717	9.2
Total	115,022	100	2,202,357	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

An analysis of the rates of hospitalisation due to injury to the head among Indigenous and non-Indigenous people by sex is shown in Figure 1.4. Rates of injury to the head were higher for every age group for Indigenous males and females compared with non-Indigenous males and females, other than for females aged 65+ (653 and 842 cases per 100,000 for Indigenous and non-Indigenous females, respectively). The highest rates of head injury cases for Indigenous males and females occurred at 25–44 years (1,384 and 1,449 cases per 100,000, respectively). The rate of cases of injury to the head for Indigenous females was 12.1 times that of non-Indigenous females (119 cases per 100,000) at this age. Among Indigenous males aged 25–44, the rate of cases of injury to the head was 4 times greater than that of non-Indigenous males (316 cases per 100,000) of the same age.

Figure 1.4: Age-specific rates of hospitalisation due to head injury, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.

Type of injury

Indigenous people hospitalised as a result of an injury sustained a greater proportion of open wounds (22%) than non-Indigenous people (14%) (Table 1.5). The only other notable difference between Indigenous and non-Indigenous people is a smaller proportion of Indigenous people with fractures (28% and 39%, respectively).

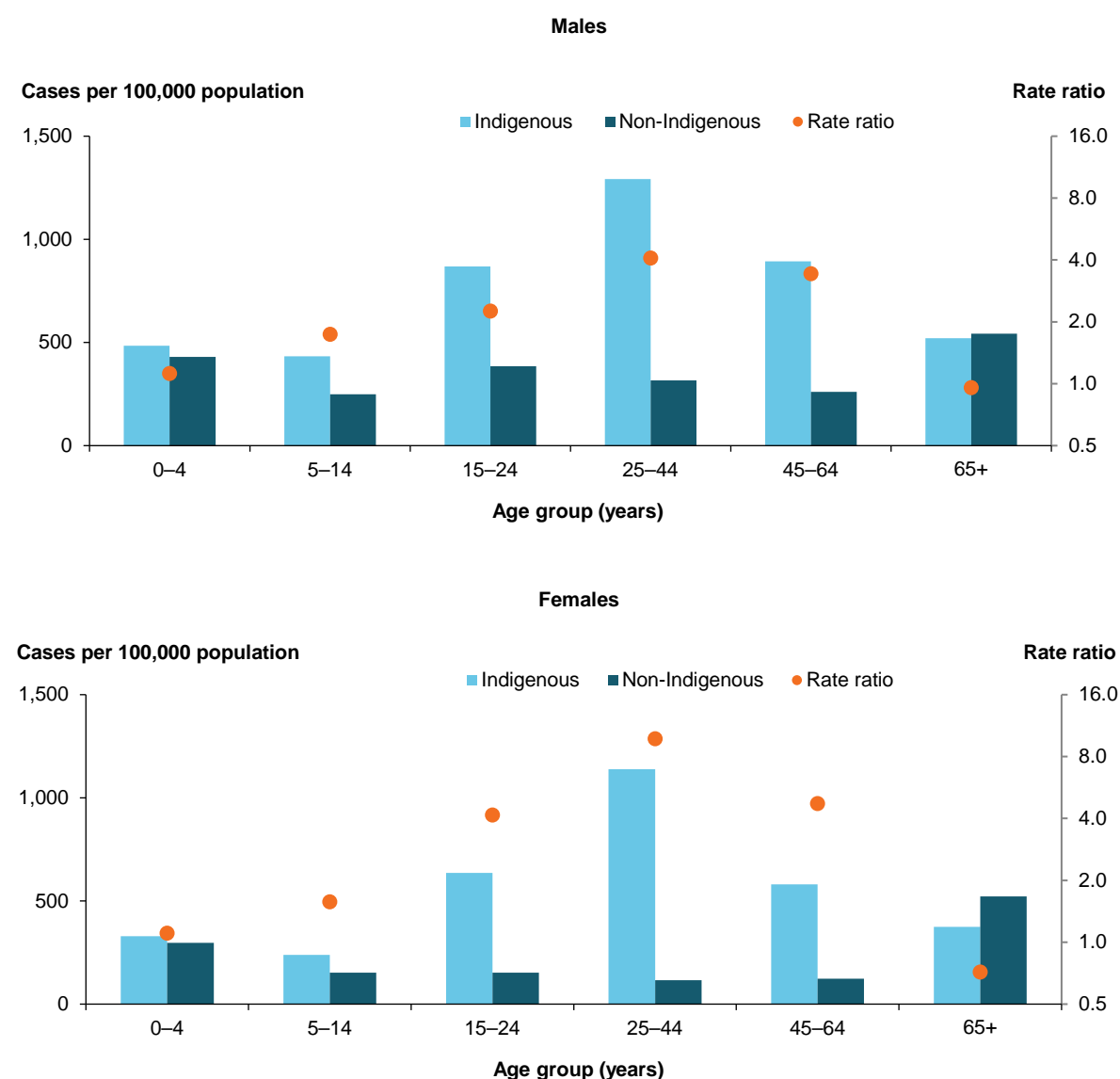
Table 1.5: Type of injury, by Indigenous status, Australia, 2011–16

Type of injury	Indigenous		Non-Indigenous	
	Number	%	Number	%
Fracture	31,653	27.5	865,532	39.3
Dislocation	1,836	1.6	49,838	2.3
Soft-tissue injury	7,479	6.5	218,385	9.9
Open wound	25,497	22.2	306,990	13.9
Intracranial injury	4,949	4.3	91,235	4.1
Internal organ or vessel of trunk injury	1,916	1.7	24,973	1.1
Burn	3,161	2.7	32,936	1.5
Superficial injury	8,409	7.3	126,548	5.7
Poisoning or toxic effect	11,850	10.3	179,508	8.2
Other specified injury	9,310	8.1	156,761	7.1
Unspecified injury	8,962	7.8	149,651	6.8
Total	115,022	100	2,202,357	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

A larger proportion of hospitalised injuries involved a fracture for both Indigenous and non-Indigenous Australians, however, there was a greater differential between Indigenous and non-Indigenous people for open wounds. An analysis of the rates of open wound injuries among Indigenous and non-Indigenous people by sex is shown in Figure 1.5. Rates of open wound injury cases were higher in every age group for Indigenous males and females compared with non-Indigenous males and females, other than for those aged 65+. The highest rates of open wound injury cases were for Indigenous males aged 25–44 (1,293 cases per 100,000), which were 4 times as high as for non-Indigenous males (316 cases per 100,000) of the same age. The difference was even greater among Indigenous women aged 25–44 (1,139 cases per 100,000) where rates of open wound injury were 10 times greater than for non-Indigenous women (117 cases per 100,000).

Figure 1.5: Age-specific rates of open wounds, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.

Remoteness

Differences in rates of injury hospitalisations by remoteness could be due to factors such as distance or access to services, or the lower socioeconomic status of people who live in remote areas (AIHW 2016a). In the 2016 Census, there were 649,171 people across Australia who identified as being of Aboriginal and/or Torres Strait Islander origin, the majority (81%) of whom lived in non-remote areas of Australia (ABS 2018). However, Aboriginal and Torres Strait Islander make up a greater proportion of the population in remote areas (25%) than in non-remote areas (1%) (ABS 2018). In 2016, almost 1 in 5 Aboriginal and Torres Strait Islander people lived in *Remote* (6%) and *Very remote* (12%) areas while around 1 in 100 non-Indigenous Australians lived in these areas (1% and 0.4%, respectively).

The proportion of Indigenous people hospitalised as a result of an injury was higher in *Inner and outer regional* and *Remote and very remote* areas than in *Major cities* (Table 1.6).

Rates of hospitalisation due to injury increased with increasing remoteness for both Indigenous and non-Indigenous people. Rates of injury were higher in each remoteness category for Indigenous people compared with non-Indigenous people and the rate of injury for Indigenous people rose more steeply. The rate of injury among Indigenous people (5,808 cases per 100,000) in *Remote and very remote* areas was more than twice that of non-Indigenous people (2,410 cases per 100,000).

Table 1.6: Number and rate of injury, by remoteness of usual residence, by Indigenous status, Australia, 2011–16

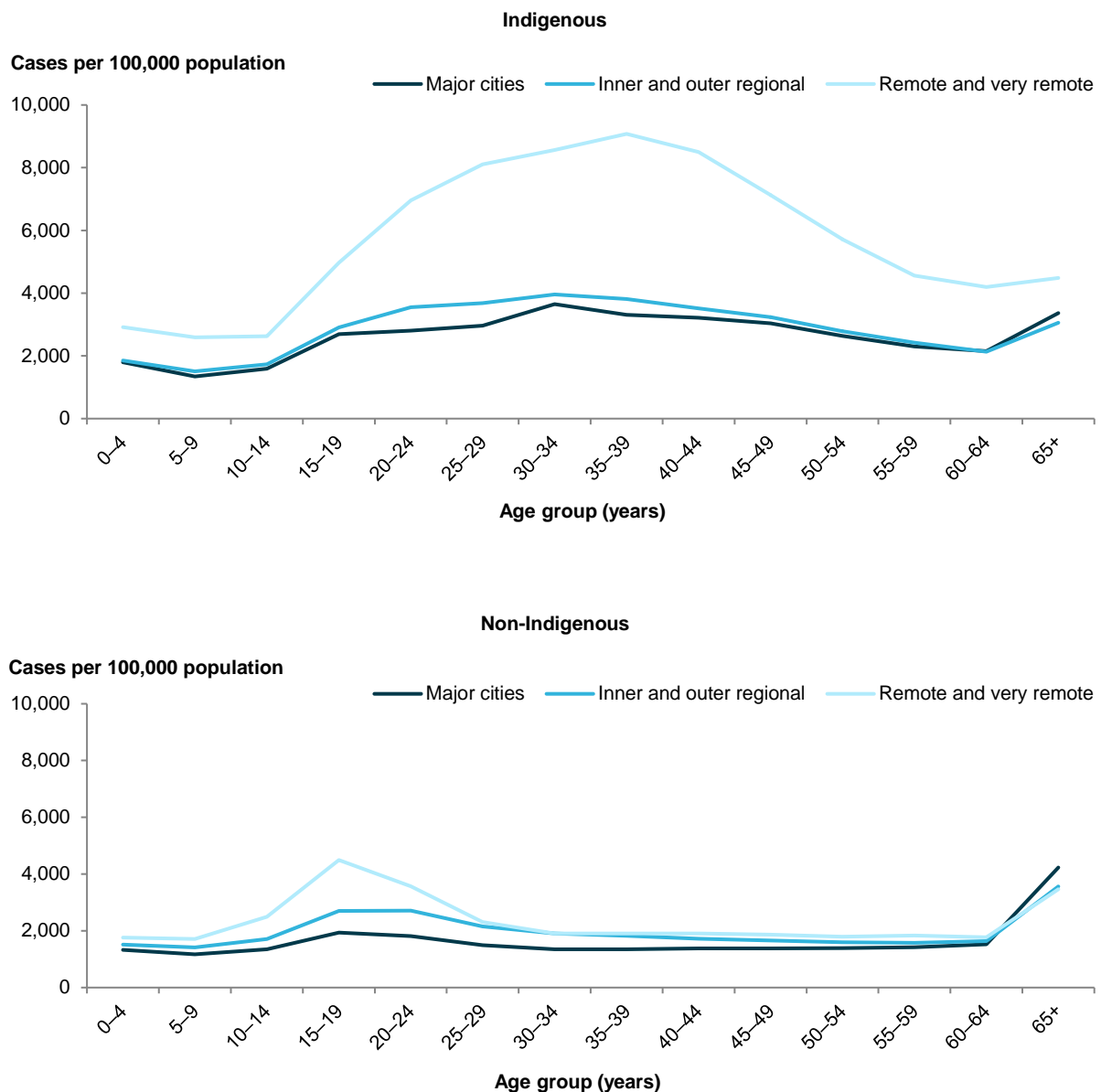
Remoteness of usual residence	Indigenous		Non-Indigenous		Rate ratio
	Number	Rate	Number	Rate	
Major cities	30,785	2,710	1,487,854	1,797	1.5
Inner and outer regional	42,296	2,928	644,227	2,080	1.4
Remote and very remote	40,690	5,808	43,702	2,420	2.4

Notes

1. Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.
2. Age-standardised rate (cases per 100,000 population).
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

An analysis by age shows much higher rates of hospitalisation due to injury among Indigenous people living in *Remote and very remote* areas within each age group (Figure 1.6). The highest rate for Indigenous people occurred at 35–39 years (9,078 cases per 100,000, compared with just 1,901 cases per 100,000 for non-Indigenous people). While rates in *Remote and very remote* areas tend to peak at 15–19 years among non-Indigenous people, the rates of injury continue to rise by age for Indigenous people, remaining many times as high well into old age.

Figure 1.6: Age-specific rates of hospitalisation due to injury, by remoteness of usual residence and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

External cause

Indigenous people are injured due to the same types of external causes as non-Indigenous people and the top 3 causes are often the same. However, for a number of different external causes Indigenous people experience significantly higher rates of injury. Table 1.7 presents the number and rate of external causes of injury in Indigenous and non-Indigenous people. For Indigenous people the top 3 causes of injury by proportion were *Assaults* (24%), *Falls* (22%) and *Exposure to inanimate mechanical forces* (14%), which includes events such as being unintentionally struck, crushed and contacted by objects. For non-Indigenous people

the top 3 causes of injury by proportion also included *Falls* (41%) and *Exposure to inanimate mechanical forces* (14%), with transport crashes (12%) in third place.

When taking into account the population base, the leading cause of hospitalisations due to injury among Indigenous people was *Falls* (981 cases per 100,000 population) followed by *Assaults* (875) and *Exposure to inanimate mechanical forces* (430). The highest in non-Indigenous people was also *Falls* (725) followed by *Exposure to inanimate mechanical forces* (280) and cases of *Undetermined intent* (263).

The greatest differences in the rate of injury between Indigenous and non-Indigenous people was for *Assaults* where the rate for Indigenous people (875 cases per 100,000) was 13 times that of non-Indigenous people (66). The rates for *Thermal causes* (2.8 times), *Intentional self-harm* (2.6 times) and *Accidental poisoning* (2.4 times) were all about twice as high for Indigenous people, but accounted for a relatively low proportion of causes of injury: 2%, 9% and 3%, respectively, for Indigenous people. Additional information about transport crash injury and injuries due to thermal causes can be found in recent AIHW reports on these topics (see AIHW: Pointer & Tovell 2016, AIHW: Henley & Harrison forthcoming and AIHW: Pointer 2016).

Table 1.7: Cases and age-standardised rates for specific external cause groups, by Indigenous status, Australia, 2011–16

External cause	Indigenous		Non-Indigenous		Rate ratio
	Number	Rate	Number	Rate	
Transport crashes	11,245	311.3	270,674	241.5	1.3
Accidental drowning and submersion	159	3.2	2,597	2.4	1.3
Accidental poisoning	3,101	95.2	45,354	39.6	2.4
Falls	25,753	980.9	911,194	725.4	1.4
Thermal causes	2,544	66.1	26,401	23.6	2.8
Exposure to inanimate mechanical forces	16,247	429.7	314,548	279.9	1.5
Exposure to animate mechanical forces	5,968	162.1	87,287	79.1	2.0
Intentional self-harm	10,425	306.0	127,418	116.1	2.6
Assault	28,134	875.4	72,726	65.9	13.3
Other external causes of accidental injury					
Other accidental threats to breathing	150	5.2	3,385	2.9	1.8
Exposure to electric current, radiation and extreme ambient air temperature and pressure	110	2.9	3,756	3.4	0.9
Contact with venomous animals and plants	786	22.3	15,256	13.5	1.6
Exposure to forces of nature	159	6.3	3,104	2.6	2.5
Overexertion, travel and privation	1,719	56.7	63,028	54.7	1.0
Accidental exposure to other and unspecified factors	5,931	187.7	210,978	185.6	1.0
<i>Subtotal</i>	8,855	281.0	299,507	262.6	1.1
Undetermined intent	2,176	68.1	22,142	19.9	3.4
Other or missing	415	16.4	22,509	19.0	0.9
Total	115,022	3,595.5	2,202,357	1,873.9	1.9

Notes

1. Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.
2. Age-standardised rate (cases per 100,000 population).

The rates of external causes of injury also differ by sex among Indigenous people and in comparison with non-Indigenous people. Six of the external causes of injury identified above with either a high number of cases, a high rate of injury or a large rate ratio were examined further in terms of sex differences and the results are presented in the next chapter.

2 In focus

The analyses in Chapter 1 identified several areas where the impact of injury on Indigenous people, in terms of higher rates, was particularly great. For example, head injury rates among Indigenous people were much higher than non-Indigenous people. Among the various causes of hospitalisation, rates of injury were substantially higher for *Accidental poisoning, Falls, Exposure to inanimate mechanical forces, Intentional self-harm* and *Assaults* among Indigenous people compared with non-Indigenous people. This Chapter looks at each of these aspects of injury in more detail.

Head injuries

The outcomes from an injury to the head can range from minor cuts and bruises to life-changing traumatic brain injuries. In the 5-year period 2011–16, a much greater proportion of hospitalisations for injuries to the head were for Indigenous people (27%, 30,891 cases) than for non-Indigenous people (18%, 395,223 cases) and the rates of were higher for both Indigenous males and females than for non-Indigenous males and females (Table 2.1).

Table 2.1: Hospitalisations due to head injury, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
Hospitalised head injury (number of cases)	16,721	14,169	30,891	236,046	159,177	395,223
Annual average (5 years)	3,344	2,834	6,178	47,209	31,835	79,045
Age-standardised rate (cases per 100,000 population) for the 5-year period	1,031	884	957	422	247	336

Remoteness

The proportion of Indigenous people hospitalised as a result of a head injury was higher in *Inner and outer regional* and *Remote and very remote* areas than *Major cities* (Table 2.2). The rate of head injury among Indigenous people living in *Remote and very remote* areas (3,261 cases per 100,000) was 4 times that of non-Indigenous people (840 cases per 100,000).

Table 2.2: Number and rate of head injury cases, by remoteness of usual residence and Indigenous status, Australia, 2011–16

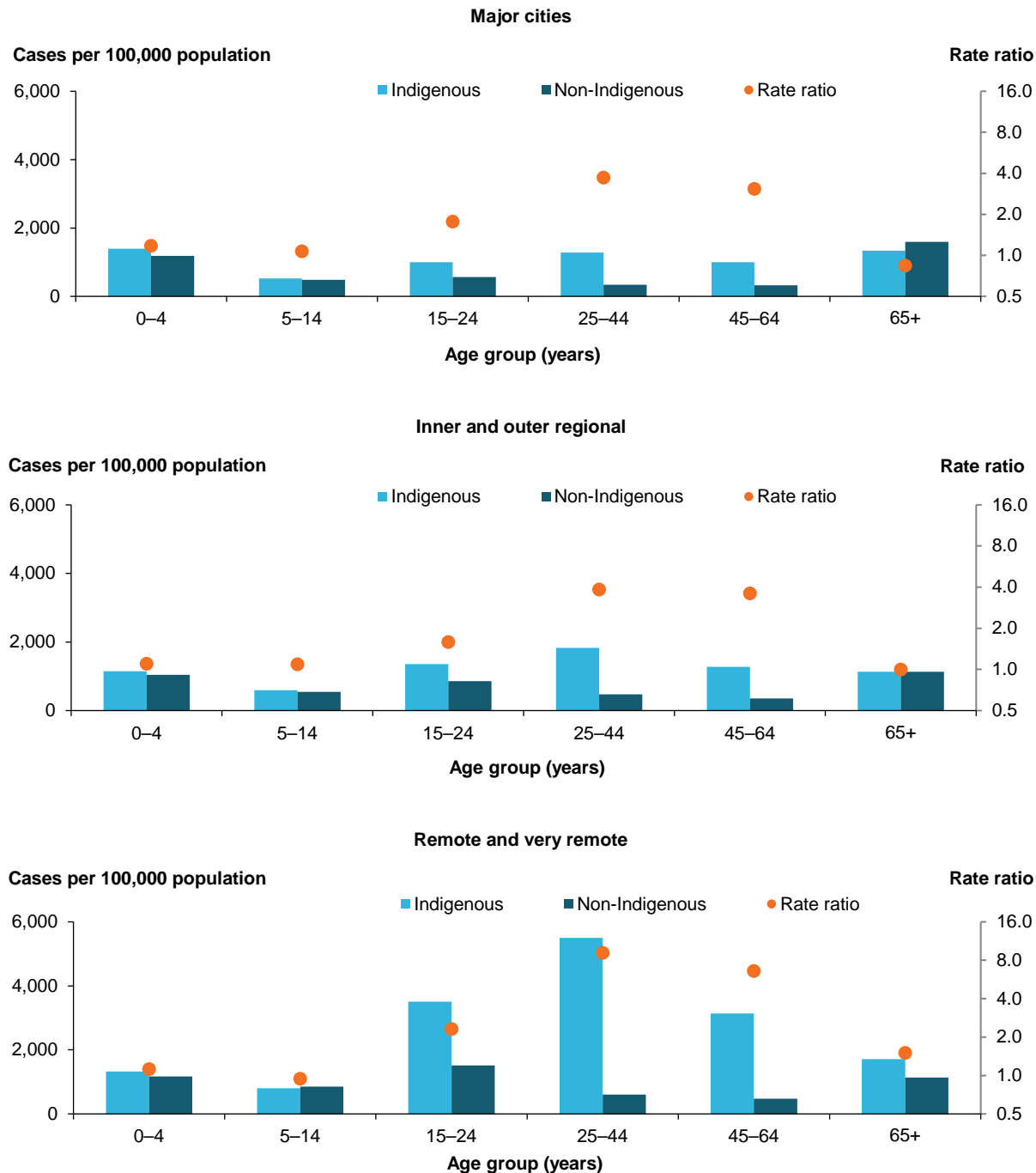
Remoteness of usual residence	Indigenous		Non-Indigenous		Rate ratio
	Number	Rate	Number	Rate	
Major cities	12,665	1,083	496,362	600	1.8
Inner and outer regional	19,413	1,334	194,745	631	2.1
Remote and very remote	22,979	3,261	14,817	840	3.9

Notes

1. Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.
2. Age-standardised rate (cases per 100,000 population).
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

An analysis by age shows much higher rates of hospitalisation due to head injury among Indigenous people living in *Remote and very remote* areas for all age groups (Figure 2.1). In these areas, the highest rate for Indigenous people occurred at 25–44 years (5,498 cases per 100,000, compared with just 601 cases for non-Indigenous people).

Figure 2.1: Age-specific rates of hospitalisation due head injury, by remoteness of usual residence and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

Type of head injury

Table 2.3 shows the range of outcomes that resulted from an injury to the head. For Indigenous people (31%, 9,658 cases) the majority of injuries to the head resulted in an open wound followed by a *Fracture of skull and facial bones* (19%). The next most common specified outcome from an injury to the head among Indigenous people was an *Intracranial injury* (16%).

Table 2.3: Head injury cases, by principal diagnosis and Indigenous status, Australia, 2011–16

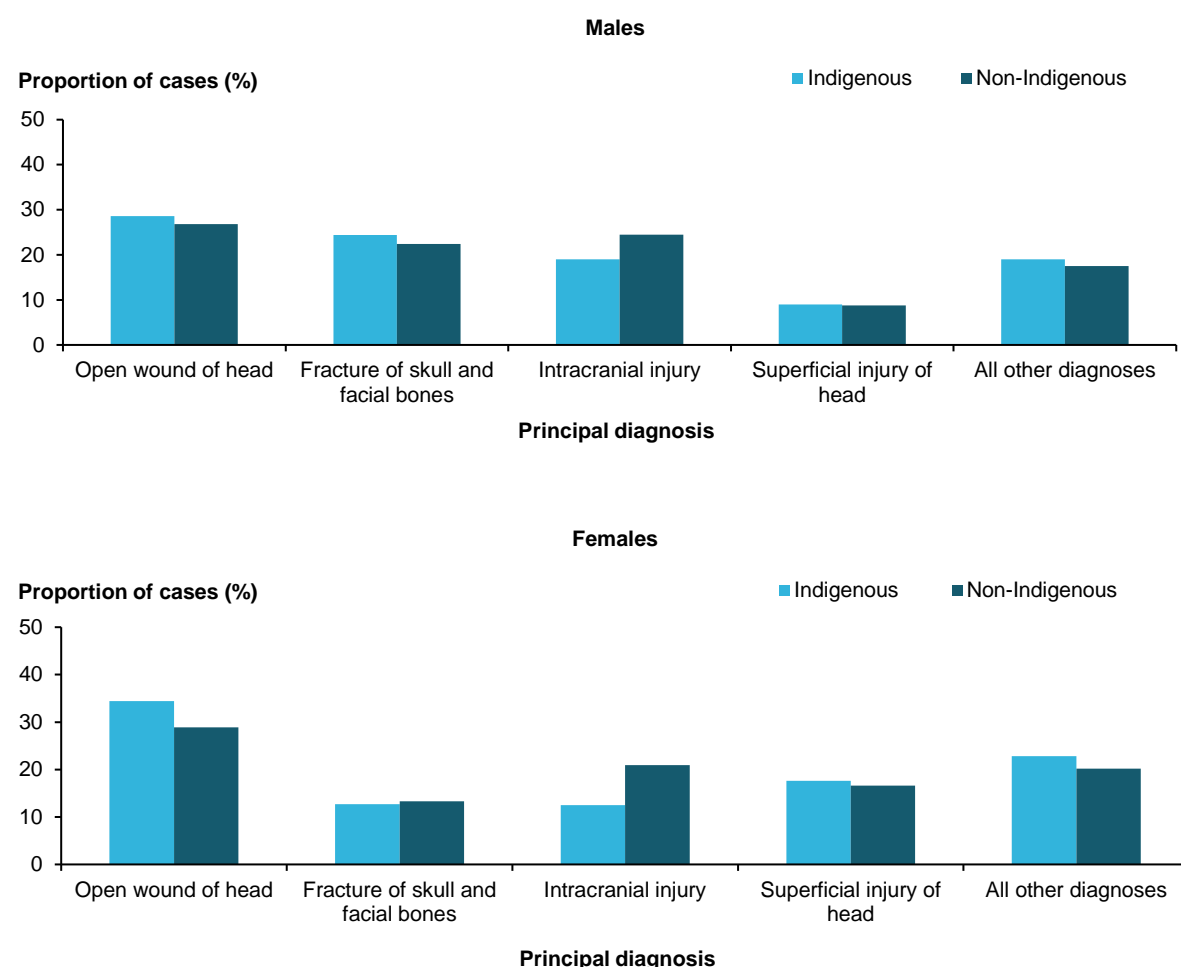
Principal diagnosis	Indigenous		Non-Indigenous	
	Number	%	Number	%
Superficial injury of head	4,001	13.0	47,084	11.9
Open wound of head	9,658	31.3	109,350	27.7
Fracture of skull and facial bones	5,885	19.1	73,991	18.7
Dislocation, sprain and strain of joints and ligaments of head	108	0.3	2,304	0.6
Injury of cranial nerves	21	0.1	520	0.1
Injury of eye and orbit	847	2.7	9,314	2.4
Intracranial injury	4,949	16.0	91,235	23.1
Crushing injury of head	3	0.0	42	0.0
Traumatic amputation of part of head	28	0.1	249	0.1
Other and unspecified injuries of head	5,391	17.5	61,134	15.5
Total	30,891	100	395,223	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

An analysis by sex of injuries to the head is shown in Figure 2.2. Indigenous females had a higher proportion of cases of *Open wound of head* and a lower proportion of *Fracture of skull and facial bones* than Indigenous males (Figure 2.2). Indigenous females had a lower proportion of *Intracranial injury* (13%, 1,766 cases) compared with Indigenous males (19%, 3,183 cases).

Indigenous males had a smaller proportion of cases of *Intracranial injury* (19%, 3,183 cases) compared with non-Indigenous males (25%, 20,688 cases). This was also true for females, Indigenous females having a smaller proportion of cases of *Intracranial injury* (13%, 1,766 cases) than non-Indigenous females (21%, 33,322 cases).

Figure 2.2: Proportion of hospitalisations due head injury by principal diagnosis, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Open wound of the head

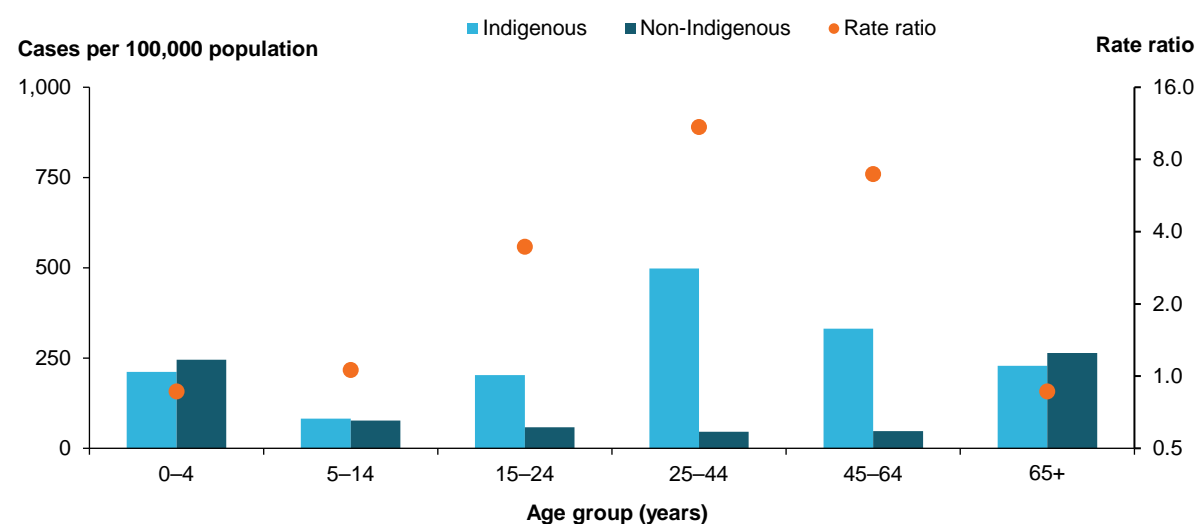
There were almost 10,000 hospitalisations due to *Open wound of head* injury among Indigenous people in the 5-year period, with an annual average of 1,932 (Table 2.4). Rates were higher among both Indigenous males and females, with an overall rate 3 times as high among Indigenous people (314 cases per 100,000 population) compared with non-Indigenous people (91 cases per 100,000 population).

Table 2.4: Hospitalisations due to Open wound of head injury, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
<i>Open wound of head</i> injury cases	4,786	4,872	9,658	63,344	46,006	109,350
Annual average (5 years)	957	974	1,932	12,669	9,201	21,870
Age-standardised rate (cases per 100,000 population) for the 5-year period	315	313	314	113	69	91

For Indigenous people, the highest rate of hospitalisations due to *Open wound of head* occurred in the 25–44 year age group (498 cases per 100,000, compared with just 46 cases per 100,000 among non-Indigenous people) (Figure 2.3). For Indigenous people aged 45–64, the rate was just over 6 times that for non-Indigenous people (332 cases per 100,000 compared with 48 cases per 100,000, respectively).

Figure 2.3: Age-specific rates of hospitalisation due to *Open wound of head*, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

For Indigenous people, a third (33%, 3,206 cases) of all *Open wound of head* injuries were to the scalp (Table 2.5). There were few differences between Indigenous and non-Indigenous people with respect to the location of the open wound.

Table 2.5: Open wound of head cases, by principal diagnosis and Indigenous status, Australia, 2011–16

Location of open wound	Indigenous		Non-Indigenous	
	Number	%	Number	%
Scalp	3,206	33.2	28,363	25.9
Other parts of head	2,397	24.8	34,242	31.3
Eyelid and periocular area	1,288	13.3	13,279	12.1
Lip	1,186	12.3	14,276	13.1
Cheek	317	3.3	3,135	2.9
All other open wounds of the head	1,264	13.0	16,055	15.0
Total	9,658	100	109,350	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Just over half (56%, 5,428 cases) of all hospitalisations due to *Open wound of head* among Indigenous people occurred as a result of an *Assault* (Table 2.6), compared with only 8% (8,225 cases) in non-Indigenous people. *Falls* were the next largest contributor to the cause of open head wounds in Indigenous people (21%, 2,015 cases) and the leading cause of *Open wound of head* cases among non-Indigenous people (61%, 66,872 cases).

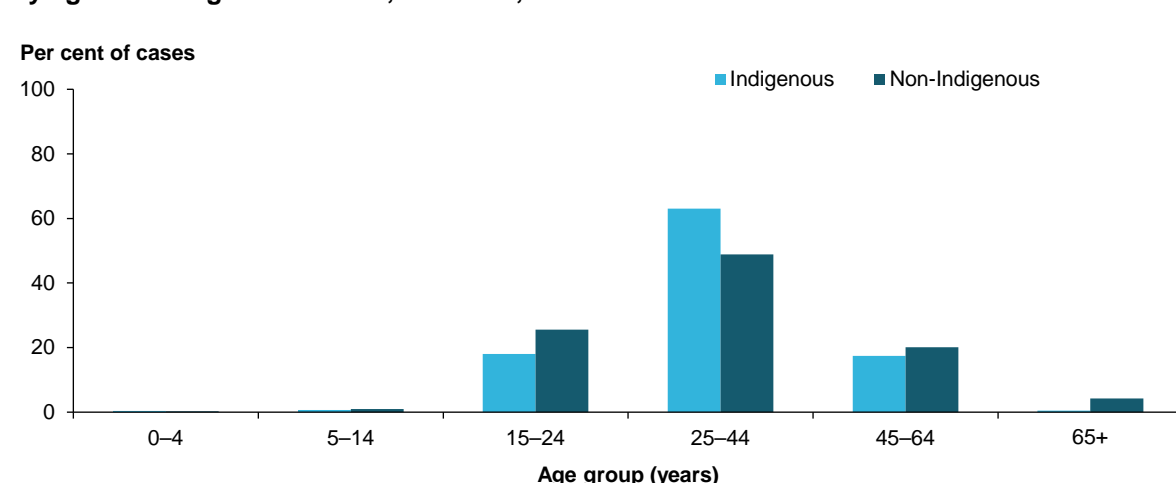
Table 2.6: Number of hospitalisations due *Open wound of head* injuries and proportions for external cause groups, by Indigenous status, Australia, 2011–16

Indigenous			Non-Indigenous		
External causes ranked	Number	%	External causes ranked	Number	%
Assault	5,428	56.2	Falls	66,872	61.2
Falls	2,015	20.9	Exposure to inanimate mechanical forces	13,001	11.9
Transport accidents	653	6.8	Transport accidents	10,095	9.2
Exposure to inanimate mechanical forces	642	6.6	Assault	8,225	7.5
Exposure to animate mechanical forces	464	4.8	Exposure to animate mechanical forces	6,289	5.8
Other external causes of accidental injury	330	3.4	Other external causes of accidental injury	3,703	3.4
Intentional self-harm	71	0.7	Undetermined intent	436	0.4
Undetermined intent	43	0.4	Intentional self-harm	297	0.3
Accidental drowning and submersion	2	0.0	Accidental drowning and submersion	35	0.0
Accidental poisoning	1	0.0	Accidental poisoning	3	0.0
Exposure to smoke, fire and flames	2	0.0	Exposure to smoke, fire and flames	21	0.0
Other or missing	7	0.0	Other or missing	373	0.3
Total	9,658	100	Total	109,350	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

For Indigenous people, the largest proportion of cases of *Open wound of head* due to *Assault* occurred in those aged 25–44 (63%, 3,424 cases); this was also true for non-Indigenous people (49%, 4,019 cases) (Figure 2.4).

Figure 2.4: Proportion of hospitalisations due to *Open wound of head* as a result of an *Assault*, by age and Indigenous status, Australia, 2011–16

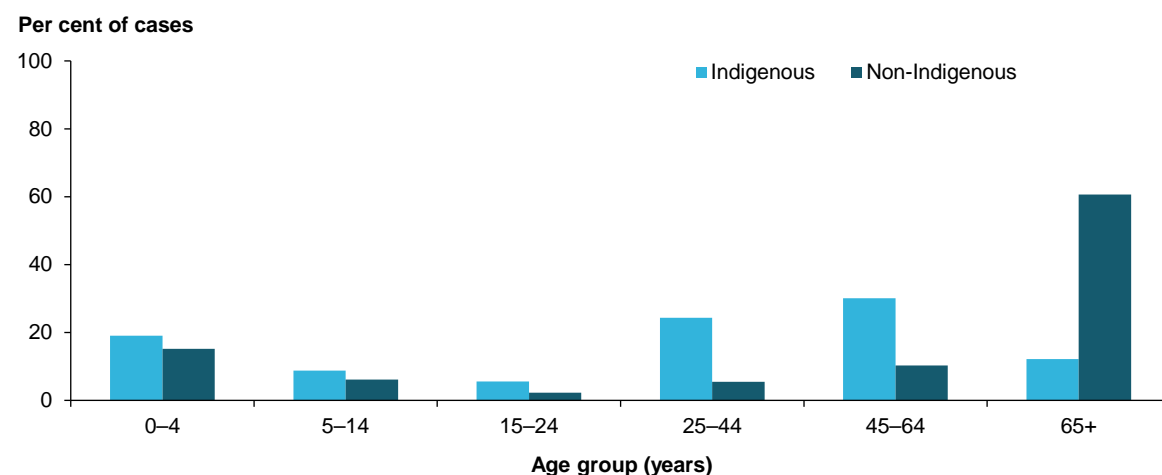


Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

For Indigenous people, the largest proportion of cases (30%, 607 cases) of *Open wound of head* due to a fall occurred in those aged 45–64 (Figure 2.5). In contrast the largest proportion of cases of *Open wound to the head* due to a fall occurred in non-Indigenous people aged 65+ (61%, 40,573 cases).

Figure 2.5: Proportion of hospitalisations due to *Open wound of head* caused by a fall, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Fracture of skull and facial bones

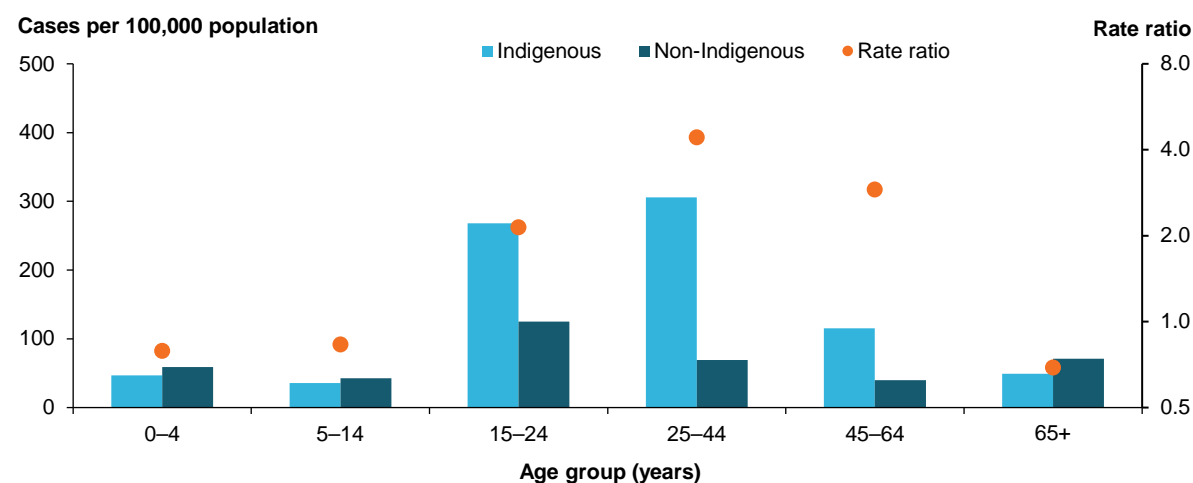
There were almost 6,000 hospitalisations due to *Fracture of skull and facial bones* injury among Indigenous people in the 5-year period, with an annual average of 1,177 cases (Table 2.7). Rates of cases of *Fracture of skull and facial bones* were higher among Indigenous people (170 cases per 100,000) than among non-Indigenous people (66 cases per 100,000). The rate of cases of *Fracture of skull and facial bones* for Indigenous males was twice that for Indigenous females. Both Indigenous males and females had higher rates than non-Indigenous males and females.

Table 2.7: Hospitalisations due to *Fracture of skull and facial bones* injury, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
<i>Fracture of skull and facial bones</i> injury cases	4,081	1,804	5,885	52,864	21,127	73,991
Annual average (5 years)	816	361	1,177	10,573	4,225	14,798
Age-standardised rate (cases per 100,000 population) for the 5-year period	237	104	170	95	36	66

For Indigenous people, the highest rate of hospitalisations due to *Fracture of skull and facial bones* occurred in the 25–44 year age group (306 cases per 100,000), compared with just 69 cases per 100,000 among non-Indigenous people in the same age group (Figure 2.6).

Figure 2.6: Age-specific rates of hospitalisation due to *Fracture of skull and facial bones*, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Among Indigenous people the most common *Fracture of skull and facial bones* injuries were to the jaw (22%, 1,264 cases) followed by the nose (13%, 785 cases) (Table 2.8). The results differ markedly from the diagnoses for non-Indigenous people, where the majority of *Fracture of skull and facial bones* were to the nose (34%, 25,328) and a much lower proportion were to the jaw (5%, 3,800).

Table 2.8: Number and proportion of cases of *Fracture of skull and facial bones*, by principal diagnosis and Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Number	%	Number	%
Fracture of angle of jaw	1,264	21.5	3,800	5.1
Fracture of nasal bones	785	13.3	25,328	34.2
Fracture of malar and maxillary bones	677	11.5	11,391	15.4
Fracture of orbital floor	514	8.7	8,533	11.5
Fracture of mandible body, other and unspecified parts	430	7.3	1,501	2.0
All other skull and facial bone fractures	2,215	37.6	23,438	31.7
Total	5,885	100	73,991	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

As a proportion of all external causes of *Fracture of skull and facial bones* injuries among Indigenous people, almost three-quarters occurred due to an *Assault* (71%, 4,157 cases) (Table 2.9). In contrast, just over a quarter (26%, 19,467 cases) of *Fracture of skull and facial bones* injuries were due to *Assault* among non-Indigenous people.

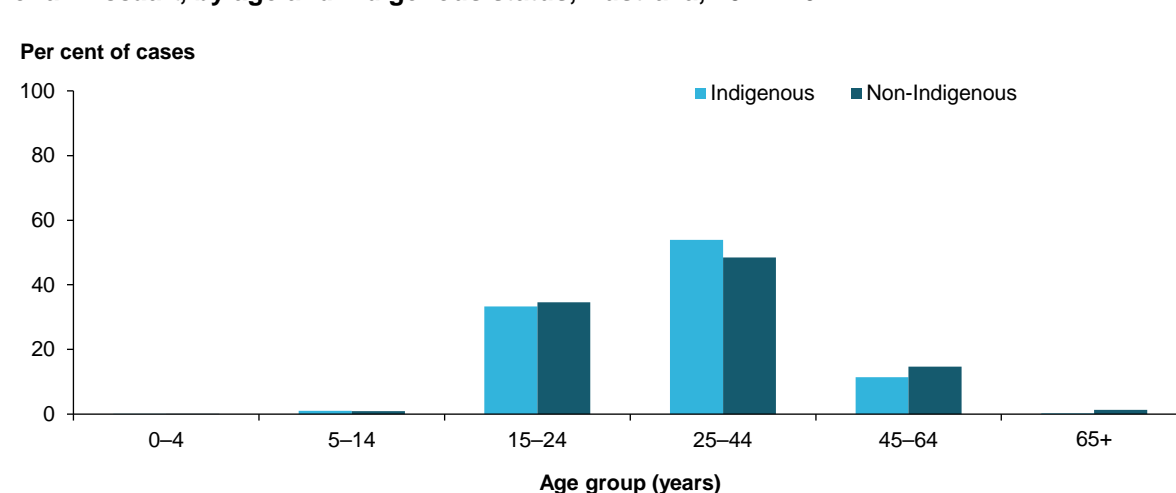
Table 2.9: Number of hospitalisations due to *Fracture of skull and facial bones* and proportions for external cause groups, by Indigenous status, Australia, 2011–16

Indigenous			Non-Indigenous		
External causes ranked	Number	%	External causes ranked	Number	%
Assault	4,157	70.6	Falls	20,624	27.9
Falls	595	10.1	Assault	19,467	26.3
Transport accidents	376	6.4	Other external causes of accidental injury	13,918	18.8
Exposure to animate mechanical forces	296	5.0	Transport accidents	7,353	9.9
Other external causes of accidental injury	293	5.0	Exposure to animate mechanical forces	7,070	9.6
Exposure to inanimate mechanical forces	140	2.4	Exposure to inanimate mechanical forces	4,462	6.0
Undetermined intent	14	0.2	Undetermined intent	130	0.2
Intentional self-harm	7	0.1	Intentional self-harm	94	0.1
Accidental drowning and submersion	0	0.0	Accidental drowning and submersion	17	0.0
Accidental poisoning	0	0.0	Accidental poisoning	0	0.0
Exposure to smoke, fire and flames	0	0.0	Exposure to smoke, fire and flames	3	0.0
Other or missing	7	0.1	Other or missing	853	1.1
Total	5,885	100	Total	73,991	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Despite the large difference in the proportion of *Fracture of skull and facial bones* injuries between Indigenous and non-Indigenous people due to *Assault*, the distribution by age was very similar (Figure 2.7). Most cases occurred in the 25–44 age group: 54% (2,240 cases) for Indigenous people and 48% (9,426 cases) for non-Indigenous people.

Figure 2.7: Proportion of hospitalisations due to *Fracture of skull and facial bones* as a result of an *Assault*, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Intracranial injury

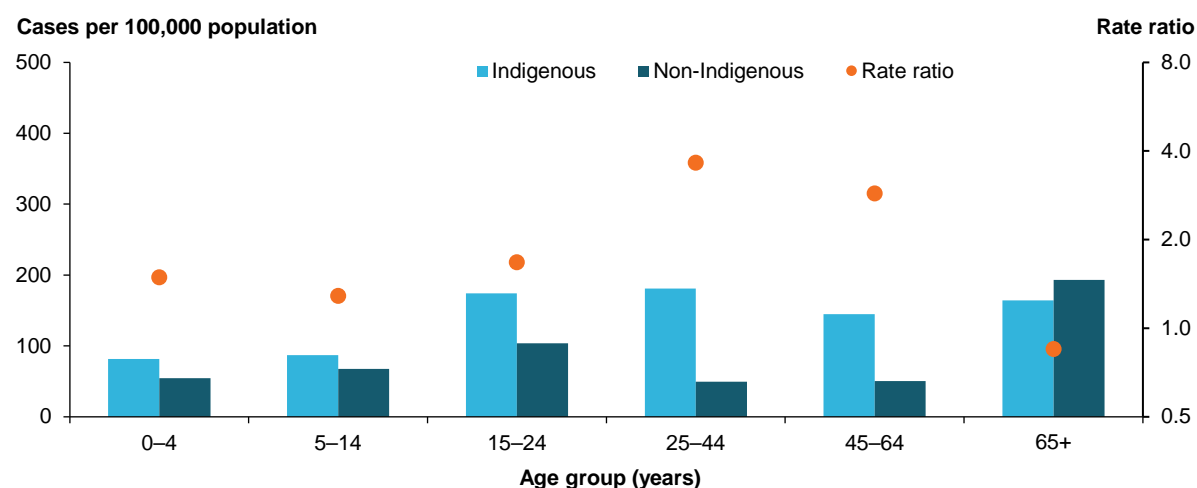
There were almost 5,000 hospitalisations due to *Intracranial injury* among Indigenous people in the 5-year period, with an annual average of 990 cases (Table 2.10). Rates of *Intracranial injury* were higher among Indigenous people (150 cases per 100,000) than among non-Indigenous people (78 cases per 100,000). Indigenous males had a rate of *Intracranial injury* almost twice that of Indigenous females. Both Indigenous male cases and female cases had higher rates compared with non-Indigenous males and females.

Table 2.10: Hospitalisations due to Intracranial injury, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
<i>Intracranial injury</i> cases	3,183	1,766	4,949	57,913	33,322	91,235
Annual average (5 years)	637	353	990	11,583	6,664	18,247
Age-standardised rate (cases per 100,000 population) for the 5-year period	193	109	150	102	54	78

For Indigenous people, the highest rate of hospitalisation for *Intracranial injury* occurred in the 25–44 year age group (181 cases per 100,000), compared with just 50 cases per 100,000 among non-Indigenous people (Figure 2.8). Rates of *Intracranial injury* were also much higher among Indigenous people aged 45–64, than among and non-Indigenous people of the same age at (145 and 51 cases per 100,000, respectively).

Figure 2.8: Age-specific rates of hospitalisation due to *Intracranial injury*, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Concussion was the most common outcome of an *Intracranial injury* among both Indigenous and non-Indigenous people, although Indigenous people had a larger proportion of concussion injuries (70%, 3,468 cases and 52%, 47,466 cases, respectively) (Table 2.11). In contrast, a smaller proportion of Indigenous people were diagnosed with a *Traumatic subdural haemorrhage* (12%, 609) compared with non-Indigenous people (23%, 20,831).

Table 2.11: Hospitalisations due to *Intracranial injury*, by principal diagnosis and Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Number	%	Number	%
Concussion	3,468	70.1	47,466	52.0
Traumatic cerebral oedema	9	0.2	106	0.1
Diffuse	176	3.5	4,274	4.5
Focal	168	3.4	4,424	4.9
Epidural haemorrhage	97	2.0	2,140	2.3
Traumatic subdural haemorrhage	609	12.3	20,831	22.8
Traumatic subarachnoid haemorrhage	285	5.8	9,719	10.7
Other intracranial injuries	76	1.5	1,344	1.5
Intracranial injury, unspecified	61	1.2	931	1.0
Total	4,949	100	91,235	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Among Indigenous people who suffered a concussion, most experienced a loss of consciousness of brief duration of less than 30 minutes (48%, 1,659 cases) (Table 2.12). A higher proportion of Indigenous people had a loss of consciousness of an unspecified duration (25%, 866 cases) compared with non-Indigenous people (16%, 7,433 cases).

Table 2.12: Hospitalisations due to *Intracranial injury*, by type of *Concussive injury*, by Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Number	%	Number	%
Concussion	869	25.1	14,652	30.9
Loss of consciousness of unspecified duration	866	25.0	7,433	15.7
Loss of consciousness of brief duration (less than 30 minutes)	1,659	47.8	24,752	52.1
Loss of consciousness of moderate duration (30 minutes to 24 hours)	73	2.1	606	1.3
Loss of consciousness of prolonged duration (more than 24 hours), with return to pre-existing conscious level	1	0.0	23	0.0
Total	3,468	100.0	14,652	30.9

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

As a proportion of all external causes of intracranial injuries among Indigenous people, the highest occurred due to an *Assault* (35%, 1,724 cases) (Table 2.13). In contrast, only 9% (7,853 cases) of Intracranial injuries were due to *Assault* among non-Indigenous people. *Falls* were the next most common cause of *Intracranial injury* among Indigenous people (33%, 1,613 cases), whereas this was the leading cause of *Intracranial injury* among non-Indigenous people (58%, 52,582 cases).

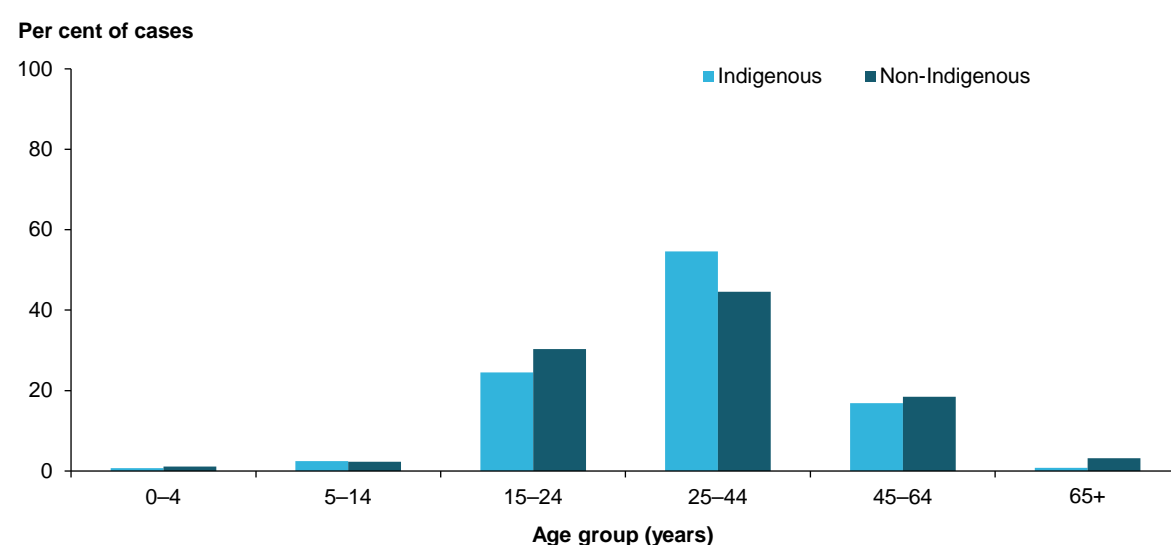
Table 2.13: Number of hospitalisations due to *Intracranial injury* and proportions for external cause groups, by Indigenous status, Australia, 2011–16

Indigenous			Non-Indigenous		
External causes ranked	Number	%	External causes ranked	Number	%
Assault	1,724	34.8	Falls	52,582	57.6
Falls	1,613	32.6	Transport accidents	19,332	21.2
Transport accidents	941	19.0	Assault	7,853	8.6
Exposure to animate mechanical forces	234	4.7	Exposure to inanimate mechanical forces	4,301	4.7
Exposure to inanimate mechanical forces	190	3.8	Exposure to animate mechanical forces	4,316	4.7
Other external causes of accidental injury	151	3.1	Other external causes of accidental injury	2,020	2.2
Intentional self-harm	50	1.0	Intentional self-harm	353	0.4
Undetermined intent	26	0.5	Undetermined intent	142	0.2
Accidental drowning and submersion	4	0.1	Accidental drowning and submersion	77	0.1
Accidental poisoning	3	0.1	Accidental poisoning	17	0.0
Exposure to smoke, fire and flames	3	0.1	Exposure to smoke, fire and flames	13	0.0
Other or missing	10	0.2	Other or missing	229	0.3
Total	4,949	100	Total	91,235	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Despite the large difference in the proportion of cases of *Intracranial injury* due to *Assault* between Indigenous and non-Indigenous people, the distribution by age was very similar (Figure 2.9). The highest proportion of cases occurred in the 25–44 year age group, (55%, 942 cases for Indigenous people and 45%, 3,501 cases for non-Indigenous people).

Figure 2.9: Proportion of hospitalisations due to *Intracranial injury* due to assault, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Summary

Table 2.14 summarises the main findings relating to hospitalisations due to head injury among Indigenous people. Indigenous males and females with head injuries were more likely to be aged 25–44 and living in *Remote and very remote* regions. For Indigenous females, a larger proportion (68%) of *Open wound of head* cases occurred due to *Assault* compared with Indigenous males (44%). Indigenous males had higher proportions of *Fracture of skull and facial bones* and *Intracranial injury* compared with Indigenous females.

Table 2.14: Summary of hospitalisations due to head injury, by sex and Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Males	Females	Males	Females
Number of cases	16,721	14,169	236,046	159,177
Average number of cases per year	3,344	2,834	47,209	31,835
Age-standardised rate/100,000 population for the 5-year period	1,031	884	422	247
Most common age group (proportion)	25–44 37%	25–44 47%	65+ 24%	65+ 48%
Region with highest rate of injury (persons, cases per 100,000 population)	Remote and Very remote 3,261		Remote and Very remote 840	
Open wound of the head				
Age-standardised rate/100,000 population for the 5-year period	315	313	113	69
Most common age group (proportion)	25–44 40%	25–44 54%	65+ 32%	65+ 53%
Cause of injury	Assault 44%	Assault 68%	Fall 54%	Fall 71%
Fracture of skull and facial bones				
Age-standardised rate/100,000 population for the 5-year period	237	104	95	36
Most common age group (proportion)	25–44 46%	25–44 49%	25–44 34%	65+ 34%
Cause of injury	Assault 69%	Assault 74%	Assault 33%	Fall 47%
Intracranial injury				
Age-standardised rate/100,000 population for the 5-year period	193	109	102	54
Most common age group (proportion)	25–44 30%	25–44 38%	65+ 28%	65+ 48%
Cause of injury	Fall 33%	Assault 43%	Fall 51%	Fall 58%

Accidental poisoning

There were 3,101 hospitalisations due to *Accidental poisoning* injury among Indigenous people in the 5-year period, with an annual average of 620 cases (Table 2.15). More Indigenous males were hospitalised as a result of an *Accidental poisoning* injury (53%, 1,635 cases) than Indigenous females (47%, 1,466 cases). Rates of *Assault* injury were higher among Indigenous people (95 cases per 100,000 population) compared with non-Indigenous people (40 cases per 100,000 population) with a rate ratio of 2.4:1.

Table 2.15: Hospitalisations due to *Accidental poisoning* injury, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
<i>Accidental poisoning</i> cases	1,635	1,466	3,101	23,999	21,354	45,354
Annual average (5 years)	327	293	620	4,800	4,271	9,071
Age-standardised rate (cases per 100,000 population) for the 5-year period	102	90	95	43	37	40

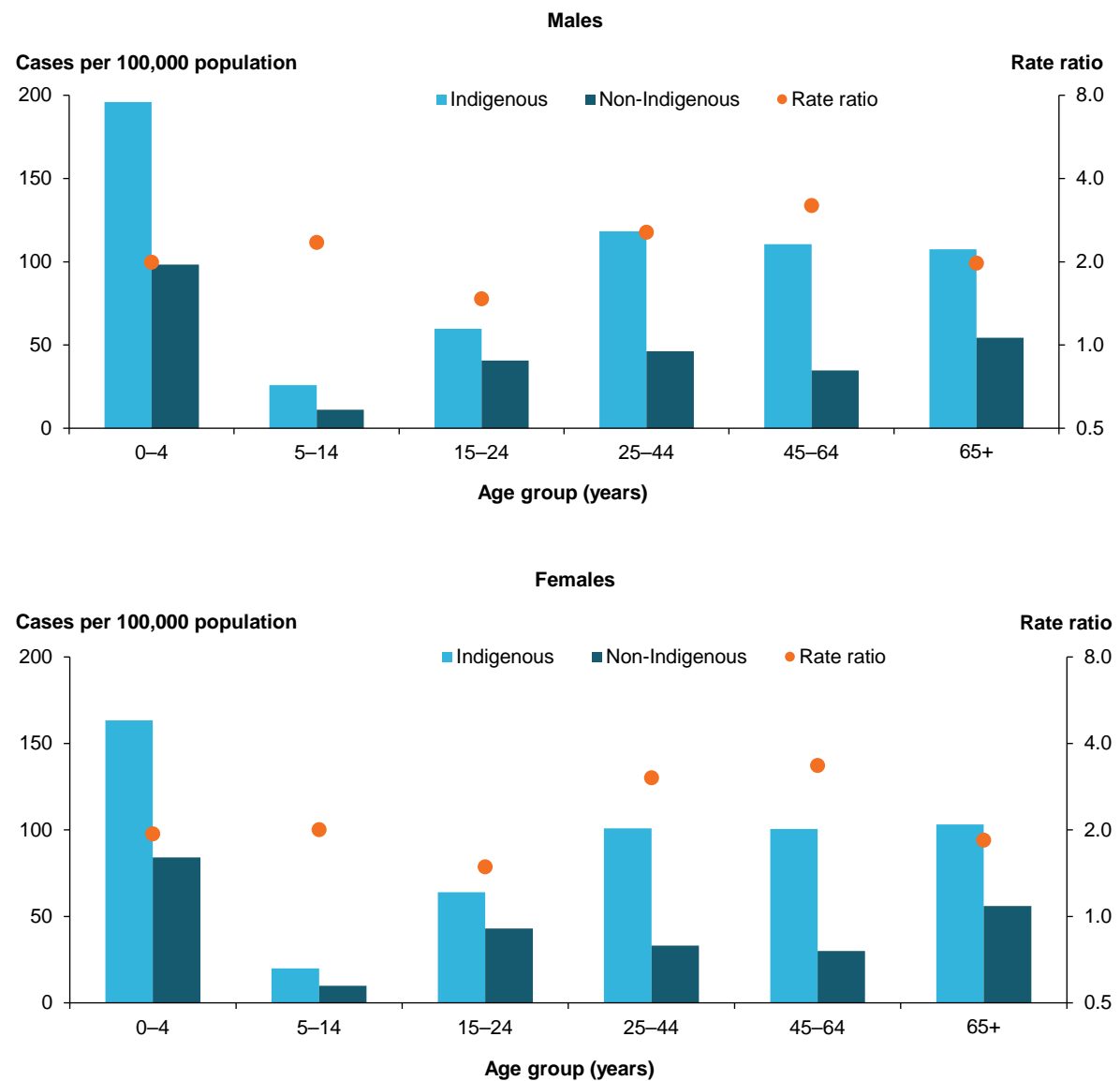
Age and sex

Rates of hospitalisation due to *Accidental poisoning* were very similar among Indigenous males and females (Figure 2.10). The highest rates, for both males and females, for hospitalisation due to *Accidental poisoning* were seen in very young children aged 0–4 (196 and 163 cases per 100,000, respectively).

Rates of hospitalisation due to *Accidental poisoning* were higher among Indigenous males in every age category compared with non-Indigenous males. For both Indigenous and non-Indigenous males, the highest rate of hospitalisation due to *Accidental poisoning* occurred at age 0–4 (196 and 98 cases per 100,000, respectively). The largest rate ratio in hospitalisations due to *Accidental poisoning* was seen in men aged 45–64 where rates of injury were 3.2 times as high among Indigenous men (111) compared with non-Indigenous men (35).

For Indigenous females, rates of hospitalisation due to *Accidental poisoning* were higher in every age category compared with non-Indigenous females. For both Indigenous and non-Indigenous females, the highest rates of hospitalisation due to *Accidental poisoning* also occurred at age 0–4 (163 and 84 cases per 100,000, respectively). The largest rate ratio in hospitalisations due to *Accidental poisoning* was seen in women aged 45–64 where rates of injury were 3.4 times as high among Indigenous women (101 cases per 100,000) compared with non-Indigenous women (30).

Figure 2.10: Rates of hospitalisation due to *Accidental poisoning*, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Remoteness

Unusually for hospitalisation due to injury, the number and rate of all *Accidental poisoning* cases among Indigenous people was higher in *Major cities* compared with more remote regions of usual residence (Table 2.16). The rate of *Accidental poisoning* among Indigenous people living in *Major cities* (215 cases per 100,000 population) was higher than in *Remote and very remote* regions (147). Within *Major cities*, the rate of *Accidental poisoning* among Indigenous people (215 cases per 100,000) was 3 times that of non-Indigenous people (68 cases per 100,000).

Table 2.16: Number and rate of hospitalisations due to *Accidental poisoning* injury, by remoteness of usual residence, by Indigenous status, Australia, 2011–16

Remoteness of usual residence	Indigenous		Non-Indigenous		Rate ratio
	Number	Rate	Number	Rate	
Major cities	2,370	215	56,216	68	3.2
Inner and outer regional	2,205	144	23,103	77	1.9
Remote and very remote	978	147	1,489	80	1.9

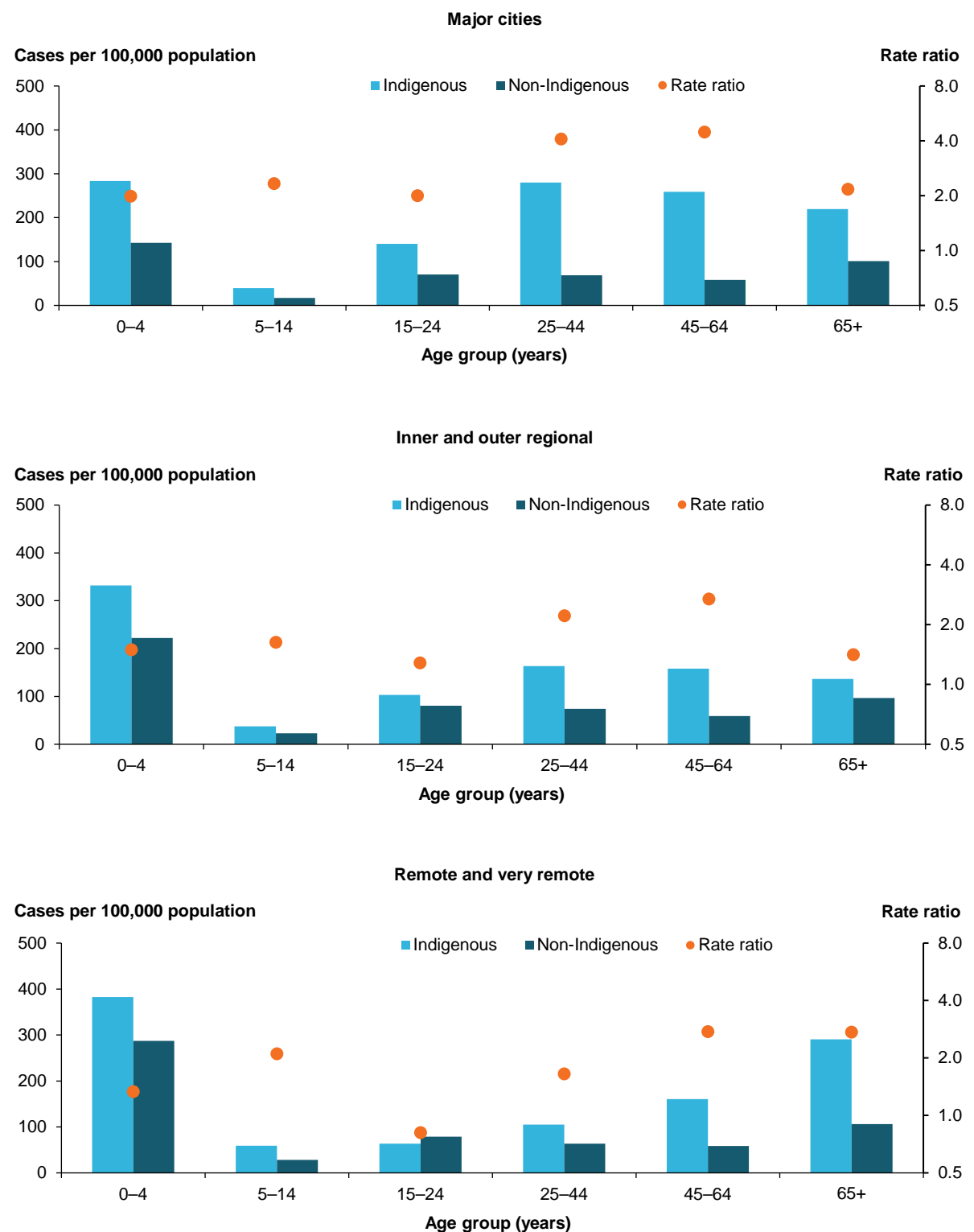
Notes

1. Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.
2. Age-standardised rate (cases per 100,000 population).
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

The rate of *Accidental poisoning* by age group and remoteness of usual residence is shown in Figure 2.11. In contrast to the rates of *Accidental poisoning* for all Indigenous people, the rates for young children aged 0–4 were higher with increasing remoteness of usual residence. In *Major cities* the rate of *Accidental poisoning* in Indigenous children aged 0–4 was 283 cases per 100,000 population, in *Inner and outer regional* areas 332 cases per 100,000, and in *Remote and very remote* regions 382 cases per 100,000. This same pattern was also true for non-Indigenous people.

Generally speaking, among Indigenous people older than 0–4, rates of *Accidental poisoning* were lower with increasing remoteness. Caution should be exercised in interpreting rates in the 65+ age category, due to the small numbers of Indigenous cases (139 cases over the 5-year period). The highest rates of *Accidental poisoning* were seen in Indigenous people aged 25–44 living in *Major cities* (280 cases per 100,000), which is 4 times as high as for non-Indigenous people in the same category (68 cases per 100,000).

Figure 2.11: Age-specific rates of hospitalisation due to *Accidental poisoning*, by remoteness of usual residence and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

Type of *Accidental poisoning*

Half of all types of *Accidental poisoning* among Indigenous Australians were due to poisoning either by *Anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs, not elsewhere classified* (31%, 946 cases) or poisoning by *Other and unspecified drugs, medicaments and biological substances* (20%, 629 cases) (Table 2.17). This overall pattern was the same for Indigenous and non-Indigenous people.

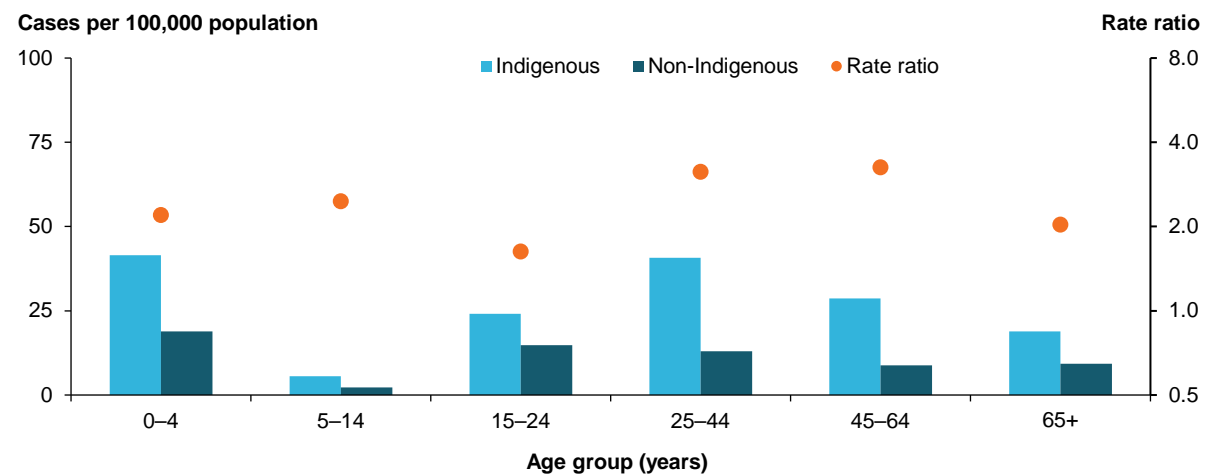
Table 2.17: Hospitalisations due to *Accidental poisoning*, by type of poisoning, by Indigenous status, Australia, 2011–16

Type of accidental poisoning	Indigenous		Non-Indigenous	
	Number	%	Number	%
Non-opioid analgesics, antipyretics and anti-rheumatics	329	10.6	5,241	11.6
Anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs, not elsewhere classified	946	30.5	12,069	26.6
Narcotics and psychodysleptics (hallucinogens), not elsewhere classified	538	17.3	6,852	15.1
Other drugs acting on the autonomic nervous system	71	2.3	1,350	3.0
Other and unspecified drugs, medicaments and biological substances	629	20.3	10,646	23.5
Alcohol	86	2.8	839	1.8
Organic solvents and halogenated hydrocarbons and their vapours	101	3.3	674	1.5
Other gases and vapours	37	1.2	1,272	2.8
Pesticides	37	1.2	561	1.2
Other and unspecified chemicals and noxious substances	327	10.5	5,850	12.9
Total	3,101	100	45,354	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

An analysis of the 2 most common specified types of substances associated with *Accidental poisoning* among Indigenous people are shown in figures 2.12 and 2.13. For cases of *Accidental poisoning* by *Anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs, not elsewhere classified* rates of hospitalisation were on average 2 to 3 times as high in each age group for Indigenous compared with non-Indigenous people. Similarly for *Accidental poisoning* by *Narcotics and psychodysleptics (hallucinogens), not elsewhere classified*, rates were much higher in each age group among Indigenous people.

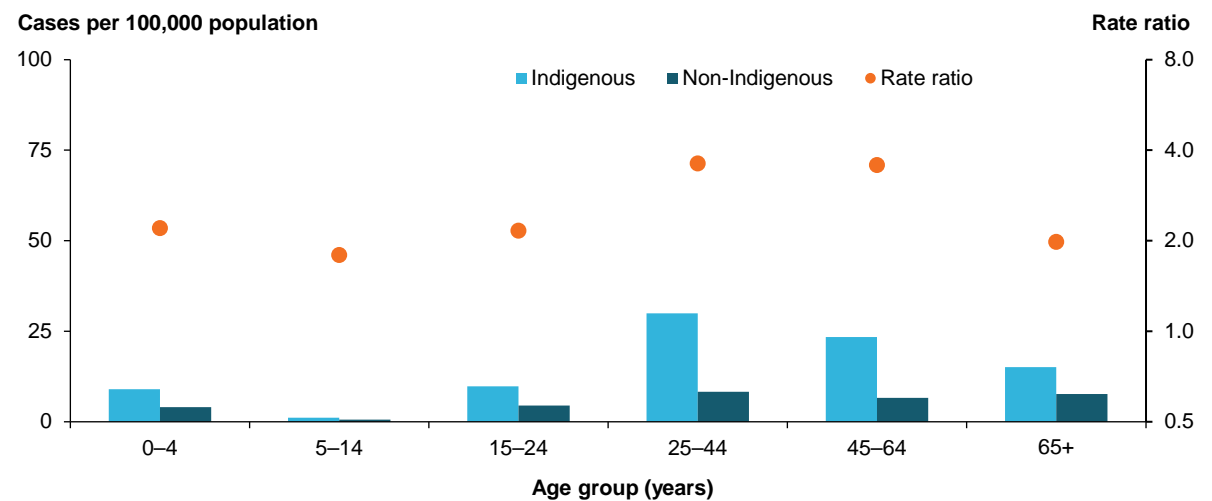
Figure 2.12: Age-specific rates of hospitalisation due to *Accidental poisoning by Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, by Indigenous status, Australia, 2011–16*



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Figure 2.13: Age-specific rates of hospitalisation due to *Accidental poisoning by Narcotics and psychodysleptics (hallucinogens), not elsewhere classified, by Indigenous status, Australia, 2011–16*



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Additional information about the specific type of substance involved in these 2 types of *Accidental poisoning* is available. For *Accidental poisoning by Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs* cases, *Psychostimulants with potential for use disorder* was the most common substance among both Indigenous people (42%, 240 cases) and non-Indigenous people (35%, 2,295 cases) (Table 2.18).

Table 2.18: Number and proportion of hospitalisations due to *Accidental poisoning by Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs not elsewhere classified* cases, by Indigenous status, Australia, 2011–16

Type of drug	Indigenous		Non-Indigenous	
	Number	%	Number	%
Psychostimulants with potential for use disorder	240	42.1	2,295	35.3
Other and unspecified antipsychotics and neuroleptics	176	30.9	1,900	29.2
Other and unspecified antidepressants	90	15.8	1,228	18.9
Tricyclic and tetracyclic antidepressants	38	6.7	501	7.7
Phenothiazine antipsychotics and neuroleptics	17	3.0	450	6.9
All other specified and unspecified drugs	9	1.6	124	1.9
Total	570	100	6,498	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

For cases of *Accidental poisoning by Narcotics and psychodysleptics (hallucinogens)*, *Other opioids* (for example, codeine and morphine) were the most common drugs causing *Accidental poisoning* both among Indigenous people (32%, 171 cases) and non-Indigenous people (41%, 2,780 cases) (Table 2.19). *Accidental poisoning* due to cannabis use was more common among Indigenous people (14%, 72 cases) compared with non-Indigenous people (9%, 584 cases), but readers are cautioned not to over-interpret this result given the small number of cases involved over the 5-year period.

Table 2.19: Number and proportion of hospitalisations due to *Accidental poisoning by Narcotics and psychodysleptics (hallucinogens)*, by Indigenous status, Australia, 2011–16

Type of drug	Indigenous		Non-Indigenous	
	Number	%	Number	%
Other opioids (for example, codeine, morphine)	171	32.0	2,780	40.6
Heroin	114	21.3	1,181	17.2
Cannabis (derivatives)	72	13.5	584	8.5
Other synthetic narcotics (for example, pethidine)	65	12.2	968	14.1
Methadone	53	9.9	487	7.1
All other specified and unspecified drugs	59	11.0	852	12.4
Total	534	100	6,852	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Summary

Table 2.20 summarises the main findings relating to hospitalisations due to *Accidental poisoning* among Indigenous people. Indigenous males and females hospitalised due to *Accidental poisoning* were more likely to be aged 25–44 and living in *Major cities*. For Indigenous males and females, *Anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs* were the most common substances attributed to the *Accidental poisoning*. For Indigenous people hospitalised as a result of *Accidental poisoning by Anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs*, the most common specific substances reported were *Psychostimulants with potential for use disorder*, and for *Accidental poisoning by Narcotics and psychodysleptics (hallucinogens)*, *Other opioids* were the most common specific substances reported.

Table 2.20: Summary of hospitalisations due to *Accidental poisoning*, by sex and Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Males	Females	Males	Females
Number of cases	1,635	1,466	23,999	21,354
Average number of cases per year	327	293	4,800	4,271
Age-standardised rate/100,000 population for the 5-year period	102	90	43	37
Most common age group (proportion)				
25–44	32%	32%	31%	25%
Region with highest rate of injury (persons, cases per 100,000 population)	Major cities 2,370		Remote and Very remote 80	
Type of drug				
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs	39%	36%	33%	33%
Type of Anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drug (proportions)	Psychostimulants with potential for use disorder 42%		Psychostimulants with potential for use disorder 35%	
Type of Narcotics and psychodysleptics (hallucinogens) (persons)	Other opioids (for example, codeine, morphine) 32%		Other opioids (for example, codeine, morphine) 41%	

Falls

There were 25,753 hospitalisations due to fall injury among Indigenous people in the 5-year period, with an annual average of 5,151 cases (Table 2.21). A higher proportion of Indigenous males (56%, 14,340 cases) were hospitalised as a result of a fall compared with Indigenous females (44%, 11,413 cases), while the opposite was true for non-Indigenous people. Rates of fall injury were higher among Indigenous people (981 cases per 100,000 population) compared with non-Indigenous people (725 cases per 100,000 population); this was also true for Indigenous males and females compared with their non-Indigenous counterparts.

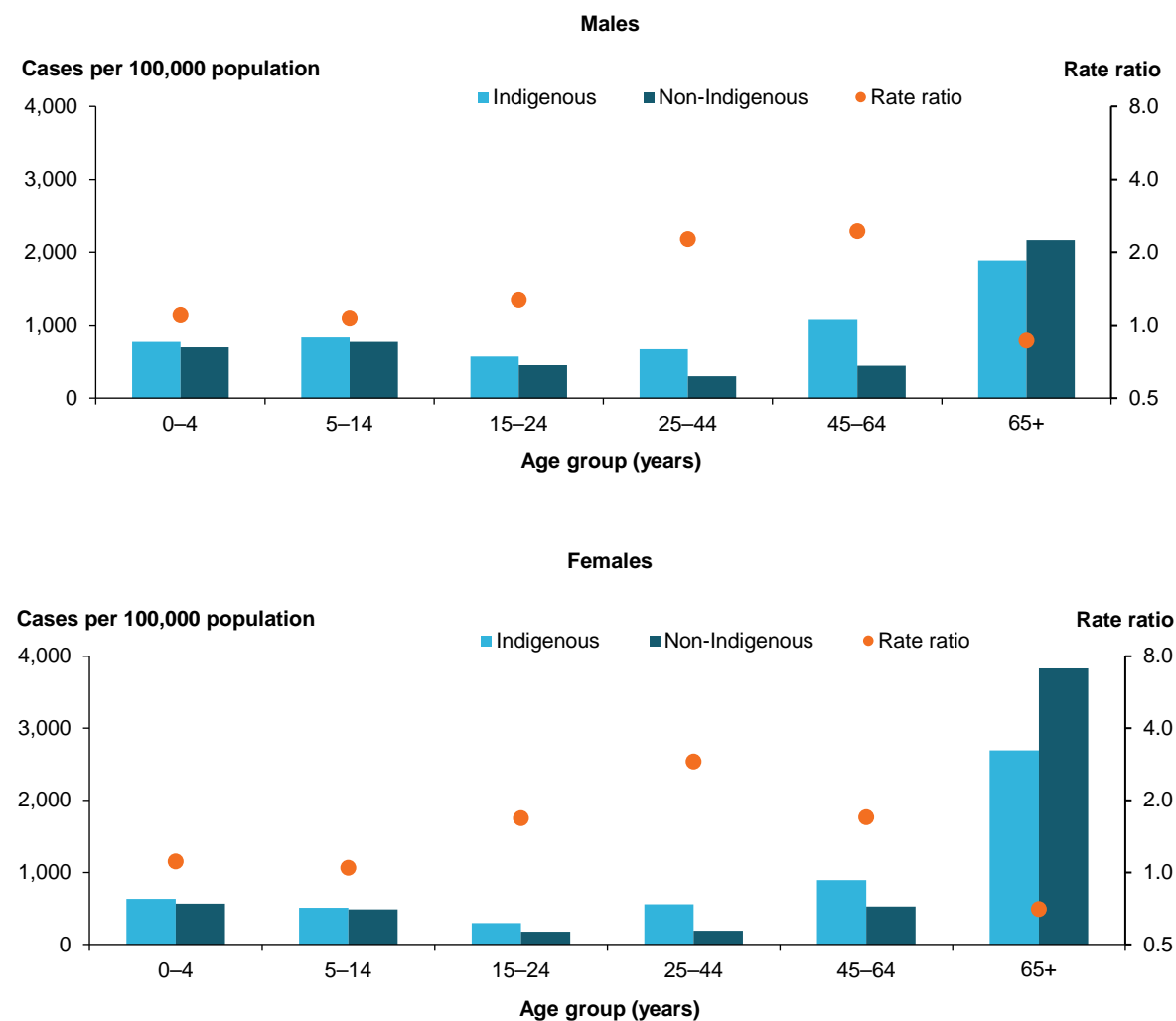
Table 2.21: Hospitalisations due to fall injury, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
Fall injury cases	14,340	11,413	25,753	395,160	516,034	911,194
Annual average (5 years)	2,868	2,283	5,151	79,032	103,207	182,239
Age-standardised rate (cases per 100,000 population) for the 5-year period	997	940	981	698	732	725

Age and sex

Rates of hospitalisation due to fall injury were slightly higher among Indigenous females than among Indigenous males, other than in the 65+ category, where the rate for females was 2,693 cases per 100,000 compared with 1,887 for Indigenous males (Figure 2.14). For Indigenous males, rates of hospitalisation due to fall injury were higher in every age category other than 65+, where Indigenous males (1,887 cases per 100,000) had lower rates of fall injury than non-Indigenous males (2,163 cases per 100,000). The largest rate ratio in fall injury was seen in men aged 45–64 where rates of injury were 2.4 times as high among Indigenous males (684) compared with non-Indigenous males (302). For Indigenous females, rates of hospitalisation due to fall injury were also higher in every age category other than 65+ compared with non-Indigenous females. Indigenous females aged 65+ had lower rates of fall injury (2,693 cases per 100,000) than non-Indigenous females (3,832 cases per 100,000). The largest rate ratio in fall injury was seen in women aged 25–44 where rates of injury were 2.9 times as high among Indigenous women (557) compared with non-Indigenous women (192).

Figure 2.14: Rates of hospitalisation due to fall injury, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Remoteness

The majority of fall injury cases among Indigenous people occurred in *Inner and outer regional* areas (Table 2.22). However, the rate of fall injury among Indigenous people was much higher in *Remote and very remote* areas (2,262 cases per 100,000 population) compared with the other 2 regions.

Table 2.22: Number and rate of hospitalisations due to fall injury, by remoteness of usual residence, by Indigenous status, Australia, 2011–16

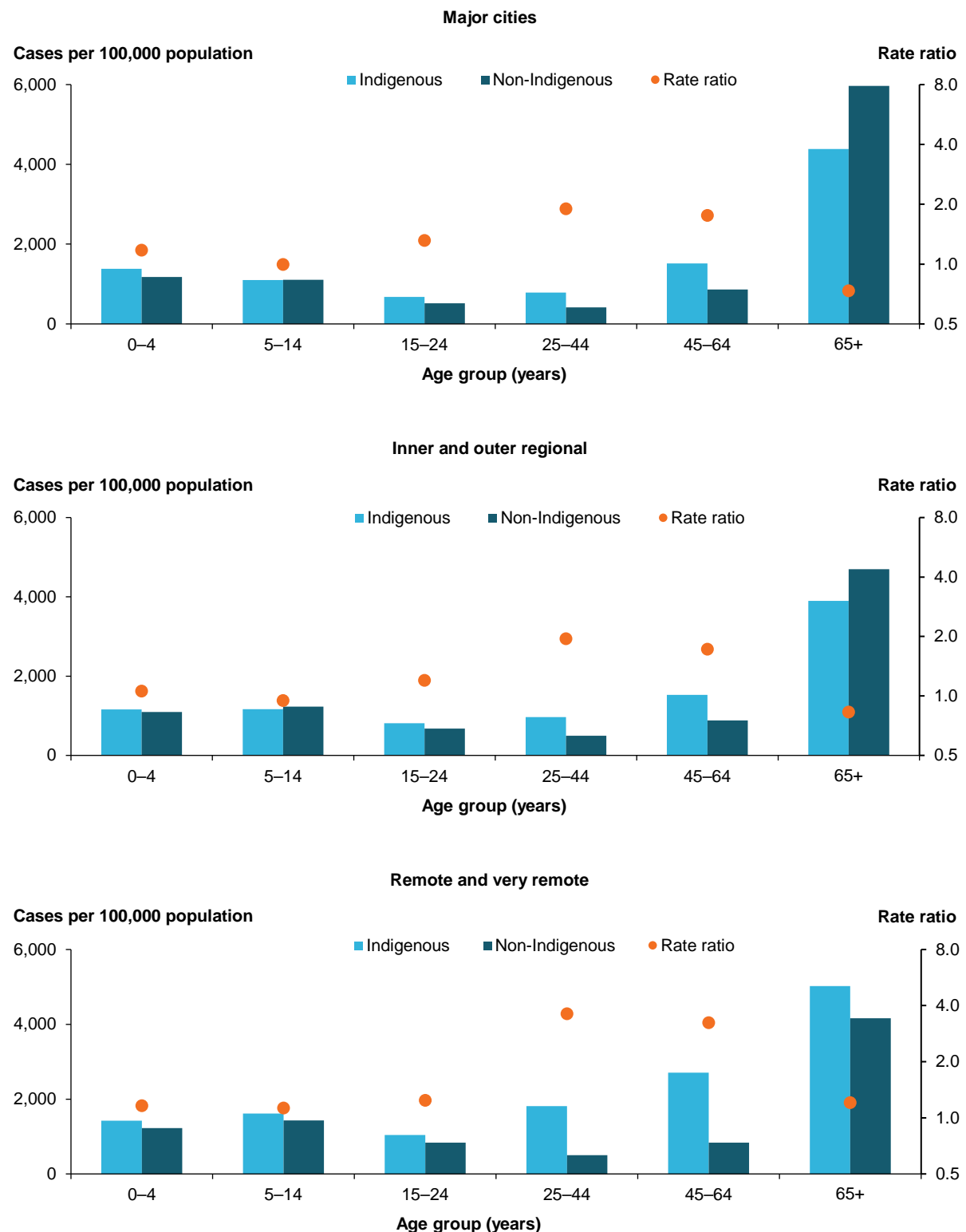
Remoteness of usual residence	Indigenous		Non-Indigenous		Rate ratio
	Number	Rate	Number	Rate	
Major cities	14,031	1,474	1,160,727	1,375	1.1
Inner and outer regional	18,936	1,482	452,989	1,279	1.2
Remote and very remote	13,573	2,262	23,062	1,261	1.8

Notes

1. Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.
2. Age-standardised rate (cases per 100,000 population).
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

The rate of fall injury by age group and remoteness of usual residence is shown in Figure 2.15. Rates of fall injury for each age group were higher in *Remote and very remote* regions than in *Major cities*. Rates of fall injury were highest in Indigenous people aged 65+ in *Remote and very remote* regions (5,019 cases per 100,000, compared with 4,383 cases per 100,000 in *Major cities*).

Figure 2.15: Age-specific rates of hospitalisation due to fall injury, by remoteness of usual residence and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

Body region injured

The most common injuries occurring as a result of a fall for Indigenous people were to the head (28%) and elbow and forearm (19%) (Table 2.23). A smaller proportion (8%) of Indigenous people experienced injuries to the hip and thigh compared with non-Indigenous people (16%). Knee and lower leg injuries were common among both Indigenous (16%, 4,034 cases) and non-Indigenous (13%, 114,707 cases) people.

Table 2.23: Body region injured for hospitalisations due to fall injury, by sex, Australia, 2011–16

Body region injured (principal diagnosis)	Indigenous		Non-Indigenous	
	Number	%	Number	%
Head	7,104	27.6	213,470	23.4
Neck	539	2.1	16,790	1.8
Thorax	1,103	4.3	50,933	5.6
Abdomen, lower back, lumbar spine and pelvis	1,334	5.2	76,357	8.4
Shoulder and upper arm	2,355	9.1	87,960	9.7
Elbow and forearm	4,855	18.9	141,645	15.5
Wrist and hand	1,364	5.3	32,858	3.6
Hip and thigh	1,966	7.6	147,076	16.1
Knee and lower leg	4,034	15.7	114,707	12.6
Ankle and foot	910	3.5	21,044	2.3
Other, multiple and incompletely specified body regions	98	0.4	3,790	0.4
Injuries not described in terms of body region	91	0.4	4,564	0.5
Total	25,753	100	911,194	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Type of injury

Overall, the type of injury resulting from a fall was similar for both Indigenous and non-Indigenous people (Table 2.24). In the 5-year period 2011–16, half of all Indigenous people hospitalised as a result of a fall had a fracture (51%, 13,027 cases), which is similar to the proportion for non-Indigenous people 57% (515,478 cases). The next most common outcome from a fall injury among Indigenous people was an open wound (12%, 3,139 cases).

Table 2.24: Hospitalisations due to fall injuries, by type of injury and Indigenous status, Australia, 2011–16

Type of injury	Indigenous		Non-Indigenous	
	Number	%	Number	%
Fracture	13,027	50.6	515,478	56.6
Dislocation	721	2.8	20,374	2.2
Soft-tissue injury	1,330	5.2	41,461	4.6
Open wound	3,139	12.2	101,688	11.2
Intracranial injury	1,613	6.3	52,582	5.8
Internal organ or vessel of trunk injury	232	0.9	6,298	0.7
Burn	6	0	58	0
Superficial injury	1,817	7.1	61,236	6.7
Poisoning or toxic effect	1	0	17	0
Other specified injury	714	2.8	22,756	2.5
Unspecified injury	3,153	12.2	89,246	9.8
Total	25,753	100	911,194	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

The most common fall injuries among Indigenous people that resulted in a fracture requiring hospitalisation were to the elbow and forearm (33%, 4,323 cases) (Table 2.25). This was also true for non-Indigenous people (24%, 125,799 cases). Injuries to the hip and thigh showed the greatest difference between Indigenous and non-Indigenous people: fractures of the hip and thigh accounted for 11% (1,383 cases) of cases among Indigenous people, compared with 22% for non-Indigenous people.

Table 2.25: Body region injured by a fall causing a fracture requiring hospitalisation, by sex, Australia, 2011–16

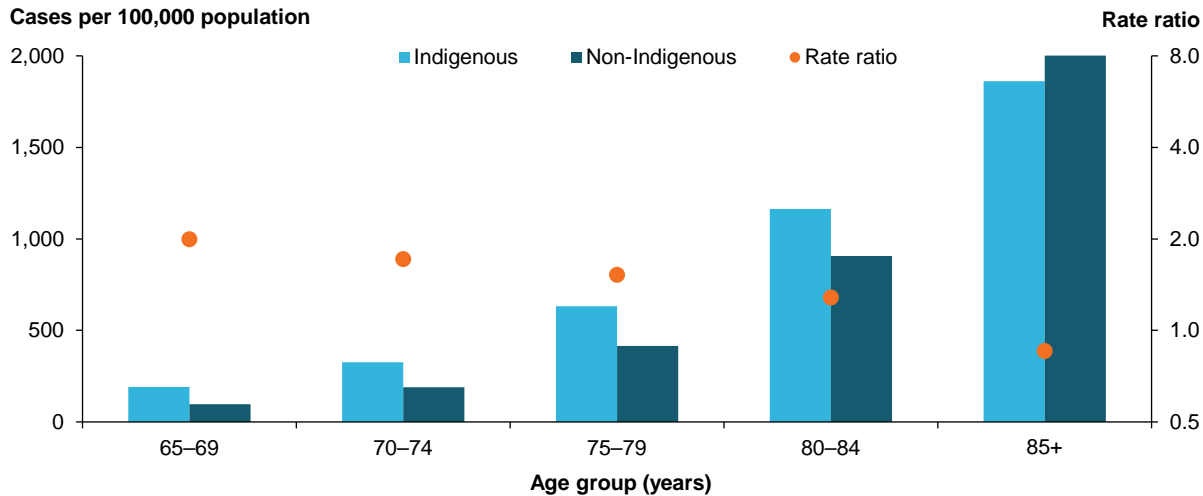
Body region injured (principal diagnosis)	Indigenous		Non-Indigenous	
	Number	%	Number	%
Head	595	4.6	20,624	4
Neck	117	0.9	6,882	1.3
Thorax	549	4.2	34,250	6.6
Abdomen, lower back, lumbar spine and pelvis	371	2.8	45,594	8.8
Shoulder and upper arm	1,765	13.5	62,232	12.1
Elbow and forearm	4,323	33.2	125,799	24.4
Wrist and hand	743	5.7	18,230	3.5
Hip and thigh	1,383	10.6	115,556	22.4
Knee and lower leg	2,779	21.3	74,651	14.5
Ankle and foot	398	3.1	11,600	2.3
Other, multiple and incompletely specified body regions	4	0	60	0
Total	13,027	100	515,478	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Hip fractures

Fall injuries with a principal diagnosis of hip fracture (*Fractured neck of femur*) are among the most serious injuries, particularly at older ages (AIHW: Pointer 2018b). The rate of hip fracture injury among older Indigenous people was higher than non-Indigenous people in each of the age groups shown in Figure 2.16 other than in the oldest group 85+. Among Indigenous people aged 65–69 the age-specific rate of hip fracture was 192 cases per 100,000 compared with 96 cases per 100,000 for non-Indigenous people. At ages 85+ the age-specific rate of hip fracture was 1,861 cases per 100,000 compared with 2,178 cases per 100,000 for non-Indigenous people.

Figure 2.16: Age-specific rates of hospitalisation due to hip fracture caused by falls, by age group, by Indigenous status, 65+ years, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Type of fall injury

The causes of fall injury varied by Indigenous status (Table 2.26). For Indigenous people, the largest proportion of fall injury cases (19%, 4,910 cases) were unspecified as to type. This proportion was the same among non-Indigenous people, but the leading cause of fall injury among non-Indigenous people was a *Fall on same level from slipping, tripping and stumbling* (28%, 255,191 cases). Among Indigenous people *Other fall on same level due to collision with, or pushing by, another person* was ranked much higher (5th leading cause) (7%, 1,749 cases) compared with non-Indigenous people (11th leading cause) (3%, 22,789 cases).

Table 2.26: Number of hospitalisations due to fall injuries and proportions for types of fall, by Indigenous status, Australia, 2011–16

Indigenous			Non-Indigenous		
External causes ranked	Number	%	External causes ranked	Number	%
Unspecified fall	4,910	19.1	Fall on same level from slipping, tripping and stumbling	255,191	28.0
Fall on same level from slipping, tripping and stumbling	4,611	17.9	Other fall on same level	180,532	19.8
Other fall on same level	4,347	16.9	Unspecified fall	173,619	19.1
Fall involving playground equipment	1,945	7.6	Fall on and from stairs and steps	63,151	6.9
Other fall on same level due to collision with, or pushing by, another person	1,749	6.8	Fall involving playground equipment	31,504	3.5
Other fall from one level to another	1,524	5.9	Fall involving bed	30,585	3.4
Fall on and from stairs and steps	1,459	5.7	Other fall from one level to another	30,689	3.4
Fall from, out of or through building or structure	1,179	4.6	Fall involving pedestrian conveyances	28,608	3.1
Fall involving pedestrian conveyances	1,092	4.2	Fall involving chair	27,318	3.0
Fall involving bed	741	2.9	Fall on and from ladder	24,281	2.7
Fall involving chair	748	2.9	Other fall on same level due to collision with, or pushing by, another person	22,789	2.5
Fall from tree	536	2.1	Fall from, out of or through building or structure	19,341	2.1
Fall involving other furniture	188	0.7	Fall involving wheelchair	4,854	0.5
Fall on and from ladder	182	0.7	Fall from tree	4,811	0.5
Fall while being carried or supported by other persons	158	0.6	Fall involving other furniture	3,800	0.4
Fall involving wheelchair	162	0.6	Fall while being carried or supported by other persons	3,172	0.3
Diving or jumping into water causing injury other than drowning or submersion	117	0.5	Diving or jumping into water causing injury other than drowning or submersion	3,134	0.3
Fall from cliff	93	0.4	Fall from cliff	2,151	0.2
Fall on same level involving ice and snow	3	0.0	Fall on and from scaffolding	1,281	0.1
Fall on and from scaffolding	9	0.0	Fall on same level involving ice and snow	383	0.0
Total	25,753	100	Total	911,194	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

The causes of fall injury by age group and Indigenous status are shown in Table 2.27. The causes of fall injury in each age group are very similar for Indigenous and non-Indigenous people. A notable difference is the large proportion of unspecified type of fall cases among Indigenous people aged 25–44. A lack of specificity in external cause information for Indigenous people is problematic from a prevention point of view and may be worth further investigation.

Table 2.27: Number of hospitalisations due to fall injury and proportions for top 3 types of fall, by Indigenous status, by age, Australia, 2011–16

Indigenous			Non-Indigenous		
External causes ranked	Number	%	External causes ranked	Number	%
Aged 0–4			Aged 0–4		
Fall involving playground equipment	498	16.6	Fall involving playground equipment	7,159	15.6
Other fall from one level to another	319	10.6	Fall involving chair	5,637	12.3
Fall involving bed	304	10.1	Fall on same level from slipping, tripping and stumbling	5,255	11.4
Aged 5–14			Aged 5–14		
Fall involving playground equipment	1,340	24.6	Fall involving playground equipment	22,298	25.7
Fall involving pedestrian conveyances	601	11.0	Fall involving pedestrian conveyances	11,350	13.1
Other fall on same level	578	10.6	Other fall on same level	11,159	12.9
Aged 15–24			Aged 15–24		
Other fall on same level due to collision with, or pushing by, another person	744	23.4	Other fall on same level due to collision with, or pushing by, another person	8,838	18.6
Other fall on same level	544	17.1	Other fall on same level	7,281	15.3
Unspecified fall	452	14.2	Fall on same level from slipping, tripping and stumbling	6,204	13.1
Aged 25–44			Aged 25–44		
Unspecified fall	1,449	25.8	Fall on same level from slipping, tripping and stumbling	16,793	21.2
Other fall on same level	1,108	19.7	Other fall on same level	11,988	15.1
Fall on same level from slipping, tripping and stumbling	1,030	18.3	Unspecified fall	11,697	14.7
Aged 45–64			Aged 45–64		
Unspecified fall	1,519	28	Fall on same level from slipping, tripping and stumbling	43,663	31.8
Fall on same level from slipping, tripping and stumbling	1,378	25.4	Unspecified fall	23,789	17.4
Other fall on same level	1,153	21.2	Other fall on same level	20,871	15.2
Aged 65+			Aged 65+		
Fall on same level from slipping, tripping and stumbling	965	31.3	Fall on same level from slipping, tripping and stumbling	172,716	33.6
Unspecified fall	816	26.5	Other fall on same level	124,506	24.2
Other fall on same level	720	23.4	Unspecified fall	121,739	23.7

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Summary

Table 2.28 summarises the main findings relating to hospitalisations due to fall injury among Indigenous people. Indigenous males and females hospitalised due to a fall had different age profiles, with males having a higher proportion of younger cases (24%, children aged 5–14). The largest proportion of cases for Indigenous females was for women aged 25–44 (17%). Indigenous males and females hospitalised as a result of a fall injury were more likely to be living in *Remote and very remote* regions. The head was the most common part of the body injured and the outcome of a fall for Indigenous males and females was similar, with fractures the most common type of injury. The most common type of fall for Indigenous males was *Other fall on same level* (20%), while for Indigenous females it was *Fall on same level from slipping, tripping and stumbling* (28%).

Table 2.28: Summary of hospitalisations due to fall injury, by sex and Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Males	Females	Males	Females
Number of cases	14,340	11,413	395,160	516,034
Average number of cases per year	2,868	2,283	79,032	103,207
Age-standardised rate/100,000 population for the 5-year period	943	865	684	789
Most common age group (proportion)	5–14 24%	25–44 17%	65+ 43%	65+ 67%
Region with highest rate of injury (persons, cases per 100,000 population)	Remote and Very remote 2,262		Major cities 1,375	
Body region injured				
Head	30%	25%	27%	21%
Nature of injury				
Fracture	31%	25%	38%	44%
Type of fall				
Other fall on same level	20%	..	..	..
Fall on same level from slipping, tripping and stumbling	..	28%	26%	41%

Exposure to inanimate mechanical forces

There were 16,247 hospitalisations due to *Exposure to inanimate mechanical forces* injury among Indigenous people in the 5-year period, with an annual average of 3,249 cases (Table 2.29). *Exposure to inanimate mechanical forces* injuries can be caused by events such as being unintentionally struck, crushed and contacted by objects. More Indigenous males (68%, 10,987 cases) were hospitalised as a result of an injury due to *Exposure to inanimate mechanical forces* than were Indigenous females (32%, 5,260 cases). Rates of *Exposure to inanimate mechanical forces* injury were higher among Indigenous people (421 cases per 100,000 population) than among non-Indigenous people (280 cases per 100,000 population). This was also true for both Indigenous males and females compared with their non-Indigenous counterparts.

Table 2.29: Hospitalisations due to *Exposure to inanimate mechanical forces* injuries, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
<i>Exposure to inanimate mechanical forces</i> injury cases	10,987	5,260	16,247	232,043	82,503	314,548
Annual average (5 years)	2,197	1,052	3,249	46,409	16,501	62,910
Age-standardised rate (cases per 100,000 population) for the 5-year period	582	279	421	414	146	280

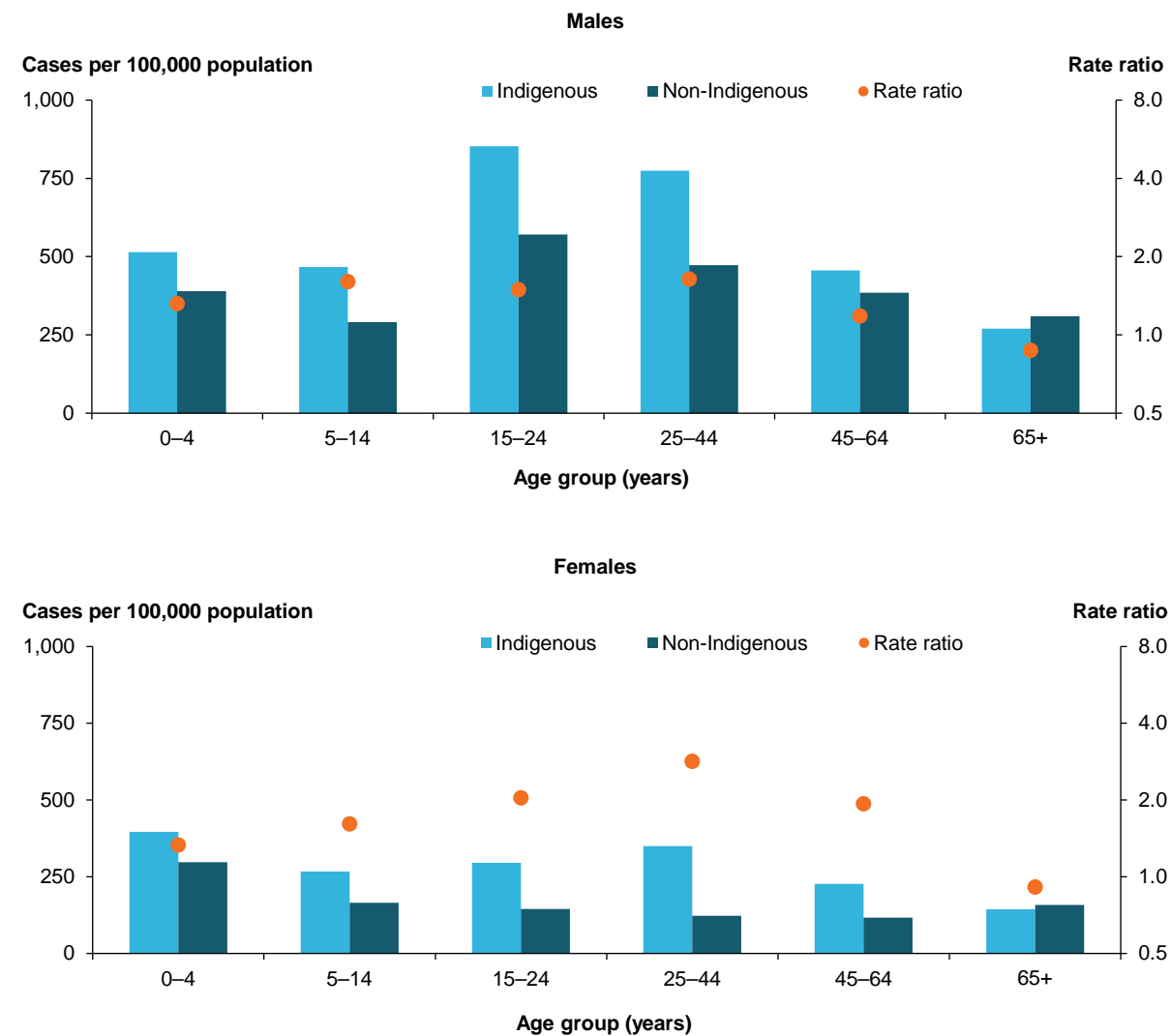
Age and sex

Rates of hospitalisation due to *Exposure to inanimate mechanical forces* injuries were higher among Indigenous males than Indigenous females (Figure 2.17). The largest rate ratio in hospitalisations due to *Exposure to inanimate mechanical forces* was seen in people aged 15–24 where rates of injury were 2.9 times as high among Indigenous males (853 cases per 100,000) compared with Indigenous females (295).

For Indigenous males, rates of hospitalisation due to *Exposure to inanimate mechanical forces* injuries were higher than those for non-Indigenous males in every age category other than the 65+ group. Within the 65+ age group, Indigenous males had lower rates of hospitalisation due to *Exposure to inanimate mechanical forces* injuries (270 cases per 100,000) than non-Indigenous males (310 cases per 100,000). For both Indigenous and non-Indigenous males, the highest rate of hospitalisation due to *Exposure to inanimate mechanical forces* injuries occurred at age 15–24, (853 and 571 cases per 100,000, respectively).

For Indigenous females, rates of hospitalisation due to *Exposure to inanimate mechanical forces* injuries were also higher than non-Indigenous females in every age category other than 65+. Indigenous women aged 65+ had lower rates of hospitalisation due to *Exposure to inanimate mechanical forces* injuries (144 cases per 100,000) than non-Indigenous women (158 cases per 100,000). Unlike their male counterparts, the largest rate ratio in hospitalisations due to *Exposure to inanimate mechanical forces* was seen in the 25–44 age group where rates of injury were 2.8 times as high among Indigenous women (350) compared with non-Indigenous women (123). For both Indigenous and non-Indigenous females, the highest rate occurred in children aged 0–4 (396 and 297 cases per 100,000, respectively).

Figure 2.17: Rates of hospitalisation due to *Exposure to inanimate mechanical forces* injuries, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Remoteness

The rate that Indigenous people were hospitalised as a result of *Exposure to inanimate mechanical forces* injuries was higher in each successive remoteness category (Table 2.30). The rate of hospitalisation due *Exposure to inanimate mechanical forces* injury among Indigenous people living in *Remote and very remote* areas (1,096 cases per 100,000 population) was almost 2 times that their non-Indigenous counterparts (647 cases per 100,000).

Table 2.30: Number and rate of hospitalisations due to *Exposure to inanimate mechanical forces* injury, by remoteness of usual residence, by Indigenous status, Australia, 2011–16

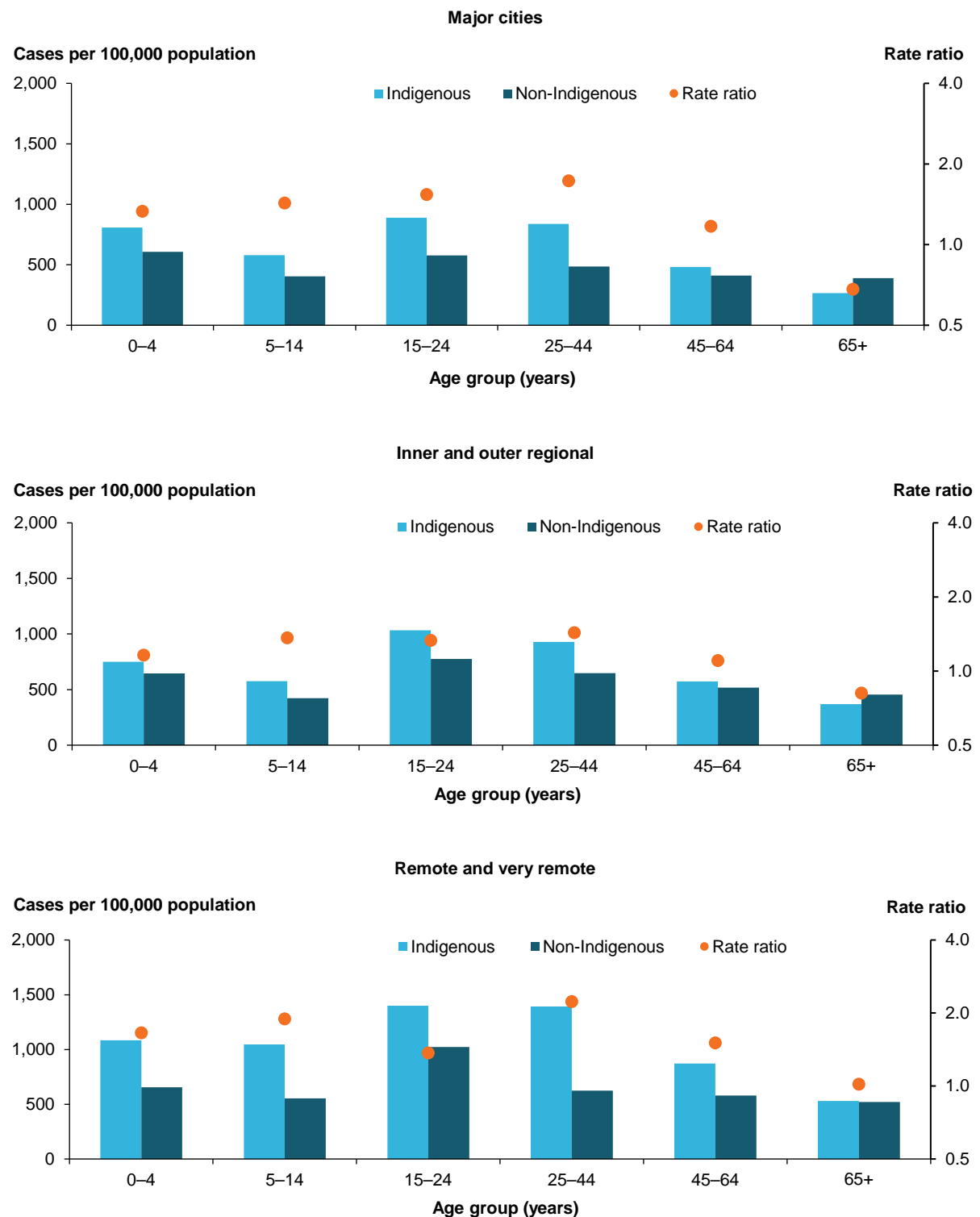
Remoteness of usual residence	Indigenous		Non-Indigenous		Rate ratio
	Number	Rate	Number	Rate	
Major cities	8,860	653	376,874	465	1.4
Inner and outer regional	11,975	730	168,997	580	1.3
Remote and very remote	8,529	1,096	11,916	647	1.7

Notes

1. Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.
2. Age-standardised rate (cases per 100,000 population).
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

An analysis by age shows much higher rates of hospitalisation due to *Exposure to inanimate mechanical forces* injury among Indigenous people living in *Remote and very remote* areas in all age groups (Figure 2.18). The highest rate of hospitalisation due to *Exposure to inanimate mechanical forces* injury for Indigenous people occurred at age 15–24 (1,400 cases per 100,000, compared with 1,023 cases per 100,000 non-Indigenous people).

Figure 2.18: Age-specific rates of hospitalisation due to *Exposure to inanimate mechanical forces* injuries, by remoteness of usual residence and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. Data from 2011–12 were ASGC-based, data from 2012 on were ASGS-based (see Appendix A: Data issues).

Body region injured

The most common injuries due to *Exposure to inanimate mechanical forces* for Indigenous people were to the wrist and hand (42%, 6,843 cases) (Table 2.31). This was also true for non-Indigenous people, where the proportion was slightly higher (50%, 156,553 cases).

Table 2.31: Body region injured for *Exposure to inanimate mechanical forces* injuries requiring hospitalisation, by sex, Australia, 2011–16

Body region injured (principal diagnosis)	Indigenous		Non-Indigenous	
	Number	%	Number	%
Head	1,582	9.7	33,431	10.6
Neck	113	0.7	2,384	0.8
Thorax	167	1.0	3,409	1.1
Abdomen, lower back, lumbar spine and pelvis	398	2.4	5,858	1.9
Shoulder and upper arm	233	1.4	3,749	1.2
Elbow and forearm	1,468	9.0	16,668	5.3
Wrist and hand	6,843	42.1	156,553	49.8
Hip and thigh	257	1.6	4,776	1.5
Knee and lower leg	856	5.3	19,390	6.2
Ankle and foot	2300	14.2	28,521	9.1
Other, multiple and incompletely specified body regions	1843	11.3	37,775	12.0
Injuries not described in terms of body region	187	1.2	2,034	0.6
Total	16,247	100	314,548	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Type of injury

Overall, the type of injury resulting from *Exposure to inanimate mechanical forces* was similar for both Indigenous and non-Indigenous people (Table 2.32). In the 5-year period 2011–16, over a third of all Indigenous people hospitalised as a result of *Exposure to inanimate mechanical forces* injury had an open wound (37%, 5,991 cases). The next most common was fracture (16%, 2,559 cases).

Table 2.32: Hospitalisations due to *Exposure to inanimate mechanical forces* injuries, by type of injury and Indigenous status, Australia, 2011–16

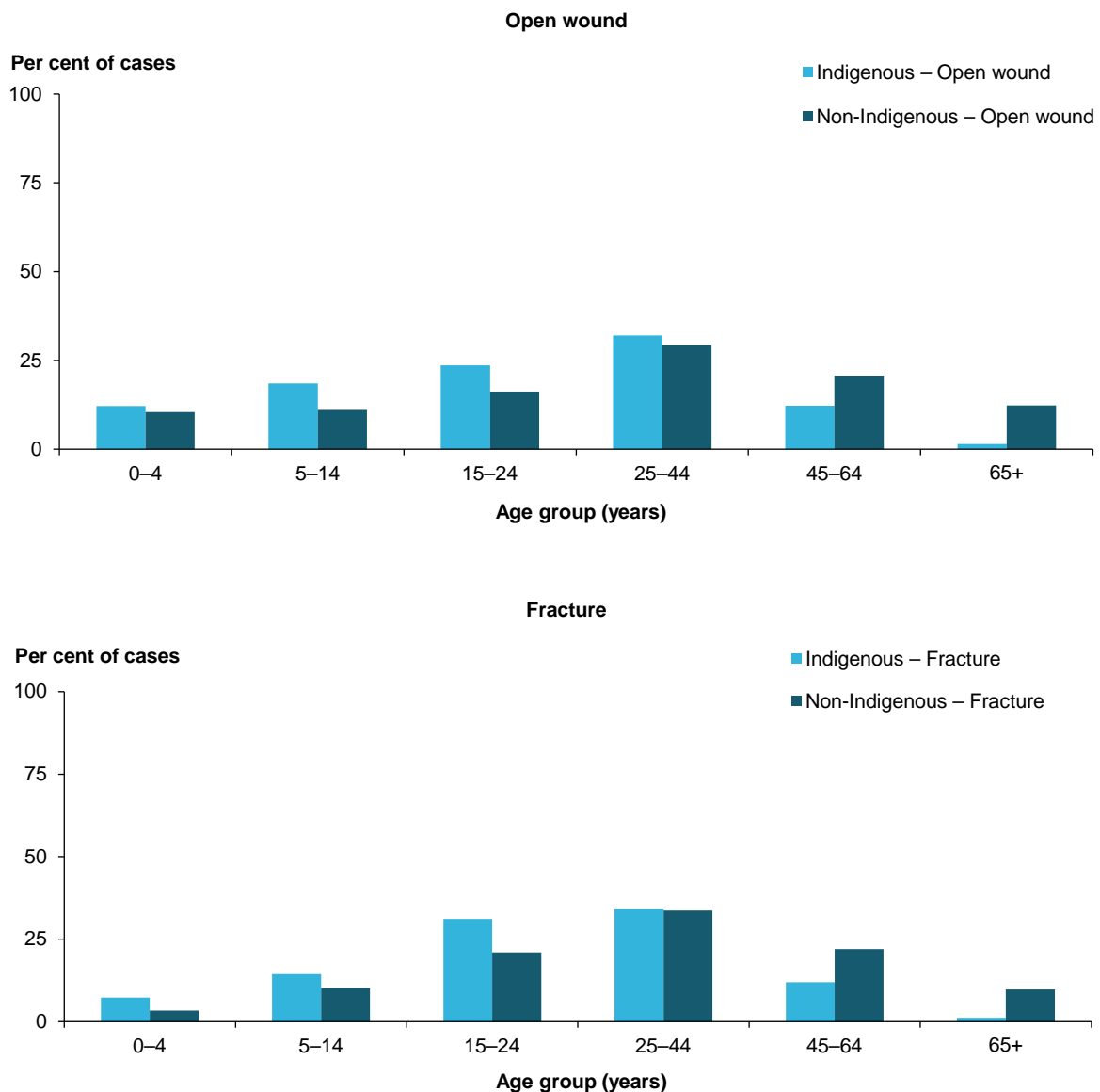
Type of injury	Indigenous		Non-Indigenous	
	Number	%	Number	%
Fracture	2,559	15.8	62,541	19.9
Dislocation	184	1.1	2,712	0.9
Soft-tissue injury	2,189	13.5	40,136	12.8
Open wound	5,991	36.9	98,221	31.2
Intracranial injury	190	1.2	4,301	1.4
Internal organ or vessel of trunk injury	94	0.6	1,677	0.5
Burn	92	0.6	1,673	0.5
Superficial injury	634	3.9	14,685	4.7
Poisoning or toxic effect	0	0	54	0.0
Other specified injury	3,920	24.1	81,170	25.8
Unspecified injury	394	2.4	7,378	2.3
Total	16,247	100	314,548	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Differences between Indigenous and non-Indigenous people with respect to open wounds and fractures resulting from *Exposure to inanimate mechanical forces* injuries were evident in all age groups to varying degrees (Figure 2.19). For Indigenous people the proportions of open wounds resulting from *Exposure to inanimate mechanical forces* injuries were higher than for non-Indigenous people in each age group, other than those aged 45–64 and 65+. The largest proportion of cases occurred at age 25–44 for both Indigenous (32%, 1,917 cases) and non-Indigenous (29%, 28,743 cases) people.

A similar pattern by age was observed for fractures resulting from *Exposure to inanimate mechanical forces*. The largest proportion of cases occurred in the 25–44 age group for both Indigenous (34%, 872 cases) and non-Indigenous (34%, 21,062 cases) people.

Figure 2.19: Proportion of open wound and fracture cases due *Exposure to inanimate mechanical forces*, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.

Type of exposure

The large proportion of open wound injuries that occurred as a result of *Exposure to inanimate mechanical forces* is partially explained by the causes of these injuries (Table 3.33). For Indigenous people the largest proportion of cases were due to *Contact with sharp glass* (22%, 3,548 cases, compared with just 9%, 26,948 cases among non-Indigenous people).

Table 2.33: Number of hospitalisations due to *Exposure to inanimate mechanical forces* injuries and proportions for types of exposure, by Indigenous status, Australia, 2011–16

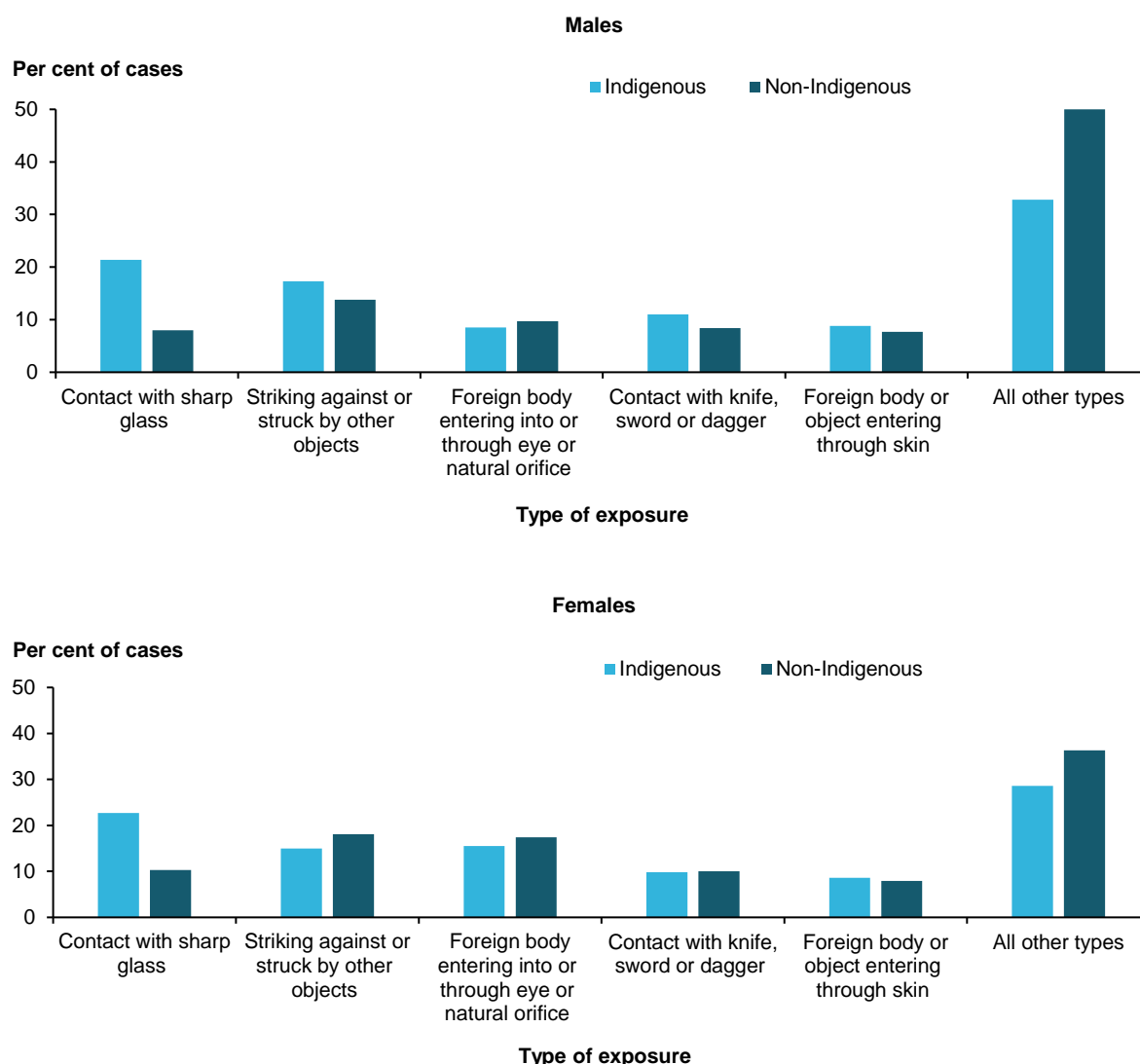
Indigenous			Non-Indigenous		
External causes ranked	Number	%	External causes ranked	Number	%
Contact with sharp glass	3,548	21.8	Striking against or struck by other objects	46,888	14.9
Striking against or struck by other objects	2,694	16.6	Foreign body entering into or through eye or natural orifice	36,786	11.7
Foreign body entering into or through eye or natural orifice	1,747	10.8	Caught, crushed, jammed or pinched in or between objects	30,622	9.7
Contact with knife, sword or dagger	1,725	10.6	Contact with other powered hand tools and household machinery	28,221	9.0
Foreign body or object entering through skin	1,420	8.7	Contact with knife, sword or dagger	27,687	8.8
Caught, crushed, jammed or pinched in or between objects	1,331	8.2	Contact with sharp glass	26,948	8.6
Struck by thrown, projected or falling object	1,028	6.3	Foreign body or object entering through skin	24,347	7.7
Exposure to other and unspecified inanimate mechanical forces	663	4.1	Struck by thrown, projected or falling object	23,825	7.6
Striking against or struck by sports equipment	470	2.9	Contact with other and unspecified machinery	19,660	6.3
Contact with other powered hand tools and household machinery	435	2.7	Striking against or struck by sports equipment	16,558	5.3
Contact with other and unspecified machinery	415	2.6	Contact with non-powered hand tool	10,837	3.4
Contact with non-powered hand tool	354	2.2	Exposure to other and unspecified inanimate mechanical forces	10,394	3.3
All other types of exposure	417	2.4	All other types of exposure	11,775	3.7
Total	16,247	100	Total	314,548	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Among Indigenous males (21%, 2,354 cases) and females (23%, 1,194 cases) *Contact with sharp glass* was the leading cause of an injury due to *Exposure to inanimate mechanical forces* (Figure 2.20). Indigenous females had a greater proportion of injuries due to *Foreign body entering into or through eye or natural orifice* (16%, 813 cases) compared with Indigenous males (9%, 934 cases).

Indigenous males had much larger proportions of injuries due to *Contact with sharp glass* (21%, 2,354 cases) compared with non-Indigenous males (8%, 18,451 cases). The same was true for Indigenous and non-Indigenous females (23%, 1,194 cases and 10%, 8,497 cases, respectively).

Figure 2.20: Proportion of types of *Exposure to inanimate mechanical forces* injuries requiring in hospitalisation, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.

Summary

Table 2.34 summarises the main findings relating to hospitalisations due to *Exposure to inanimate mechanical forces* injuries among Indigenous people. Indigenous males were twice as likely as females to experience an injury due to *Exposure to inanimate mechanical forces*. Indigenous males and females hospitalised as a result of *Exposure to inanimate mechanical forces* were more likely to be living in *Remote and very remote* regions. For Indigenous males and females, the wrist and hand was the most common body part injured and open wounds was the most common type of injury. *Contact with sharp object* was the main cause of these injuries among both Indigenous males and females.

Table 2.34: Summary of hospitalisations due to *Exposure to inanimate mechanical forces* injuries, by sex and Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Males	Females	Males	Females
Number of cases	10,987	5,260	232,043	82,503
Average number of cases per year	2,197	1,052	46,409	16,501
Age-standardised rate/100,000 population for the 5-year period	582	279	414	146
Most common age group (proportion)				
25–44	32%	31%	33%	24%
Region with highest rate of injury (persons, cases per 100,000 population)	Remote and Very remote 1,096		Remote and Very remote 647	
Body region injured				
Wrist and hand	46%	35%	54%	39%
Nature of injury				
Open wound	37%	37%	31%	32%
Type of exposure				
Contact with sharp object	21%	23%	..	..
Striking against or struck by other objects	..	..	14%	18%

Intentional self-harm

There were 10,425 hospitalisations due to *Intentional self-harm* injuries among Indigenous people in the 5-year period, with an annual average of 2,085 cases (Table 2.35). More Indigenous females were hospitalised as a result of *Intentional self-harm* (62%, 6,433 cases) compared with Indigenous males (38%, 3,992 cases). Rates of *Intentional self-harm* injury were far higher among Indigenous people (306 cases per 100,000 population) compared with non-Indigenous people (116 cases per 100,000 population) with a rate ratio of 3:1.

Table 2.35: Hospitalisations due to *Intentional self-harm* injuries, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
<i>Intentional self-harm</i> injury cases	3,992	6,433	10,425	45,298	82,110	127,418
Annual average (5 years)	798	1,287	2,085	9,060	16,422	25,484
Age-standardised rate (cases per 100,000 population) for the 5-year period	246	365	306	81	151	116

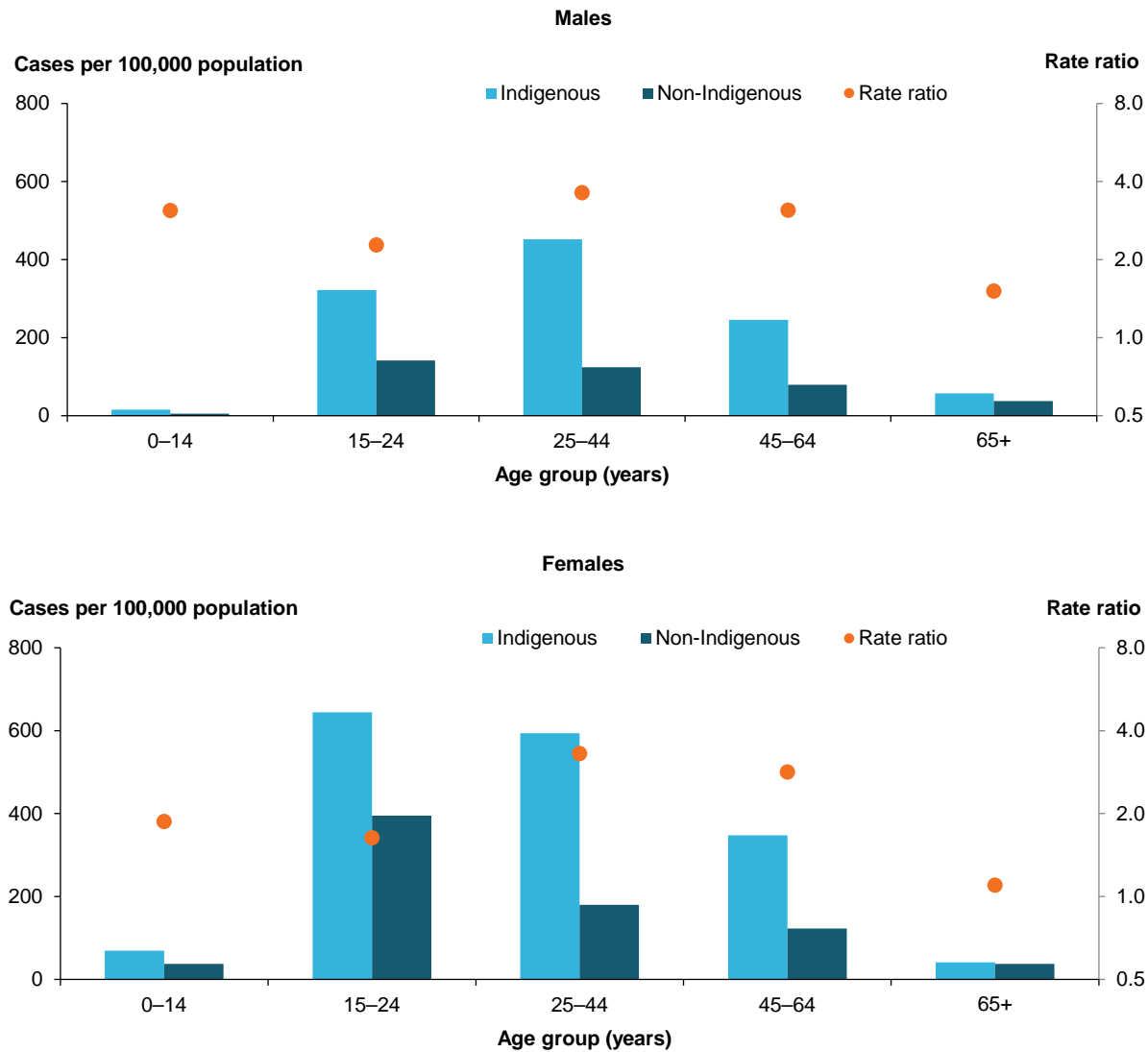
Age and sex

Rates of hospitalisation due to *Intentional self-harm* injury were, on average, 1 and a half times as high among Indigenous females in each age category compared with Indigenous males (Figure 2.21). The greatest difference in rates of *Intentional self-harm* between Indigenous male cases and female cases was seen in the 15–24 age category where the rates of hospitalisation due to self-harm were 322 cases per 100,000 and 645, respectively.

Among Indigenous male cases, rates of hospitalisation due to *Intentional self-harm* were higher in every age category compared with non-Indigenous males. The largest rate ratio for *Intentional self-harm* injury was seen in men aged 25–44, where rates of injury were 3.6 times as high among Indigenous males (452) compared with non-Indigenous males (124).

For Indigenous females, rates of hospitalisation due to *Intentional self-harm* injury were also higher than for non-Indigenous females in every age category. The highest rate of *Intentional self-harm* among Indigenous females occurred at age 15–24 (645 cases per 100,000). This was also true for non-Indigenous females (395 cases per 100,000). The largest rate ratio for *Intentional self-harm* was seen in women aged 25–44 where rates of injury were 3.3 times as high among Indigenous women (594) compared with non-Indigenous women (180).

Figure 2.21: Rates of hospitalisation due to *Intentional self-harm*, by sex and Indigenous status, Australia, 2011–16



- Notes
1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
 2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
 3. See Box 1.3 for information on reporting of intentional self-harm among children.

Remoteness

The rate of hospitalisations for Indigenous people as a result of *Intentional self-harm* injury was similar in each of the 3 remoteness of usual residence zones (Table 2.36). The rate of *Intentional self-harm* was 2 to 3 times as high among Indigenous people compared with non-Indigenous people.

Table 2.36: Number and rate of hospitalisations due to *Intentional self-harm* injury, by remoteness of usual residence, by Indigenous status, Australia, 2011–16

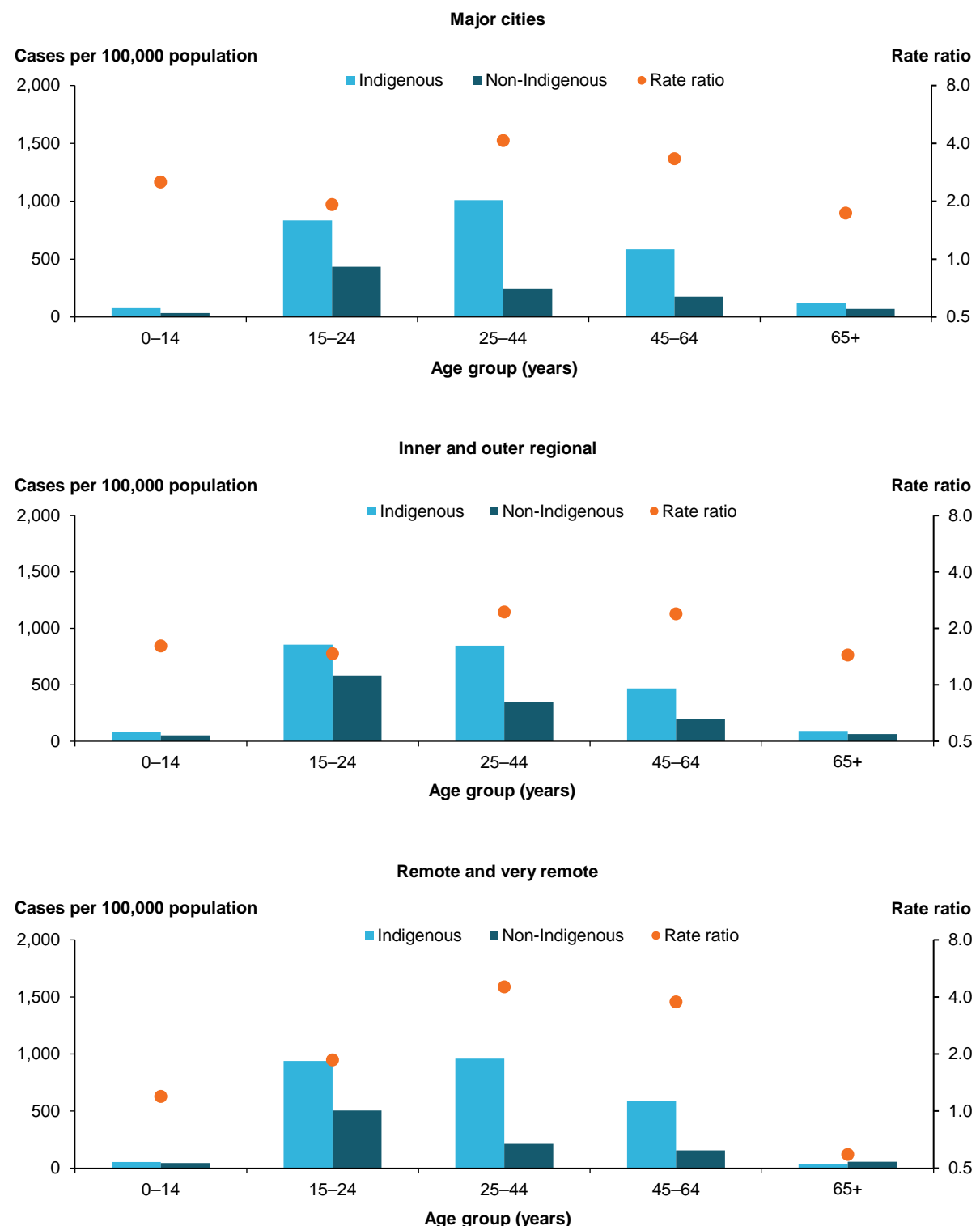
Remoteness of usual residence	Indigenous		Non-Indigenous		Rate ratio
	Number	Rate	Number	Rate	
Major cities	6,989	586	154,906	189	3.1
Inner and outer regional	7,520	508	67,948	248	2.1
Remote and very remote	4,151	569	3,347	186	3.1

Notes

1. Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.
2. Age-standardised rate (cases per 100,000 population).
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

An analysis by age and remoteness of usual residence shows little variation for hospitalisations due to *Intentional self-harm* injury among Indigenous people by remoteness. (Figure 2.22). The highest rate of hospitalisations for *Intentional self-harm* injury for Indigenous people occurred at age 25–44 for those in *Major cities* (1,009 cases per 100,000, compared with just 244 cases per 100,000 for non-Indigenous people).

Figure 2.22: Age-specific rates of hospitalisation due to *Intentional self-harm* injury, by remoteness of usual residence and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).
4. See Box 1.3 for information on reporting of intentional self-harm among children.

Body region injured

The most common injuries as a result of *Intentional self-harm* for Indigenous people were not described in terms of body region (72%) because they were largely cases of *Intentional self-harm* by poisoning (Table 2.37). For the remaining cases, the elbow and forearm combined with the wrist and hand comprised half (49%, 1,420 cases) of all injuries as a result of *Intentional self-harm* for Indigenous people. For non-Indigenous people the results were very similar, with 86% (109,484 cases) of cases not described in terms of body region and 53% (9,565 cases) comprised injuries to the elbow and forearm combined with the wrist and hand.

Table 2.37: Body region injured for cases of *Intentional self-harm* injury requiring hospitalisation, by sex, Australia, 2011–16

Body region injured (principal diagnosis)	Indigenous		Non-Indigenous	
	Number	%	Number	%
Head	187	1.8	957	0.8
Neck	341	3.3	1,515	1.2
Thorax	163	1.6	679	0.5
Abdomen, lower back, lumbar spine and pelvis	224	2.1	1,767	1.4
Shoulder and upper arm	71	0.7	397	0.3
Elbow and forearm	823	7.9	4,703	3.7
Wrist and hand	597	5.7	4,862	3.8
Hip and thigh	240	2.3	727	0.6
Knee and lower leg	66	0.6	515	0.4
Ankle and foot	18	0.2	212	0.2
Other, multiple and incompletely specified body regions	188	1.8	1,600	1.3
Injuries not described in terms of body region	7,507	72.0	109,484	85.9
Total	10,425	100	127,418	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Type of injury

Table 2.38 shows the range of outcomes that resulted from *Intentional self-harm* injury. As referred to earlier, the most common type of injury for both Indigenous (66%, 6,897 cases) and non-Indigenous people (84%, 107,341 cases) was poisoning or the toxic effect of a substance. A larger proportion of Indigenous people had an open wound as a result of *Intentional self-harm* (17%, 1,796 cases) compared with non-Indigenous people (9%, 10,882 cases).

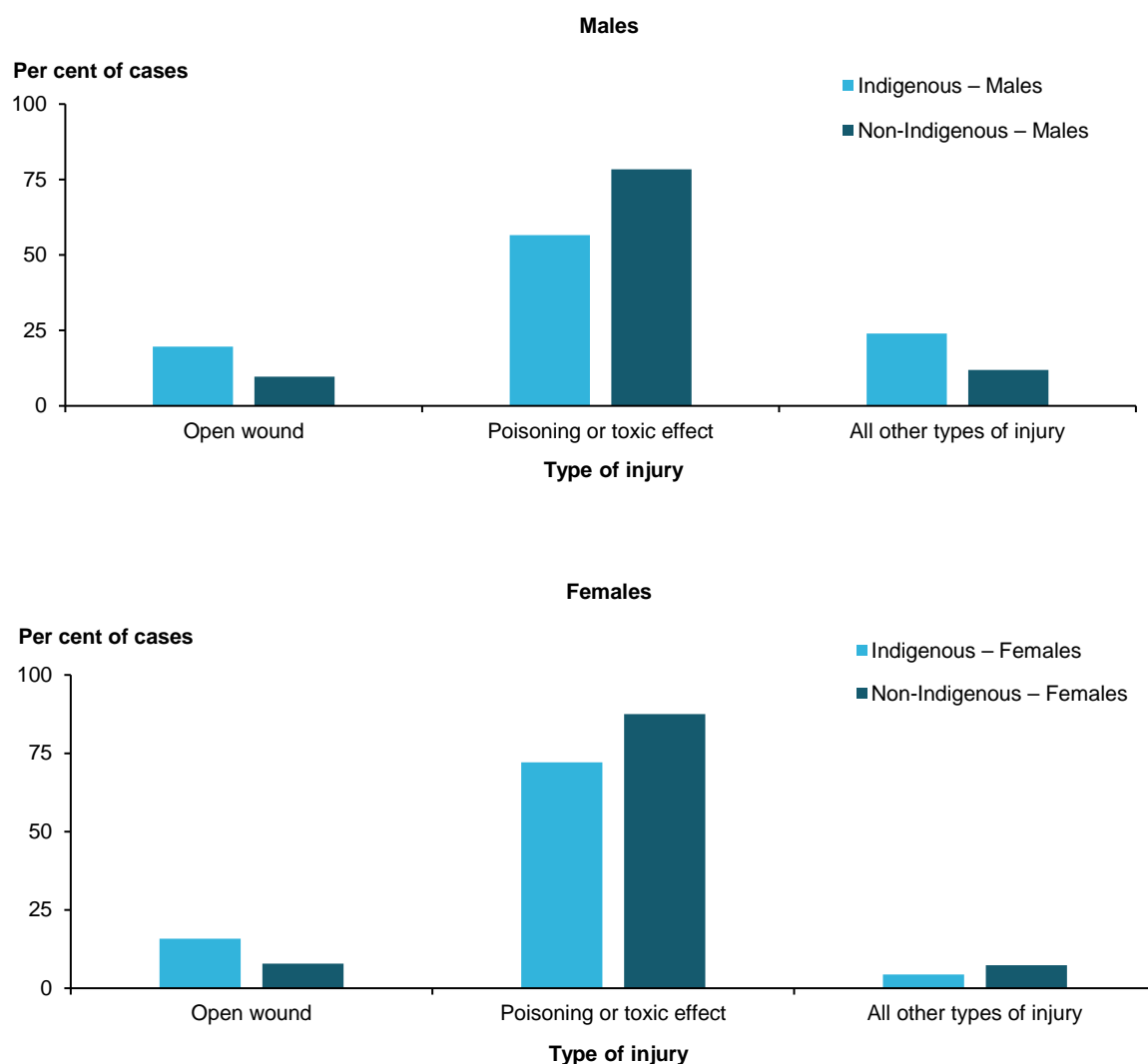
Table 2.38: Hospitalisations due to *Intentional self-harm* injury, by type of injury and Indigenous status, Australia, 2011–16

Type of injury	Indigenous		Non-Indigenous	
	Number	%	Number	%
Fracture	62	0.6	763	0.6
Dislocation	2	0.0	15	0.0
Soft-tissue injury	220	2.1	1,240	1.0
Open wound	1,796	17.2	10,882	8.5
Intracranial injury	50	0.5	353	0.3
Internal organ or vessel of trunk injury	93	0.9	617	0.5
Burn	60	0.6	643	0.5
Superficial injury	263	2.5	1,222	1.0
Poisoning or toxic effect	6,897	66.2	107,341	84.2
Other specified injury	884	8.5	4,045	3.2
Unspecified injury	98	0.9	297	0.2
Total	10,425	100	127,418	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Figure 2.23 shows the type of injury due to *Intentional self-harm* for Indigenous and non-Indigenous people by sex. Large proportions of Indigenous (72%, 4,638 cases) and non-Indigenous females (88%, 71,828 cases) required hospitalisation for a poisoning or toxic effect injury as a result of *Intentional self-harm*. This was also true for Indigenous (57%, 2,259 cases) and non-Indigenous males (78%, 35,504 cases), but with lower proportions of cases for each.

Figure 2.23: Proportion of types of *Intentional self-harm* injuries requiring hospitalisation, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 1.

Type of Intentional self-harm

The top 3 causes of *Intentional self-harm* injury were the same for Indigenous and non-Indigenous people: intentional self-poisoning, intentional self-harm with a sharp object and hanging, strangulation and suffocation (Table 2.39). These 3 causes accounted for over 90% of cases for both Indigenous (96%, 10,018 cases) and non-Indigenous people (97%, 123,914 cases). Indigenous people had a larger proportion of *Intentional self-harm* injuries caused by sharp objects (22%, 2,310 cases) than non-Indigenous people (11%, 13,886).

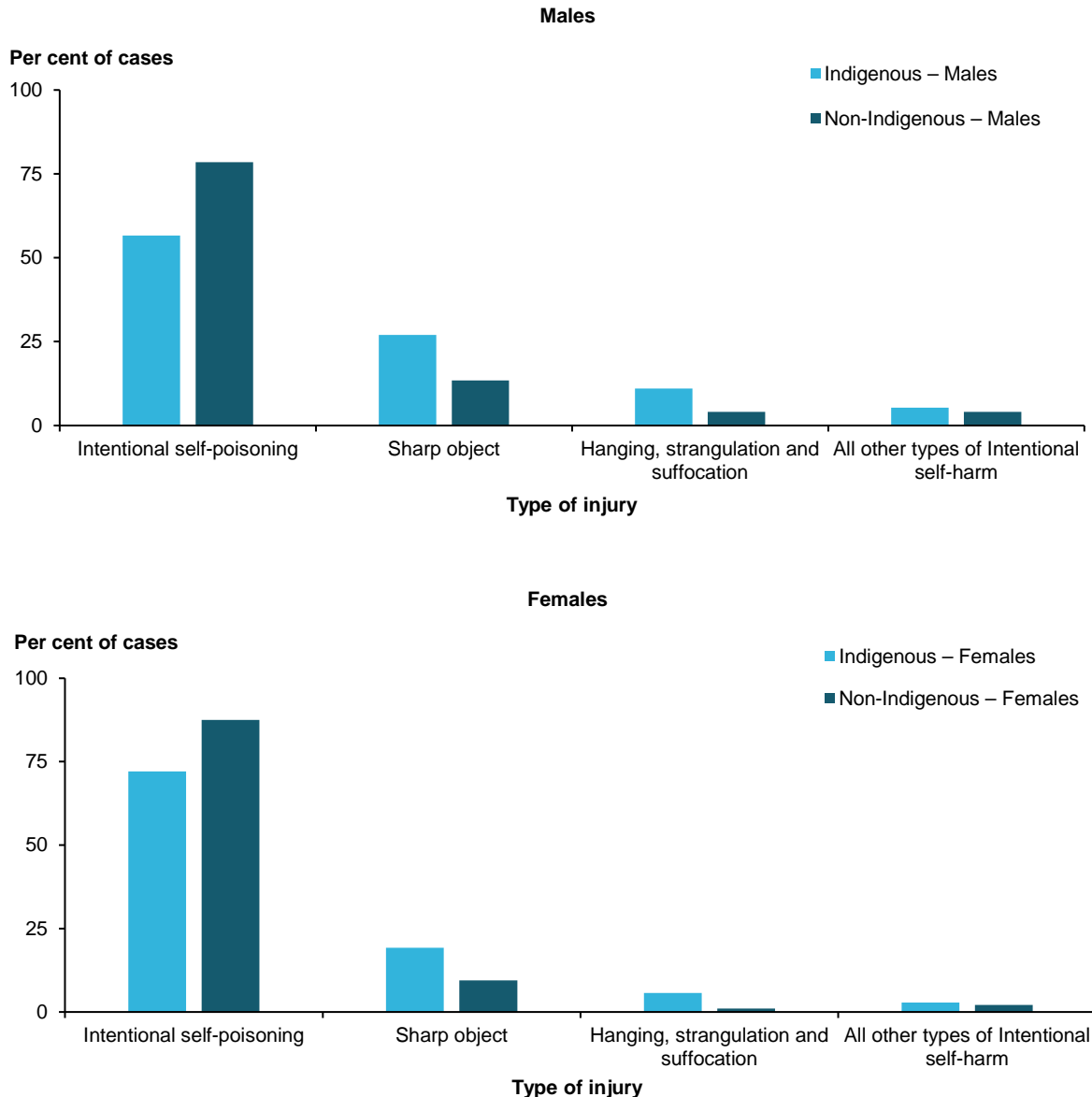
Table 2.39: Number of hospitalisations for *Intentional self-harm* injuries and proportions for types of *Intentional self-harm*, by Indigenous status, Australia, 2011–16

Indigenous			Non-Indigenous		
External causes ranked	Number	%	External causes ranked	Number	%
Poisoning	6,905	66.4	Poisoning	107,380	84.3
Sharp object	2,310	22.2	Sharp object	13,886	10.9
Hanging, strangulation and suffocation	803	7.7	Hanging, strangulation and suffocation	2,648	2.1
Other specified means	107	1.0	Other specified means	909	0.7
Blunt object	69	0.7	Jumping from a high place	528	0.4
Unspecified means	72	0.7	Unspecified means	464	0.4
Jumping from a high place	59	0.6	Smoke, fire and flames	403	0.3
Smoke, fire and flames	42	0.4	Crashing of motor vehicle	375	0.3
Jumping or lying before moving object	31	0.3	Blunt object	287	0.2
Crashing of motor vehicle	20	0.2	Jumping or lying before moving object	246	0.2
All other types of <i>Intentional self-harm</i>	7	0.0	All other types of <i>Intentional self-harm</i>	292	0.2
Total	10,425	100	Total	127,418	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

An analysis of *Intentional self-harm* injuries of Indigenous and non-Indigenous people by sex and type of reveals a similar pattern (Figure 2.24). Indigenous females had a larger proportion of intentional self-poisoning injuries (72%, 4,642 cases) than Indigenous males (57%, 2,263 cases). Non-Indigenous females had the largest proportion of intentional self-poisoning injuries (88%, 71,842 cases) compared with all other groups.

Figure 2.24: Proportion of types of *Intentional self-harm* injuries requiring hospitalisation, by sex and Indigenous status, Australia, 2011–16

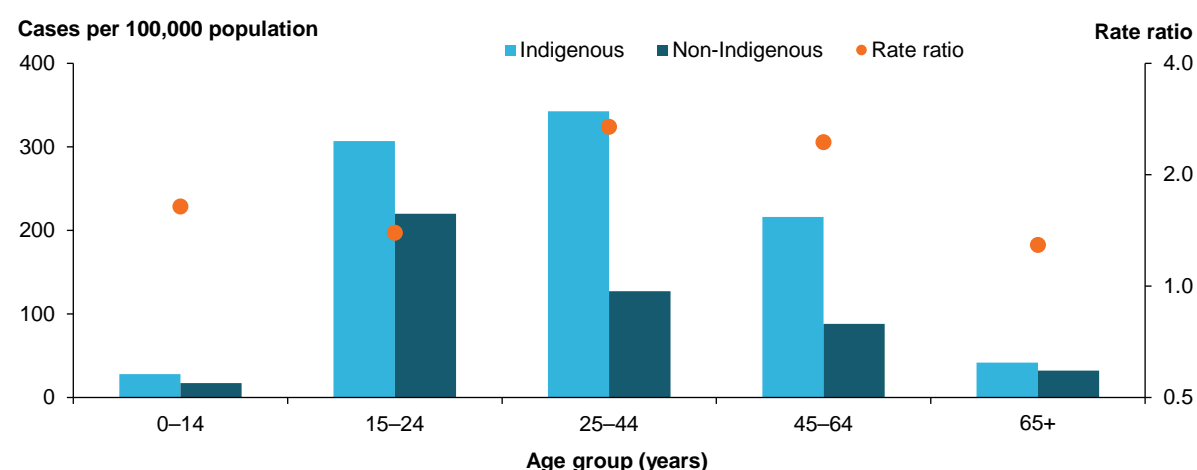


Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

The age-specific rate of intentional self-poisoning by age group for Indigenous and non-Indigenous people is shown in Figure 2.25. Rates of intentional self-poisoning were higher for Indigenous people in all age groups. Among those aged 25–44, the rate of intentional self-poisoning for Indigenous people was 343 cases per 100,000 population compared with 127 cases per 100,000 population for non-Indigenous people.

Figure 2.25: Rates of hospitalisation due to intentional self-poisoning, by Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

More specific information is available on the type of substance that resulted in intentional self-poisoning injury requiring hospitalisation. *Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs* were the most common drugs associated with intentional self-poisoning by both Indigenous (53%, 3,628 cases) and non-Indigenous people (53%, 57,013 cases) (Table 2.40). The second most common substances were *Non-opioid analgesics, antipyretics and antirheumatics*, accounting for 21% (1,476 cases) and 25% (26,850 cases) of hospitalisations of Indigenous and non-Indigenous people, respectively.

Table 2.40: Hospitalisations due to intentional self-poisoning, by type of substance and Indigenous status, Australia, 2011–16

Type of substance	Indigenous		Non-Indigenous	
	Number	%	Number	%
Non-opioid analgesics, antipyretics and antirheumatics	1,476	21.4	26,850	25.0
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs	3,628	52.5	57,013	53.1
Narcotics and psychodysleptics (hallucinogens), not elsewhere classified	612	8.9	7,677	7.1
Other drugs acting on the autonomic nervous system	84	1.2	1,494	1.4
Other and unspecified drugs, medicaments and biological substances	771	11.2	8,625	8.0
Alcohol	88	1.3	1,529	1.4
Organic solvents and halogenated hydrocarbons and their vapours	28	0.4	229	0.2
Other gases and vapours	38	0.6	1,336	1.2
Pesticides	18	0.3	615	0.6
Other and unspecified chemicals and noxious substances	162	2.3	2,012	1.9
Total	6,905	100	107,380	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

An analysis of hospitalisations due to intentional self-poisoning by type of substance, sex and Indigenous status is shown in Table 2.41. For Indigenous and non-Indigenous males and females, *Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs* were the most common substance associated with intentional self-poisoning. Both Indigenous and non-Indigenous females had larger proportions of intentional self-poisoning by *Non-opioid analgesics, antipyretics and antirheumatics* than their male counterparts.

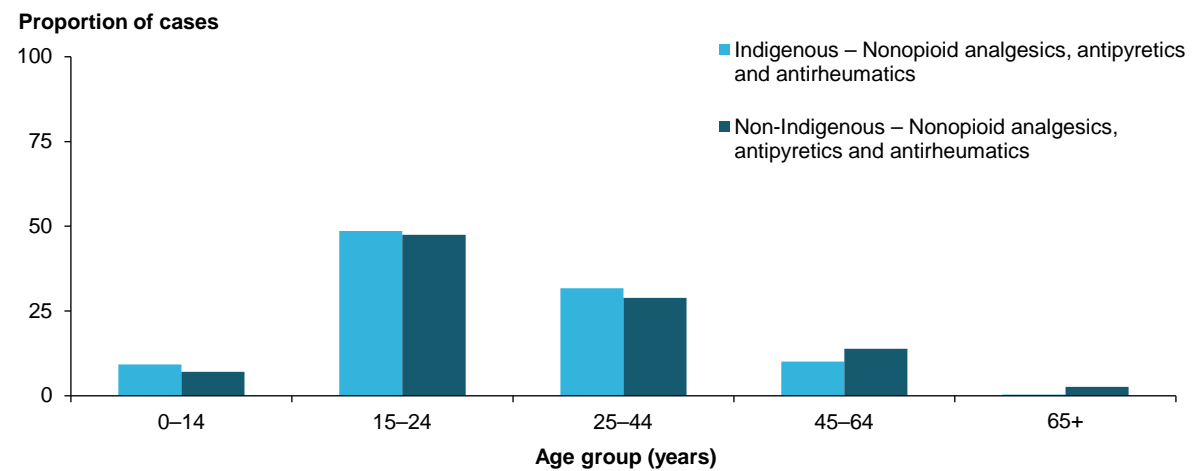
Table 2.41: Hospitalisations due to intentional self-poisoning by type of substance, by sex and Indigenous status, Australia, 2011–16

Type of substance	Males		Females	
	Number	%	Number	%
Indigenous				
Non-opioid analgesics, antipyretics and antirheumatics	344	15.2	1,132	24.4
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs	1,222	54.0	2,406	51.8
Narcotics and psychodysleptics (hallucinogens), not elsewhere classified	284	12.5	328	7.1
All other types of substance	413	18.3	776	16.7
Total	2,263	100	4,642	100
Non-Indigenous				
Non-opioid analgesics, antipyretics and antirheumatics	6,364	17.9	20,483	28.5
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs	19,150	53.9	37,857	52.7
Narcotics and psychodysleptics (hallucinogens), not elsewhere classified	3,438	9.7	4,239	5.9
All other types of substance	6,577	18.5	9,263	12.9
Total	35,529	100	71,842	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Figures 2.26 and 2.27 show the proportion of hospitalisations due to intentional self-poisoning by *Non-opioid analgesics, antipyretics and antirheumatics* and *Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs* by age group. Among people aged 15–24, the largest proportion of hospitalisations were due to intentional self-poisoning by *Non-opioid analgesics, antipyretics and antirheumatics* (Indigenous 49%, 717 cases and non-Indigenous 48%, 12,747 cases). In contrast, the highest proportion for the 25–44 age group was for *Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs* for both Indigenous (51%, 1,835 cases) and non-Indigenous people (42%, 24,018 cases).

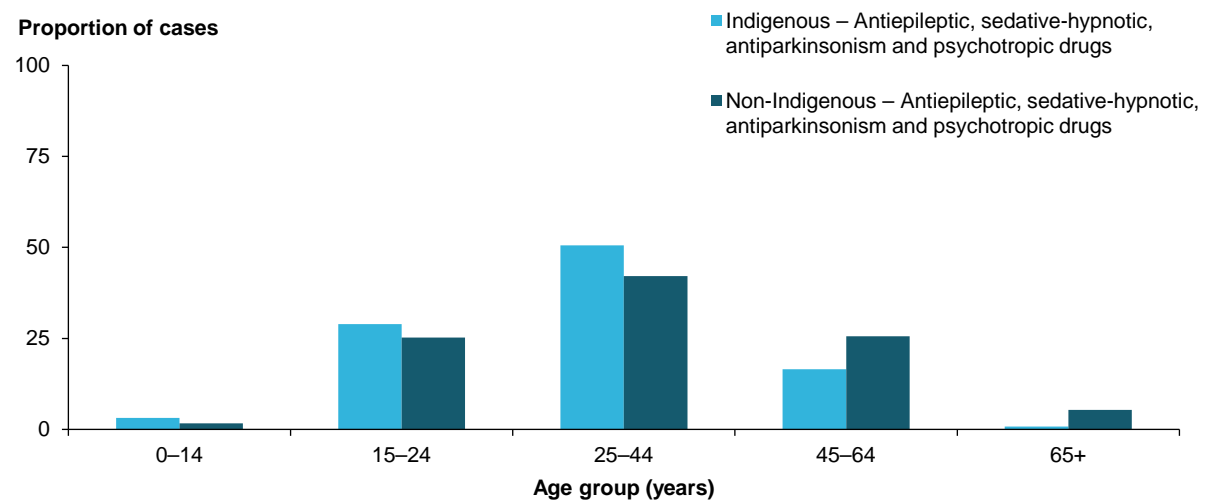
Figure 2.26: Proportion of hospitalisations due to intentional self-poisoning with Nonopioid analgesics, antipyretics and antirheumatics, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. See Box 1.3 for information on reporting of intentional self-harm among children.

Figure 2.27: Proportion of hospitalisations due to intentional self-poisoning with Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. See Box 1.3 for information on reporting of intentional self-harm among children.

Summary

Table 2.42 summarises the main findings relating to hospitalisations due to *Intentional self-harm* injuries among Indigenous people. Indigenous females were more likely than Indigenous males to be hospitalised for an injury due to *Intentional self-harm*. Indigenous males and females aged 25–44 had the highest proportion of hospitalisations due to *Intentional self-harm* injury. Indigenous males and females hospitalised as a result of *Intentional self-harm* were more likely to be living in *Major cities*. For both Indigenous males and females, the elbow and forearm was the most common body part injured when the method of *Intentional self-harm* was not poisoning. For both Indigenous males and females, the most common type of *Intentional self-harm* was by poisoning or toxic effect, with *Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs* the most common substance reported.

Table 2.42: Summary of hospitalisations due to Intentional self-harm injury, by sex and Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Males	Females	Males	Females
Number of cases	3,992	6,433	45,298	82,110
Average number of cases per year	798	1,287	9,060	16,422
Age-standardised rate/100,000 population for the 5-year period	246	365	81	151
Most common age group (proportion)				
25–44	51%	43%	44%	35%
Region with highest rate of injury (persons, cases per 100,000 population)	Major cities 586		Inner and outer regional 248	
Body region injured (not intentional self-poisoning)				
Elbow and forearm	24%	32%	..	..
Wrist and hand	..	..	25%	..
Elbow and forearm/Wrist and hand	..	..	..	29%
Type of Intentional self-harm				
Poisoning or toxic effect	57%	72%	78%	88%
Type of substance				
Antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs	54%	52%	54%	53%

Assault

There were 28,134 hospitalisations due to *Assault* injury among Indigenous people in the 5-year period, with an annual average of 5,627 cases (Table 2.43). More Indigenous females were hospitalised as a result of an *Assault* injury (54%, 15,216 cases) than Indigenous males (46%, 12,918 cases). Among non-Indigenous people, far more males were hospitalised as a result of an *Assault* (77%, 55,979 cases) than females (23%, 16,747 cases). Rates of *Assault* injury were far higher among Indigenous people (875 cases per 100,000 population) compared with non-Indigenous people (66 cases per 100,000 population) with a rate ratio of 13:1. Among Indigenous females the rate of *Assault* injury (932 cases per 100,000) was 30 times that of non-Indigenous females (31 cases per 100,000).

Table 2.43: Hospitalisations due to *Assault* injury, by sex and Indigenous status, Australia, 2011–16

Indicators	Indigenous			Non-Indigenous		
	Males	Females	Persons	Males	Females	Persons
<i>Assault</i> injury cases	12,918	15,216	28,134	55,979	16,747	72,726
Annual average (5 years)	2,584	3,043	5,627	11,196	3,349	14,545
Age-standardised rate (cases per 100,000 population) for the 5-year period	818	932	875	101	31	66

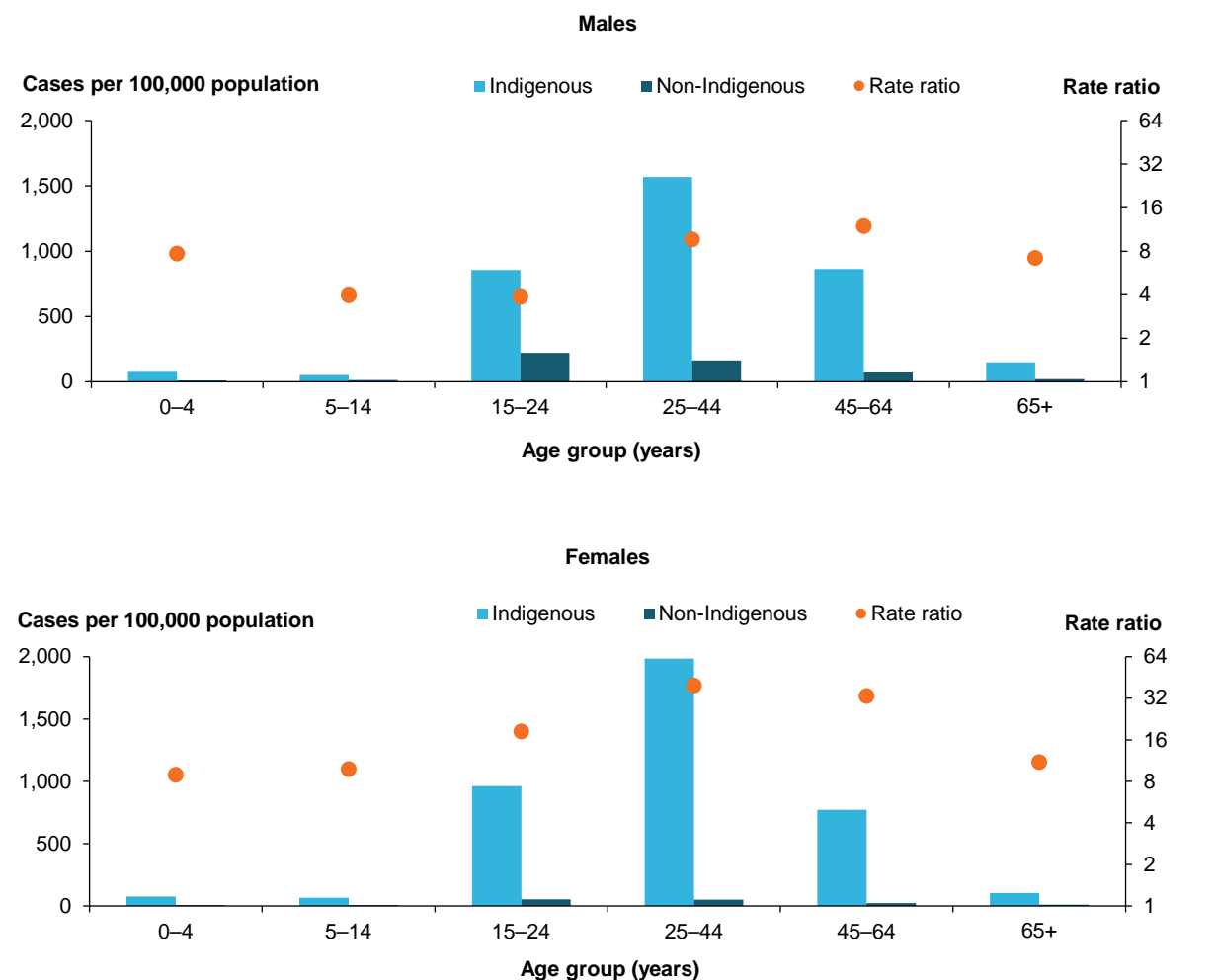
Age and sex

Rates of hospitalisation due to *Assault* injury were slightly higher among Indigenous females than Indigenous males in all groups other than in the 2 oldest age categories (Figure 2.28). The biggest difference in rates occurred at age 25–44 where the rate of *Assault* injury in Indigenous women was 1,985 cases per 100,000 compared with 1,568 for Indigenous men.

Among Indigenous males, rates of hospitalisation due to *Assault* injury were substantially higher than for non-Indigenous males in every age category. The highest rate of injury among Indigenous males occurred at ages 25–44 (1,568 cases per 100,000, compared with just 163 cases per 100,000 for non-Indigenous males). The largest rate ratio for *Assault* injury was seen in men aged 45–64, where rates of injury were 12 times as high among Indigenous men (863) compared with non-Indigenous men (72).

For Indigenous females the highest rate of *Assault* injury also occurred in those aged 25–44. This was also the age category with the largest rate ratio, with rates of *Assault* injury 40 times as high among Indigenous women (1,985) compared with non-Indigenous women (50).

Figure 2.28: Rates of hospitalisation due to Assault injury, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Remoteness

The proportion of Indigenous people hospitalised as a result of an *Assault* injury increased with increasing remoteness of usual residence (Table 2.44). There were 3 times as many *Assault* cases in *Remote and very remote* regions (27,599 cases) compared with *Major cities* (8,490 cases) *Assault* cases for Indigenous people.

The rate of *Assault* injury among Indigenous people (3,894 cases per 100,000 population) in *Remote and very remote* areas was 5 times that of Indigenous people in *Major cities* (742 cases per 100,000). Compared with non-Indigenous people the rate of *Assault* injury in *Remote and very remote* regions was almost 20 times as high among Indigenous people.

Table 2.44: Number and rate of hospitalisations due to *Assault* injury, by remoteness of usual residence, by Indigenous status, Australia, 2011–16

Remoteness of usual residence	Indigenous		Non-Indigenous		Rate ratio
	Number	Rate	Number	Rate	
Major cities	8,490	742	86,434	106	7.0
Inner and outer regional	13,719	998	34,757	130	7.7
Remote and very remote	27,599	3,894	3,673	200	19.5

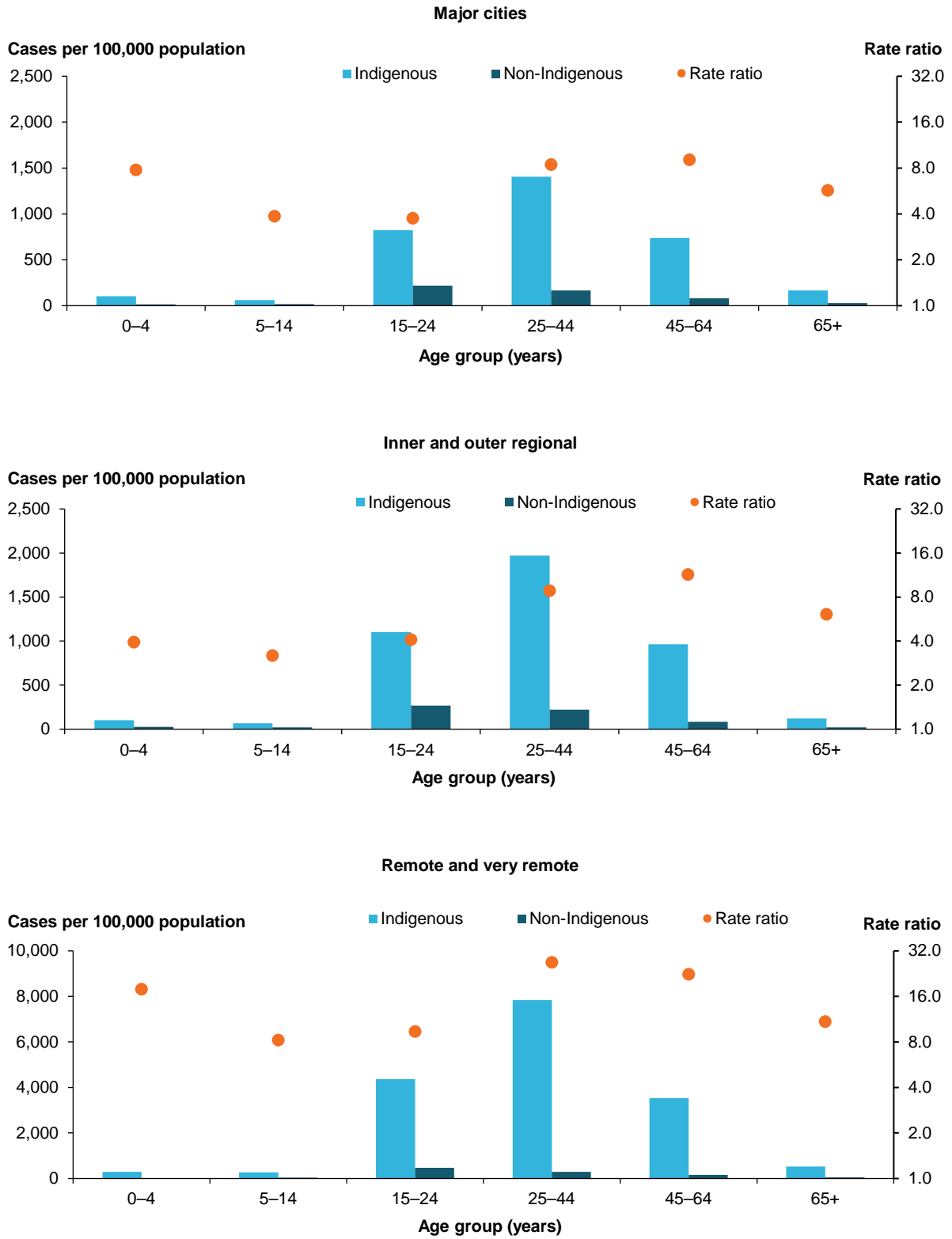
Notes

1. Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.
2. Age-standardised rate (cases per 100,000 population).
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

Figure 2.29 shows the rate of hospitalisation due to *Assault* injury by age group and remoteness of usual residence. Due to large differences in rates and the high rate ratios between cases in *Remote and very remote* regions and the other regions, the scale of the y-axis has been decreased for ease of interpretation in the *Major cities* and *Inner and outer regional* charts.

In each age group examined, rates of hospitalisation due to *Assault* injury were higher in successive remoteness zones. The highest rate of *Assault* injury for Indigenous people occurred in the 25–44 age group across all remoteness areas. The rate of *Assault* injury was 7,833 cases per 100,000 population for Indigenous people aged 25–44 living in *Remote and very remote* regions, which is 27 times as high as for non-Indigenous people of the same age (291 cases per 100,000). For older Indigenous people aged 45–64 living in *Remote and very remote* regions, the rate of *Assault* injury (3,526 cases per 100,000) was 22 times higher than for non-Indigenous people (158 cases per 100,000).

Figure 2.29: Age-specific rates of hospitalisation due to Assault injury, by remoteness of usual residence and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 (ABS 2006) and data from 2012–16 were defined using ASGS Remoteness Structure 2011 (ABS 2011) (see Appendix A: Data issues).

Body region injured

The most common injuries that occurred as a result of *Assaults* on Indigenous people were to the head (59%) and wrist and hand (9%) (Table 2.45). The head was also main region injured most often in *Assault* on non-Indigenous people (65%).

Table 2.45: Body region injured for hospitalisations due to *Assault* injury, by sex, Australia, 2011–16

Body region injured (principal diagnosis)	Indigenous		Non-Indigenous	
	Number	%	Number	%
Head	16,582	58.9	47,515	65.3
Neck	473	1.7	2,115	2.9
Thorax	1,828	6.5	4,096	5.6
Abdomen, lower back, lumbar spine and pelvis	1,371	4.9	3,709	5.1
Shoulder and upper arm	905	3.2	2,271	3.1
Elbow and forearm	1,726	6.1	2,827	3.9
Wrist and hand	2,407	8.6	5,065	7
Hip and thigh	460	1.6	928	1.3
Knee and lower leg	1,170	4.2	2,058	2.8
Ankle and foot	298	1.1	431	0.6
Other, multiple and incompletely specified body regions	454	1.6	598	0.8
Injuries not described in terms of body region	460	1.6	1,113	1.5
Total	28,134	100	72,726	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

Type of injury

Table 2.46 shows the range of types of injuries for hospitalisations resulting from an *Assault*. In the 5-year period 2011–16, 30% (8,422 cases) of Indigenous people hospitalised as a result of an *Assault* had an open wound. Open wounds were less common among non-Indigenous people (18%, 2,732 cases), with fractures being the most common type of *Assault* injury (38%, 27,275 cases).

Table 2.46: Hospitalisations due to Assault, by type of injury and Indigenous status, Australia, 2011–16

Type of injury	Indigenous		Non-Indigenous	
	Number	%	Number	%
Fracture	7,305	26.0	27,275	37.5
Dislocation	197	0.7	680	0.9
Soft-tissue injury	885	3.1	2,419	3.3
Open wound	8,422	29.9	12,732	17.5
Intracranial injury	1,724	6.1	7,853	10.8
Internal organ or vessel of trunk injury	832	3.0	2,261	3.1
Burn	178	0.6	258	0.4
Superficial injury	3,490	12.4	7,600	10.5
Poisoning or toxic effect	18	0.1	261	0.4
Other specified injury	1,903	6.8	4,586	6.3
Unspecified injury	3,180	11.3	6,801	9.4
Total	28,134	100	72,726	100

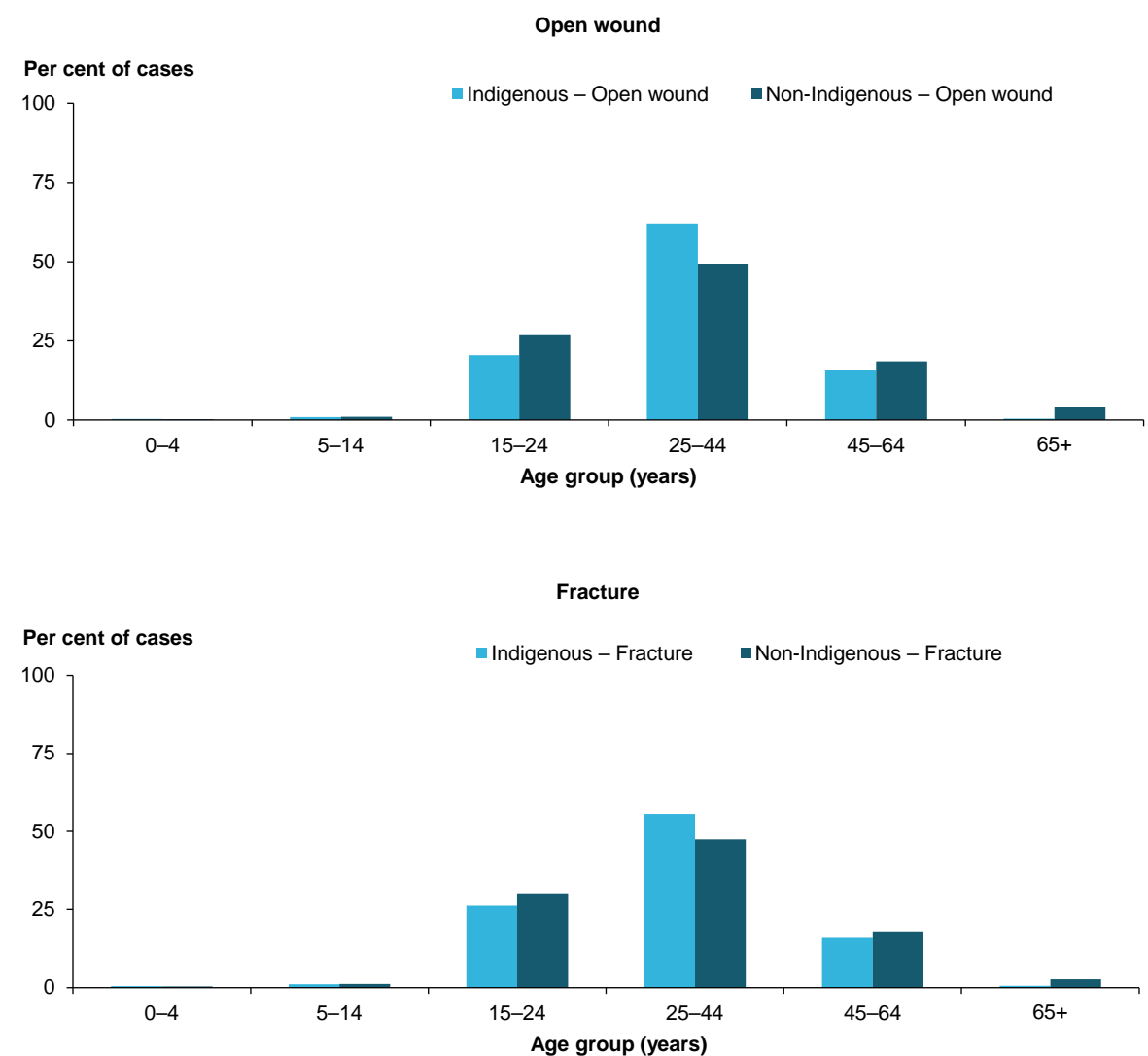
Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

There was no consistent pattern across different age groups of Indigenous and non-Indigenous people with respect to open wounds and fractures resulting from an *Assault* (Figure 2.30). Caution should be exercised in interpreting rates in the youngest (0–4) and oldest (65+) age categories of Indigenous people due to the small numbers of open wounds (25 and 39 cases over the 5-year period, respectively) and fractures (37 and 43 cases over the 5-year period, respectively).

For the 25–44 age group, a larger proportion of open wounds resulting from an *Assault* occurred among Indigenous people (62%, 5,228 cases) than among non-Indigenous (49%, 6,282 cases) people. In all other age groups there were larger proportions of open wounds among non-Indigenous people.

The results for fractures were very similar. The largest proportion of fractures resulting from an *Assault* occurred among people aged 25–44 for both Indigenous (56%, 4,603 cases) and non-Indigenous people (47%, 12,935 cases).

Figure 2.30: Proportion of hospitalisations due to open wounds and fractures resulting from Assault, by age and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Type of assault injury

The top 3 causes of *Assault* injury were the same for both Indigenous and non-Indigenous people: bodily force, blunt objects and sharp objects (Table 2.47). These 3 causes combined accounted for 86% of hospitalisations for both Indigenous and non-Indigenous people. Indigenous people had a larger proportion of *Assault* injuries caused by blunt (22%, 6,233 cases) and sharp (15%, 4,108 cases) objects compared with non-Indigenous people (11%, 8,050 cases and 11%, 7,702 cases, respectively).

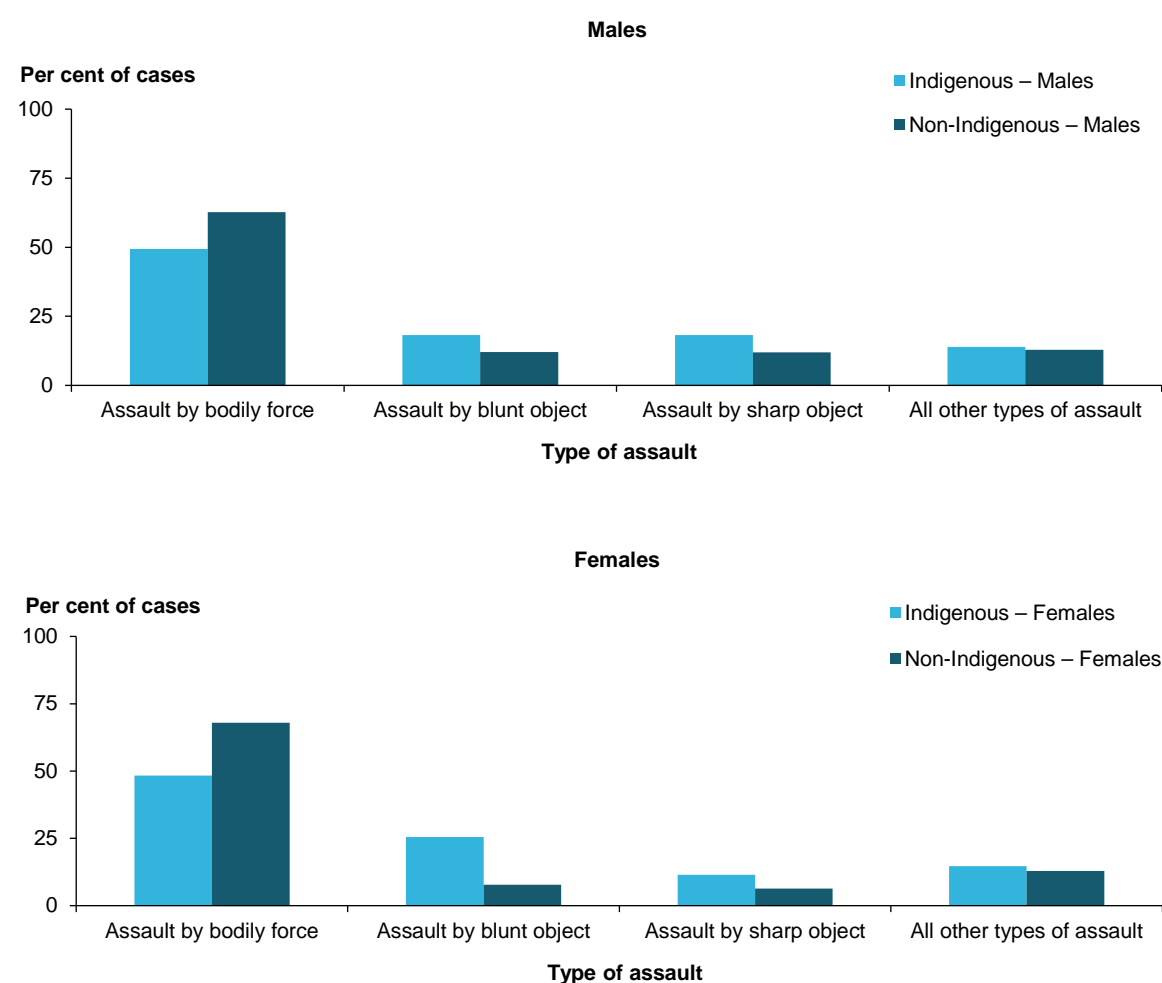
Table 2.47: Hospitalisations due to Assault injury and proportions of types of assault, by Indigenous status, Australia, 2011–16

Indigenous			Non-Indigenous		
External causes ranked	Number	%	External causes ranked	Number	%
Assault by bodily force	13,727	48.8	Assault by bodily force	46,482	63.9
Assault by blunt object	6,233	22.2	Assault by blunt object	8,050	11.1
Assault by sharp object	4,108	14.6	Assault by sharp object	7,702	10.6
All other types of Assault	4,066	14.3	All other types of Assault	10,492	14.4
Total	28,134	100	Total	72,726	100

Note: Values in this table are a 5-year aggregate over the period 2011–12 to 2015–16.

An analysis of Assault injuries of Indigenous and non-Indigenous people by sex and type of Assault is shown in Figure 2.31. The proportion of Assault injuries caused by blunt objects was much greater for Indigenous females (26%, 3,883 cases) than for non-Indigenous females (8%, 1,300 cases).

Figure 2.31: Proportion of types of Assault injuries requiring hospitalisation, by sex and Indigenous status, Australia, 2011–16



Notes

1. Values in these charts were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.

Perpetrator of assault injury

The relationship of the perpetrator to the victim of an *Assault* is presented in Table 2.48. Overall, the most commonly reported perpetrator of an *Assault* among Indigenous people was a family member (46% combined), with *Spouse or domestic partner* (29%, 8,213 cases) the most common, followed by *Other family member* (15%, 4,165 cases). Among non-Indigenous people, perpetrators of *Assault* were less commonly family members (20% combined).

The proportion of cases having an *Unspecified person* listed as the perpetrator was high for both Indigenous (41%, 11,494 cases) and non-Indigenous (48%, 35,081 cases) people. Cases lacking specific information about a perpetrator may have occurred for a number of reasons, including information not being reported by or on behalf of victims, or information not being recorded in the patient's hospital record. It is also possible that a different understanding of kinship among Indigenous people is influencing the high proportion of cases where a perpetrator is recorded as a family member (AIHW 2018).

Table 2.48: Perpetrator of Assault injuries resulting in hospitalisation, by Indigenous status, Australia, 2011–16

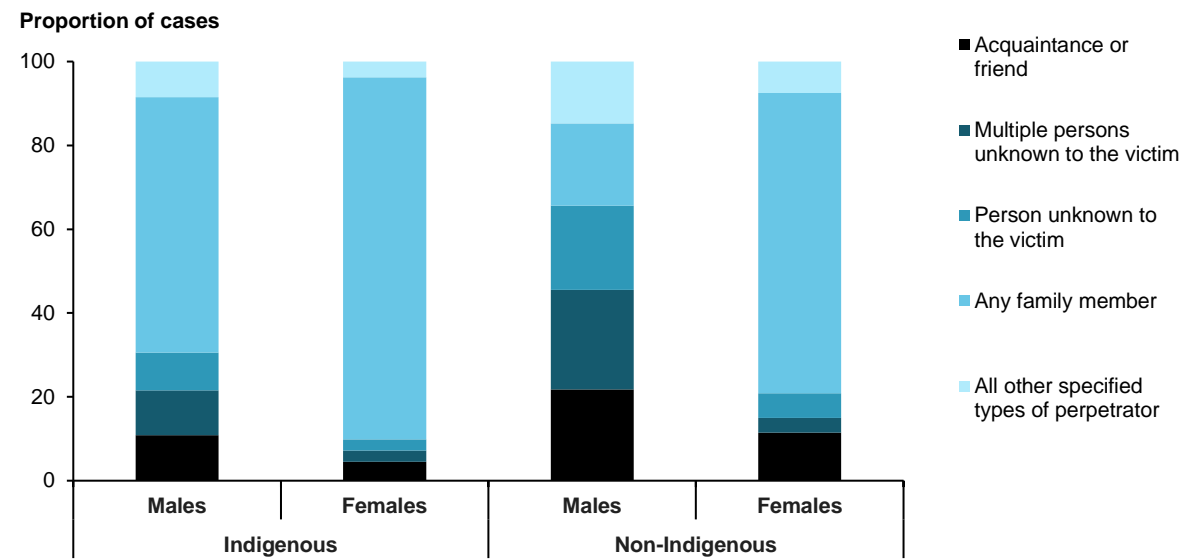
Perpetrator	Indigenous		Non-Indigenous	
	Number	%	Number	%
Spouse or domestic partner	8,213	29.2	8,759	12.0
Parent	558	2.0	1,262	1.7
Other family member	4,165	14.8	4,218	5.8
Carer	15	0.1	96	0.1
Acquaintance or friend	1,096	3.9	6,766	9.3
Official authorities	83	0.3	561	0.8
Person unknown to the victim	793	2.8	5,611	7.7
Multiple persons unknown to the victim	872	3.1	6,183	8.5
Other specified person	782	2.8	3,880	5.3
Unspecified person	11,494	40.9	35,081	48.2
Cases not requiring perpetrator information	63	0.2	309	0.4
Total	28,134	100	72,726	100

Notes

1. Values in this table were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. No perpetrator information is required for cases of Legal intervention and operations of war.

Figure 2.32 presents information on the type of perpetrator for the case records in which a perpetrator was specified. The type of specified perpetrator of an *Assault* varied by sex and Indigenous status. For Indigenous females, family members (*Spouse or domestic partner*, *Parent*, and *Other family members*) were listed as the perpetrators of 86% (9,626 cases) of *Assault* injury cases. Among these, 6,990 cases were perpetrated by a spouse or domestic partner. For Indigenous males, family members comprised 61% (3,310 cases) of specified perpetrators, with a spouse listed as a perpetrator in 1,223 cases. The pattern of *Assault* by specified perpetrators was very different for non-Indigenous males, with a larger proportion of *Assaults* perpetrated by non-family members.

Figure 2.32: Reported perpetrator (where specified) for *Assault* injuries requiring hospitalisation, by sex, by Indigenous status, Australia, 2011–16



Notes

1. Values in this chart were based on a 5-year aggregate over the period 2011–12 to 2015–16.
2. Data underpinning this figure can be found in the supplementary table spreadsheet Chapter 2.
3. 'Other specified person(s)' includes cases where perpetrator was reported as other specified person, carer, or official authorities. 'Any family member' includes cases where perpetrator was reported as spouse or domestic partner, parent or other family member.

Summary

Table 2.49 summarises the main findings relating to hospitalisations due to *Assault* injury among Indigenous people. Indigenous females were more likely compared with Indigenous males to experience an injury due to *Assault*. Indigenous males and females aged 25–44 had the highest proportion of *Assault* injuries requiring hospitalisation. Indigenous males and females hospitalised as a result of *Assault* were more likely to be living in *Remote and very remote* regions. For both Indigenous males and females, the head was the most common body part injured. For Indigenous males, a fracture was the most common outcome of an *Assault*, whereas an open wound was most common for Indigenous females. A family member was the most common perpetrator of *Assault by bodily force* for both Indigenous males and females.

Table 2.49: Summary of hospitalisations due to *Assault* injury, by sex and Indigenous status, Australia, 2011–16

	Indigenous		Non-Indigenous	
	Males	Females	Males	Females
Number of cases	12,918	15,216	55,979	16,747
Average number of cases per year	2,584	3,043	11,196	3,349
Age-standardised rate/100,000 population for the 5-year period	818	932	101	31
Most common age group (proportion)				
25–44	54%	60%	47%	48%
Region with highest rate of injury (persons, cases per 100,000 population)	Remote and Very remote 3,894		Remote and Very remote 200	
Body region injured				
Head	59%	59%	69%	69%
Nature of injury				
Fracture	33%	..	42%	22%
Open wound	..	30%	..	..
Type of Assault				
Assault by bodily force	49%	48%	63%	68%
Perpetrator (excluding unspecified)				
Any family member	61%	86%	..	72%
Multiple persons unknown to the victim	..	..	24%	..

Appendix A: Data issues

Data sources

The data on hospital separations are from the Australian Institute of Health and Welfare's National Hospital Morbidity Database (NHMD). Comprehensive information on the quality of the data for 2015–16 is available in *Australian hospital statistics 2015–16* (AIHW 2017b) and in the data quality statement later in this appendix (see previous editions of Australian hospital statistics for data quality statements covering 2011–15). Nearly all injury cases admitted to hospitals in Australia are included in the NHMD data reported.

Diagnosis, procedure and external-cause data for 2015–16 were reported to the NHMD by all states and territories using the 9th edition of the International Statistical Classification of Diseases and Related Health Problems, 10th revision, Australian modification (ICD-10-AM) (ACCD 2014). Data from 2011–2014 were coded to earlier editions of ICD-10-AM.

Denominators for most age-specific and age-standardised rates are estimated resident population (ERP) values as at 31 December of the relevant year. Australian ERPs for 30 June 2001 (persons, by 5-year age groups to 85+) were used as the standardising population throughout the report (ABS 2003). All populations, except those used for analyses by Indigenous status, are based on the 2011 Census data.

Separation rates by Indigenous status were directly age-standardised, using the projected Indigenous population (low series) as at 30 June 2014 (ABS 2014). The population for non-Indigenous Australians was based on the estimated resident populations as at 30 June 2014, based on 2011 Census data.

Selection criteria

This report is intended to describe the population incidence of newly occurring injuries that resulted in admission to a hospital. This section describes the criteria that were used to select cases to achieve this purpose.

Period

This report is restricted to admitted-patient episodes that ended in the period 1 July 2015 to 30 June 2016 for the single-year analyses, and admitted-patient episodes that ended in the period 1 July 2011 to 30 June 2016 for the aggregate analyses. Selection was based on the financial year of separation, but choice of this time period is arbitrary. Use of calendar year would result in different rates, particularly where case numbers were small.

Injury

Injury separations were defined as records that contained a principal diagnosis in the ICD-10-AM range S00–T75 or T79 using 'Chapter XIX Injury, poisoning and certain other consequences of external causes' codes (ACCD 2014). Nearly all injury separations were thought to be included in the data reported, representing minimal risk of sampling error.

Estimating incident cases

Each record in the NHMD refers to a single episode of care in a hospital. Some injuries result in more than 1 episode in hospital and, hence, more than 1 NHMD record.

This can occur in 2 main ways:

- a person is admitted to 1 hospital, then transferred to another or has a change in care type (for example, acute to rehabilitation) within the same hospital
- a person has an episode of care in hospital, is discharged home (or to another place of residence) and is then admitted for further treatment for the same injury, to the same hospital or another one.

The NHMD does not include information designed to enable the set of records belonging to an injury case to be recognised as such. Hence, there is potential for some incident injury cases to be counted more than once, which occurs when a single incident injury case results in 2 or more NHMD records being generated, all of which satisfy the selection criteria being used.

Information in the NHMD enables this problem to be reduced, though not eliminated. The approach used for this report makes use of the 'Mode of admission' variable, which indicates whether the current episode began with inward transfer from another acute care hospital. Episodes of this type (inward transfers) are likely to have been preceded by another episode that also met the case selection criteria for injury cases, so are omitted from our estimated case counts.

This procedure should largely correct for over-estimation of cases due to transfers, but will not correct for over-estimation due to re-admissions.

Adjusting for changes to rehabilitation coding

A change in coding practice for ICD-10-AM *Z50 Care involving the use of rehabilitation procedures* has necessitated a change to the standard record inclusion criteria for AIHW National Injury Surveillance Unit (NISU) reports of hospital admitted injury cases. The change applies to episodes that ended on 1 July 2015, or later. For details of the change see 'Box 4.2' in *Admitted patient care 2015–16: Australian hospital statistics* (AIHW 2017b).

Due to the change in coding practice, an increase in the numbers of separations in 2015–16 with a principal diagnosis in the ICD-10-AM *Chapter 19 Injury, poisoning and certain other consequences of external causes (S00-T98)* range occurred (about an additional 60,000 records).

In order to minimise the effect of the coding change on the estimation of injury occurrence and trends, a change to the case estimation method used by NISU was required. Records with Z50 either as Principal Diagnosis or as Additional Diagnosis are now omitted by NISU in data-years both before and after the coding change. The change to data before 2015–16 amounts to an adjustment of less than 0.1% of records. Where injury trends are presented by principal diagnosis for years before 2015–16, data will not be directly comparable for previous reporting periods.

Rates

Rates were calculated using the final estimate of the estimated resident population (ERP) as at 31 December for each year aggregated for the 5-year period 2011–16. All-ages rates have been adjusted for age to overcome the effect of differences in the proportions of people of

different ages (and different injury risks) in the populations that are compared. Direct standardisation was employed, taking the Australian population in 2001 as the standard (ABS 2003). Where age-specific rates are reported, this is noted.

Rates of injury for Indigenous people were calculated using the projected populations Series B (ABS 2014). For non-Indigenous people, populations were derived by calculating the difference between the corresponding Indigenous and total populations.

Rate ratios

For some tables and charts reporting comparative injury rates, rate ratios are presented. The ratios are calculated by dividing the age-standardised or age-specific injury rate for a population of interest (Indigenous) by the age-standardised or age-specific rate for a comparison population (other Australians).

A ratio of 1.0 indicates that the population of interest (for example, Indigenous Australians) had an injury rate similar to that of the comparison group (for example, other Australians). A rate ratio of 1.2 indicates that the population of interest had a rate that was 20% greater than that of the comparison population and a rate ratio of 0.8 indicates a rate 20% smaller.

Classification of remoteness area

Population data

Population data on remoteness area of usual residence are defined using the ABS's ASGS Remoteness Structure 2011 (ABS 2011). The ASGS Remoteness Structure 2011 categorises geographical areas in Australia into remoteness areas, described in detail at www.abs.gov.au. The classification is as follows:

- *Major cities*—for example: Sydney, Melbourne, Brisbane, Adelaide, Perth, Canberra and Newcastle
- *Inner regional*—for example: Hobart, Launceston, Wagga Wagga, Bendigo and Murray Bridge
- *Outer regional*—for example: Darwin, Moree, Mildura, Cairns, Charters Towers, Whyalla and Albany
- *Remote*—for example: Port Lincoln, Esperance, Queenstown and Alice Springs
- *Very remote*—for example: Mount Isa, Cobar, Coober Pedy, Port Hedland and Tennant Creek.

Projected (Series B) Indigenous ASGS-based population estimates by remoteness areas, based on the 2011 Census, for the years covered in this report ASGS remoteness structure were collapsed into 3 categories of remoteness of usual residence:

- *Major cities*
- *Inner and outer regional*
- *Remote and very remote*

NHMD data

The period examined in this report includes NHMD data defined by both the ASGC and ASGS. Data from 2011–12 were defined using ASGC Remoteness Structure 2006 and data from 2012–16 were defined using ASGS Remoteness Structure 2011. While acknowledging

the break in series of the ABS classification of remoteness structure, the inclusion of ASGC data from 2011–12 was unavoidable due to the absence of ASGS coded data in the NHMD for that time period. The inclusion of 2011–12 ASGC data is unlikely to make a material difference to the results of the 5-year aggregate analysis.

Indigenous status

In this report, the term ‘Indigenous people’ is used to refer to persons identified as such in Australian hospital separations data and population data collections. For this report, the term ‘non-Indigenous people’ includes all separations for persons identified as not Indigenous and excludes separations where Indigenous status was not stated.

Quality of Indigenous status data

The AIHW report *Indigenous identification in hospital separations data: quality report* (AIHW 2013) presents the latest findings on the quality of Indigenous identification in hospital separations data in Australia, based on studies conducted in public hospitals during 2011. Private hospitals were not included in the assessment. The report recommends using data from all jurisdictions in national analyses of Indigenous admitted-patient care for data from 2010–11 onwards.

Analysis by remoteness of usual residence

The previous report into Indigenous identification in hospital separations data quality (AIHW 2010) showed that there were acceptable levels of Indigenous identification for all remoteness areas, ranging from 80% in *Major cities* to 97% in *Remote and very remote* areas. The results of the study supported analyses by remoteness areas, in aggregate, across states and territories for which the levels of identification were considered to be acceptable.

The 2013 report also examined Indigenous under-identification in hospitals data by remoteness of usual residence. Wide variations in Indigenous identification by remoteness were reported, ranging from 77% (72%–81%) in *Major cities* to 99% (96–100%) in *Very remote* areas. No recommendations were made regarding analyses by remoteness area in the 2013 report. Readers are therefore cautioned in their interpretation of comparisons by remoteness zone on the basis of the differences in identification by remoteness of usual residence.

Data quality statement: National Hospital Morbidity Database

The National Hospital Morbidity Database (NHMD) is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals. The data supplied are based on the National Minimum Data Set (NMDS) for Admitted patient care and include demographic, administrative and length of stay data, as well as data on the diagnoses of the patients, the procedures they underwent in hospital and external causes of injury and poisoning.

The purpose of the NMDS for Admitted patient care is to collect information about care provided to admitted patients in Australian hospitals. The scope of the NMDS is episodes of care for admitted patients in all public and private acute and psychiatric hospitals, free-standing day hospital facilities, and alcohol and drug treatment centres in Australia. Hospitals operated by the Australian Defence Force, corrections authorities and in Australia’s offshore territories are not in scope but some are included.

The reference period for this data set is 2011–12 to 2015–16. The data set includes records for admitted patient separations between 1 July 2011 and 30 June 2016.

A complete data quality statement for the NHMD is available online at meteor.aihw.gov.au.

Acknowledgments

The Australian Institute of Health and Welfare (AIHW) acknowledges the financial and project support for this publication provided by the Department of Health.

This report was written by Sophie Pointer at the AIHW National Injury Surveillance Unit (NISU) at Flinders University, with assistance from James Harrison and Stacey Avefua.

Members of the AIHW National Injury Surveillance Unit Advisory Committee provided valuable comments.

The team at NISU would like to thank AIHW staff from the Hospitals and Expenditure Group, the Indigenous and Maternal Health Group and the Community Services Group for peer reviewing the manuscript.

Abbreviations

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
ASGC	Australian Standard Geographical Classification
ASGS	Australian Standard Geographical Structure
ERP	estimated resident population
HPF	health performance framework
ICD-10-AM	International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification
METeOR	Metadata Online Registry
NHMD	National Hospital Morbidity Database
NISU	National Injury Surveillance Unit
NPHP	National Public Health Partnership

Symbols

n.p.	not publishable because of small numbers, confidentiality or other concerns about the quality of the data
..	not applicable

Glossary

METeOR is Australia's central repository for health, community services and housing assistance metadata, or 'data about data'. It provides definitions for data for health and community services-related topics and specifications for related national minimum data sets (NMDSSs). METeOR can be viewed on the AIHW website at www.meteor.aihw.gov.au.

acute: Having a short and relatively severe course.

acute care: See **care type**.

acute care hospital: See **establishment type**.

additional diagnosis: A condition or complaint either coexisting with the principal diagnosis or arising during the episode of admitted-patient care, episode of residential care or attendance at a health care establishment. METeOR identifier: 514271.

admitted patient: A patient who undergoes a hospital's admission process to receive treatment and/or care. This treatment and/or care is provided over a period of time and can occur in hospital and/or in the person's home (for hospital-in-the-home patients). METeOR identifier: 268957.

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

care type: The care type defines the overall nature of a clinical service provided to an admitted patient during an episode of care (admitted care), or the type of service provided by the hospital for boarders or posthumous organ procurement (care other than admitted care). METeOR identifier: 491557.

Admitted-patient care consists of:

- acute care
- rehabilitation care
- palliative care
- geriatric evaluation and management
- psychogeriatric care
- maintenance care
- newborn care
- other admitted-patient care—this is where the principal clinical intent does not meet the criteria for any of the above.

Care other than admitted care includes:

- posthumous organ procurement
- hospital boarder.

disease: A broad term that can be applied to any health problem, including symptoms, diseases, injuries and certain risk factors, such as high blood cholesterol and obesity. Often used synonymously with 'condition', 'disorder' or 'problem'.

episode of care: The period of admitted-patient care between a formal or statistical admission and a formal or statistical separation, characterised by only 1 care type

(see **Care type** and **Separation**). METeOR identifier: 491557 (Care type). METeOR identifier: 268956 (Episode of admitted-patient care).

establishment type: Type of establishment (defined in terms of legislative approval, service provided and patients treated) for each separately administered establishment. METeOR identifier: 619594.

external cause: The environmental event, circumstance or condition given as the cause of injury, poisoning and other adverse effect. METeOR identifier: 514295.

hospital: A health-care facility established under Commonwealth, state or territory legislation as a hospital or a free-standing day procedure unit and authorised to provide treatment and/or care to patients. METeOR identifier: 268971.

inpatient: See **Admitted patient**. METeOR identifier: 268957.

International Classification of Diseases and Related Health Conditions (ICD): The World Health Organization's internationally accepted classification of diseases and related health conditions. The 10th revision, Australian modification (ICD-10-AM) is currently in use in Australian hospitals for admitted patients.

mode of admission: The mechanism by which a person begins an episode of admitted-patient care. METeOR identifier: 269976.

principal diagnosis: The diagnosis established, after study, to be chiefly responsible for occasioning an episode of admitted-patient care. METeOR identifier: 514273.

private hospital: A privately owned and operated institution, catering for patients who are treated by a doctor of their own choice. Patients are charged fees for accommodation and other services provided by the hospital and relevant medical and paramedical practitioners. Acute care and psychiatric hospitals are included, as are private free-standing day hospital facilities.

public hospital: A hospital controlled by a state or territory health authority. Public hospitals offer free diagnostic services, treatment, care and accommodation to all eligible patients.

rate ratio: The rate for one population divided by the rate of another.

separation: An episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death) or a portion of a stay beginning or ending in a change of type of care (for example, from acute to rehabilitation). 'Separation' also means the process by which an admitted patient completes an episode of care either by being discharged, dying, transferring to another hospital or changing type of care.

separation rate: The total number of episodes of care for admitted patients divided by the total number of persons in the population under study. Often presented as a number per 10,000 or 100,000 members of a population. Rates may be crude or standardised.

separations: The total number of episodes of care for admitted patients, which can be total hospital stays (from admission to discharge, transfer or death) or portions of hospital stays beginning or ending in a change of type of care (for example, from acute to rehabilitation) that cease during a reference period. METeOR identifier: 270407.

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Box 1.1: Summary of terms relating to hospitalised injury4

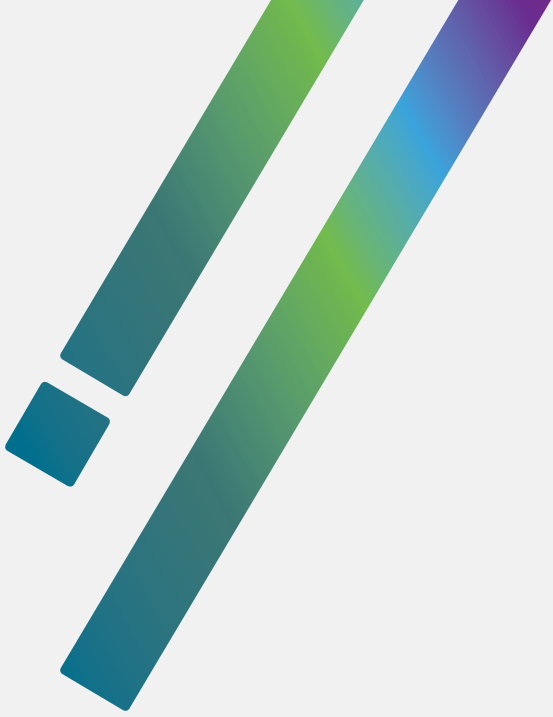
Box 1.2: Indigenous reporting4

Box 1.3: Ascertainment of intentional self-harm5

Related publications

The following AIHW publications relating to hospitalisations due to injury and injury in Aboriginal and Torres Strait Islander people might also be of interest:

- Henley G & Harrison JE 2013. [Injury of Aboriginal and Torres Strait Islander people due to transport: 2005–06 to 2009–10](#). Injury research and statistics series no. 85. Cat. no. INJCAT 161. Canberra: AIHW.
- AIHW: Pointer S 2016. [Hospitalised injury in Aboriginal and Torres Strait Islander children and young people 2011–13](#). Injury research and statistics series no. 96. Cat. no. INJCAT 172. Canberra: AIHW.



Indigenous people were hospitalised as a result of an injury at an average of 23,000 cases per year over the 5-year period 2011–12 to 2015–16. Rates of injury were much higher overall among Indigenous Australians (3,596 per 100,000 population) compared to non-Indigenous Australians (1,874 per 100,000 population) and the rate of injury among Indigenous females was twice that of non-Indigenous females.

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